20mph Areawide (Blanket) Speed Restriction Monitoring Report

1 Introduction

1.1 This report provides an overview of monitoring carried out on areawide 20mph signed only speed restrictions within other local authorities, including London, its boroughs and within neighbouring local authority areas. It also outlines the recently published Department for Transport (DfT) commissioned research around the effectiveness of 20mph speed limit signed only schemes.

1.2 This report has been produced following the recommendation by the Regeneration, Culture, Environment and Transformation Overview and Scrutiny Committee that 20mph speed schemes in other local authority areas should be monitored for effectiveness.

1.3 Some of the UK's area wide 20mph speed restrictions have now been in place for some time. Post implementation information is therefore available for a number of these schemes, although to varying detail and depth. The information available relating to 20mph signed only projects has been assessed against the desired monitoring factors, i.e. cost effectiveness, the ability to reduce casualties, impact on air quality etc.

1.4 This report records the core findings of the above process. It was anticipated that the monitoring process to which this report relates would be concluded by autumn 2018. There has been a slight delay to delivery, in the intervening time central government's '*20mph Research Study*' report has been published. In the interests of completeness, the findings of that report are also reported here as appropriate.

2 Department for Transport Speed Limit Setting Guidance

2.1 The Department for Transport (DfT) gives traffic authorities the power to set local speed limits in situations where local needs and conditions suggest a speed limit which is lower than the national speed limit.

2.2 The DfT Circular 01/2013 "Setting Local Speed Limits" is the key guidance relating to why and how speed limits are determined on local roads. This DfT Circular is used as a basis for reviewing Medway Council's position in relation to speed limit policy and strategy.

The "Setting Local Speed Limits" Circular states that speed limits should:

- be evidence-led and self-explaining;
- seek to reinforce people's assessment of what is a safe speed to travel, and
- encourage self-compliance.

The Circular states that speed limits must be appropriate for the individual road, reflect local needs, and be seen by drivers as the maximum rather than a target speed.

2.3 The Circular also states that traffic authorities can, over time, introduce 20mph speed limits or zones on:

- Major streets where there are, or could be, significant numbers of journeys on foot, and/or where pedal cycle movements are an important consideration, and this outweighs the disadvantage of longer journey times for motorised traffic.

This is in addition to residential streets in cities, towns and villages, particularly where the streets are being used by people on foot and on bicycles, and where there is community support, and the characteristics of the street are suitable.

There is therefore the mechanism in place, via central government guidance, to implement 20mph schemes.

3 Local Findings

3.1 20mph schemes are now widespread across the UK. Whilst in many cases it is too early to draw firm conclusions as to their effectiveness in reducing vehicle speeds, improving road safety and promoting modal shift to walking and cycling. There is nevertheless body of monitoring information available along with a number of emerging themes from schemes that have been implemented, that warrant consideration in this context.

3.2 The following section provides a summary of 20mph schemes implemented in other areas, including the methodology used by officers in monitoring their effectiveness.

Brighton

3.3 In April 2013, Brighton and Hove City Council, a unitary local authority with a similar population to that of Medway, introduced Phase 1 of its 20mph scheme, which provided for a blanket 20mph limit throughout central Brighton and Hove. Phase 2, which extended the scheme to many residential streets surrounding the Phase 1 area, was subsequently introduced in June 2014, followed by Phase 3, which incorporated streets in neighbourhood centres and villages outside of the city in June 2015.

The key motivators behind the city-wide 20mph scheme were:

- a poor safety record in the city which had not been addressed for some time;
- demands from members of the public about speeds and casualty levels, including residents' petitions for 20mph schemes (particularly near schools); and,
- political recognition of the need to improve safety in the city (particularly in terms of severity).

3.4 The analysis demonstrated that Brighton Phase 1 was the only case study area where the change in collisions and casualties, relative to the 30mph comparator area is significant. The results show a significant reduction in overall collisions (-18%), overall casualties (-19%), pedestrian casualties (-29%), and casualties aged 75 or over (-51%). However, there is no evidence to indicate a significant

change in casualties involving cyclists and under 16s, at this time. It should be noted that average vehicle speeds within the Phase 1 area were already 20mph prior to the introduction of the scheme.

3.5 The changes appear to be a reflection of the city characteristics; and the blanket implementation of 20mph limits across all roads within the scheme area, including higher flow A and B roads which have typically been excluded from the residential case study schemes. There has been a significant reduction in collisions across all road types, but the change has been most pronounced on major strategic roads.

City of London

3.6 In July 2014, City of London implemented a 20mph city wide speed limit scheme as part of the Road Danger Reduction Plan to help reverse the increase in traffic casualties that had occurred in the Square Mile. At the same time Transport for London (TfL) introduced experimental 20mph speed limits on their two north-south routes (Blackfriars Bridge-Farringdon Street route and London Bridge-Bishopsgate Route) that run through the City.

3.7 Information published by the DfT showed that where a 20mph speed limit has been introduced, on average, a 1.5mph reduction in mean speed was achieved. The DfT information also showed that reduction in speed of 1mph is likely to deliver a 6% reduction in casualties.

Awareness Raising

3.8 At the time of implementation the City of London Police undertook awareness raising and enforcement activities as part of the change. They spoke to 1,500 motorists in the first two months of the new speed limit being in operation. An awareness survey of the 20mph speed limit was also undertaken in June 2015. The results indicate that the vast majority of motor vehicle drivers (82%) know that the speed limit in the City is 20mph. This is significantly higher than a July 2014 survey (undertaken at the launch of the 20mph speed limit) where 62% said they were aware of the new 20mph.

Monitoring and Outcomes

3.9 Since the new speed limit was introduced, officers have monitored the effectiveness of the lower speed limit. The speed data that has been collected at 46 comparable sites shows that the average speed was 1.5mph lower than before the scheme was introduced. This is higher than the forecast 1mph reduction in average speeds. There was also a reduction in the number of monitored sites found to have a mean speed above 20mph. This reduced from 16 to 7 of the 46 sites monitored.

3.10 Provisional casualty data over the period of August 2014 until June 2015 indicated one noteworthy observation, including a continued increase in the number of slight injuries to people walking and cycling. Given the reduction in average speeds that was measured, it could be argued that the increase in casualties would have been higher or of a more serious nature had it not been for the lower speed limit. Monitoring will continue and a more in-depth analysis of casualty data will be reported as part of the Road Danger Reduction Plan.

Air Quality

3.11 Recalling the Imperial College London study that occurred prior to implementation, it concluded that in general terms:

The effects of a 20mph speed restriction … were shown to be mixed, with particular benefit seen for emissions of particulate matter and for diesel vehicles. The methodology was validated by consideration of real-world tailpipe emissions test data. It was therefore concluded that air quality is unlikely to be made worse as a result of 20mph speed limits on streets in London.

In addition to the two local authorities of Islington and Camden, who had implemented their borough wide 20mph schemes before the City, others have now extended their coverage of 20mph speed limits. Both Southwark and Tower Hamlets have 20mph speed limits on all of the streets they manage.

Conclusion

3.12 Adoption of the 20mph speed limit in the City has resulted in a reduction of average speeds of 1.5mph, which is slightly better than expected. The City Police will continue to enforce speed limits in the City whilst collision data will be monitored and reported as part of the Road Danger Reduction Plan.

Hampshire County Council

3.13 Hampshire County Council has been trialling Residential 20mph Speed Limits in a total of 14 locations across the County for varying periods of time since 2012, and has recently concluded an extensive review of their performance in managing average speeds and addressing safety concerns.

3.14 The decision to start the pilot schemes was taken before the current Traffic Management Policy of 2016 came into being, which requires all future Traffic Management schemes to be led by safety and casualty reduction interventions.

3.15 The pilot programme was developed in response to requests for 20 mph restrictions received from residents concerned with excess traffic speed. Evaluating the pilot 20 mph speed limits enabled their effectiveness in different locations, with varying traffic conditions, to be assessed.

3.16 A technical review of the pilots has focused on the analysis and comparison of speed data recorded before and after the 20 mph pilot speed limits were introduced. The proportion of motorists driving above and below 20 mph has also been analysed to establish the level of compliance. Additionally, the before and after injury accident record within each pilot area has been evaluated.

3.17 The key findings of the review were as follows:

- Four pilot schemes have demonstrated compliance with the 20 mph speed limits, but these have merely served to formalise existing low speed environments with very marginal speed reductions having been achieved.
- Reductions elsewhere have been modest and in some cases average speeds have even increased.

- The only pilot schemes that have seen average speeds below the new speed limit were in areas where averages were already under 20mph.
- In terms of accident and injury data, the impact of the pilot schemes upon road safety is projected to be neutral and there is no evidence of enhanced road safety benefits compared with that observed for the entire road network maintained by the County Council.
- Hampshire Constabulary will not routinely enforce 20 mph speed limits as a matter of course, except where there is evidence to support that a road or a given location presents a heightened risk, which would in any case be consistent with the County Council's Traffic Management policy since 2016, which requires the prioritising of safety and casualty reduction initiatives over all other interventions.
- The pilots received some positive feedback from residents, the majority of whom observed that their own driving behaviour became more compliant as a result of the pilots, and one third noticed a decrease in speeds in their area. However, the majority of residents felt that motorists continue to exceed the speed limit and the pilots do not appear to have "won round" residents who were initially opposed to their introduction.
- Residents who responded to the survey felt that better enforcement and a more targeted approach to applying 20 mph speed limits would improve their effectiveness.

3.18 Although the pilot 20 mph speed limits have not reduced speeds in every location, the review does not recommend modifying or removing those less successful pilot 20mph speed limits at this time. To do so would incur further cost that would not be expected to benefit local communities, who continue to broadly support a lower speed limit in their area despite the limited impact on drivers' speeds.

3.19 Overall the change in the average speed of traffic throughout all of the pilot schemes following the introduction of the 20 mph speed limit ranged between +1.4 mph and -2.0 mph with an average reduction of 0.4 mph. The assessment of compliance of the speed limit indicates that in general a successful reduction of the speed limit from 30 to 20 mph will require more than 70% of motorists already travelling less than 20 mph.

Results of the resident's evaluation

3.20 Between 4 December 2017 and 7 January 2018, all residents living within the nine original 20mph pilot schemes were sent a postcard inviting them to complete an online evaluation form to share their views on the schemes an average 76% of those who responded supported a lower speed limit in their area post implementation.

Enforcement – Police views

3.21 Hampshire Constabulary were asked to provide a statement on their position regarding the implementation and enforcement of 20 mph speed limits. The Superintendent of the Roads Policing – Joint Operations Unit of Hampshire Constabulary and Thames Valley responded as follows:

"As part of Hampshire County Council's evaluation and technical review of the Pilot Residential 20 mph speed limits, Hampshire Constabulary have been asked

to provide a statement on our position regarding the implementation and enforcement of 20 mph speed limits. Department of Transport guidance details that 20 mph speed limits, as with all speed limits, should be set at a level where they are largely 'self-enforcing'. Speed limits, including 20 mph restrictions, are more frequently adhered to by motorists when the existing conditions and design of the road lead to mean traffic speeds being compliant with the proposed speed limit.

Hampshire Constabulary will not routinely enforce 20 mph speed limits as a matter of course. With finite resources our enforcement of all traffic legislation is directed by a threat risk and harm approach. Where there is evidence to support that a road or given location presents a heightened risk this is where our officers will be deployed.

There are parallels to this approach and the County Council's policy of prioritising traffic and safety resources and measures on locations where they have evidence that they will reduce casualties. Hampshire Constabulary remains committed to making our roads safer and we support the County Council's current casualty led policy for speed limits also applying to requests for 20 mph restrictions."

Impact on road safety

3.22 The current overall projected collision rate for the pilots has in fact risen since the commencement of the scheme. This goes "against the grain" of the trend of similar severity accidents recorded across Hampshire more generally.

However, given the random nature of the collisions, this is not considered statistically significant. Leaving these aside, the projected impact of the schemes upon the collision rate is thought to be neutral, and there is no evidence of enhanced road safety benefits.

3.23 In the pilot scheme areas, where in general low speed environments were already established, it would be expected that fewer collisions with lower severities have or will occur. The very small increase in collisions currently experienced within the 20 mph speed limits is contrary to the overall reduction in slight and serious severity collisions experienced throughout the whole of Hampshire in recent years.

3.24 Taking all of these factors into consideration, it can be concluded that there is no evidence of enhanced road safety benefits from these pilot schemes compared with the wider road network.

Air Quality

3.25 The findings of the review were that the recent Residential 20mph Speed Limit Pilots had a very limited impact on traffic speeds, and as such the impact on emissions is also thought to be limited. The Hampshire Constabulary have indicated that they would not look to routinely enforce such speed restrictions, and the option to use physical traffic calming interventions would result in additional braking and acceleration, which collectively add to the emission of exhaust fumes and polluting particles.

3.26 In view of the minor impacts that the 20 mph speed limits have had on the measured speed of traffic, any impacts on air quality are also likely to be minimal. Since 20 mph speed limits are most appropriate for areas where vehicle speeds are already aligned to a lower speed limit regime, and reduction in traffic speeds tends to be marginal, it is likely that area-wide 20 mph limits would neither improve nor worsen air pollution in terms of carbon emissions and fuel consumption.

Conclusions

3.27 In summary the key findings of the review are as follows:

- Four pilot schemes have demonstrated compliance with the 20 mph speed limits, but these have merely served to formalise existing low speed environments with very marginal speed reductions having been achieved.
- Reductions elsewhere have been modest and in some cases average speeds have even increased.
- The only pilot schemes that have seen average speeds below the new speed limit were in areas where averages were already under 20mph.
- In terms of collision and injury data, the impact of the pilot schemes upon road safety is projected to be neutral and there is no evidence of enhanced road safety benefits compared with that observed for the entire road network maintained by the County Council.
- Hampshire Constabulary will not routinely enforce 20 mph speed limits as a matter of course, except where there is evidence to support that a road or a given location presents a heightened risk, which would in any case be consistent with the County Council's Traffic Management policy since 2016, which requires the prioritising of safety and casualty reduction initiatives over all other interventions.
- The pilots received some positive feedback from residents, the majority of whom observed that their own driving behaviour became more compliant as a result of the pilots, and one third noticed a decrease in speeds in their area. However, the majority of residents felt that motorists continue to exceed the speed limit and the pilots do not appear to have "won round" residents who were initially opposed to their introduction.
- Residents who responded to the survey feel that better enforcement and a more targeted approach to applying 20 mph speed limits would improve their effectiveness.

Kent

3.28 In response to a petition submitted to the Maidstone Joint Transportation Board requesting the implementation of blanket 20mph limits outside all schools and residential areas it was agreed to run a trial of low cost speed management schemes outside six primary schools in Maidstone during 2010.

3.29 The trial, funded by local Members via their Highway Fund, included both formal and advisory 20mph schemes aiming to provide local evidence as to whether 20mph schemes near schools could provide cost effective road safety benefits. The proposed trial was limited to primary schools within 30mph speed limits. When the trials began it was agreed that the success criteria would include:

- a change of perception of the perceived road safety danger to children on roads adjacent to schools as perceived by various groups to include Members, general road users, residents, and school users;
- a change of perception of the perceived traffic speeds adjacent to schools as perceived by various groups to include Members, general road users, residents, and school users;
- influence of modal shift on journeys to schools;
- manageable impact on traffic speed and Police enforcement requirements, and
- an increase in motorists' awareness to travel at appropriate speed outside schools.

3.30 Speeds outside the schools were surveyed prior to implementation, then after 3 and 9 months. After three months the initial results were positive and in line with Government advice that 20mph limits without traffic calming generally reduce mean speeds by about 1mph. After 9 months any benefits had mostly disappeared and perversely in most locations overall speeds had actually increased.

3.31 The actual differences in overall speeds were very low and can be attributed to seasonal variation; both the *'before'* and 3 month *'after'* speeds were measured in the autumn and winter whereas 9 month *'after'* speeds were measured in the summer when speeds tend to be slighter higher due to better weather.

3.32 It should be noted that actual speeds during school peak periods (8am to 9am & 3pm to 4pm) were between 6% & 20% lower than the overall daily average. The mean speeds at the schools at peak periods varied between 21mph to 25mph which would generally meet the DfT criteria for a signed only 20mph limit at school times. Questionnaire results were very mixed. In the majority of cases the feeling is that safety had been improved albeit very slightly from the *before* levels. The schools were originally identified to be part of the trials as the school or local community had raised concerns over the speed of the traffic.

3.33 However the results of the perception surveys *before* and *after* tended to indicate that the main safety concerns were not associated with the speed of the traffic, but with parents parking and the congestion this causes which actually contributes to keeping overall speeds low at school times.
The current safety record of the existing 20mph schemes in Kent which are a mix of both limits and zones shows that casualties recorded on 20mph roads in Kent as a proportion of all roads are 2% less than the national average.

3.34 The proposal of installing 20mph limits outside all schools in Kent has been debated by the County Council twice in recent years. It was concluded on both occasions to continue implementing 20 mph schemes at locations where there was a clear and justifiable need for the scheme, where each location is assessed on evidence and potential benefit as a case by case approach as opposed to a blanket approach.

Bristol

3.35 In July 2012, Bristol City Council voted to introduce 20mph limits throughout the city. This followed the completion of successful pilot schemes in South and East Bristol. The lower speed limit was introduced in six phases. The first area

implemented on 20th January 2014 covered Central Bristol and bordered the two pilot areas. The process of introducing 20mph limits across the city was completed in September 2015.

3.36 The roll-out of the 20mph speed limit in Bristol was about more than reducing road traffic casualties, although this was one of the aims. The roll-out sought to improve health and well-being across the city, taking a holistic perspective as to how slower traffic speeds might impact on people's lives.

3.37 The extension of 20mph limits had three main aims:

- Road danger reduction – the Cycling City and Active Bristol initiatives have already achieved significant change with their emphasis on shared roads and as a result more people walking and cycling around the city. A lower speed limit will make the streets safer for all road users, reducing the risk and the severity of collisions.
- Making Bristol healthier – with lower road speeds, walking, cycling and outdoor play are more attractive options, all of which have a positive impact on health and the community. As well as increasing physical activity, these pursuits offer a greater opportunity for social interaction and community support.
- Supporting and building communities – data from the British Crime Survey showed that speeding traffic is the top rated anti-social behaviour in local communities. The aim of 20mph was to help create more pleasant communities. Calmer speeds, and ultimately reduced car use for local trips, lead to less noisy and more people-centred communities.

3.38 The introduction of the 20mph speed limit across the city aimed not only to reduce road traffic casualties by lowering traffic speeds, but also to encourage more people to walk and cycle, and to improve community wellbeing. As such, the evaluation took a holistic approach to assessing impact, utilising a range of data sources that had been collected by Bristol City Council as part of their comprehensive data monitoring and collection programme. This included measuring vehicle speeds and compliance, travel modes, road traffic casualties and perceptions and attitudes.

3.39 The Bristol 20mph study found statistically significant reductions in average traffic speeds of 2.7mph across the city, following the introduction of 20mph speed limits. This is a larger reduction than seen in previous evaluations in other cities but may reflect the study methodology.

3.40 The study employed a more sophisticated analysis than previous studies of 20mph limits, including using individual speed data from over 36 million vehicle observations and controlling for other factors that might affect changes in traffic speeds.

3.41 Over the period of the 20mph limit implementation, there was a reduction in the number of fatal, serious and slight injuries from road traffic collisions, equating to estimated cost savings of over £15 million per year. Although there is still majority support for 20mph speed limits in Bristol, there remains concern about compliance and behaviour of other drivers.

3.42 Walking and cycling across Bristol has increased, both among children travelling to school and adults travelling to work. The introduction of 20mph speed limits in Bristol offers a model for other towns and cities across the UK, who are seeking to reduce traffic speeds, cut road traffic casualties, and promote community health and well-being through road danger reduction.

Portsmouth

3.43 Portsmouth City Council, another unitary local authority, was the first local authority in England to implement an extensive area-wide 20mph limit scheme covering the majority of residential roads in the city. The scheme utilises signing only and encompasses 94% of the total length of the City Council's highway network.

3.44 On the majority of the roads subject to the scheme, average vehicle speeds prior to implementation were less than or equal to 24mph, which reflected their narrow carriageways and on-street parking. The scheme was implemented partly to reinforce the low driving speeds adopted previously by many motorists and partly to encourage less aggressive driving behaviour by those who drove at inappropriate speeds. The cost of implementing the scheme was £570,000, which came from the City Council's local transport capital expenditure programme.

3.45 The stakeholder engagement process included:

- consultation with Neighbourhood Forums and residents' associations;
- publishing statutory advertisements in the local press;
- placing articles in the local press;
- television and radio interviews, both locally and nationally;
- exhibition of plans and posters in all local schools and public buildings;
- sending each school pupil home with a leaflet.

3.46 This proactive approach was considered by the City Council to be a better publicity strategy than simply publishing a lengthy list of street names using on-street notices, as was the minimum statutory requirement. The strategy received positive public feedback and no complaints were made regarding a lack of information. The Police supported the scheme on the basis that it would be self-enforcing.

3.47 The average vehicle speed following the implementation of the 20mph limit was 0.9mph lower than the average speed prior to its introduction; however, at sites where the average speed was greater than 24mph prior to the introduction of the scheme, the average speed reduced by 7mph.

4 Department for Transport – Research Report

4.1 In November 2018, the Department for Transport published a detailed report into the effectiveness of 20mph road speed limit (signed only) schemes. Twelve case study schemes were considered from a variety of area types, road types and scale. Residential and city/town centre schemes chosen included Walsall, Winchester, Liverpool, Nottingham, Brighton, Portsmouth, Middlesborough, Chichester and Calderdale.

4.2 The schemes involved lowering the speed limit from 30mph to 20mph through signing and road marking and supporting community engagement activities to raise awareness and encourage support. None of the schemes involved the introduction of physical traffic calming measures or changes to the street design. Eleven of the schemes were implemented between March 2012 and June 2015. The twelfth scheme was implemented before 2010, allowing the longer-term trend in speed performance to be observed.

4.3 The study examined the level of support for 20mph (signed only) limits amongst different user groups through the questionnaire surveys and showed high levels of post implementation support amongst cyclists (81%), residents (75%), and non-resident drivers (66%); but less support amongst residents in neighbouring 30mph areas (44%) and from motorcyclists (29% supportive, 47% unsupportive).There was also little call for the limit to be changed back to 30mph (12% support amongst residents and 21% amongst nonresident drivers).

4.4 The most common area of concern across all user groups considered was around compliance, with most focus group and survey participants of the opinion that stronger enforcement measures are needed if 20mph limits are to be effective.

Speeds and driver behaviour

4.5 Evidence from the journey speed analysis showed that following implementation, 47% of drivers in residential areas and 65% of drivers in city centre areas (equating to 51% across both categories) complied with the new 20mph limit, travelling at speeds of less than 20mph. Whilst a substantial proportion exceeded the limit, the majority are travelling at less than 24mph (i.e. at speeds close to 20mph); 70% in residential areas and 85% in city centre areas.

4.6 The nature of the roads where the limits have been introduced means that lower speeds were already ‘self-enforced’. Reducing the speed limit to 20mph has helped reinforce this process. There are now slightly more drivers travelling at speeds of less than 24mph (+5 percentage points in residential areas, and +7 percentage points in city centre areas), suggesting faster drivers have slowed down.

4.7 The journey speed analysis showed that the median speed has fallen by 0.7mph in residential areas and 0.9mph in city centre areas. Faster drivers have reduced their speed more, with the 85th percentile speed falling by -1.1mph in residential areas and by -1.6mph in city centre areas, based on journey speed data. This is a key finding, as other research shows that higher speeds are associated with increased safety risk (more collisions, increased severity, perceptions that the environment is not safe for vulnerable users).

4.8 The overall change in speeds is greater where speeds were faster before. The median speed fell by -1.3mph on residential roads with a before speed of more than 24mph; and by -1.1mph on ‘important local roads’ which typically had higher before speeds. On ‘minor local roads’ the median speed was already below 20mph and dropped by just 0.1mph. The results suggested that road characteristics have a much larger impact on the speeds that drivers choose to adopt than whether the road has a 30mph or 20mph limit. The differences in

speed between the different road categories are far larger than the changes brought about by lowering the speed limit.

4.9 Bigger changes were recorded at individual spot speed sites, with the change in mean speed varying from -7.2mph (reduction) to +4.3mph (increase); and the change in 85th percentile speeds varying from -9.0mph (decrease) to +7.6mph (increase).

4.10 The reductions in average speed in the case study areas were similar to those observed in other research studies, which have reported reductions in average speed of 0.5-2mph (with varying accountability for background trends).

Speeds on neighbouring roads

4.11 Journey speed analysis showed a small decline in speeds on surrounding 30mph and 40mph roads across the case study areas; suggesting that in general, drivers are not trying to make up for lost time when leaving a 20mph limit area.

4.12 The majority of resident (about two-thirds) and non-resident drivers (just over half) have not noticed a reduction in the speed of vehicles, and do not perceive there to be fewer vehicles driving at excessive speeds for the area. This is not surprising as the actual reduction in speed has been small.

However:

- Most resident drivers (72%) and non-resident drivers (69%) agreed that the 20mph limit makes it more acceptable to drive at a lower speed.
- A net proportion (% agree - % disagree) of non-resident drivers (+44%) and resident drivers (+7%) agreed that 20mph limits increase driver awareness of potential risks and hazards.

Factors influencing speed compliance

4.13 Lack of enforcement and lack of concern about the consequences of speeding were identified as the primary reason for non-compliance in driver interviews and the various focus groups. There is a widespread view amongst the public that 20mph limits are not enforced, and the likelihood of being caught exceeding the limit is very small; and this is one reason why bigger reductions in speed have not been observed in scheme areas.

4.14 Factors associated with compliance included the nature of the road environment, presence of vulnerable users, discussion within the community about road safety, and drivers with children.

What are the perceptions about walking and cycling in 20mph limits?

4.15 Overall, 20mph limits were perceived to be beneficial for cyclists and pedestrians:

- 69% of residents agreed that 20mph limits are beneficial for cyclists and pedestrians;
- 74% and 77% of non-resident drivers agreed that the 20mph limits are beneficial for cyclists and pedestrians respectively; and

- 69% and 89% of existing cyclists (nationwide) agreed that 20mph limits are beneficial for cyclists and pedestrians respectively.

4.16 Focus group discussions suggest that these views are driven by perceptions about the potential safety benefits of slower vehicle speeds, rather than because drivers have been seen to be more considerate to pedestrians and cyclists.

4.17 The discussions also suggest that slower speeds are seen as only one of a combination of factors required to improve the environment for walking and cycling. In the case study areas, there continues to be a range of barriers which discourage walking and cycling; and for many drivers' time constraints, journey distance, and a general preference for driving are also important considerations.

What has been the change in residential areas?

4.18 The analysis indicated insufficient evidence to conclude that there has been a significant change in collisions and casualties following the introduction of 20mph limits in residential areas over the short term based on the post implementation data available to date. Although the absolute number of collisions and casualties (per km, per year) has reduced in the residential areas, there has also been a reduction in the corresponding 30mph comparator areas.

What has been the change in city centre areas?

4.19 The analysis demonstrated that Brighton Phase 1 was the only case study area where the change in collisions and casualties, relative to the 30mph comparator area is significant. The results show a significant reduction in overall collisions (-18%), overall casualties (-19%), pedestrian casualties (-29%), and casualties aged 75 or over (-51%). However, there is no evidence to indicate a significant change in casualties involving cyclists and under 16s, at this time.

4.20 The changes appear to be a reflection of the city characteristics; and the blanket implementation of 20mph limits across all roads within the scheme area, including higher flow A and B roads which have typically been excluded from the residential case study schemes. There has been a significant reduction in collisions across all road types, but the change has been most pronounced on major strategic roads.

Overall findings

4.21 The evidence available to date shows no significant change in the short term in collisions and casualties, in the majority of the case studies.

There is some evidence to suggest a positive 20mph impact in one location (Brighton Phase 1), where a blanket 20mph limit was introduced covering both major and minor roads, and where there is sufficient data to indicate a statistically significant change in collisions and casualties relative to the 30mph comparator area. It should be emphasised however that this represents just one case study, and the extent to which the findings are transferable to other locations is unclear.
In both cases, further data is required to determine the longer term impact of 20mph limits.

Collision and casualty rates are known to fluctuate from year to year, and the post implementation data currently available may not be indicative of the longer term trend.

Social and community impacts

4.22 The majority of residents (70%) agreed that the 20mph speed limit is beneficial for residents. However, child safety still appears to be a concern, and other potential benefits relating to social interaction and community pride do not appear to be recognised by the majority of residents. Some 7% of households with children aged 6-10 years and 5% of households with children aged 11-14 reported that their children play outdoors more often since the introduction of 20mph limits.

How do outcomes compare with 20mph zones and older limits?

4.23 Some case study roads where the speed limit changed from 30mph to 20mph already had traffic calming in place, in the form of speed humps / tables or chicanes. These have essentially become new 20mph zones. In addition, almost all of case studies had the same pre-existing 20mph limits (signed only and with calming) in place prior to the implementation of the main area-wide scheme; often located outside schools. These roads did not experience a change in limit over the course of the research, but driver behaviour may have been influenced by the introduction of a new 20mph limit over the wider area.

4.24 Post implementation of 20mph limits, there was a higher level of compliance on already traffic calmed roads (62%), older 20mph limits (with calming) (66%), older 20mph limits (signed only) (68%); than on new 20mph (signed only) roads (47%).

4.25 Extending the area covered by 20mph limits has not changed driver behaviour on adjacent older 20mph limits (with traffic calming), but it appears that there has been some reduction on adjacent older 20mph limits (signed only). It is possible that the presence of calming (road humps, chicanes) and the nature of the associated roads (which are nearly all minor local roads) has already encouraged drivers to reduce their speed as much as they are willing to do so, in the absence of more proactive enforcement. However, on older 20mph limits (signed only) drivers may have been encouraged to reduce their speeds further, in line with their behaviour on new 20mph limits. The sample size for older 20mph limits is smaller than for the other categories of road, and further evidence would be needed to support this conclusion.

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5 Key Points and considerations for local decision-makers

5.1 The following conclusions and key points can be drawn from the monitoring of area wide 20mph signed only road schemes.

- 20mph limits are supported by the majority of residents and drivers;
- Most achieve a small reduction in average (median) speed – typically less than 1mph;

- There is a clear distinction between area wide signed only speed limits and 20mph schemes (typically zones) with physical speed reducing measures;
- Vehicles travelling at higher speeds before the introduction of a 20mph limit reduce their speed more than those already travelling at lower speeds;
- There is insufficient evidence to conclude a significant change in collisions and casualties following the introduction of 20mph signed only limits in residential areas.

5.2 Local authorities have responded positively to revised guidelines on the setting of local speed limits (DfT Circular 01/2013) to date, resulting in a substantial growth in signed only 20mph area-wide limits in recent years, covering larger areas and often entire urban areas.

5.3 The majority of 20mph limits have been implemented on roads where the average speed prior to implementation was typically less than 24mph; and the case study examples have generally been implemented on the basis that they should be self-enforcing, with no expectation of additional police enforcement.

5.4 The DfT commissioned study substantially strengthens the evidence base on perceptions, speed and early outcomes associated with 20mph (signed only) limits. It is the only major UK study to date to consider multiple case study areas and provide a national view.

5.5 Local authorities can work with relevant partners from the police, health, environment, urban planning, education, and the local community to deliver 20mph limits as part of an integrated approach to addressing the necessary transport, community, environment and health objectives as appropriate.

5.6 It is acknowledged that current guidance is likely to lead to a mix of approaches across the country in terms of speed limits in built up areas, which creates a challenge in terms of embedding a culture of slower speeds in residential and pedestrian environments, along with achieving driver compliance where 20mph limits are in place.

5.7 There is an evidence gap around the environmental impacts of 20mph speed schemes, where issues can be complex, for example in relation to air quality and greenhouse emissions.

5.8 There is an established positive relationship between vehicle speed and injury collisions; the higher the speed the greater likelihood of injury collisions, and where collisions do occur higher speeds contribute to higher severity. Therefore, low traffic speeds in residential areas and other areas where a significant number of journeys are made by vulnerable road users remains a valid objective. This is particularly relevant to new road construction and development proposals. Retrospective application of any lower speed limit can be on an evidence-based case by case approach, taking account of the potential benefits.