



**Brighton & Hove  
City Council**

**Report of the 20 mph Speed Limits/Zones Scrutiny  
Panel**

May 2010

**SPEED REDUCTION REVIEW:  
An Investigation into 20 mph speed limits/zones**

**Volume One: The Recommendations**

Panel Members:

Councillor Pete West (Chairman)  
Councillor Jayne Bennett  
Councillor Gill Mitchell  
Councillor David Watkins  
Councillor Geoffrey Wells

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## **1. Chairman's Introduction**

In Brighton and Hove the number of road collisions occurring has fallen in recent years. There still are, however, too many accidents taking place and there is an overwhelming perception amongst residents that the city's roads are just too dangerous.

The issue of 20 mph speed limits/zones was referred to scrutiny as it was considered a matter that required in-depth analysis and consideration. The purpose of this report is to highlight the consequences which may arise from changing the speed limit on roads in the city. During the last six months the panel spoke with representatives from a wide range of organisations to gather evidence and opinion on 20 mph speed limits/zones. The recommendations of this review are based on the evidence heard and the opinions put forward by experts in this field and residents.

During the course of this scrutiny review a number of residents' associations shared their experiences with the panel and made it very clear that many vulnerable road users feel threatened by traffic in the city and that there is not the infrastructure in place to support them as they move about. The speed of traffic as well as the lack of adequate crossing facilities was consistently mentioned by residents as being a significant problem and a barrier to them moving safely around the city. The panel found a large amount of support for speed reduction initiatives from the residents' associations it heard from and from residents who submitted comments for the panel to consider. There is a clear need and demand for the council to do more to ensure that the city's roads are made safer and more welcoming for all road users, and that road accidents are prevented from happening.

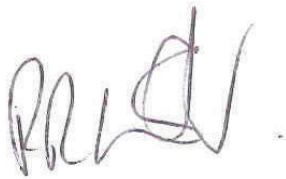
The evidence heard by the panel on the benefits of slower speeds was clear; pedestrians have a 95% chance of surviving crashes at speeds of 20 mph or less but less than a 50% chance of surviving a crash at speeds of around 30 mph. Furthermore, speed reduction initiatives have additional quality of life and health benefits. 20 mph speed limits/zones help to improve the urban realm and create safer environments for walkers; particularly children, young people, and older people; and better cycling conditions for cyclists. A safer and more pleasant environment in turn encourages more active travel which has direct physical health benefits for residents. 20 mph speed limits/zones also contribute to creating vibrant people-centred environments and may increase community ties and reduce social exclusion. There are also direct health benefits of speed reduction initiatives from less transport-related air pollution and noise, as well as potential mental health benefits due to the reduction in accident related traumas.

What was also clear from the evidence heard is that there is no single solution for the whole city. Whilst slower speed limits have substantial benefits for everybody they need to be used on roads where local conditions warrant them; for example, on roads used most often by vulnerable road users such as residential roads, roads next to parks and playgrounds, sport and leisure facilities, older people's care homes, community buildings, local shops,

schools, as well as roads used by pupils on their routes to school, and in busy shopping areas of the city. Speed limits on these roads need to be reduced to make it obvious to drivers that there are clear safety reasons to drive slower in these areas. Traffic in the city, however, needs to be kept moving and so main through routes in the city where they do not fall into the above categories, should not be included in speed reduction initiatives; although the ongoing safety issues on these roads need to be attended too as a matter of priority. Such a clear differentiation in speed limits between these different types of roads sends a clear message to all road users, and will help to make vulnerable road users feel safer on the roads they use the most.

The safety and well-being of residents as well as visitors to this city should be a high priority for the council. Ensuring that the speed limits on the city's roads are right for local conditions will go a long way to increasing the safety of the city's roads, preventing accidents from occurring and supporting the uptake of sustainable transport choices. The approach recommended by this scrutiny panel needs to be prioritised and adequately funded through the Local Transport Plan 3. The approach should also be embedded into the city's sustainable transport strategy.

My thanks on behalf of the panel go to all the expert witnesses and residents who gave their time and contributed to the review. I am also grateful to Councillors Jayne Bennett, Gill Mitchell, David Watkins, and Geoffrey Wells for their work as panel members.

A handwritten signature in black ink, appearing to read 'Pete West', with a small flourish at the end.

**Councillor Pete West**

## 2. Executive Summary

2.1 This section provides a brief summary of the panel's report and lists the panel's recommendations.

2.2 Firstly, a brief note on terminology. This report uses the term '20 mph zone' to indicate areas where traffic calming measures are needed to ensure speeds are kept at, or below, 20 mph. The term '20 mph speed limit' refers to areas where signs only are used and no additional traffic calming measures are required as average speeds in an area are 24 mph or less. The term '20 mph area' refers to clusters of 20 mph speed limits and 20 mph zones which are joined together to form larger areas of 20 mph speed restrictions. Lastly, the term 'vulnerable road users' refers to pedestrians, particularly older people, children, and young people, as well as cyclists and motorcyclists.

### 2.3 The panel's terms of reference

- To gain an understanding of the collision statistics
- To seek a range of views as to the impact of 20 mph speed limits and 20 mph zones on road safety in terms of reducing vehicle speeds and casualty numbers
- To investigate what options other local authorities across the country are pursuing in terms of 20 mph speed limits/zones
- To gain an understanding of the potential environmental impacts of 20 mph speeds on air quality, tail pipe and carbon emissions as well as noise
- To gain an understanding of the potential 'other benefits' which 20 mph speeds may bring, such as health benefits, increased sociability, and better walking and cycling conditions
- To gain an understanding of any potential consequences of any displacement of traffic as a result of introducing lower speed limits
- To gain an understanding of the speed limit review currently being undertaken in the city and the links with this investigation
- To identify the benefits, feasibility and potential costs of various 20 mph speed options for the city
- To develop recommendations for the future development of council policy on 20 mph speed limits/zones

### Key findings

2.4 An extensive study of 20 mph zones in London has demonstrated that 20 mph zones are associated with a 42% reduction in all casualties, and that areas adjacent to 20 mph zones also see a reduction of 8% for all casualties.<sup>1</sup> There is no doubt that when traffic is forced to travel at speeds of 20 mph or less, it saves lives.

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<sup>1</sup> Grundy et al, 2009, *Effect of 20 mph traffic speed zones on road injuries in London, 1986-2006*, British Medical Journal

- 2.5 However, some of the traditional traffic calming measures used in the past such as speed bumps and humps are very unpopular with drivers, cyclists, taxi drivers, buses, and many residents living near to the zones.<sup>2</sup>
- 2.6 Additionally, 20 mph zones are very resource intensive to implement and as a result interventions in Brighton and Hove have had to be prioritised depending on the severity and numbers of accidents occurring and the resources available. This has meant that the council has reacted to traffic problem areas and road accidents in a piecemeal and small-scale way, and has left residents feeling that their concerns about dangerous roads are not being dealt with adequately enough. The panel feels that a new approach to introducing these types of road safety measures needs to be introduced and that this approach needs to have a wider impact and not be so costly.
- 2.7 Conclusions from an independent interim evaluation of the area-wide 20 mph speed limit scheme introduced in Portsmouth are interesting to note. After implementation there was an average speed reduction of 0.9 mph on roads included in the scheme. On some roads included in the scheme where average speeds were higher than 24 mph significant speed reductions were seen on some of the roads. There was a 13% overall reduction in accidents and a 15% reduction in the number of casualties, although reductions in both accident and casualty numbers fluctuated across the city.<sup>3</sup> It should be noted that the evaluation of the Portsmouth scheme is based on one year's worth of data and road safety data requires three years of data to be considered robust, however, the results so far do indicate some positive benefits from the scheme.
- 2.8 The Portsmouth scheme demonstrated that where average speeds of 24 mph or less exist, then 20 mph speed limits can be successfully used to formalise an existing practice of slow driving, and act as a deterrent to aggressive driving as well as reduce casualty numbers. Additionally, 20 mph speed limits can reduce speeds on roads where average speeds are higher than 24 mph, although not always so that average speeds are compliant with the 20 mph speed limit.<sup>4</sup>
- 2.9 20 mph speed limits are likely to be effective on clusters of streets where average speeds are low, or next to 20 mph zones to increase the area covered by the zone.<sup>5</sup> When 20 mph speed limits are introduced in areas where they are right for local conditions they work

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<sup>2</sup> See sections 5.10 and 5.11 in this report

<sup>3</sup> Atkins, 2009, *Interim Evaluation of the Implementation of 20 mph Speed Limits in Portsmouth: Phase 1 - Final Report*, DfT

<sup>4</sup> Atkins, 2009, *Interim Evaluation of the Implementation of 20 mph Speed Limits in Portsmouth: Phase 1 - Final Report*, DfT

<sup>5</sup> See sections 5.5 and 5.6 in this report

to reduce traffic speed, prevent accidents, formalise already slow driving behaviour, and deter aggressive driving.

- 2.10 As well as road safety benefits there are additional and important benefits which 20 mph speed limits/zones have. 20 mph speed limits/zones help to improve the urban realm and create safer environments for vulnerable road users. This encourages residents to engage in more active travel which will improve the health of local residents as well as contribute to creating vibrant people-centred environments. There are indications that slower speeds also increase community ties and may help to prevent social isolation so increasing residents' quality of life. Additionally, there are key health benefits which 20 mph speed limits/zones help to achieve; less transport-related air pollution and noise from traffic will benefit residents' health, and potential mental health benefits will arise due to the reductions in accident related traumas. 20 mph speed limits/zones help to make areas of the city more accessible to vulnerable road users.<sup>6</sup>
- 2.11 Any speed reduction initiative introduced needs to consider issues of enforcement, compliancy, and coherency. The police do not have the resources to enforce 20 mph speed limits when they are introduced in ways which are not considered to be in line with the guidance. Sussex Police recommend therefore that 20 mph speed limits should only be introduced on roads where average speeds are less than 24 mph. If a speed reduction initiative is to be introduced on roads where average speeds are more than 24 mph, then traffic calming measures should be introduced to make these areas self-enforcing. Speed reduction initiatives should be easy to comply with in order to ensure that drivers are not unnecessarily criminalised. In order to ensure maximum effectiveness any changes to speed limits need to be coherent and made in ways which make sense to drivers and other road users.<sup>7</sup>
- 2.12 Evidence gained from the Speed Limit Review of all C and Unclassified Roads will be important in evidencing where in the city average speeds are currently 24 mph or lower.
- 2.13 The environmental impacts of speed reductions are difficult to assess because of the number of variables involved. Driving styles greatly impact on the amount of pollutants and emissions emitted from a vehicle. Simplistically, regular acceleration and braking increases fuel consumption and the amount of pollutants emitted, conversely if traffic is kept moving, or there is a reduction in the volume of traffic, then less pollutants and emissions are emitted. Any speed reduction initiative introduced needs to take this relationship into account, as well as factor in the potential benefits which may arise should residents choose to use more sustainable forms of transport as the roads are perceived to be safer due to speed reductions. Reducing speed limits may help to

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<sup>6</sup> See section 5.7 in this report

<sup>7</sup> See section 5.8 in this report

also reduce noise from traffic, so increasing the benefits of speed reductions for residents.<sup>8</sup>

- 2.14 Evidence from the UK Noise Association suggested that reducing the speed limit on main roads in the city would be beneficial for reducing noise pollution.<sup>9</sup> However, such benefits need to be weighed up against the need to keep traffic flowing through and around the city and avoiding congestion. The panel felt that over all it would be better to keep main through roads moving at 30 mph, where these roads have average speeds of over 24 mph, or were not heavily used by vulnerable road users.
- 2.15 However, there are key safety concerns with some of the main roads in the city; in particular vulnerable road users do not feel safe being able to cross busy main roads and there are often no safe places or crossings available to vulnerable road users in the right locations.<sup>10</sup> These safety concerns need to be addressed as a matter of priority.
- 2.16 There is widespread concern amongst residents about the safety of many of the roads in the city as a result of the speed at which traffic travels. Many residents feel that they should not have to wait until an accident happens in their area before a road safety initiative is introduced. There is a large amount of support and demand from residents for speed reduction initiatives. Such concerns and demands require the council to take a much more widespread and systematic approach towards making road safety improvements.<sup>11</sup>

## **Conclusions and Recommendations**

- 2.17 The panel, on the basis of the evidence they had heard and collected, feel that the council needs a new approach to introducing speed reduction initiatives in the city, an approach which is more widespread and works to create safer roads for vulnerable road users across the city.
- 2.18 The panel found that when introduced into the right areas 20 mph speed limits and 20 mph zones can be used to not only increase the safety of roads for all road users, preventing accidents and reducing speeds, but to bring about benefits in health and quality of life outcomes. Indeed, 20 mph speed limits/zones not only help to improve local environments and make them safer for vulnerable road users they help to create vibrant people-centred environments, strengthen community ties and promote sustainable travel choices. 20 mph speed limits/zones also help to bring about key health benefits by increasing

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<sup>8</sup> See section 5.12 in this report

<sup>9</sup> See section 5.12 in this report

<sup>10</sup> See section 5.10 in this report

<sup>11</sup> See section 5.10 in this report



physical exercise as well as reducing transport-related air and noise pollution which heavily effects residents' health.

- 2.19 The panel concluded that the city would benefit from having areas of 20 mph speed limits introduced into the city and that 20 mph speed limits should be used primarily on roads which vulnerable road users use the most; such as roads outside schools, routes to schools, on roads next to parks and playgrounds, sports and leisure facilities, community buildings, older people's care homes, local shops, on roads which are primarily for residential use, as well as on busy shopping streets. Introducing 20 mph speed limits on these roads sends a clear message to drivers that there are safety reasons for driving slower.
- 2.20 The panel concluded that 20 mph speed limits should be introduced on all residential roads, on roads where there are high numbers of vulnerable road users, and on roads where average speeds are 24 mph or less. Evidence from the speed limit review of all C and Unclassified roads will help to identify which roads these are. Information on the speed limit review, including the methods for identifying the clusters and priority areas needs to be made available.
- 2.21 The panel also concluded that where average speeds on residential roads and in high pedestrian and cyclist use areas are higher than 24 mph, then speed reduction initiatives should be supported by traffic calming measures, although speed bumps and humps should ideally not be used.
- 2.22 20 mph speed limits and zones need to be easily identifiable and therefore common features should be used to indicate to drivers that they are entering an area which requires them to drive slower. Where possible, 20 mph zones and 20 mph speed limits should be joined together to form 20 mph areas as this will help to ensure that speed limits in the city are coherent and easy to comply with. Care should be taken when implementing 20 mph areas to ensure that traffic problem areas and rat running is not created on roads not included in the 20 mph areas.
- 2.23 Where the criteria are met, 20 mph areas should be accompanied by the introduction of more crossing facilities to better enable pedestrians and cyclists to cross main busy roads and to link 20 mph areas. This will greatly aid vulnerable road users to move safely around the city.
- 2.24 The panel found that in terms of overall benefits the main through roads in the city where they do not fit into the above criteria, should not be included in speed reduction schemes. However, the road safety concerns of residents using these roads, which are mostly about being able to cross the road safely, need to be attended to as a matter of priority.

- 2.25 Residents need to be involved and consulted on plans to introduce 20 mph areas in order to ensure community buy-in into speed changes and therefore better compliancy. Local action teams, many of which have road safety as a key priority in their action plans, and residents' associations', should also be involved in plans to introduce 20 mph areas. This consultation process as well as public expectation will need to be carefully managed. Additionally, the criteria for the implementation process of 20 mph areas should be made available to residents.
- 2.26 The impacts of 20 mph initiatives need to be carefully monitored and evaluated.
- 2.27 The Road Safety Team and Transport Department at the council have undertaken a number of highly successful schemes which have made the city's roads considerably safer for residents and visitors. Indeed 20 mph speed limits/zones are just one element of a much larger programme of road safety projects and engineering work undertaken by the council. The approach recommended by the panel aims to build on this good work and offer a more widespread and systematic approach to implementing 20 mph speed limits/zones across the city. Such an approach will require the whole Transport Department to be involved in developing and implementing the schemes and will need resourcing.
- 2.28 The panel developed the following recommendations based on the evidence heard from the expert witnesses and the opinions received from residents:

**Recommendation 1**

***That the council introduce a policy of reducing speed limits on roads primarily for residential use, and on those roads where high numbers of vulnerable roads users use the roads; particularly those roads outside schools, routes to schools, roads outside parks and playgrounds, sports and leisure facilities, community buildings, older people's care homes, local shops and on roads in busy shopping areas.  
(See section 5.5, 5.6, 5.7, 5.10 for the evidence to support this)***

**Recommendation 2**

***That the speed limit review currently being conducted to assess average speeds on C and Unclassified roads in the city be used to identify roads in the city that would benefit from 20 mph speed limits as average speeds are 24 mph or less.  
(See section 5.5, 5.6, 5.7, 5.8, 5.9, 5.10 for the evidence to support this.)***

**Recommendation 3**

***That those roads identified in recommendations 1 and 2 be clustered together to form coherent 20 mph areas.***

***(See section 5.4, 5.5, 5.6, 5.7, 5.8, 5.10 for the evidence to support this.)***

**Recommendation 4**

***That a report which sets out the work being undertaken by the speed limit review, including the methods for identifying clusters and priority areas, and containing a timetable for implementation be brought to the next meeting of the Environment Cabinet Member.***

**Recommendation 5**

***That where needed 20 mph areas are supported by additional traffic calming measures. However, these measures should ideally not include the use of speed bumps or humps but high quality design measures which are fit for purpose for local areas.***

***(See section 5.10, 5.11 for the evidence to support this.)***

**Recommendation 6**

***That easily understandable criteria for the implementation of 20 mph areas be made available to residents so that they can understand why some areas of the city will be prioritised for speed reduction initiatives first.***

**Recommendation 7**

***That taking into account those areas identified in recommendations 1, 2 and 3, main roads in the city should not have speed reduction initiatives introduced. However, the council should look as a matter of priority at other road safety measures which can be used to make these roads safer for vulnerable road users. In particular, the concerns of residents about being unable to cross these types of roads safely should be addressed.***

***(See section 5.10 for the evidence to support this.)***

**Recommendation 8**

***That as a matter of priority, and where criteria are met, more crossing facilities, zebra crossings, and safe spaces for vulnerable road users to cross roads are introduced in conjunction with 20 mph areas and on main busy roads.***

***(See section 5.10 for the evidence to support this.)***

**Recommendation 9**

***That Local Action Teams and local residents' associations are actively involved and consulted with on plans to introduce 20 mph initiatives in their areas.***

***(See Section 5.10 for the evidence to support this.)***

**Recommendation 10**

***That, in order to ensure community buy-in and maximum compliancy, residents are engaged and consulted with on plans to introduce 20 mph initiatives into their areas.***

***(See Section 5.10 for the evidence to support this.)***

**Recommendation 11**

***That as part of the public consultation and engagement exercise, awareness raising and education campaigns are also undertaken to highlight key problem areas in the city and the need for slower speeds and safer driving and road use in the city.***

***(See Section 5.13 for the evidence to support this.)***

**Recommendation 12**

***That a carefully planned, long-term monitoring and evaluation exercise takes place so that evidence on the impacts of the initiatives introduced, and effectiveness of gaining and maintaining community buy-in, can be collected and responded to.***

**Recommendation 13**

***That 20 mph areas are identified as quickly as possible and that adequate funding is prioritised and set aside for implementing these initiatives as part of the Local Transport Plan (3).***

**Recommendation 14**

***That the Environment and Community Safety Overview and Scrutiny Committee monitor progress of these recommendations with the first update report brought to the committee after six months.***

**Recommendation 15**

***That the feasibility of piloting in a suitable area, new technology to manage traffic speed such as 'green light wave' technology and other forms of smart technology be considered.***

### **3. Introduction**

- 3.1 There is great concern amongst a number of residents and elected members about the speed which traffic travels on many of the roads in Brighton and Hove. Between June 2008 and October 2009, 15 petitions with a total of 3,575 signatures were submitted to the council on the issue of road safety problems in the city. Of these, seven petitions (with a total of 1,390 signatures) specifically requested either traffic calming measures or a 20 mph speed limit. Eight petitions (a total of 2,185 signatures) were on related road safety issues such as concerns over pedestrian safety, speeding traffic, and requests for pedestrian crossings.<sup>12</sup>
- 3.2 This concern with the speed of traffic and the safety of vulnerable roads users is mirrored in other cities across the country, and some cities have responded by introducing widespread 20 mph speed limits in residential and built up areas. Cities such as Portsmouth, Oxford, Norwich, Leicester and Newcastle-upon-Tyne, as well as areas in London including Islington and Hackney now have large areas of 20 mph speed limits. Bristol and Warrington are currently piloting areas of 20 mph speed limits within their boundaries.<sup>13</sup>
- 3.3 On 06 October 2009, in response to the high number of requests for speed reduction initiatives the Cabinet Member for Environment wrote to the Environment and Community Safety Overview and Scrutiny Committee (ECSOSC) to request that the committee consider the issue of 20 mph speed limits/zones and the evaluation report on the 20 mph speed limit scheme introduced in Portsmouth.
- 3.4 On the 08 October 2009, Council considered a Notice of Motion to reduce the default speed limit in built-up areas from 30 to 20 mph. The Notice of Motion requested that a scrutiny panel be set up to undertake a detailed study and examination of 20 mph speed limits/zones. Council agreed to send this request for a scrutiny panel to the ECSOSC to consider.
- 3.5 At its meeting on the 09 November 2009 members of the ECSOSC agreed to set up a scrutiny panel to explore the issue of 20 mph speed limits/zones in the city.

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<sup>12</sup> See appendix of scrutiny panel's scoping paper

<sup>13</sup> 20s Plenty written evidence, 22/02/2010

## **4. Methodology**

- 4.1 Members of the 20 mph scrutiny panel included: Councillors Pete West (Chairman), Jayne Bennett, Gill Mitchell, David Watkins and Geoffrey Wells. The panel met for the first time on the 01 December 2009 to scope the review.
- 4.2 The panel agreed the following terms of reference for the review:
- To gain an understanding of the collision statistics
  - To seek a range of views as to the impact of 20 mph speed limits and 20 mph zones on road safety in terms of reducing vehicle speeds and casualty numbers
  - To investigate what options other local authorities across the country are pursuing in terms of 20 mph speed limits/zones
  - To gain an understanding of the potential environmental impacts of 20 mph speeds on air quality, tail pipe and carbon emissions as well as noise
  - To gain an understanding of the potential 'other benefits' which 20 mph speeds may bring, such as health benefits, increased sociability, and better walking and cycling conditions
  - To gain an understanding of any potential consequences of any displacement of traffic as a result of introducing lower speed limits
  - To gain an understanding of the speed limit review currently being undertaken in the city and the links with this investigation
  - To identify the benefits, feasibility and potential costs of various 20 mph speed options for the city
  - To develop recommendations for the future development of council policy on 20 mph speed limits/zones
- 4.3 The panel agreed to hold four public meetings and invite a number of expert witnesses to attend to give evidence to the panel. It was also agreed that a number of representatives from local resident's associations and groups would be invited to the fourth public meeting to give their opinions on 20 mph speed limits and zones.
- 4.4 As well as taking evidence in public the panel agreed to write to a number of organisations and experts to gather written evidence and canvass opinion on 20 mph speed limits/zones as widely as possible.
- 4.5 The panel also agreed to undertake a site visit to Portsmouth to see the 20 mph scheme introduced there.

### **Evidence-gathering process:**

- 4.6 The panel held public meetings on 19 January, 26 January, 11 February, and 23 February 2010. The panel heard evidence from the following groups and organisations:

- Sussex Police
- Air Quality, Brighton and Hove City Council
- UK Noise Association
- Brighton and Hove Bus Company
- Road Safety Team, Brighton and Hove City Council
- Living Streets
- London School of Hygiene & Tropical Medicine
- Older People's Council
- Bricycles
- Cabinet Member for Environment, Brighton and Hove City Council
- Proposer of Notice of Motion (Councillor Ian Davey)
- London Road Area Local Action Team
- Lansdowne Area Resident Association
- Hangleton and Knoll Ward (Councillor David Smart)
- Goldsmid Ward (Councillor Melanie Davis)
- Westbourne Ward (Councillor Denise Cobb)
- Woodingdean Speedwatch Group
- Friends of Queens Park/Queens Park Local Action Team
- Lewes Road for Clean Air Group

4.7 A number of council departments, and local and national organisations and groups were contacted between December 2009 and March 2010 and invited to make comments on the impact of 20 mph speed limits/zones in the city:

- Tourism and Venues, Brighton and Hove City Council
- Culture and Economy, Brighton and Hove City Council
- Economic Partnership
- Brighton and Hove Business Forum
- North Laine Traders Association (NLTA)
- City Clean, Brighton and Hove City Council
- The Taxi Forum
- Big Lemon Bus Company
- East Sussex Fire and Rescue Service (ESFRS)
- South East Coast Ambulance Service (SECamb)
- Brighton and Hove Federation of Disabled People
- Environmental Protection UK
- Public Health, Brighton and Hove City Council
- 20s Plenty Campaign
- Royal Society of Prevention of Accidents (ROSPA)
- The Institute of Advance Motorists (IAM)
- The Environmental Transport Association (ETA)
- The RAC
- The AA

4.8 Additionally, all elected members, local action teams and neighbourhood forums were emailed and invited to submit their opinions and comments for the panel to consider. In order to facilitate this process a standard comments sheet with background information

on the scrutiny review was sent to all those who expressed an interest in contributing their comments and opinions.

- 4.9 Information about the scrutiny review was also included in a January issue of the school bulletin along with a copy of the comments sheet. All independent schools were also emailed and sent a copy of the comments sheet to complete with their opinions and comments.
- 4.10 A press release on the scrutiny panel was issued after the panel's scoping meeting as well as again in January and this attracted some interest from members of the public who were sent a comments sheet to complete and return.
- 4.11 Members of the panel undertook a site visit to Portsmouth on 12 March 2010. Panel members met with the engineer responsible for implementing the 20 mph scheme in Portsmouth and were taken on a tour of the scheme.
- 4.12 The panel wish to thank all those who attended its public meetings to give evidence to the panel as well as all those who wrote to them with their comments and opinions. Whilst the panel has tried to take all the views expressed into account when making their recommendations, the recommendations do, however, remain those of the panel.



## 5. Issues and Findings

5.1 This section highlights the key evidence collected by the panel.

### 5.2 Road accident data:

5.2.1 Between 1<sup>st</sup> January 2006 and 31<sup>st</sup> October 2009 the following number of road collisions occurred in Brighton and Hove<sup>14</sup>:

	Year				
<b>Severity</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>Total</b>
Fatal	9	6	5	2	22
Serious	156	152	124	117	549
Slight	827	893	811	598	3129
<b>Total</b>	<b>992</b>	<b>1051</b>	<b>940</b>	<b>717</b>	<b>3700</b>

5.2.2 Between 1<sup>st</sup> January 2006 and 31<sup>st</sup> October 2009 there were the following number of road casualties in Brighton and Hove<sup>15</sup>:

	Year				
<b>Severity</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>Total</b>
Fatal	9	6	5	2	22
Serious	162	158	136	122	578
Slight	1042	1132	1067	767	4008
<b>Total</b>	<b>1213</b>	<b>1296</b>	<b>1208</b>	<b>891</b>	<b>4608</b>

5.2.3 Between 1<sup>st</sup> January 2006 and 31<sup>st</sup> October 2009 on A and B roads in Brighton and Hove the following number of collisions took place<sup>16</sup>:

<b>Severity</b>	
Fatal	7
Serious	277
Slight	1560
<b>Total</b>	<b>1844</b>

5.2.4 Between 1<sup>st</sup> January 2006 and 31<sup>st</sup> October 2009 on C or Unclassified roads in Brighton and Hove the following number of collisions took place<sup>17</sup>:

<b>Severity</b>	
Fatal	7
Serious	147
Slight	894
<b>Total</b>	<b>1048</b>

<sup>14</sup> Data provided by Sussex Safer Roads partnership, 18 November 2009

<sup>15</sup> Data provided by Sussex Safer Roads Partnership, 18 November 2009

<sup>16</sup> Data provided by Sussex Safer Roads Partnership, 18 November 2009

<sup>17</sup> Data provided by Sussex Safer Roads Partnership, 18 November 2009

- 5.2.5 The road accident data indicates that there have been on average 2 to 3 road collisions occurring everyday on the city's roads; although the numbers of collisions have been falling in recent years.
- 5.2.6 The most commonly cited contributory factor recorded by police officers when attending a road collision is a failure to look properly. This was cited in about 32% of all reported injury collisions between 1<sup>st</sup> November 2006 and 31<sup>st</sup> October 2009. The second largest contributory factor recorded was a failure to judge the other persons path or speed, and this was cited in about 17% of collisions. Lack of attention on the part of all road users, is an important contributory factor in accidents in Brighton and Hove. Factors such as lack of attention, careless driving, following too close, sudden braking etc, are all likely to be exacerbated by higher speeds; the lower the speed of a vehicle, the more time everyone has to react and potentially avoid serious and/or fatal accidents.<sup>18</sup>
- 5.2.7 There has been a substantial amount of research undertaken to prove that slower speeds tend to save lives, particular the lives of vulnerable road users. It is widely agreed that pedestrians have a 95% chance of surviving crashes at speeds of 20 mph or less but less than a 50% chance of surviving a crash at speeds of around 30 mph.<sup>19</sup>

**Key findings:**

- 5.2.8 Whilst the number of collisions in the city is falling, more needs to be done to prevent accidents from occurring in the first place. Slower speed limits may be a useful tool to increasing the safety of many of the city's roads and preventing road accidents.

**5.3 Road Safety Initiatives in Brighton and Hove:**

- 5.3.1 The Road Safety Strategy 2006-2010, and the Road Safety Team's annual programme of road safety work details the council's plans to reduce road accidents in the city. The Team works in close partnership with neighbouring Local Highways Authorities, Sussex Police, the Fire & Rescue Service, local health trusts and the Sussex Safer Roads Partnership.
- 5.3.2 The Road Safety Team in conjunction with other transport departments at the council have in recent years undertaken a number of road engineering works designed to make the city's streets safer. Extensive changes to North Street and New Road have been made to not only enhance the urban realm but to improve the safety record in these areas. Additionally, the team delivers a number of road safety training and educational programmes as well as the Safer Routes to Schools Programme. The Safer Routes to School Programme concentrates on

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<sup>18</sup> Clarke, Minutes of panel's scoping meeting, 01/12/2009

<sup>19</sup> Cited in Public Health written evidence, 12/02/2010

improving the area around schools in the city and making routes to school safer for children and their parents/carers to walk or cycle.<sup>20</sup>

5.3.3 Implementing 20 mph speed limits/zones, has been, to date, just one part of the large amount of work undertaken by the Road Safety Team and by the wider transport department at the council to improve the city's roads.

#### **5.4 20 mph speed limits/zones in Brighton and Hove:**

5.4.1 There are a number of 20 mph zones and speed limits which have been introduced into the city, although robust evidence on the impact that these schemes have had is not available for most areas as extensive monitoring and evaluation of these sites has not taken place.

5.4.2 Currently the council has a priority list of engineering sites that are being assessed with a view to reducing casualties. Some of the measures adopted to address the issues identified might involve traffic calming measures, but such schemes are not necessarily the remedy to all casualty problems. This work is currently funded by the Sustainable Transport (Transport Planning) Capital Budget. Sites are prioritised on the basis of collision data.<sup>21</sup>

5.4.3 Requests for traffic calming or speed reductions are received from the public and elected members, often by way of petitions. In such cases relevant assessments of the area in question are undertaken and collision data for the area is reviewed. Assessments undertaken include looking at the accident data, speed and volume of traffic in the area, traffic flow and through traffic, pedestrian and cyclist activity, features in the area such as schools, conservation areas, and population density. A site will then be included on the priority of list if the area is considered hazardous. The priority list is prioritised on the basis of past accident records.<sup>22</sup>

5.4.4 Some requests from residents and elected members result in a negative response either because the relevant criteria for action have not been met, or the site is not considered a higher priority than those sites already on the priority list.<sup>23</sup>

#### **Key findings:**

5.4.5 To date the council has taken a piecemeal and somewhat reactionary approach to introducing 20 mph zones and speed limits based mainly on preventing further accidents from happening in a particular area.

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<sup>20</sup> See Brighton and Hove City Council Local Transport Plan 2006/07 - 2010/11 for more information

<sup>21</sup> Road Safety Team Briefing note, 26/01/2010

<sup>22</sup> Road Safety Team Briefing note, 26/01/2010

<sup>23</sup> Road Safety Team Briefing note, 26/01/2010

Whilst this is an understandable approach it has not worked to solve traffic problems across the city quickly enough. There are now more and more residents calling for speed reduction initiatives in their area and what is now required is a more widespread and systematic approach to solving traffic problems and preventing road accidents from occurring.

## **5.5 The impact of 20 mph zones:**

- 5.5.1 An extensive study of 20 mph zones in London has demonstrated that when traffic is forced to travel at 20 mph the number of road accidents and casualties are reduced. The study, published in the British Medical Journal in September 2009, analysed 20 years of data on 20 mph zones and concluded that 20 mph zones are effective measures for reducing road injuries and deaths.<sup>24</sup>
- 5.5.2 In London, the introduction of 20 mph zones has been associated with a 42% reduction in all casualties. This was higher for killed and seriously injured casualties where there was a reduction of 46% in casualties, and for those killed and seriously injured aged between 0-15 there was a reduction of 50% in casualties. The largest reductions in casualties were for killed and seriously injured car occupants which saw a reduction in casualties of 62%. Cyclists overall saw the smallest reduction in casualties associated with 20 mph zones of 17%; however, killed and seriously injured cyclist casualties saw a reduction of 38% in casualties.<sup>25</sup>
- 5.5.3 The study also noted that some areas adjacent to 20 mph zones experienced some small migration of traffic although this did not appear to be accompanied with an increase in injuries. Indeed, areas adjacent to 20 mph zones also appeared to be associated with a reduction in casualties of 8% for all casualties and 10% for casualties involving young people. The researchers involved in the study were confident that the casualty reductions associated with 20 mph zones were because of the zones themselves rather than other factors.<sup>26</sup>
- 5.5.4 Based on the available data the study concluded that 20 mph zones are effective in reducing the risks of casualties especially with regard to serious injury and death, and that the benefits are greatest among younger children.<sup>27</sup>
- 5.5.5 The researchers involved in the study recommended that where there are high numbers of road injuries then 20 mph zones should be

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<sup>24</sup> Grundy et al, 2009, *Effect of 20 mph traffic speed zones on road injuries in London, 1986-2006*, British Medical Journal

<sup>25</sup> Grundy, Minutes of panel's public meeting, 11/02/2010

<sup>26</sup> Grundy, Minutes of panel's public meeting, 11/02/2010

<sup>27</sup> Grundy et al, 2009, *Effect of 20 mph traffic speed zones on road injuries in London, 1986-2006*, British Medical Journal

introduced to reduce casualties resulting from roads collisions, and that on residential roads surrounding the zones, 20 mph speed limits could also be brought in to further aid casualty reduction. The researchers recommended that all residential roads should be 20 mph and in those areas where speeds are already low this may require signs only, whilst other areas may require the use of 20 mph zones.<sup>28</sup>

### **Key findings:**

5.5.6 20 mph zones are effective measures for reducing road injuries and casualties and preventing accidents. A combination of 20 mph zones and 20 mph speed limits used on all residential roads is likely to have the largest impact on reducing casualties.

### **5.6 The impact of 20 mph speed limits:**

5.6.1 In recent years, changes to the legislation has meant that local authorities are now able to lower the speed limit on some roads to 20 mph without the need for traffic calming measures, providing average speeds are 24 mph or less.<sup>29</sup> As a result, there are a number of cities which have introduced extensive areas of 20 mph speed limits within their boundaries. These include, Portsmouth, Oxford, Norwich, and in London; Islington and Hackney. Bristol and Warrington are also currently piloting areas of 20 mph speed limits.<sup>30</sup>

5.6.2 In 2007/08, Portsmouth City Council implemented an extensive area-wide 20 mph speed limit restriction on the majority of its residential roads using terminal signs, repeater signs and speed limit roundel markings on the road. On most of the roads included in the scheme the average speeds before installation were 24 mph or less, although a few roads with average speeds higher than 24 mph were included in order to avoid inconsistencies in the speed limits.

5.6.3 The 20 mph scheme in Portsmouth was adopted to address actual and perceived safety issues associated with busy residential areas and to support the low driving speeds adopted previously by many motorists, as well as to encourage less aggressive driving from those who drove at inappropriate speeds. The scheme aimed to be mostly self-enforcing so as to avoid the need for extra police enforcement.<sup>31</sup>

5.6.4 Average speed data collected before and after the implementation of the 20 mph scheme in Portsmouth indicated that modest reductions in the speed of traffic were achieved. Before implementation of the

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<sup>28</sup> Grundy, Minutes of panel's public meeting, 11/02/2010

<sup>29</sup> DfT Circular 1/2006 and Revision letter, December 2009, calling for comments on revision of DfT's speed limit circular

<sup>30</sup> 20s Plenty written evidence, 22/02/2010

<sup>31</sup> Atkins, 2009, *Interim Evaluation of the Implementation of 20 mph Speed Limits in Portsmouth: Phase 1 - Final Report*, DfT

scheme average speeds across the city ranged from 18.5 – 20.2 mph. After implementation average speeds across the city ranged from 17.9 – 19.1 mph. On average, speed changes of between 0.6 – 1.1 mph were achieved; although those roads which had the highest before implementation average speeds saw a larger reduction in average speeds with those roads with average before speeds of 21 – 24 mph achieving average speed reductions of 1.4 mph, and those roads with before speeds higher than 24 mph achieving average speed reductions of 7 mph. Overall, the scheme was most successful in reducing speed at sites where speeds were greatest before the implementation of the scheme, although this did not always result in the speed limits becoming self-enforcing.<sup>32</sup>

5.6.5 Analysis of the accident data before and after implementation of the 20 mph scheme demonstrates some reductions in the number of road accidents and casualties. Overall, there was a 13% reduction in the number of road accidents after the implementation of the scheme; however, there was a 2% increase in the number of Killed or Seriously Injured (KSI) accidents. Across the city some areas recorded reductions in the number of accidents, whilst other areas recorded increases in the number of accidents occurring. Overall, there was a 15% reduction in the number of casualties after implementation of the scheme. However, again, the impact on the number of casualties fluctuated across the city with some areas recording increases in the number of casualties and others recording decreases. Likewise, whilst some types of road users saw casualty benefits, others didn't. Clear trends in accident data are difficult to establish as overall the numbers of KSI accidents are small and therefore the figures are susceptible to variation.<sup>33</sup>

5.6.6 The interim report of the 20 mph scheme in Portsmouth concluded that in some circumstances the use of 20 mph speed limits can bring about speed reductions and decreases in road accidents and casualties. However, the 20 mph scheme as implemented in Portsmouth would probably not be effective if replicated in other cities. The report suggested that what would be beneficial in many other cities would be an approach where by clusters of streets have 20 mph speed limit restrictions placed on them. Additionally, the report concluded that a combination of 20 mph speed limits and 20 mph zones are likely to offer the most significant benefits in most cities.<sup>34</sup>

### **Key findings:**

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<sup>32</sup> Atkins, 2009, *Interim Evaluation of the Implementation of 20 mph Speed Limits in Portsmouth: Phase 1 - Final Report*, DfT

<sup>33</sup> Atkins, 2009, *Interim Evaluation of the Implementation of 20 mph Speed Limits in Portsmouth: Phase 1 - Final Report*, DfT

<sup>34</sup> Atkins, 2009, *Interim Evaluation of the Implementation of 20 mph Speed Limits in Portsmouth: Phase 1 - Final Report*, DfT

5.6.7 20 mph speed limits have some impact on reducing the speed of traffic and on reducing road accidents and casualties and in some areas and in some circumstances they can produce benefits for all road users. In Portsmouth the 20 mph speed limit scheme has formalised and supported an existing practice of slow driving and deterred aggressive driving and inappropriate driving speeds on residential roads.

## **5.7 Additional benefits of 20 mph speed limits/zones:**

5.7.1 20 mph speed limits/zones offer a number of other benefits as well as simply reducing road collisions and casualties. 20 mph speed limits/zones create safer environments for more vulnerable road users and therefore better walking and cycling conditions and an increase in the use of active travel; an increase in quality of life and well-being for residents and in community ties; as well as both direct and indirect health benefits.<sup>35</sup> Money spent on schemes can also greatly improve local residential areas.<sup>36</sup>

5.7.2 Many people do not currently cycle or walk in the city because of fear of speeding traffic. Creating areas of 20 mph speed restrictions will help to create environments which are safer for walkers and cyclists and will protect vulnerable road users. Over the last 10 years, researchers have found increasing evidence that the 'walkability' of neighbourhoods is strongly correlated with the amount of physical activity undertaken by residents in that neighbourhood.<sup>37</sup> Research into traffic calming undertaken in Glasgow found that walking levels increased in traffic-calmed neighbourhoods.<sup>38</sup>

5.7.3 Introducing 20 mph speed limits will help to create safer environments for older people as they move about the city. Older people are particularly vulnerable road users as they have slower reaction times and due to brittle bones even trivial accidents can result in severe fractures and long recovery times for an older person. There is a danger that without the ability to move around, and move around safely, an older person can become house bound and isolated. The introduction of widespread 20 mph speed limits in residential areas of the city may offer benefits for older people.<sup>39</sup> 20 mph speed limits would also offer safer environments for children walking and cycling school and doing so independently, which would support a number of initiatives which the council already has to encourage this such as the Safer Routes to Schools Programme.

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<sup>35</sup> Young, Minutes of panel's public meeting, 26/01/2010

<sup>36</sup> Rospa written evidence, received 25/03/2010

<sup>37</sup> Cited in Hart, 2008, *Driven to Excess: Impacts of Motor Vehicle Traffic on Residential Quality of Life in Bristol, UK*

<sup>38</sup> Cited in Living Streets, 2009, *Policy Briefing: 20 mph brings streets to life*

<sup>39</sup> Hazelgrove, Minutes of panel's public meeting, 11/02/2010

- 5.7.4 The introduction of 20 mph speed limits will have the potential to encourage better cycling conditions in the city. The current speed of traffic is believed to be a big disincentive to encouraging more people to cycle. The introduction of slower speeds in the city could help to produce a step change improvement in conditions for cycling.<sup>40</sup> Widespread 20 mph speed limits could avoid some of the expense of having to introduce comprehensive networks of cycle lanes.<sup>41</sup>
- 5.7.5 Increasing the safety of local environments and thus encouraging more residents to engage in active travel will promote regular physical exercise and thus have direct health benefits. Physical activity helps to reduce obesity and reduces the risk of long term conditions such as diabetes, stroke, and heart disease.<sup>42</sup>
- 5.7.6 The Association of Directors of Public Health have promoted a 'Take Action on Active Travel' campaign. As part of this campaign, 20 mph speed limits for residential streets is one of its core strategies for increasing the health of the nation.<sup>43</sup>
- 5.7.7 20 mph limits contribute to improving quality of life. A study undertaken by the Commission for Integrated Transport found that where cities have extensive 20 mph limits covering between 65 - 85% of their urban road network they are transformed from being noisy, polluted places into vibrant, people-centred environments, with significant levels of walking, cycling and public transport.<sup>44</sup>
- 5.7.8 A small scale study undertaken in Bristol investigated the specific impacts of traffic on quality of life within a residential area of Bristol. It found that the number of ties to neighbours and the extent of an individual's local contacts decreased as vehicle traffic increased. Additionally, street-based recreational activities reduced as traffic flow increased. An individual's perception of safety in their neighbourhood was also found to be disproportionately influenced by the amount of traffic on their residential street.<sup>45</sup> The study in Bristol was based on Donald Appleyard's famous study which took place in 1961 and was published in his book *Liveable Streets* in 1981. Since Appleyard's study, many other studies, like the one undertaken in Bristol have replicated Appleyard's findings that community ties weaken as traffic volumes increase.<sup>46</sup> Reducing the speed of traffic on residential roads

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<sup>40</sup> Green, Minutes of panel's public meeting, 11/02/2010

<sup>41</sup> Living Streets, 2009, *Policy Briefing: 20 mph brings streets to life*

<sup>42</sup> Public Health, written evidence, 12/02/2010

<sup>43</sup> Cited in 20s plenty written evidence, 22/02/2010

<sup>44</sup> Commission for Integrated Transport, 2001, *Study of European best practice in the delivery of integrated transport*

<sup>45</sup> Hart, 2008, *Driven to Excess: Impacts of Motor Vehicle Traffic on Residential Quality of Life in Bristol, UK*

<sup>46</sup> For more examples of this type of study see Hart, 2008, *Driven to Excess: Impacts of Motor Vehicle Traffic on Residential Quality of Life in Bristol, UK*



will deter drivers from 'rat running' and will displace traffic back on to the main roads of the city.<sup>47</sup> This will result in a reduction in volumes of traffic using residential streets and so achieve lasting benefits for residents' quality of life.

- 5.7.9 Transport-related air pollution increases the risk of mortality, particularly from cardio-pulmonary causes. It also affects health through non-allergic respiratory disease; allergic illness and symptoms (such as asthma); cardiovascular morbidity; cancer; pregnancy; birth outcomes; and male fertility.<sup>48</sup> In the UK, air pollution is currently estimated to reduce life expectancy by 7-9 months and has estimated health costs of up to £20 billion each year.<sup>49</sup>
- 5.7.10 Road traffic is the main source of noise in the community. Noise can disrupt communication, impair hearing, reduce sleep quality, increase fatigue and decrease cognitive performance. High noise levels may also impair a child's development. Prolonged or excessive exposure to noise can cause chronic medical conditions, such as hypertension and Ischaemic heart disease.<sup>50</sup> The World Health Organisation, suggests that controls on speed through the establishment of speed limits and traffic calming measures are one way to control noise emissions at source.<sup>51</sup>
- 5.7.11 20 mph speed limits/zones also have potential mental health benefits. One of the major mental health benefits of speed restrictions would be related to the resulting decreases in road traffic injuries. Post-traumatic stress from road accidents is an under-reported mental health effect. Studies have found that 14% of collision survivors have Post-traumatic Stress Disorder and 25% have psychiatric problems one year after an accident. One third have clinically significant symptoms at follow-up 18 months after an accident. One UK study found that one in three children involved in road traffic accidents suffered from Post-traumatic Stress Disorder when interviewed 22 and 79 days after an accident. Other mental health benefits of 20 mph zones could include greater independence for older people, calmer driving conditions and a greater sense of community wellbeing.<sup>52</sup>
- 5.7.12 The health sector bears a large part of the socioeconomic burden of road injuries. If more road collisions were prevented then this would help to reduce hospital admissions and reduce the severity of injuries to be treated. 20 mph speed limits/zones would also, if it creates safer conditions for pedestrians and cyclists, create further health benefits

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<sup>47</sup> 20s Plenty written evidence, 22/02/2010

<sup>48</sup> Public Health written evidence, 12/02/2010

<sup>49</sup> Cited in Public Health written evidence, 12/02/2010

<sup>50</sup> Public Health written evidence, 12/02/2010

<sup>51</sup> Cited in Public Health written evidence, 12/02/2010

<sup>52</sup> Cited in Public Health written evidence, 12/02/2010

from more walking and cycling.<sup>53</sup> 20 mph speed limits/zones would help to contribute to the city's ambition of a healthy city.

5.7.13 The cost of road collisions on the public purse is huge. It is estimated that the cost to the UK of traffic collisions is £18 billion every year. The average cost of a road accident in 2008 was £59,000 and for a fatal accident, when all costs are factored in it could cost the economy £1.27 million.<sup>54</sup> The costs of road accidents to local emergency and health services and the effect of road injuries also has wider public health burden implications.

### **Key findings:**

5.7.14 The additional benefits which 20 mph speed limits/zones may offer should not be underestimated. 20 mph speed limits/zones have the potential to help create safer environments for walkers and cyclists and through more participation in active forms of travel and thus physical exercise, create significant health benefits for the city. 20 mph speed limits/zones may lead to an increased take up of sustainable travel choices. 20 mph speed limits/zones also offer increases in quality of life, sociability and more community ties within neighbourhoods. Through reducing the number of accidents and associated health problems and health complications associated with pollution and noise, 20 mph speed limits/zones have the potential to significantly reduce burdens on local hospitals and health budgets.

### **5.8 Enforcement of 20 mph speed limits/zones:**

5.8.1 Local authorities are responsible for setting local speed limits. The Department for Transport (DfT) has issued a number of circulars with guidance on 20 mph speed limits/zones. The guidance in Circular 1/2006 is currently being reviewed although it is not expected to change significantly. The guidance currently suggests that 20 mph speed limits should generally be self-enforcing and easy to comply with. As a guide, 20 mph speed limits should only be introduced on roads where the average speed of traffic is 24 mph or less. On roads where average speeds are higher than 24 mph but there is a need for traffic to travel slower, then this should be enforced with traffic calming measures. DfT guidance aims to encourage the introduction of 20 mph zones and speed limits into streets which are primarily residential in nature, and where pedestrian and cyclist movements are high, such as around schools, shops, markets, playgrounds and other areas.<sup>55</sup>

5.8.2 Currently, Sussex Police adheres to the guidance in the DfT circulars, guidance which is also followed by the Association of Chief Police

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<sup>53</sup> Cited in Public Health written evidence, 12/02/2010

<sup>54</sup> Young, Minutes of panel's public meeting, 26/01/2010

<sup>55</sup> DfT Circular 1/2006 and Revision letter, December 2009, calling for comments on revision of DfT's speed limit circular

Officers (ACPO). Sussex Police will, therefore, support 20 mph speed limits only when they are self-enforcing; either because the nature of the road means that the mean speed of traffic is 24 mph or less, or because traffic calming measures are introduced to force traffic to travel at 20 mph. Where roads are not conducive to slower speeds or not engineered to slow traffic, Sussex Police would not expect to undertake enforcement in respect of a 20 mph limit, as these limits will have been introduced without being in accordance with the DfT guidelines. To achieve compliance to a 20 mph speed limit no additional enforcement activities should be required of the police.<sup>56</sup>

5.8.3 Sussex Police suggests that the most successful approach to setting local speed limits is likely to be one which involves a targeted approach and judges each case and road by its merits. It is important to consider the location of a road and what it is mostly used for, as well as considering the way that vehicles move around the whole city. Speed limits need to be integrated into the transport infrastructure of the city.<sup>57</sup>

#### **Key findings:**

5.8.4 The issue of enforcement and compliance needs to be carefully considered when introducing 20 mph speed limits/zones. Sussex Police use DfT guidance on enforcing speed limits to determine their own enforcement policy. 20 mph speed limits should only be introduced on roads where average speeds are 24 mph. If average speeds are higher than 24 mph, then traffic calming measures should be used to force traffic to travel at 20 mph.

#### **5.9 Speed Limit Review of C and Unclassified roads:**

5.9.1 As part of the Local Transport Plan 2006/07 – 2010/11 the council stated an intention to conduct a review of all speed limits on all C and Unclassified roads in the city by 2011. Work on this review has just started and is expected to be completed by March 2011. The objective of the review is to assess the suitability of the current speed limits, in the context of DfT guidance on setting limits, and where appropriate make recommendations for change. This analysis will be undertaken in clusters.<sup>58</sup>

#### **Key findings:**

5.9.2 The evidence collected as part of the speed limit review and the clusters used to analyse speed and other forms of information will be important to evidencing which areas and roads in the city could have 20 mph speed limits introduced in line with DfT guidance and Sussex Police's speed limit enforcement policy.

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<sup>56</sup> Dunn, Minutes of panel's public meeting, 19/01/2010

<sup>57</sup> Dunn, Minutes of panel's public meeting, 19/01/2010

<sup>58</sup> Road Safety Team Briefing note, 26/01/2010

## **5.10 Resident opinion on 20 mph speed limits/zones:**

- 5.10.1 As part of the evidence-gathering process the panel were keen to hear opinions on 20 mph speed limits/zones not only from experts on this topic but also from the city's residents. The panel received a total of 90 written comments from various residents' groups, residents, and schools about 20 mph speed limits/zones. The responses from residents were mostly favourable, although some issues of concern were raised by a number of those who responded.
- 5.10.2 About two thirds of those who responded to the panel were in favour of introducing more 20 mph speed limits/zones. The vast majority of these wanted 20 mph restrictions in their residential area as apposed to a blanket reduction across the city; indeed, few residents thought that reducing the speed of traffic on main arterial roads would be a good idea. Most who responded in favour of 20 mph speed limits/zones perceived there to be a problem with speeding traffic in their area and felt that more had to be done to make the city's roads less dangerous and to give pedestrians more priority on the city's roads. Many residents who were in favour of 20 mph zones specifically requested that other traffic calming measures rather than speed bumps and humps be used.
- 5.10.3 Both those in favour of 20 mph speed limits/zones and those against raised concerns over whether 20 mph speed limits/zones would be properly enforced and many residents commented that they felt that current 30 mph speed limits where neither adequately enforced nor observed. A small number of residents raised concerns about the increase in street clutter which may be caused by more speed limits/zones being introduced. All eleven schools who wrote to the panel wanted 20 mph speed limits/zones on roads outside or near to their school, and many residents also felt that schools should have 20 mph speed limits/zones outside of them. About a third of those who responded to the panel felt that there was no need for 20 mph speed limits/zones in their area.
- 5.10.4 As well as receiving written comments from residents and residents' associations, the panel invited nine community representatives to attend its final public meeting to give their community's opinion on 20 mph speed limits/zones to the panel. Representatives from Local Action Teams and a number of elected members representing residents in their wards shared their community's concerns about speeding traffic and other traffic problems with the panel.
- 5.10.5 Many representatives raised concerns about the volume of traffic, the level of 'rat running' and the use of residential streets as 'cut-throughs' in their area. Most felt that traffic was speeding both on main arterial roads and on residential streets and that proper enforcement activity was not being undertaken. Most representatives felt that their local communities would be supportive of 20 mph speed limits/zones on

residential streets, in selected areas, and outside schools; although not of widespread citywide 20 mph speed restrictions. Again, many representatives pointed out that residents and drivers were mostly not in favour of speed bumps and humps and would rather that other traffic calming measures be used. The issue of enforcement of 20 mph speed limits/zones was raised by a number of representatives and a number of representatives were concerned about the potential environmental impact of reducing speed limits.<sup>59</sup>

5.10.6 Some representatives expressed concern over the use of accident and injury statistics as a means of prioritising speed interventions and felt that such an approach was too reactionary and did not offer a widespread nor systematic enough approach to tackling and preventing traffic problems and accidents across the city. Another common theme raised by representatives was that of the need to better prioritise pedestrian and cyclist's movements around the city. It was felt that too often cars dominated areas where there were also high numbers of vulnerable road users. Representatives also felt that there were not enough adequate crossing facilities for pedestrians within their communities, particularly on some of the city's main busy routes. Whilst there was a definite desire to keep main through routes moving, representatives pointed out that these roads were particularly unsafe for vulnerable road users.<sup>60</sup>

5.10.7 Some representatives felt that the introduction of 20 mph speed limits/zones should not criminalise drivers. It was felt that if the physical environment naturally encourages slower speeds, or is built to encourage slower speeds, then this will make 20 mph speed limits/zones easier to comply with and would encourage appropriate driving. However, 20 mph speed restrictions should not be introduced on roads which are not suitable for slow speeds. It was felt by some representatives that as well as the speed of traffic there were other traffic problems in the city which also needed to be tackled.<sup>61</sup>

5.10.8 The panel is very grateful to those resident representatives who took the time to come and speak to the panel and to those who wrote to the panel to share their opinions. The panel notes, however, that whilst the opinions of all residents involved in the scrutiny review are much valued they are not fully representative of all residents across the city and widespread community consultation and involvement in plans to reduce speed limits in the city will need to take place.

### **Key findings:**

5.10.9 Many residents and local communities are concerned that the speed at which traffic travels through their residential streets is just too fast and

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<sup>59</sup> Minutes of panel's public meeting, 23/02/2010

<sup>60</sup> Minutes of panel's public meeting, 23/02/2010

<sup>61</sup> Minutes of panel's public meeting, 23/02/2010

they would support the introduction of more 20 mph speed limits/zones on residential roads, and outside schools in their area. Residents are also concerned that there is a lack of pedestrian crossings and safe crossing points on main busy roads in the city and that this is placing vulnerable road users lives at risk. Many residents feel that the current approach to making roads safer in the city does not go far enough. Widespread community consultation and involvement in any plans to reduce speed limits in the city needs to take place.

#### **5.11 The impact of 20 mph speed limits/zones on service operators:**

5.11.1 A number of opinions on the impact that 20 mph speed limits/zones could have on service operators in the city were sought.

5.11.2 The Taxi Forum was neither for nor against the use of 20 mph speed limits. The forum was, however, not in favour of traditional traffic calming measures and expressed some concerns over how speed limits would be enforced.<sup>62</sup>

5.11.3 East Sussex Fire and Rescue Service (ESFRS) would be supportive of 20 mph speed limits and 20 mph zones introduced across the city in residential areas. The ESFRS did express some concern over the use of some forms of traffic calming measures such as speed bumps and humps.<sup>63</sup>

5.11.4 The South East Coast Ambulance Service (SECAMB) were concerned that if 20 mph speed restrictions were to have an impact on traffic flows on main routes in the city then this could have implications for maintaining their emergency response times. Traffic calming measures which enable ambulances to 'straddle' the measure are preferred to large speed humps or bumps which can make ambulance journeys uncomfortable for passengers.<sup>64</sup>

5.11.5 A blanket introduction of 20 mph speed limits on main and arterial roads would affect the Brighton and Hove Bus Company's bus timetable, the bus services offered, as well as potentially ticket prices. Brighton and Hove Bus Company would be supportive of introducing 20 mph speed limits where there are very particular reasons and evidence for introducing such a limit as it will reduce the risk to pedestrians of being fatally injured in a collision. Brighton and Hove Bus Company would also support the use of 20 mph speed limits in high risk areas such as schools, and where there is evidence that such a speed restriction would benefit pedestrian safety. Speed humps can cause problems for buses.<sup>65</sup> The Big Lemon Bus Company was supportive of 20 mph speed limits in residential areas, but pointed out

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<sup>62</sup> Opinions expressed at Taxi Forum Meeting, 24/03/2010

<sup>63</sup> ESFRS written evidence, 08/02/2010

<sup>64</sup> SECAMB written evidence, 17/02/2010

<sup>65</sup> French, Minutes of panel's meeting, 26/01/2010

that the use of 20 mph speed limits on arterial roads would also affect its services.<sup>66</sup>

### **Key findings:**

5.11.6 The impact that 20 mph speed limits/zones has on service operators in the city clearly needs to be considered and those representing service operators need to be consulted and involved in plans for speed restriction initiatives. Generally, as long as main through routes are left at 30 mph, most service operators would be supportive of 20 mph speed limits/zones in residential areas.

### **5.12 Environmental impact of slower speeds:**

5.12.1 Research which has been conducted on the effects of 20 mph speed limit/zones on carbon emissions and pollution have been largely inconclusive. The information regarding the impact of lower speeds on air quality is very mixed with almost the same amount of research stating that slower speeds have a positive effect on the environment as those stating that slower speeds have a negative impact.<sup>67</sup>

5.12.2 Driving styles greatly impact on the amount of pollutants and emissions emitted from a vehicle. Regular acceleration and breaking increases fuel consumption and the amount of pollutants emitted. In simplistic terms by reducing the speed of a vehicle the efficiency of a vehicle is reduced and journey times are increased and this will effect emissions.<sup>68</sup>

5.12.3 However, heavy goods vehicles emit more emissions and pollutants than lighter vehicles such as cars. Cars form the bulk of the traffic on the city's roads. The average emissions and pollutants from cars which travel at 20 mph in comparison to 30 mph is not substantially different.<sup>69</sup>

5.12.4 Studies conducted under test conditions indicate that travelling at 20 mph uses more fuel than cars travelling at 30 mph. However, research conducted on streets under normal driving conditions suggest that 20 mph speed limits and zones improve traffic flow and therefore cars travelling at 20 mph are more likely to emit less emissions and pollutions.<sup>70</sup> At 20 mph traffic is more likely to flow more smoothly and as less braking and fewer gear changes will be required less fuel will be consumed and therefore less pollutants emitted. Where 19 mph zones were introduced in Germany, car drivers on average had to

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<sup>66</sup> Informal email correspondence with the Big Lemon Bus Company, 06/02/2010

<sup>67</sup> Grundy, Minutes of the panel's meeting, 11/02/2010

<sup>68</sup> Rouse, Minutes of the panel's meeting, 19/01/2010

<sup>69</sup> Environmental Health Powerpoint Presentation, 19/01/2010

<sup>70</sup> Cited in Public Health written evidence, 12/02/2010

change gear 12% less frequently, braked 14% less often and used 12% less petrol.<sup>71</sup> Steady speeds and flow of traffic, ie less stop and start traffic, will probably help to improve air quality. 20 mph speed limits/zones may help to encourage more even and smoother flows of traffic.

5.12.5 It should also be noted that anything which makes it less easy to use a car and encourages residents to engage in more active travel or use more sustainable forms of transport is likely to reduce the volume of traffic on the city's roads and so improve the city's air quality.<sup>72</sup>

5.12.6 Road traffic is the biggest form of noise pollution in the UK. The speed, volume, and vehicle mix of traffic interact to determine overall traffic impacts such as noise. It is accelerating and braking which is the main factor in creating traffic noise and this is dependent on a drivers behaviour, the vehicle design, and the driving environment. Acceleration counts for 10% of traffic noise.<sup>73</sup>

5.12.7 There is a measurable link between noise levels and the speed of traffic. If a vehicle is travelling between 20 mph and 30 mph and speed is reduced by 6 mph then noise can be cut by 40%.<sup>74</sup>

5.12.8 It is advised by the European Conference of Transport Ministers and the Organisation for Economic Co-operation and Development to take noise levels into account when setting speed limits. The recommended speed limit, taking noise levels into account, for urban residential roads is 19 mph. Traffic calming measures, if carefully designed can also significantly reduce noise levels.<sup>75</sup>

5.12.9 Traffic noise can trigger a complex chain of responses affecting human health, brought about by stress. Noise disturbance can result in heart in disease or even mental illness.<sup>76</sup>

### **Key findings:**

5.12.10 The exact environmental impact of 20 mph speed limits/zones is very difficult to judge. Careful consideration needs to be taken around implementing speed reductions and traffic management needs to be considered as part of any speed reduction scheme in order to avoid adversely effecting the city's air quality. There may be some benefits for residents in terms of noise reduction if 20 mph speed limits/zones were more widely introduced.

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<sup>71</sup> Cited in Living Streets, 2009, *Policy Briefing: Dispelling Myths About 20mph*

<sup>72</sup> Rouse, Minutes of the panel's meeting, 19/01/2010

<sup>73</sup> Mitchell, 2009, *Speed and Road Traffic Noise*, UK Noise Association

<sup>74</sup> Stewart, Minutes of the panel's meeting, 19/01/2010

<sup>75</sup> Mitchell, 2009, *Speed and Road Traffic Noise*, UK Noise Association

<sup>76</sup> Mitchell, 2009, *Speed and Road Traffic Noise*, UK Noise Association



### **5.13 Education and awareness raising campaigns:**

5.13.1 Education campaigns also have a part to play in encouraging drivers to slow down and can be used to bring about long-term change in driving behaviour. Education campaigns need to target drivers at the right age.<sup>77</sup>

5.13.2 People do appear to respond positively to 20 mph speed limits when they know the reasons for introducing them so educating people as to the reasons for introducing slower speeds appears to be important. It is also important to work with young people and educate them about safe road use, this may require other techniques apart from traditional road safety education. In London there is a lot of work being done to reach out to different ethnic groups to educate them in different ways such as through theatre and talking to them to find out how they use the roads.<sup>78</sup>

5.13.3 A review undertaken by the Transport Research Laboratory found that if the implementation of 20 mph speed limits is accompanied by extensive public awareness campaigns, then this can further increase the impact of the speed limits and reduce the speed at which traffic travels.<sup>79</sup>

#### **Key findings:**

5.13.4 Running targeted education and road safety campaigns alongside the implementation of 20 mph speed limits/zones may increase the effectiveness of these initiatives.

### **5.14 Economic impact of 20 mph speed limits/zones:**

5.14.1 Apart from the costs involved in implementing any schemes, there is no evidence to indicate that 20 mph speed limits/zones would have either a negative or positive overall impact on the city's economy.<sup>80</sup> It is possible that if more road accidents are prevented by 20 mph speed limits/zones then they may help to reduce costs in the long-term for emergency services and the health sector in the city.<sup>81</sup>

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<sup>77</sup> Dunn, Minutes of panel's public meeting, 19/01/2010

<sup>78</sup> Comments made during a discussion, Minutes of panel's public meeting, 11/02/2010

<sup>79</sup> Cited in scrutiny panel's scoping paper

<sup>80</sup> Informal email correspondence with various Brighton and Hove City Council departments, Economic Partnership, Brighton and Hove Business Forum, North Laine Traders Association

<sup>81</sup> Cited in Public Health written evidence, 12/02/2010

## **6. Conclusions and Recommendations**

- 6.1 The panel, on the basis of the evidence they had heard and collected, feel that the council needs a new approach to introducing speed reduction initiatives in the city, an approach which is more widespread and works to create safer roads for vulnerable road users across the city.
- 6.2 The panel found that when introduced into the right areas 20 mph speed limits and 20 mph zones can be used to not only increase the safety of roads for all road users, preventing accidents and reducing speeds, but to bring about benefits in health and quality of life outcomes. Indeed, 20 mph speed limits/zones not only help to improve local environments and make them safer for vulnerable road users they help to create vibrant people-centred environments and strengthen community ties. 20 mph speed limits/zones also help to bring about key health benefits by increasing physical exercise as well as reducing transport-related air and noise pollution which heavily effects residents' health.
- 6.3 The panel concluded that the city would benefit from having areas of 20 mph speed limits introduced into the city and that 20 mph speed limits should be used primarily on roads which vulnerable road users use the most; such as roads outside schools, routes to schools, on roads next to parks and playgrounds, sports and leisure facilities, community buildings, older people's care homes, local shops, on roads which are primarily for residential use, as well as on busy shopping streets. Introducing 20 mph speed limits on these roads sends a clear message to drivers that there are safety reasons for driving slower.
- 6.4 The panel concluded that 20 mph speed limits should be introduced on all residential roads, on roads where there are high numbers of vulnerable road users, and on roads where average speeds are 24 mph or less. Evidence from the speed limit review of all C and Unclassified roads will help to identify which roads these are. Information on the speed limit review, including the methods for identifying the clusters and priority areas needs to be made available.
- 6.5 The panel also concluded that where average speeds on residential roads and in high pedestrian and cyclist use areas are higher than 24 mph, then speed reduction initiatives should be supported by traffic calming measures, although speed bumps and humps should ideally not be used.
- 6.6 20 mph speed limits and zones need to be easily identifiable and therefore common features should be used to indicate to drivers that they are entering an area which requires them to drive slower. Where possible, 20 mph zones and 20 mph speed limits should be joined together to form 20 mph areas as this will help to ensure that speed limits in the city are coherent and easy to comply with. Care should be

taken when implementing 20 mph areas to ensure that traffic problem areas and rat running is not created on roads not included in the 20 mph areas.

- 6.7 Where the criteria are met, 20 mph areas should be accompanied by the introduction of more crossing facilities to better enable pedestrians and cyclists to cross main busy roads and to link 20 mph areas. This will greatly aid vulnerable road users to move safely around the city.
- 6.8 The panel found that in terms of overall benefits the main through roads in the city where they do not fit into the above criteria, should not be included in speed reduction schemes. However, the road safety concerns of residents using these roads, which are mostly about being able to cross the road safely, need to be attended to as a matter of priority.
- 6.9 Residents need to be involved and consulted on plans to introduce 20 mph areas in order to ensure community buy-in into speed changes and therefore better compliancy. Local action teams, many of which have road safety as a key priority in their action plans, and residents' associations', should also be involved in plans to introduce 20 mph areas. This consultation process as well as public expectation will need to be carefully managed. Additionally, the criteria for the implementation process of 20 mph areas should be made available to residents.
- 6.10 The impacts of 20 mph initiatives need to be carefully monitored and evaluated.
- 6.11 The Road Safety Team and Transport Department at the council have undertaken a number of highly successful schemes which have made the city's roads considerably safer for residents and visitors. Indeed 20 mph speed limits/zones are just one element of a much larger programme of road safety projects and engineering work undertaken by the council. The approach recommended by the panel aims to build on this good work and offer a more widespread and systematic approach to implementing 20 mph speed limits/zones across the city. Such an approach will require the whole Transport Department to be involved in developing and implementing the schemes and will need resourcing.
- 6.12 The panel developed the following recommendations based on the evidence heard from the expert witnesses and the opinions received from residents:

**Recommendation 1**

***That the council introduce a policy of reducing speed limits on roads primarily for residential use, and on those roads where high numbers of vulnerable roads users use the roads; particularly those roads outside schools, routes to schools, roads outside parks and playgrounds, sports and leisure facilities, community buildings, older people's care homes, local shops and on roads in busy shopping areas.  
(See section 5.5, 5.6, 5.7, 5.10 for the evidence to support this)***

**Recommendation 2**

***That the speed limit review currently being conducted to assess average speeds on C and Unclassified roads in the city be used to identify roads in the city that would benefit from 20 mph speed limits as average speeds are 24 mph or less.  
(See section 5.5, 5.6, 5.7, 5.8, 5.9, 5.10 for the evidence to support this.)***

**Recommendation 3**

***That those roads identified in recommendations 1 and 2 be clustered together to form coherent 20 mph areas.  
(See section 5.4, 5.5, 5.6, 5.7, 5.8, 5.10 for the evidence to support this.)***

**Recommendation 4**

***That a report which sets out the work being undertaken by the speed limit review, including the methods for identifying clusters and priority areas, and containing a timetable for implementation be brought to the next meeting of the Environment Cabinet Member.***

**Recommendation 5**

***That where needed 20 mph areas are supported by additional traffic calming measures. However, these measures should ideally not include the use of speed bumps or humps but high quality design measures which are fit for purpose for local areas.  
(See section 5.10, 5.11 for the evidence to support this.)***

**Recommendation 6**

***That easily understandable criteria for the implementation of 20 mph areas be made available to residents so that they can understand why some areas of the city will be prioritised for speed reduction initiatives first.***

**Recommendation 7**

***That taking into account those areas identified in recommendations 1, 2 and 3, main roads in the city should not have speed reduction initiatives introduced. However, the council should look as a matter of priority at other road safety measures which can be used to make these roads safer for vulnerable road users. In particular, the concerns of residents about being unable to cross these types of roads safely should be addressed.***

***(See section 5.10 for the evidence to support this.)***

**Recommendation 8**

***That as a matter of priority, and where criteria are met, more crossing facilities, zebra crossings, and safe spaces for vulnerable road users to cross roads are introduced in conjunction with 20 mph areas and on main busy roads.***

***(See section 5.10 for the evidence to support this.)***

**Recommendation 9**

***That Local Action Teams and local residents' associations are actively involved and consulted with on plans to introduce 20 mph initiatives in their areas.***

***(See Section 5.10 for the evidence to support this.)***

**Recommendation 10**

***That, in order to ensure community buy-in and maximum compliancy, residents are engaged and consulted with on plans to introduce 20 mph initiatives into their areas.***

***(See Section 5.10 for the evidence to support this.)***

**Recommendation 11**

***That as part of the public consultation and engagement exercise, awareness raising and education campaigns are also undertaken to highlight key problem areas in the city and the need for slower speeds and safer driving and road use in the city.***

***(See Section 5.13 for the evidence to support this.)***

**Recommendation 12**

***That a carefully planned, long-term monitoring and evaluation exercise takes place so that evidence on the impacts of the initiatives introduced, and effectiveness of gaining and maintaining community buy-in, can be collected and responded to.***

**Recommendation 13**

***That 20 mph areas are identified as quickly as possible and that adequate funding is prioritised and set aside for implementing these initiatives as part of the Local Transport Plan (3).***

**Recommendation 14**

***That the Environment and Community Safety Overview and Scrutiny Committee monitor progress of these recommendations with the first update report brought to the committee after six months.***

**Recommendation 15**

***That the feasibility of piloting in a suitable area, new technology to manage traffic speed such as 'green light wave' technology and other forms of smart technology be considered.***