



**TRANSPORT  
SCOTLAND**  
CÒMHDHAIL ALBA

**GOOD PRACTICE GUIDE ON 20 MPH SPEED RESTRICTIONS**  
**June 2016**  
**Version 2**



## Good Practice Guide on 20 mph Speed Restrictions

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### Introduction

1. The Scottish Government is committed to creating a healthier, greener and safer Scotland and believes that the introduction of 20 miles per hour (mph) restrictions can help to contribute to all these objectives. By reducing speed on our roads we can create streets where the space is shared more equally between different road users and create a safer environment, encouraging people to make active travel choices.
2. Together with our road safety partners we are committed to the outcome of providing safer road travel in Scotland for everyone. In 2009 the Scottish Government published Scotland's Road Safety Framework to 2020 - *Go Safe on Scotland's Roads it's Everyone's Responsibility*<sup>1</sup>.
3. The Framework provides strategic direction and has eight national priorities for road safety in Scotland - one of which is speed. The Framework includes a wide range of measures aimed at addressing speed. It sets out a partnership approach to take Scotland towards an ultimate vision of zero fatalities and much reduced serious injuries on our roads.
4. A mid-point Review of the Road Safety Framework was undertaken in 2015 and early 2016 to assess the progress made since the Framework launched in 2009. The Review sought to identify key priority focus areas and agree the approach we will take to ensure continued delivery of road safety outcomes to 2020 and beyond.
5. The Review Report and Strategic Delivery Plan, which was published in March 2016<sup>2</sup> identified three priority focus areas for activity:-
  - Speed and Motorcyclists
  - Pre-drivers, Drivers aged 17 to 25 and Older Drivers
  - Cyclists and Pedestrians
6. The Scottish Government is committed to encourage initiatives that cut speed, particularly near schools, in residential areas and in other areas of our towns and cities where there is a significant volume of pedestrian or cyclist activity. The Scottish Government believe it is right that local authorities should have the power to set appropriate speed limits on local roads in order to meet local circumstances.

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<sup>1</sup> <http://www.scotland.gov.uk/Resource/Doc/274654/0082190.pdf>, June 2009

<sup>2</sup> <http://www.transport.gov.scot/system/files/TS-%20Road%20Safety%20Framework%20-%20mid%20term%20review%20-%20March%202016.pdf>

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### Scottish Government Policy

7. The Scottish Government is also keen to see a transformation of our towns and cities to ensure people are prioritised over motor vehicles and increasingly choose to walk or cycle when they make short journeys. In March 2010, the Scottish Government published *Designing Streets: A Policy Statement for Scotland* to provide local authorities with guidance on the design and redesign of new and existing streets, which focuses on the needs of all road users<sup>3</sup>. It encourages the creation of shared spaces and social streets to encourage active travel and create places that people can enjoy and states that “for residential streets, a maximum design speed of 20 mph should normally be an objective”
8. In November 2013 the Scottish Government published its Town Centre Action Plan which recognized the vital role that town centres play as integrated transport hubs and the role that they play in active travel<sup>4</sup>.
9. The Scottish Government also aims to ensure that people improve their health, especially in disadvantaged communities, where circumstances can have a significant impact on a person’s health. There is clear evidence that lower speeds reduce the number of casualties<sup>5</sup>, and there is specific evidence of casualty reduction in 20 mph speed limit zones. It is argued that this is particularly true for disadvantaged areas and communities<sup>6</sup>, and would help to reduce health inequalities.<sup>7</sup>

### Vulnerable Road Users

10. Between 2009 and 2013 almost 90% of pedal cycle casualties and over 95% of pedestrian casualties occurred on roads with a speed limit of 40 mph or less. The number of casualties in each of these years, on average, was 2,842, 22% of the overall Scottish total and on average there were 37 fatalities and 562 serious injuries, each year. These figures clearly demonstrate a real need to focus on the most vulnerable road users.

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<sup>3</sup> <http://www.scotland.gov.uk/Publications/2010/03/22120652/0>

<sup>4</sup> <http://www.scotland.gov.uk/Resource/0043/00437686.pdf>

<sup>5</sup> Taylor, M. C., Lynam, D. A. and Baruya, A. (2000) *The effects of drivers’ speed on the frequency of road accidents*.

<sup>6</sup> <http://www.bmj.com/content/339/bmj.b4469>

<sup>7</sup> Professor Danny Dorling (2014) *20mph Speed Limits for Cars in Residential Areas, by Shops and Schools* [http://www.britac.ac.uk/policy/Health\\_Inequalities.cfm](http://www.britac.ac.uk/policy/Health_Inequalities.cfm)

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11. The Scottish Government is committed to protecting vulnerable road users such as pedestrians and pedal cyclists on our streets. In June 2010, the Scottish Government launched the country's first Cycling Action Plan for Scotland (CAPS) which aims to get more people cycling more often. The vision is that, by 2020, 10% of all journeys taken in Scotland will be by bicycle. Reducing vehicle speeds is a key part in encouraging people to make the choice of walking or cycling.
12. An updated CAPS 2013<sup>8</sup> was launched in June 2013. This document encourages local authorities to introduce more 20 mph limits across urban areas, as a means of enhancing their strategic approaches to develop a local cycling infrastructure, which will aid increased participation in cycling for everyday travel.
13. In June 2014 the Scottish Government launched the National Walking Strategy which aimed to create a culture of walking where everyone walks more often. A key part in encouraging people to walk is ensuring that it is safe to do so.
14. The Framework mid-point Review has built on these other Scottish Government commitments by identifying speed, cyclists and pedestrians as key focus areas for road safety activity to 2020.

### Reducing speeds

15. Introducing such speed restrictions will help us to reduce the number of accidents, casualties and fatalities on Scotland's roads. 20 mph speed restrictions can also help promote active travel choices and can result in improvements to both the local and wider environment.
16. Inappropriate and excessive speed is a significant cause of death and injury on the roads. Travelling too fast for the conditions or excessive speed is reported in 11% of all reported accidents and 18% of fatal accidents.<sup>9</sup>
17. The speed outcome agreed by road safety partners through the Mid-term Review of the Framework is to 'increase the proportion of vehicles travelling at appropriate speeds on Scotland's roads to support reducing road casualty numbers. Transport Scotland and its road safety partners want to see all road users travel at speeds which are in accordance with the stated speed limit of the road and are safe for the road or the driving conditions.

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<sup>8</sup> <http://www.transportscotland.gov.uk/report/j0002-00.htm>

<sup>9</sup> Reported Road Casualties Scotland (2012), <http://www.transport.gov.scot/statistics/j397988-000.htm>

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18. There is a strong argument for 20 mph speed restrictions on certain roads in Scotland. Drivers travelling at higher speeds have less time to identify and react to what is happening around them and it takes longer for the vehicle to stop. Any resulting crash is more severe, causing greater injury to the occupants and to any pedestrian, rider or other vehicle involved in the collision.
19. A 2010 Department for Transport (DfT) publication which looked at the relationship between speed and risk of fatal injury found that the risk of fatal injury to pedestrians rose from under 1% at an impact speed of 20 mph to 5.5%, or 1 in 20, at 30 mph. Above 30 mph risk increased very substantially, to over 30% at an impact speed of 40 mph.<sup>10</sup>
20. Another study looking at the effect of speeds on overall accident numbers found a clear relationship. On the types of urban road likely to be considered for a 20 mph speed limit the study found the accidents could be expected to fall by between 4% and 6% for each 1 mph reduction in average speed. The greatest reductions were achievable on “busy main roads in towns with high levels of pedestrian activity”<sup>11</sup>
21. While pedestrians and cyclists are particularly vulnerable to higher-speed impacts, lower speeds do not just have a benefit for vulnerable road users, as car occupants are also likely to suffer greater injuries at higher speeds.<sup>12</sup>

### The Guidance

22. The information in this Good Practice Guide is intended as guidance only. It is not meant to modify or override any of the provisions contained in the relevant road traffic legislation. The guidance should not be used in isolation, but read in conjunction with the more comprehensive advice on these matters set out in the relevant legislation and guidance, including the Traffic Signs Regulations and General Directions 2016 (SI2016/362)<sup>13</sup> (TSRGD), DfT Circular 01/16 on the 2016 TSRGD<sup>14</sup> and the Traffic Signs Manual<sup>15</sup>.

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<sup>10</sup> <http://webarchive.nationalarchives.gov.uk/20120606181145/http://assets.dft.gov.uk/publications/pgr-roadsafety-research-rsrr-theme5-researchreport16-pdf/rswp116.pdf>

<sup>11</sup> Taylor, M. C., Lynam, D. A. and Baruya, A. (2000) *The effects of drivers' speed on the frequency of road accidents*.

<sup>12</sup> European Road Safety Observatory (2007a) *Speed and accident risk*. European Road Safety Observatory (2007b) *Speed and injury severity*

<sup>13</sup> TSRGD 2016, SI 2016/362,

[http://www.legislation.gov.uk/uksi/2016/362/pdfs/ukxi\\_20160362\\_en.pdf](http://www.legislation.gov.uk/uksi/2016/362/pdfs/ukxi_20160362_en.pdf)

<sup>14</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/520872/DfT-circular-01-2016.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/520872/DfT-circular-01-2016.pdf)

<sup>15</sup> Traffic Signs Manual <https://www.gov.uk/government/publications/traffic-signs-manual>

## **Good Practice Guide on 20 mph Speed Restrictions**

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23. This Guide is intended for use by Scottish Local Authorities and replaces all previous guidance on 20 mph issued by the Scottish Executive including SODD Circular 13/1999; 2001 SEDD Circular No.6/2001; ETLLD Circular No. 1 /2004 (relating to schools) and Section 5.1 of ETLLD Circular No.1/2006.
24. This Guide aims to provide clarity to local authorities on the options available to them and aid greater consistency on the setting of 20 mph speed restrictions throughout Scotland. It also aims to encourage local authorities to set 20 mph speed restrictions, where appropriate.
25. Local authorities have a number of options at their disposal when considering introducing a 20 mph speed restriction, namely:-
- 20 mph speed limit zones
  - 20 mph limits
  - Variable and part time 20 mph limits.
26. The guidance contained in this paper has been written in conjunction with the Society of Chief Officers of Transportation in Scotland (SCOTS) and provides further detail on each of these options.

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### Background

27. It is important to distinguish the different characteristics of specific 20 mph speed restriction schemes, in particular the difference between a 20 mph limit and a 20 mph speed limit zone.
28. **20 mph speed limit zones** use traffic calming measures, such as speed humps and road narrowing, to reduce the adverse impact of motor vehicles on built up areas. The 2016 TSRGD changes have extended the definition of traffic calming by permitting the use of repeater signs and road markings as traffic calming features.  
**20 mph limits** do not require any physical measures other than signage.
29. Scotland's Road Safety Framework to 2020 includes commitments to "*Encourage local authorities to consider 20 mph zones in all residential areas*"<sup>16</sup>, and to "*Encourage and support the use of intelligence-led road safety targeting.*"<sup>17</sup>
30. As a result of these commitments Transport Scotland assisted the City of Edinburgh Council (CEC) with the evaluation of its 20 mph limit pilot scheme in South Central Edinburgh<sup>18</sup> which designated all side streets, and some of the main routes in the area as, 20 mph, without additional traffic calming measures.
31. A number of local authorities in England have also introduced 20 mph limits, without additional traffic calming measures.
32. The Department for Transport (DfT) issued a revised circular 01/2013<sup>19</sup> in January 2013 which actively encourages the wider introduction of 20 mph limits. The 2013 guidance is aimed mainly at local traffic authorities (LTAs) and applies to England only. Previous Scottish guidance on local speed limits had been developed and issued contemporaneously with DfT guidance.

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<sup>16</sup> Scotland's Road safety Framework to 2020 "*Go Safe on Scotland's Roads it's Everyone's Responsibility*", 2009, page 106. <http://www.scotland.gov.uk/Resource/Doc/274654/0082190.pdf>.

<sup>17</sup> Ibid, page 105.

<sup>18</sup> South Central Edinburgh 20 mph Limit Pilot Evaluation, Reports, Item 7.3, City of Edinburgh Council, 27 August 2013.

[http://www.edinburgh.gov.uk/meetings/meeting/3067/transport\\_and\\_environment\\_committee](http://www.edinburgh.gov.uk/meetings/meeting/3067/transport_and_environment_committee)

<sup>19</sup> "*Setting local speed limits*" guidance, the Department for Transport, 18 January 2013  
<https://www.gov.uk/government/publications/setting-local-speed-limits>

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33. A previous version of this Good Practice Guide was published in January 2015. Prior to that the last authoritative Scottish guidance produced for local authorities on 20 mph speed restrictions was in 2001.<sup>20</sup> This was supplemented by guidance on 20 mph around schools in 2004<sup>21</sup> and some revisions were made to the 2001 guidance within the document 'Setting Local Speed Limits: Guidance for Local Authorities' in 2006.<sup>22</sup>
34. There have also been changes to the Traffic Signs Regulations and General Directions (TSRGD) since 2001, including a substantial overhaul in 2016. This guidance is designed to take account of TSRGD changes that concern 20 mph limits or speed limit zones. It remains the responsibility of local authorities to follow the regulations and directions laid down in the TSRGD.

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<sup>20</sup> SEDD Circular No. 6/2001 <http://www.scotland.gov.uk/Resource/Doc/159194/0043312.pdf>

<sup>21</sup> ETLCD Circular No. 1 /2004 <http://www.scotland.gov.uk/Resource/Doc/149133/0039639.pdf>

<sup>22</sup> ETLCD Circular No. 1 /2006 <http://www.scotland.gov.uk/Publications/2006/08/14134225/0>

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### Guidelines

#### Factors to be considered when setting 20 mph speed restrictions

35. When considering the introduction of a 20 mph speed restriction there should be an awareness that these are only one element of speed management. They should not be set in isolation, but should be considered as part of a range of other measures to manage speeds, improve safety, and meet other objectives, including the encouragement of active travel.
36. Such measures include engineering and landscaping standards that seek to protect vulnerable road users, and are designed to raise drivers' awareness of their environment, as well as education through driver information, training and publicity.
37. A number of factors should be taken into account when making an assessment about whether to introduce a 20 mph speed limit, which include - but are not restricted to - the following:-
- **road/street functions** –including whether streets contain shops or are mainly residential, volumes of traffic, bus services, local access, formal walking and cycling routes, etc. As outlined in *Designing Streets*<sup>23</sup> street design must consider 'place' before 'movement'.
  - **composition of road users** - including existing and potential levels of vulnerable road users
  - **existing traffic speed**; and
  - **accident data** - including frequency, severity, types and causes;
  - **road environment** - including width of road and footway, sightlines, bends, junctions, pedestrian crossings, etc;
  - **local community** - including consultation with police, other emergency services, public transport providers and impact on residents and local businesses (e.g. usage of road, parking facilities, noise and air quality).

#### Speed Measurement

38. Mean speed and 85<sup>th</sup> percentile speed (the speed at or below which 85% of vehicles are travelling) are the most commonly used measures of actual traffic speed. Local authorities should collect and assess both when considering introducing a 20 mph speed limit and in the monitoring of an initiative. However, mean speeds should be used as the basis for determining whether to introduce 20 mph speed restrictions.

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<sup>23</sup> <http://www.scotland.gov.uk/Resource/Doc/307126/0096540.pdf>

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39. For the majority of existing roads there is a consistent relationship between mean speed and 85<sup>th</sup> percentile speed. Where the variation between mean speed and 85<sup>th</sup> percentile speed exists there is a clear indication that a more suitable match between road design and speed limit is required. Furthermore, if the desire remains to reduce the speed on the road to 20 mph or below, then additional engineering or traffic calming measures may be required in order to achieve appropriate traffic speed.<sup>24</sup>

### Enforcement

40. Any decision to lower the speed limit to 20 mph should seek to avoid the need for extensive police enforcement, as 20 mph limits will not be routinely enforced, unless it is absolutely necessary and in the interest of casualty reduction. The only exception to this is the enforcement of 20 mph speed limits outside schools, which takes place on a regular basis.

41. A range of other measures should be employed. These might include marketing and behaviour change initiatives, vehicle activated signs and traffic management and other traffic calming measures.

42. Any changes should be monitored, and where compliance levels are not at an acceptable level, consideration should be given to the addition of traffic calming measures or reverting to a 30 mph limit, if necessary.

### Legislative Requirements

43. In order to ensure compliance with a new lower limit, it is important the limit is signed correctly and consistently. Local authorities must ensure speed limits meet the legislative process and the requirements of the TSRGD. Any new limit should also be accompanied by publicity and, where appropriate, effective engineering changes to the road itself. Without such measures, the new limit is unlikely to achieve full compliance.

44. The TSRGD should be used by local authorities to determine the use, placing and positioning of signs. The TSRGD provides flexibility to local authorities about how they choose to implement 20 mph speed limit zones and limits. In certain circumstances and where it is considered appropriate for an individual scheme, it may be possible for the Scottish Ministers to authorise signage not prescribed in the TSRGD. Scottish Ministers may also authorise direct minor amendments to the requirements for placing signs set out in the TSRGD General Directions. In such cases, each proposal will be considered on its own merits. However, in most cases we would expect that the TSRGD will provide sufficient flexibility and should therefore be complied with.

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<sup>24</sup> Page 32 *Designing Streets* <http://www.scotland.gov.uk/resource/doc/307126/0096540.pdf>

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45. In order to ensure that 20 mph limits and speed limit zones are legally implemented and enforceable, a speed limit order must be made. In Scotland, local authorities should use the Local Authorities Traffic Orders (Procedure) (Scotland) Regulations 1999<sup>25</sup> (hereafter the “1999 Regulations”). These 1999 Regulations prescribe the procedure to be followed by local traffic authorities (LTAs) for making the main types of traffic and parking orders under the Road Traffic Regulation Act (RTRA) 1984. The 1999 Regulations set out the procedure to be carried out prior to making an order; as well as how to make the order and the procedure subsequent to the order being made.

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<sup>25</sup> <http://www.legislation.gov.uk/ukxi/1999/614/contents/made>

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### 20 mph speed restrictions options

#### 20 mph speed limit zones

46. In Scotland, to date most 20 mph speed limit zones have been introduced to reduce casualties in residential areas, with a particular emphasis on child pedestrian accidents around schools. However, it is no longer the case that 20 mph speed limit zones need to be confined to residential areas.
47. The Scottish Government wants to see the full spectrum of vulnerable road users protected. In addition, we want to encourage the take up of walking and cycling and we believe that 20 mph speed limit zones can help encourage this and limit the impact of motor vehicles in the area.
48. The key to a successful 20 mph speed limit zone is to have in place speed reducing features in sufficient numbers and of appropriate design to reduce traffic speeds without the need for enforcement.

#### 20 mph speed limit zones – TSRGD requirements

49. The TSRGD 2016 dictates that a 20 mph speed limit zone can only be established, in conjunction with the usage of the prescribed entry and exit signs. 20 mph speed limit zones require that no point in the "zone" is further than 50 metres from a traffic calming feature, unless the road is a cul-de-sac of less than 80 metres in length.
50. The TSRGD rules on spacing of traffic calming mean that, in practice, features can be up to 100 metres apart. However, it may be appropriate to provide more regular features to ensure that traffic speed reduces to 20 mph or less.
51. The 2016 TSRGD adds a repeater speed sign (diagram 670) and a speed roundel road marking (diagram 1065) to the list of prescribed traffic calming features that can be used within a 20 mph speed limit zone.
52. DfT Circular 01/2016<sup>26</sup>, which explains the 2016 TSRGD changes, sets out that 'where vehicle speeds are already around 20 mph due to the nature of the road' the use of repeater signs and speed roundels may reduce the need for other self-enforcing traffic calming features.
53. The 2016 TSRGD does not however dispense with the need for physical traffic calming features altogether. The Schedule 10 General Directions require that at least one physical traffic calming feature (as opposed to a repeater sign or road marking) be placed within a 20 mph speed limit zone.

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<sup>26</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/523916/DfT-circular-01-2016.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/523916/DfT-circular-01-2016.pdf)

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54. It is generally recommended that a 20 mph speed limit zone is situated over an area which has several roads. The full requirements for the establishment of a 20 mph speed limit zone are set out in detail in the TSRGD.
55. Road humps have been the most common speed reducing feature used in 20 mph speed limit zones but other traffic calming features can be used in combination with these, or instead, to ensure reductions in speed. The design of a scheme should ensure, as far as possible, that engineering measures take account of all road users, ensuring hazards are not created for vulnerable road users, in particular those people with a visual or mobility impairment. Further details on traffic calming measures are contained in Annex B of ETLCD Circular No.1/2006 'Setting Local Speed Limits: Guidance for Local Authorities'<sup>27</sup>

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<sup>27</sup> <http://www.scotland.gov.uk/Publications/2006/08/14134225/11>

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### Case study - Fife Council - 20 mph speed limit zones

Since 2003, Fife have been delivering mandatory 20mph zones throughout all residential areas covering a much wider area than just outside schools. This is now substantially complete with 499 zones introduced. Over 95% of residential areas are now within a zone, at a cumulative cost of approximately £8.7 million.

It was always the intention that these lower limits should be reasonably self-enforcing. Physical traffic calming features were, therefore, seen as essential, consisting of speed cushions, humps, speed tables, raised crossings, raised junctions, kerb build-outs and give-and-take chicanes.

Before and after traffic speed surveys show significant reductions. Typically before the introduction of a zone, only 50% of traffic travelled below 25 mph whereas now the zones are in place, it is 83%. Comparing the before and after number of road casualties in the areas now within zones shows a 20.3% reduction overall and a 27.9% reduction in child casualties.

A public consultation confirmed that the introduction of 20mph zones has resulted in a perceived increase in quality of life by making residential areas feel safer and more pleasant to walk and cycle. The majority also agreed that the zones have increased the quality of the environment, particularly for children.

The regular surveys undertaken on the method of travel that children use for their journey to and from school shows Fife having a higher level of walking and cycling than nationally together with a declining percentage of children being driven to school by car.

In terms of cycling, overall the surveys show a positive trend of increasing usage with trips up by 20% at some locations.

This has been a transformational project, delivering stronger communities by making our streets safer and more pleasant to live and travel within.

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### 20 mph limits

56. Local authorities can also consider the introduction of mandatory 20 mph limits indicated by speed limit signs only and with no supporting speed reducing features.
57. Local authorities should not introduce such limits on roads where there is no realistic expectation they will achieve decreases in traffic speeds. Schemes should aim for compliance with the new speed limit and speeds should be monitored after introduction, especially on streets where higher speeds might be expected.
58. Clearly, one of the main advantages of introducing a 20 mph limit, rather than a 20 mph speed limit zone, is cost. However, without additional traffic calming, it is recommended that 20 mph limits should primarily be considered where existing mean speeds are no greater than 24 mph.
59. Where mean speeds are greater than 20 mph, prior to the introduction of the limit, consideration should be given to whether it is appropriate to install additional engineering features, variable message signs or traffic calming measures to support the lower limit.

#### Case Study - City of Edinburgh Council (CEC) - 20 mph limit pilot

The pilot was launched on 23 March 2012, and the concluding report was published on 27 August 2013. CEC measured changes to vehicle speeds and volumes, road traffic incidents, and the attitudes of residents to walking, cycling, and the local environment.

The benefits evidenced from the pilot include lower vehicle speeds in 85% of the 28 streets that were monitored, perceived improvements in the safety of streets for children, a perception of improved conditions for walking and cycling and strong support from residents of the area for the 20 mph limit. CEC anticipates a decrease in road casualties due to the reduction in mean and 85<sup>th</sup> percentile vehicle speeds. See Appendix A for more information.

The Speed Limit Order to support 20 mph speed limits was approved by CEC's Transport and Environment Committee on 12 January 2016. The roll out of 20 mph limits will commence from summer 2016 over an 18 month period to all residential, main shopping and city centre streets, and streets with high levels of pedestrian and / or cyclist activity. CEC will maintain a strategic 30 mph network.

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60. The City of Edinburgh Council pilot showed that locations with an initial mean speed higher than 24 mph generally experienced the highest drops in speeds. It can therefore be appropriate to impose 20 mph limits on some streets with a mean speed of higher than 24 mph, in a context of other nearby streets with lower existing averages. This can have the benefit of avoiding a piecemeal speed network in a predominantly 20 mph limit area.
61. In adopting this approach, Local Authorities should carefully consider the factors set out in paragraph 37 of this Guide and ensure that monitoring of traffic speeds takes place, after implementation. They should be prepared to either to install physical traffic calming or to revert to a 30 mph limit if need be in order to achieve the desired reductions in mean speeds.
62. Early evidence from Portsmouth City Council, the first local authority in England to implement an extensive area-wide 20 mph limit scheme, without additional traffic calming, has shown a drop in accident and casualty numbers, in addition to a drop in traffic speeds.<sup>28</sup>

### 20 mph limits – TSRGD requirements

63. Within a 20 mph limit - designated by diagram 670 - road humps or areas with road humps would need to be signed, and appropriately lit. Whether other traffic calming measures need to be signed will depend on the circumstances, but diagram 670 cannot be relied upon to warn of their presence.
64. TSRGD 2016 removes the requirement for a minimum of one repeater sign to be placed within a 20 mph limit. It is for local authorities to decide how many repeater signs are needed and where they should be placed, taking cognisance of Chapter 3 of the Traffic Signs Manual ensuring there are sufficient repeater signs placed to inform road users of the speed limit in force.<sup>29</sup>
65. The full requirements for the establishment of a 20 mph limit are set out in the TSRGD.
66. If a local authority intend to introduce 20 mph limits, without traffic calming, an application to Scottish Ministers will not usually be required.
67. To ensure that an application to Scottish Ministers is not required diagram 670 (rather than diagram 674) should be used and the local authority should adhere to the TSRGD requirements relating to 20 mph limits.

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<sup>28</sup> <http://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/pgr/roadsafety/research/rsrr/theme4/interimeval20mphspeedlimits.pdf>

<sup>29</sup> Traffic Signs Manual <https://www.gov.uk/government/publications/traffic-signs-manual>

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### Variable/Part Time Limits

68. Variable speed limits are those which lower the limit to 20 mph according to the time of day as specified in the speed limit order.
69. 20 mph should be the standard speed limit in the vicinity of schools. At schools where a 20 mph limit or zone is not already in place a part-time speed limit can be used.
70. The length of road on which a 20 mph limit should apply at individual schools will be determined by a number of factors including the exact location and access point of the school in relation to adjoining roads; severance from the community; and the actual routes taken by pupils. As an example, it may be that the position of existing school warning signs would provide suitable starting / finishing points for the 20 mph limit.
71. When implementing 20 mph schemes outside schools, particularly those on roads with limits higher than 30 mph, it will be important to raise public awareness of the schemes. The aim would be to achieve an understanding that the schemes are being introduced to make the areas around schools safer for children as well as alerting drivers to the likelihood they will encounter a 20 mph limit outside schools in what could be unexpected circumstances. Local authorities should consider how best to generate awareness when implementing such initiatives in their areas.
72. It is recognised that local authorities have already ensured that speeds are restricted to 20 mph around the vast majority of existing schools in Scotland, with the help of specially authorised signs.

### Variable/Part time limits – TSRGD requirements

73. The requirements for variable message signage are outlined in the TSRGD. Diagrams 545, 670, and light signal 4004 can be used to designate variable 20 mph speed limits.
74. It may be possible in certain circumstances, for the Scottish Ministers to give permission for specific alterations to the signage requirements of the TSRGD, where this is considered appropriate, and each case will be considered on its own merits. However, in most cases we would expect that the TSRGD will provide sufficient flexibility and should therefore be complied with.

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### **Advisory 20 mph limits**

75. SEDD Circular No. 6/2001 gave guidance on the situations in which it was appropriate to implement an advisory 20 mph maximum speed.
76. Advisory maximum speeds were originally designed to be used in self-enclosed residential areas with little or no through traffic. Where local authorities have a desire to reduce speeds they should now be implementing mandatory limits or speed limit zones, as appropriate, in these areas rather than advisory ones.
77. Local authorities who have previously introduced advisory limits can still use these where they have already been implemented.

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### Appendix A

#### City of Edinburgh Council 20 mph pilot

1. The City of Edinburgh Council 20 mph pilot scheme reduced the speed limit from 30 mph to 20 mph on 38 km of streets. A further 34 km of streets in the area were already included in 20 mph speed limit zones.
2. Speeds were monitored at 28 locations on the streets with newly reduced speed limits and no traffic calming. At these locations, the average speed reduced by 1.9 mph from 22.8 mph to 20.9 mph. 85<sup>th</sup> percentile speeds fell by 2.9 mph to 25.1 mph.
3. In the 12 locations where the mean speed prior to the introduction of the pilot scheme exceeded 24 mph, there was an average drop of 3.3 mph to 22.4 mph (the 85<sup>th</sup> percentile speed on these streets fell by 3.9 mph to 26.0 mph).
4. There were four locations monitored across the City of Edinburgh Council pilot area where mean speeds continued to be in excess of 24 mph, though all four saw a fall in mean vehicle speeds. Permanent engineering changes are planned to reduce speed on these streets.
5. Up to January 2014 there was a 20 per cent casualty reduction within the pilot area, though this is not statistically significant given the relatively low number of casualties involved. In addition, the monitoring of casualty data would normally take place over a three year period.

