



**Research Paper**

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# **SPEED MANAGEMENT IN NORTHERN IRELAND**

**Stephanie Galbraith**  
Research Officer

This paper provides information on the issue of Speed Management in Northern Ireland. The paper examines headline statistics relating to road safety and speed; relevant draft and existing policy; the success of various speed management approaches; and draws attention to a number of contextual debates relating to speed management.

Research Papers are compiled for the benefit of Members of The Assembly and their personal staff. Authors are available to discuss the contents of these papers with Members and their staff but cannot advise members of the general public.

## SUMMARY OF KEY POINTS

### STATISTICS

- Northern Ireland has a historically poor road safety record in comparison to the rest of the United Kingdom.
- In 2005, the number of deaths caused by road traffic collisions was 7.9 per 100,000 population. This was in comparison to 5.5 deaths per 100,000 experienced in Great Britain.<sup>1</sup>
- In addition to the obvious impact on, and loss of human life, it has been estimated that the loss to the economy in 2005 was some £451m, £18.3m of which was public expenditure.<sup>2</sup>
- Whilst inattention is responsible for the greatest number of collisions, speed is responsible for the greatest number of deaths and serious injuries (KSIs) with research concluding that excessive speed contributed to 78% of all KSIs in Northern Ireland in 2005.<sup>3</sup>
- The District Command Units of Fermanagh, Armagh and Newry and Mourne experienced the greatest number of fatal and serious collisions caused by speed in the 2006/07 period.

### DRAFT LOCAL SPEED LIMITS IN NORTHERN IRELAND

- DRD has recently undertaken a review of its Speed Management policy. A draft document, *Local Speed Limits in Northern Ireland*, has been prepared in cooperation with the PSNI and the DoE's Road Safety Branch.
- A number of significant points emerge within the draft policy including:
  - Identification and adoption of a two tier system on rural roads for the application of speed limits;
  - An undertaking of a review of the speed limits on all upper tier roads within five years;
  - Guidance on setting of speed limits in urban areas;
  - Updated guidance on speed limits for dual carriageways, which may lead to the speed limit being reduced; and
  - Updated guidance of the concept of variable, time dependent, speed limits at schools.

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<sup>1</sup> Northern Ireland Audit Office, *Northern Ireland's Road Safety Strategy*, 2007.  
<http://www.niauditoffice.gov.uk/pubs/ROADSAFETY/Fullreport.pdf>

<sup>2</sup> *Ibid.*

<sup>3</sup> *Ibid.*

### NORTHERN IRELAND SAFETY STRATEGY 2002-2012

- Northern Ireland Road Safety Strategy 2002-2012 is the current policy document to promote road safety and achieve casualty reduction targets.
- A number of bodies, including DoE, PSNI and DRD, are responsible for its implementation.
- The strategy contains 6 key objectives including the need to influence drivers to avoid excessive speed and to drive more responsibly on our roads. A number of policy measures are highlighted which include speed management, safety cameras, traffic calming measures, home zones, signing and publicity.

### Review of Northern Ireland's Road Safety Strategy – Northern Ireland Audit Office

- The Northern Ireland Audit Office undertook a review of the Northern Ireland Road Safety Strategy.
- The report, published in September 2007, noted a marked improvement in road safety performance however commented that further work required attention.
- With regards to speed management, key recommendations and conclusions of the review stated that Northern Ireland is under represented in terms of speed camera coverage and that the PSNI's capacity for enforcement was limited.

### Success of Speed Management Approaches

- Research has been conducted by the Department for Transport (DfT) and the Northern Ireland Audit Office into the effectiveness of various speed management strategies.
- DfT have concluded that lowering speed limits on their own had little effect on vehicle speeds and that additional physical approaches would be required.

### Other Issues for Consideration

- France and Australia have been cited in European transport literature as providing best practice examples of successful speed management strategies. Improvements in enforcement are said to be the reason for this success.
- Higher speeds are damaging to the environment and result in increased greenhouse gas emissions, fuel consumption and noise levels.
- Traffic calming measures have been subject to considerable debate from many rural and urban communities voicing both positive and negative opinion.

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## **PART ONE: INTRODUCTION**

This report has been prepared for the Committee for Regional Development to provide information on the issue of speed management in Northern Ireland.

The report will cover the following topics:

- Relevant Statistics;
- Draft Policy - Local Speed Limits in Northern Ireland prepared by the Department for Regional Development;
- Current Policy - Northern Ireland Strategy for Road Safety 2002-2012 prepared by the DoE, PSNI and DRD;
- Review of Northern Ireland Strategy for Road Safety undertaken by Northern Ireland Audit Office in September 2007;
- Success of various speed management approaches; and
- Other points for consideration.

**PART TWO: STATISTICS**NORTHERN IRELAND

Northern Ireland has traditionally had a poor road safety record, with its rate of deaths and injuries per 100,000 of population significantly above the rest of the UK. Aside from the obvious human cost, road deaths and casualties result in significant financial costs and impose an economic burden on the community. It has been estimated that the loss to the economy in 2005 alone was some £451m, £18.3m of which was public expenditure.<sup>4</sup>

The most recent figures available show that deaths caused by road traffic accidents per 100,000 population are 7.9 in Northern Ireland. This is compared to 9.6 in the Republic of Ireland and 5.5 in Great Britain<sup>5</sup>. Research has concluded that the gap between Northern Ireland and Great Britain has been narrowing over recent years.

Excessive speed was one of the most common causes of collision in Northern Ireland in 2006/2007<sup>6</sup>. The tables below demonstrate the extent of the problem.

Table 1: Total number of collisions against speed related collisions. 2005-2007<sup>7</sup>

Year	Total number of Collisions	Total Number of Casualties	Speed Related Collisions	Speed Related Casualties	% Collisions caused by speed	% Casualties caused by speed
06/07	5,615	9,232	612	1,115	11%	12%
05/06	5,098	8,377	645	1,191	13%	14%

Source: PSNI

Table 2: Most Common Principal Factors in Injury Road Traffic Collisions – 2006/07<sup>8</sup>

Principal Factor	Number of Collisions	Casualties			
		Killed	Seriously Injured	Slightly Injured	Total Casualties
Inattention	977	8	113	1448	1569
Excessive speed	612	40	265	810	1115
Emerging from minor road	583	4	98	912	1014
Driving too close	532	1	21	875	897
Alcohol or Drugs	365	28	131	447	606
Turning right w/o care	289	2	56	464	522
Pedestrian heedless of traffic	246	9	63	188	260
Overtaking w/o care	238	6	82	353	441

Source: PSNI<sup>9</sup>

<sup>4</sup> Northern Ireland Audit Office, *Northern Ireland's Road Safety Strategy*, 2007, pg 9.  
<http://www.niauditoffice.gov.uk/pubs/ROADSAFETY/Fullreport.pdf>

<sup>5</sup> *Ibid*, pg 43.

<sup>6</sup> Note that the figures are calculated from April – April of the calendar year.

<sup>7</sup> PSNI Central Statistics Branch, *Injury Road Traffic Collisions & Casualties 1<sup>st</sup> April 2006 – 31<sup>st</sup> 2007*.  
[http://www.psni.police.uk/july06\\_figures\\_for\\_internet\\_-\\_fy.pdf](http://www.psni.police.uk/july06_figures_for_internet_-_fy.pdf)

<sup>8</sup> *Ibid*.

It is evident from Table 2 above that whilst speed is not responsible for the greatest number of collisions or casualties, it is responsible for the greatest number of deaths and serious injuries (KSIs).

Research conducted by the Northern Ireland Audit Office concluded that excessive speed contributed to 78% of KSI's in Northern Ireland in 2005<sup>10</sup>.

It is important to note however, that the numbers of KSIs resulting from excessive speed fell by 44% between 2002 and 2005. Attributed to improvements in enforcement methods and more focused intervention, this is obviously a positive step forward.

Excessive speed affects all areas of Northern Ireland. However, statistics provided by the PSNI demonstrate that KSIs are more common in some District Command Units. Fermanagh, Armagh and Newry and Mourne experienced the greatest number of fatal and serious collisions in 2006/2007. Figures are shown in table 3 below.

Table 3: Number of Road Traffic Collisions by severity caused by speeding by District Command Unit – 2006/07

District Command Unit	Fatal Collision	Serious Collision	Slight Collision	Total
Fermanagh	4	16	22	42
Armagh	3	14	17	34
Newry and Mourne	2	13	21	36

Source: PSNI – Central Statistics Unit

A full breakdown of speeding related injuries for each District Command Unit is attached in Appendix 2.

#### REPUBLIC OF IRELAND

Statistics demonstrate that speeding is also a considerable problem in the Republic of Ireland. The Road Safety Authority confirmed that in the 10 year period between 1996 and 2005, 1,157 were killed where excessive speed was considered a contributory factor. This represented 28% of all those killed.<sup>11</sup>

It is also important to note that research undertaken by Corporation and Working Together (CAWT) Health Profile<sup>12</sup>, in 2002, found a 33% higher death rate from road traffic accidents in the border counties than in the rest of Ireland.<sup>13</sup> Whilst conclusive evidence was not presented as to why this was, there was a general perception that road users outside of their jurisdictions, be it Northern Ireland or the Republic of Ireland, tend to be less attentive to rules of the road whilst driving. Further research conducted for the period 2001-2004 concluded that whilst the most common contributory factor in fatal collisions was the consumption of alcohol (37.4%), this was followed by excessive speed (27.3%) in the border counties.<sup>14</sup>

<sup>9</sup> Note that Table 2 provides information on only the most common causes of collision.

<sup>10</sup> Northern Ireland Audit Office, *Northern Ireland's Road Safety Strategy – Report by the Comptroller and Auditor General, 2007*

<sup>11</sup> Road Safety Authority, Research and Statistics Unit.

<sup>12</sup> CAWT

<sup>13</sup> Health Promotion Department, DSE Dublin and North East, *Steering to Safety – Collision Trends – Border Region, 1996-2003, Executive Summary*. <http://www.cawt.com/site/default.asp>

<sup>14</sup> Health Promotion Department, DSE Dublin and North East, *Steering to Safety, Fatal Collisions – Border Regions, 2001-2004, Executive Summary*. <http://www.cawt.com/site/default.asp>

EFFECTS OF SPEED ON ACCIDENT INTENSITY

Speed management presents a opportunity for a reduction in collisions resulting in death and serious injuries. The Department for Transport (DfT) notes that the likelihood of being seriously injured in a collision rises significantly with small changes in impact speed.

The probability of serious injury to a belted car occupant in a front seat at an impact speed of 30mph is three times greater than at 20mph. At 40mph it is over five times greater.<sup>15</sup> Research also concludes that a 1 mph reduction in speed equates to a 5% reduction in accident frequency.<sup>16</sup>

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<sup>15</sup>Department for Transport, *New Directions in Speed Management: A Review of Policy*, 2005.  
<http://www.dft.gov.uk/pgr/roadsafety/speedmanagement/newdirectionsinspeedmanageme4802?page=3#a1005>

<sup>16</sup>Department for Transport, *Speed: Know Your Limits*, 2004.  
<http://www.dft.gov.uk/pgr/roadsafety/speedmanagement/speedknowyourlimits>



### **PART THREE: DRAFT POLICY - DRAFT LOCAL SPEED LIMITS IN NORTHERN IRELAND**

Northern Ireland has three core national speed limits. These are:

- the 30 mph speed limit on street lit roads
- the national speed limit of 60 mph on single carriageway roads
- the national speed limit of 70 mph on dual carriageways and motorways.

Any exceptions to these general limits are the responsibility of the Department for Regional Development (DRD), specifically Road Service traffic managers who set 'local speed limits'.

DRD has recently undertaken a review of its Speed Management policy. A draft document, *Local Speed Limits in Northern Ireland*, has been prepared in cooperation with the PSNI and the DoE's Road Safety Branch.

A number of significant points emerge within the draft policy:

- 1) Identification and adoption of a two tier system on rural roads for the application of speed limits;
- 2) An undertaking of a review of the speed limits on all upper tier roads within five years;
- 3) Guidance on setting of speed limits in urban areas;
- 4) Updated guidance on speed limits for dual carriageways, which may lead to the speed limit being reduced; and
- 5) Updated guidance of the concept of variable, time dependent, speed limits at schools.

The following section provides further information on each of the above initiatives.

#### 1) IDENTIFICATION AND ADOPTION OF A TWO TIER SYSTEM ON RURAL ROADS FOR APPLICATION OF SPEED LIMITS

This approach would differentiate between roads with strategic or local access function. Using this approach, higher limits would be restricted to 'upper tier' or high quality strategic roads where there are few bends, junctions or accesses. Lower limits would be appropriate on 'lower tier roads' with a predominantly local, access or recreational considerations, or where there is a high density of bends, junctions, accesses, or the road is hilly.<sup>17</sup>

A speed assessment framework, based on that found in Great Britain, has been developed with the aim of achieving an appropriate and consistent balance between safety and mobility on single carriageway rural roads.

A summary of the speed limits that should be adopted for single carriage ways in rural areas can be seen overleaf.

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<sup>17</sup> DRD, *Local Speed Limits in Northern Ireland*, 2007, Section 6, pg 21.

Table 4: Speed limits for single carriageway roads in rural areas

Speed limit	Upper tier roads	Lower tier roads
60 mph	High quality strategic A and B roads with few bends, junctions or accesses.  When assessment framework used, accident rate should be below 35 injury accidents per 100 million vehicle kilometres with this speed limit	Only the best quality C and unclassified roads with a mixed function, with few bends, junctions or accesses.  In longer term, should be assessed against upper tier criteria.
50 mph	Lower quality A and B roads which have relatively high number of bends, junctions and accesses.  Accident rate should be above 35 injury accidents per 100 million vehicle kilometres at higher speeds.  Can also be considered where mean speeds on the road are below 50 mph, so lower limit does not interfere with traffic flow.	Lower quality C and unclassified roads with a mixed function where there are a relatively high number of bends, junctions or accesses.  Accident rate should be below 60 injury accidents per 100 million vehicle kilometres.
40 mph	High number of bends, junctions, accesses, substantial development, where there is a strong environment or landscape reason, or where there are considerable number of vulnerable road users.	Roads with a predominantly local, access or recreational function, or if it forms part of a recommended route for vulnerable users.  Accident rate should be above threshold of 60 injury accidents per 100 million vehicle kilometres.
30 mph	Should be the norm in villages	

Source: draft Local Speed Limits in Northern Ireland, Appendix D

## 2) AN UNDERTAKING OF A REVIEW OF THE SPEED LIMITS ON ALL UPPER TIER ROADS WITHIN FIVE YEARS

The draft policy states that the guidance outlined in the policy should be used for setting all local speed limits on single and dual carriageway roads in both urban and rural areas. Roads Service should review the speed limits on all upper tier roads in Northern Ireland within five years of publication of the policy.<sup>18</sup>

## 3) GUIDANCE ON THE SETTING OF URBAN SPEED LIMITS

The draft Policy states that Traffic Managers should be encouraged to adopt the Institution of Highways and Transportation's urban safety management guidelines.<sup>19</sup>

A summary of the speed limits suggested for urban speed limits is shown below in table 5.

<sup>18</sup> DRD, *draft Local Speed Limits in Northern Ireland*, 2007, pg 2.

<sup>19</sup> DRD, *draft Local Speed Limits in Northern Ireland*, 2007, Section 5, pg 17.

Table 5: Summary of Speed Limits in Urban Roads<sup>20</sup>.

Speed limit	Characteristics
20 mph	In town centres, residential areas and in the vicinity of schools where there is a high presence of vulnerable road users.
30 mph	The standard limit within built-up areas with development on both sides of the road.
40 mph	Higher quality suburban roads or those on the outskirts of urban areas where there is little development. Should be few vulnerable road users.  Should have good width and layout, parking and waiting restrictions in operation, and buildings set back from the road.  Should, wherever possible, cater for the needs of non-motorised uses through segregation of road space, and have adequate footways and crossing places.
50 mph	Usually most suited to special roads, dual carriageway ring or radial routes or bypasses which have become partially built up.  Should be little or no road side development.

The draft policy goes on to support the introduction of 20 mph limits and zones in areas where there is a particular risk to vulnerable road users.

Furthermore, traffic calming measures such as road humps, road narrowing measures, gateways, road markings and rumble devices, should be installed to encourage lower speeds in urban areas.

#### 4) UPDATED GUIDANCE ON SPEED LIMITS FOR RURAL DUAL CARRIAGEWAYS

These roads are not covered by the speed assessment framework. The draft policy states that high quality rural dual carriageways with segregated junctions and facilities for vulnerable road users would generally be suitable for 70 mph limits. However, a lower limit would be appropriate if, for example, a collision history indicates that this cannot be achieved safely.<sup>21</sup>

#### 5) UPDATED GUIDANCE OF THE CONCEPT OF VARIABLE, TIME DEPENDENT, AND SPEED LIMITS AT SCHOOLS.

Research has clearly shown that reducing vehicle speeds to 30 mph or less significantly reduces the level of injury if a vehicle strikes a child<sup>22</sup>. Studies of traffic behaviour also suggest the uniform application of permanently displayed speed limits outside schools were unlikely to result in a change to speeds.

<sup>20</sup> DRD, *draft Local Speed Limits in Northern Ireland, 2007*, Appendix C

<sup>21</sup> DRD, *draft Local Speed Limits in Northern Ireland, 2007*, pg 21

<sup>22</sup> *Ibid*, pg 28.

The Department therefore suggests an approach whereby variable speed limits in school safety zones are installed. It is further noted that a change in speed in isolation is unlikely to be effective and must be complemented by physical measures.

Best practice guidelines are outlined within the draft policy and include:

- having times of operation coinciding with on-road, school-related activity;
- install approved advisory signs and regulatory displays that alert motorists they are travelling through a school zone;
- ensure appropriate levels of enforcement by the local police; and
- encourage long term commitment by the school principal and Education Board for the correct operation of a variable speed limit at their school.<sup>23</sup>

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<sup>23</sup> DRD, *draft Local Speed Limits in Northern Ireland*, 2007, pg 29.

## **PART FOUR: CURRENT POLICY – NORTHERN IRELAND ROAD SAFETY STRATEGY 2002-2012**

A 10 year Strategy, 'Northern Ireland Road Safety Strategy 2002-2012'<sup>24</sup>, was published in 2002 to promote road safety and achieve casualty reduction targets. A number of stakeholders are responsible for its implementation including the Department of Environment (DoE), the Police Service of Northern Ireland (PSNI) and the Department for Regional Development (DRD).

The Strategy contains a number of key objectives for Northern Ireland, including the promotion of improved driver behaviour in relation to careless and dangerous driving, drink/drugs driving and speeding.<sup>25</sup>

The key policy measures with relation to speed management and the bodies responsible for implementation are summarised below.

### STRATEGIC OBJECTIVE: TO INFLUENCE DRIVERS TO AVOID EXCESSIVE SPEED AND TO DRIVE MORE REASONABLY ON OUR ROADS.

#### Policy Measures:

1. Speed Management – DoE / DRD / PSNI
2. Safety Cameras – DoE / PSNI
3. Traffic Calming Measures – DRD
4. Home Zones – DRD
5. Signing – DRD
6. Publicity – DoE

Full details of the actions to be implemented by DRD are contained within Appendix 1.

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<sup>24</sup> DoE, DRD, PSNI, *Northern Ireland Road Safety Strategy, 2002 – 2012*, [http://www.roadsafetyni.gov.uk/roadsafetystrategy\\_051102.pdf](http://www.roadsafetyni.gov.uk/roadsafetystrategy_051102.pdf)

<sup>25</sup> *Ibid.*

## **PART FIVE: REVIEW OF NORTHERN IRELAND'S ROAD SAFETY STRATEGY - NORTHERN IRELAND AUDIT OFFICE**

A review of Northern Ireland's Road Safety Strategy was conducted by the Northern Ireland Audit Office and published in September 2007. It notes that since the 2012 strategy was published, safety performance has improved markedly relative to the 1996-2000 performance<sup>26</sup>. Despite this, it is clear that further work needs to be completed.

The Executive Summary of the review asserts that effective enforcement is essential to underpin education, training and testing. With regards to speed management, the report concluded and recommended that Northern Ireland may currently be under-represented in terms of camera coverage, and the likelihood of detection for speeding is significantly lower than in Great Britain. Therefore, in parallel with planned public consultation, the PSNI should carry out further benchmarking of the level of safety camera coverage, in the right locations.<sup>27</sup>

Furthermore, the report concluded that the PSNI is currently unable to implement operational guidelines for speed enforcement issued by the Association of Chief Officers (ACPO), primarily due to insufficient capacity within its Fixed Penalty Processing Centre. During 2005, between 32,000 and 42,000 motorists may have escaped possible prosecution for speeding equating to between £1.9 and £2.5 million in lost revenue<sup>28</sup>. The Review team recommended that the PSNI should conduct a formal appraisal of options for upgrading its Fixed Penalty Processing Centres.<sup>29</sup>

A number of specific groups are highlighted as posing greater concern. Young and inexperienced drivers are disproportionately represented among road accident statistics as are motorcyclists and those driving under the influence of drink and drugs.

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<sup>26</sup> Northern Ireland Audit Office, *Northern Ireland's Road Safety Strategy – Report by the Comptroller and Auditor General*, 2007, pg 9. <http://www.niauditoffice.gov.uk/pubs/ROADSAFETY/Fullreport.pdf>

<sup>27</sup> *Ibid*, pg 14

<sup>28</sup> *Ibid*, pg 37

<sup>29</sup> *Ibid*, pg 37

## **PART SIX: SUCCESS OF SPEED MANAGEMENT APPROACHES**

Research completed as part of the Northern Ireland review and by Department for Transport (DfT) analyses the success of various speed management strategies. These are summarized below.

### SPEED MANAGEMENT

Research conducted by the DfT concluded that lowering speed limits on their own had little effect on vehicle speeds, with the mean change in traffic speed observed at about a quarter of the change implemented by the policy provider.<sup>30</sup>

### SAFETY CAMERAS – SPEED ENFORCEMENT CAMERA SYSTEM

The balance of research evidence reviewed by the Northern Ireland Audit Office asserted that cameras are effective in reducing collisions and casualties<sup>31</sup>. Furthermore, a recent independent review of Great Britain safety camera schemes concluded that the number of vehicles speeding had fallen by 70% with a KSI reduction of 42% upon the introduction of the measures.<sup>32</sup>

The first phase of the safety camera scheme in Northern Ireland started between July and November 2003, this resulted in 4 fixed cameras in 'collision hotspots' in the greater Belfast area. The planned expansion of this scheme did not take place in 2004 and 2005, due to delays in legislation to allow the PSNI to recover costs. Legislation came into place in August 2005, but administrative difficulties of cost recovery further delayed expansion of the scheme until August 2006; some three years after its introduction<sup>33</sup>.

From the launch of the scheme, the general level of speed related KSI has been reduced considerably. This provides evidence of the actual benefits and the potential losses that occurred as a result of the inability to expand the scheme in 2003-2004.

There is concern however, regarding the overall effectiveness of speed cameras, some seeing the impacts as being geographically limited; resulting only in reductions in speed at the camera sites.

### TRAFFIC CALMING MEASURES

A number of traffic calming measures are in place in Northern Ireland with the aim of reducing speed and promoting safe driving behaviors. The Department for Regional Development has implemented a number of measures including Home Zones, Improved speed limit signing, speed humps and ramps. The DoE in conjunction with the PSNI has also Speed Limit Signing and Publicity policy<sup>34</sup>. These are explored further below.

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<sup>30</sup> Department for Transport, *New Directions in Speed Management*, 2005. <http://www.dft.gov.uk/pgr/roadsafety/speedmanagement/newdirectioninspeedmanageme4802?page=3#a1012>

<sup>31</sup> Northern Ireland Audit Office, *Northern Ireland's Road Safety Strategy – Report by the Comptroller and Auditor General*, 2007, <http://www.niauditoffice.gov.uk/pubs/ROADSAFETY/Fullreport.pdf>

<sup>32</sup> *Ibid*, pg 35

<sup>33</sup> *Ibid*, pg 37

<sup>34</sup> Northern Ireland Road Safety Strategy 2002-2012, <http://www.doeni.gov.uk/roadsafety>

## 20 MPH ZONES

DRD has adopted a programme of measures, introducing a series of 20 MPH zones around specific areas, namely in schools and residential areas. It has been stated that demand is currently outstripping supply for these initiatives.<sup>35</sup> Research has concluded however, that without physical traffic calming measures, reducing a speed limit to 20 mph has not been effective and usually slows most vehicles by only 1 mph<sup>36</sup>. Recent research conducted in GB highlights that 20 mph zones with additional measures such as speed humps, on average reduced the speed limit by 9mph with a reduction in accidents of 60%.<sup>37</sup>

## HOME ZONES

Originating from the Netherlands, these are now common in many parts of Europe. They are usually an area of residential streets in which the road space is shared between motor vehicles and other road users with the needs of pedestrians and cyclists coming first. In addition to reductions in speed limits, the home zone is said to change the function of the street, turning it into a valuable public space and building a sense of community and providing regenerative effects.<sup>38</sup> One such scheme has been implemented in the New Lodge area of Belfast.

DfT has conducted limited research into the success of such strategies. Initial findings have been positive with immediate mean speed reductions of up to 15 mph being reported.<sup>39</sup>

## ROAD HUMPS

Research conducted by DfT note that road humps produce the greatest mean speed reduction out of all speed measures. 12mph reduction in speed and 60% reduction in accidents is average for a 100mm hump and a reduction of some 10 mph and 50% reduction in accident rates is average for a 75mm hump.<sup>40</sup>

## SIGNING

Research has shown that vehicle activated signs are effective at reducing speeds at targeted areas. A mean speed reduction of up to 9 mph was experienced with an overall reduction of 33% in accidents reported at trial sites.<sup>41</sup>

## PUBLICITY

The use of publicity is also included in the Strategy, referring to the Department of the Environment's role in producing regular public campaigns designed to raise the level of public awareness to speed and driver behavior<sup>42</sup>. DoE currently spend around one third of its road safety budget on advertising and although difficult to

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<sup>35</sup> Northern Ireland Road Safety Strategy 2002-2012, pg 44, <http://www.doeni.gov.uk/roadsafety>

<sup>36</sup> Department for Transport, *New Directions in Speed Management*, <http://www.dft.gov.uk/pgr/roadsafety/speedmanagement/newdirectionsinspeedmanageme4802?page=3#a1012>

<sup>37</sup> DfT, *Speed: Know your limits*, 2004. <http://www.dft.gov.uk/pgr/roadsafety/speedmanagement/speedknowyourlimits>

<sup>38</sup> DfT, *Home Zones Planning and Design*, 2001. <http://www.dft.gov.uk/162259/165240/244921/244924/TAL10-01.pdf>

<sup>39</sup> DfT, *Speed: Know your limits*, 2004. <http://www.dft.gov.uk/pgr/roadsafety/speedmanagement/speedknowyourlimits>

<sup>40</sup> *Ibid.*

<sup>41</sup> *Ibid*, pg 16.

<sup>42</sup> Northern Ireland Road Safety Strategy 2002-2012. [http://www.roadsafetyni.gov.uk/roadsafetystrategy\\_051102.pdf](http://www.roadsafetyni.gov.uk/roadsafetystrategy_051102.pdf)



measure success, the DoE reported that industry benchmarks with regards to awareness and influence were being exceeded.<sup>43</sup>

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<sup>43</sup> Northern Ireland Audit Office, *Northern Ireland's Road Safety Strategy – Report by the Comptroller and Auditor General*, 2007, pg 32.  
<http://www.niauditoffice.gov.uk/pubs/ROADSAFETY/Fullreport.pdf>

## **PART SEVEN: OTHER ISSUES FOR CONSIDERATION**

### COMPARATIVE CASES

France and Australia have been cited as best practice examples in terms of delivering the successful implementation of speed management strategies. Improvement in enforcement is cited as the key reason for their success.

In 2002, the French government made road safety one of the primary issues for their term in office. Subsequently, within a year, an action plan was released which had a strong emphasis on speed enforcement. This resulted in a 30 per cent reduction in fatalities on French roads and a decrease of 5 km/h on the average speed. This was achieved within a time period of three years<sup>44</sup>.

'Arrive Alive' was the title of the Australian road safety strategy which was launched in 2002 in the State of Victoria. Within four years of the strategy being operational, there was a decrease of 16% in fatalities resulting from speed. This was achieved due to robust enforcement and a reduced tolerance of speed limit infringement, especially in 60- 80 km/h zones<sup>45</sup>.

### ENVIRONMENTAL DEBATE

The use of higher speeds is damaging to the environment and results in increased greenhouse gas emissions, fuel consumption and noise levels.

In relation to emissions, the main greenhouse gas that is produced is Carbon Dioxide (CO<sub>2</sub>) and a variety of other local pollutants (CO, NO<sub>x</sub>, HC and particulates). The Ozone is also affected by vehicle emissions and thus speed. The optimum speed (that at which emissions are reduced) varies depending on the type of emission but generally constant speeds of between 25-60 mph result in lowest levels of emissions from vehicles<sup>46</sup>.

### LOCAL OPINION

Traffic calming measures are a major issue for many urban and rural communities in Northern Ireland and although subject to mixed opinion and popularity, do work. Speed ramps are the most frequently requested speed reducing measure. On the other hand, petitions have also been signed requesting the removal of such speed humps with residents complaining of damage to vehicles and reduction in property prices.

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<sup>44</sup> OECD, *Speed Management*, 2004, European Conference of Ministers for Transport  
<http://www.cemt.org/JTRC/workinggroups/speedmanagement/speedsummary.pdf>

<sup>45</sup> *Ibid.*

<sup>46</sup> *Ibid.*

**APPENDIX 1: SAFER SPEEDS ACTION MEASURES FROM THE NORTHERN IRELAND ROAD SAFETY STRATEGY 2002-2012**

Measures to be undertaken by DSD

<b>Measure</b>	<b>Time Frame</b>
Examine the application to the roads service of NI of the outcome of the DfT studies, when known	Long term
Examine the feasibility of introducing lower speed limits	Long term
Maximise the potential use of developing technology to reduce excessive speed	Immediate
Continue to give high priority to the introduction of traffic calming and advisory 20 mph zones	Immediate
Monitor the effectiveness of urban speed management studies in GB and apply appropriate good practice in NI	Short term
Evaluate the results of a pilot scheme in Belfast before considering expansion of the concept to other parts of Northern Ireland	Short term
Introduce variable message traffic control signing at appropriate locations	Short term
Pilot the use of signs activated by vehicles traveling at speeds above a pre-set level	Short term

Source: Northern Ireland Road Safety Strategy 2002-2012

**APPENDIX 2 - NUMBER OF INJURY ROAD TRAFFIC COLLISIONS BY SEVERITY AND DCU CAUSED BY SPEEDING – 2006/07**

<b>Excessive Speed</b>	<b>Fatal Collision</b>	<b>Serious Collision</b>	<b>Slight Collision</b>	<b>Total</b>
Antrim	2	7	26	35
Ards	2	4	24	30
Armagh	3	14	17	34
Banbridge	2	8	20	30
East Belfast	1	1	8	10
North Belfast	0	4	9	13
South Belfast	0	2	7	9
West Belfast	0	4	16	20
Ballymena	1	6	8	15
Ballymoney	1	2	8	11
Carrickfergus	0	4	11	15
Coleraine	1	4	5	10
Cookstown	1	2	9	12
Craigavon	0	5	18	23
Castlereagh	2	6	15	23
Dungannon and South Tyrone	2	6	18	26
Down	1	8	16	25
Fermanagh	4	16	22	42
Foyle	0	10	10	20
Larne	0	6	11	17
Limavady	1	3	8	12
Lisburn	3	5	28	36
Magherafelt	0	4	14	18
Moyle	1	0	2	3
Newtownabbey	0	7	15	22
North Down	1	3	15	19
Newry and Mourne	2	13	21	36
Omagh	0	12	19	31
Strabane	3	4	8	15
<b>Total</b>	<b>34</b>	<b>170</b>	<b>408</b>	<b>612</b>

Source: PSNI Central Statistics Unit