

# **Committee for the Environment**

## **Report on the Cyclists (Protective Headgear) Bill (NIA 9/10)**

Together with the Minutes of Proceedings, Minutes of Evidence and  
Written Submissions Relating to the Report

Ordered by The Committee for the Environment to be printed 23 March 2011  
Report: NIA 59/10/11R Committee for the Environment

**Session 2010/2011**

**Sixth Report**

### **Powers and Membership**

#### **Powers**

The Committee for the Environment is a Statutory Departmental Committee established in accordance with paragraphs 8 and 9 of the Belfast Agreement, section 29 of the Northern Ireland Act 1998 and under Standing Order 48.

The Committee has power to:

- Consider and advise on Departmental budgets and annual plans in the context of the overall budget allocation;
- Consider relevant secondary legislation and take the Committee stage of primary legislation;
- Call for persons and papers;
- Initiate inquiries and make reports; and
- Consider and advise on any matters brought to the Committee by the Minister of the Environment

#### **Membership**

The Committee has 11 members including a Chairperson and Deputy Chairperson and a quorum of 5. The membership of the Committee since 9 May 2007 has been as follows:

Mr Cathal Boylan (Chairperson) 9  
Mr Thomas Buchanan 7, 8, 13  
Mr Trevor Clarke 15  
Mr Willie Clarke 14  
Mr John Dallat 5  
Mr Danny Kinahan 3, 4  
Mr Patsy McGlone (Deputy Chairperson) 6, 10, 12

Mr Alastair Ross 1  
Mr George Savage 2, 16  
Mr Peter Weir  
Mr Brian Wilson 11

1 On 21 January 2008, Alastair Ross was appointed as a Member and Mr Alex Maskey ceased to be a Member.

2 On 15 September 2008 Mr Roy Beggs replaced Mr Sam Gardiner.

3 On 29 September 2008 Mr David McClarty replaced Mr Billy Armstrong.

4 On 22 June 2009 Mr Danny Kinahan replaced Mr David McClarty.

5 On 29 June 2009 Mr John Dallat replaced Mr Tommy Gallagher.

6 On 3 July 2009 Mrs Dolores Kelly replaced Mr Patsy McGlone as Chairperson.

7 On 15 January 2010 Mr Adrian McQuillan replaced Mr Trevor Clarke.

8 On 1 February 2010 Jonathan Bell replaced Mr Adrian McQuillan.

9 On 12 April 2010 Mr Cathal Boylan was appointed as Chairperson and Mrs Dolores Kelly ceased to be a Member.

10 On 12 April 2010 Mr Dominic Bradley was appointed as Deputy Chairperson.

11 On 13 April 2010 Mr Brian Wilson was appointed as a Member and Mr David Ford ceased to be a Member.

12 On 21 May 2010 Mr Patsy McGlone replaced Mr Dominic Bradley as Deputy Chairperson

13 On 13 September 2010 Mr Thomas Buchanan replaced Mr Jonathan Bell

14 On 13 September 2010 Mr Willie Clarke replaced Mr Daithi McKay

15 On 13 September 2010 Mr Trevor Clarke replaced Mr Ian McCrea

16 On 1 November 2010 Mr George Savage replaced Mr Roy Beggs

## **Table of Contents**

[Introduction](#)

[Consideration of the Bill by the Committee](#)

[Key Issues](#)

### **Appendix 1**

[Minutes of Proceedings](#)

## **Appendix 2**

Minutes of Evidence

## **Appendix 3**

Written Submissions

## **Appendix 4**

List of Witnesses

## **Appendix 5**

Research papers requested by the Committee

# **Introduction**

1. The Cyclists (Protective Headgear) Bill (NIA 9/10) was referred to the Committee for the Environment for consideration in accordance with Standing Order 33(1) on completion of the Second Stage of the Bill on 31 January 2011.

2. The Member in charge of the Bill, Mr Pat Ramsey, made the following statement under Standing Order 30:

‘In my view the Cyclists (Protective Headgear) Bill would be within the legislative competence of the Northern Ireland Assembly.’

3. The aim of the Bill is to require cyclists of all ages to wear protective headgear when cycling on any public roads or paths, or in parks. The objective of the Bill is to reduce death and serious injury amongst cyclists.

4. Under the Bill, it would be the responsibility of the police to enforce the provisions. The proposed penalty for breach of the provisions would be an on-the-spot fine of £50. However, in the case of a first contravention, the fine could be waived where the person issued with the penalty charge notice presents at a police station with a new helmet and receipt for its purchase. Breach of the provisions will not constitute a criminal offence.

5. During the period covered by this Report, the Committee considered the Bill and related issues at meetings on 17 February 2011, 10 March 2011 and 23 March 2011. The relevant extract from the Minutes of Proceedings for these meetings are included at Appendix 1.

6. The Committee had before it the Cyclists (Protective Headgear) Bill (NIA 9/10) and the Explanatory and Financial Memorandum that accompanied the Bill.

7. On referral of the Bill to the Committee after Second Stage, the Committee inserted advertisements on 22 February 2011 in the Belfast Telegraph, Belfast Telegraph North West edition, Irish News and News Letter seeking written evidence on the Bill.

8. A total of 112 organisations/individuals responded to the request for written evidence and copies of the submissions received by the Committee are included at Appendix 3.

9. On 28 February 2011, the Assembly agreed to extend the Committee Stage of the Bill to 24 March 2011.

10. On 10 March 2011 the Committee took oral evidence from the sponsor of the Bill and several stakeholders. The Minutes of Evidence are included at Appendix 2.

11. The time available to the Committee for scrutiny of the Bill was severely restricted due to the impending dissolution of the Assembly on 24 March 2011. In view of this, the Committee was unable to give proper consideration to the Bill and related issues and was, therefore, unable to conduct a clause-by-clause scrutiny of the Bill. Consequently, this report is simply a collation of the written and oral evidence received.

12. The evidence contained in this report may inform the next committee's consideration of this issue in the new mandate.

## **Consideration of the Bill by the Committee**

13. The Bill consists of 17 Clauses.

### **Briefing by Pat Ramsey MLA on the Bill, 10 March 2011**

14. The sponsor of the Bill, Pat Ramsey MLA, briefed the Committee on the Bill at the meeting on 10 March 2011.

15. The main areas of discussion were the impact of the introduction of similar legislation in other countries, the main objective of the Bill which the sponsor stated was to reduce death and serious injury, enforcement of the proposed legislation, the need to have a lead-in time for the proposed legislation, the wider social impact of head injuries, the need to protect children, the need for driver awareness and education rather than legislation, the number of direct injuries as a result of cycling and the possibility of making it compulsory to provide a helmet with the purchase of a bike.

### **Briefing by Headway NI on the Bill, 10 March 2011**

16. Headway NI briefed the Committee on the Bill at the meeting on 10 March 2011.

17. The main areas of discussion were the effectiveness of cycle helmets, the impact of the introduction of similar legislation in other countries, the costs of enforcement, the possibility of making it compulsory to provide a helmet with the purchase of a bike, the number of cycle related injuries in the past 5 years and the feeling that legislation is a disproportionate response to the low number of accidents involving bikes.

### **Briefing by CTC/Sustrans on the Bill, 10 March 2011**

18. CTC and Sustrans briefed the Committee on the Bill at the meeting on 10 March 2011.

19. The main areas of discussion were the difficulty of enforcing the Bill, the groups' opposition to the Bill which they saw as a deterrent to cycling, the feeling that legislation is a disproportionate response to the low number of accidents involving bikes, the potential adverse impact of the Bill on socially deprived areas, the number of cyclist deaths in Northern Ireland in

the past 5 years, the possibility of making it compulsory to provide a helmet with the purchase of a bike and the impact of the introduction of similar legislation in other countries.

## Call for written evidence (22 February 2011 – 14 March 2011)

20. The Committee received 112 written responses. 20 of these were from organisations, 6 of which supported the Bill while 13 were against and 1 with no indication. Most written submissions were in the form of emails, many very similar in content and style, and the vast majority of these were opposed to the making the wearing of cycle helmets mandatory. A table summarising the written submissions is provided below:

### Cyclists (Protective Headgear) Bill – Submissions Received (Page 1 of 3)

No	Date Rec'd	Name	Organisation	Country	For	Against
1	23 Feb 2011	Ken Henderson		Unknown		X
2	25 Feb 2011	Dr Elaine Hardy	Right to Ride	NI		X
3	25 Feb 2011	Mrs Pat Martin	Road Safety Council NI	NI	X	
4	25 Feb 2011	Philip Morrow		Unknown		X
5	01 Mar 2011	Michael Cooke		NI		X
6	01 Mar 2011	Dr Alan Dawson		NI	X	
7	02 Mar 2011	Neal Cook	British Association of Neuroscience Nurses	NI	X	
8	02 Mar 2011	William Methven		Unknown		X
9	02 Mar 2011	Borghert Borghmans		NI		X
10	04 Mar 2011	Dr Ronan Matthews		NI		X
11	05 Mar 2011	Alastair Kennedy		England		X

No	Date Rec'd	Name	Organisation	Country	For	Against
12	05 Mar 2011	John Muir		Unknown		X
13	05 Mar 2011	Kevin Harrington		England		X
14	05 Mar 2011	Linda Cottrell		Unknown		X
15	05 Mar 2011	Adam Bent		England		X
16	05 Mar 2011	Geoffrey Ede		Unknown		X
17	06 Mar 2011	Tony Collins		England		X
18	06 Mar 2011	Hamilton Pruim		England		X
19	06 Mar 2011	Paul Alexander		Unknown		X
20	07 Mar 2011	John Robson		NI		X
21	07 Mar 2011	Steven Patterson	Sustrans & CTC	NI		X
22	07 Mar 2011	John Radcliffe		Unknown		X
23	07 Mar 2011	Frank Krygowski		USA		X
24	07 Mar 2011	Luke Griggs	Headway	England	X	
25	07 Mar 2011	Dr Nigel Perry		New Zealand		X
26	07 Mar 2011	David Singer		England		X

No	Date Rec'd	Name	Organisation	Country	For	Against
27	07 Mar 2011	Claire Ferry		NI		X
28	07 Mar 2011	David Monaghan		Scotland		X
29	07 Mar 2011	Oliver Bock		NI		X
30	08 Mar 2011	Todd Edelman	OPENbike	Germany		X
31	08 Mar 2011	A Merelo		Unknown		X
32	08 Mar 2011	Chris Rissel		Australia		X
33	08 Mar 2011	Ruth Turner		England		X
34	08 Mar 2011	Gillian Law		Scotland		X
35	08 Mar 2011	Dean Foden		Unknown		X
36	08 Mar 2011	Hugh Barry		Unknown		X
37	08 Mar 2011	David Fawcett		Unknown		X
38	08 Mar 2011	Rob Hatley		Unknown		X
39	08 Mar 2011	Rosie Pelan		NI		X
40	08 Mar 2011	Dr Dolan F Byrne		NI		X
41	08 Mar 2011	Brid Coady Weeks		NI		X

No	Date Rec'd	Name	Organisation	Country	For	Against
42	08 Mar 2011	Andrew Hassard		Unknown	X	
43	8 Mar 2011	Juliet Kemp		England		X
44	8 Mar 2011	Neil Mearns		NI		X
45	8 Mar 2011	Declan Dempsey		Belgium		X
46	9 Mar 2011	Dan Woodall		Australia		X
47	09 Mar 2011	Neil Irvine		Australia		X
48	09 Mar 2011	Dr D Robinson		Unknown		X
49	09 Mar 2011	Luke Turner		Australia		X
50	09 Mar 2011	Michael Davis		NI		X
51	09 Mar 2011	Jayne Taylor	North Down Borough Council	NI	N/A	N/A
52	09 Mar 2011	Pieter Meiring		Unknown		X
53	07 Mar 2011	Julian Black		NI		X
54	09 Mar 2011	Anna Semlyen	20's Plenty for Us	Unknown		X
55	09 Mar 2011	Gavin Clark		Unknown		X
56	09 Mar 2011	John Franklin	Consultant in Cycling Safety Skills	England		
57	09 Mar 2011	John Wood		Unknown	X	



No	Date Rec'd	Name	Organisation	Country	For	Against
58	10 Mar 2011	Dave McCraw	Wrong Headed	Unknown		X
59	10 Mar 2011	Douglas Ferguson		NI		X
60	10 Mar 2011	Mark Wareham		England		X
61	10 Mar 2011	Emma Robinson		England		X
62	10 Mar 2011	Chris Bloomer		NI		X
63	10 Mar 2011	Simon Davies		Unknown		X
64	10 Mar 2011	Helen Booth		England		X
65	10 Mar 2011	Trevor Williams		Unknown		X
66	10 Mar 2011	Colin Clarke		England		X
67	10 Mar 2011	Piers Maffett		Unknown		X
68	11 Mar 2011	Andrew Davis		England		X
69	11 Mar 2011	David Monahan		NI		X
70	11 Mar 2011	Peter Teow		Australia		X
71	11 Mar 2011	Sara Dowling	RoadPeace	England		X
72	9 Mar 2011	Drew Ritchie	Antrim and District Road Safety Committee	NI	X	

No	Date Rec'd	Name	Organisation	Country	For	Against
73	11 Mar 2011	Tim Beadle		England		X
74	11 Mar 2011	Herve		Australia		X
75	11 Mar 2011	Dr David Beasley		Unknown		X
76	11 Mar 2011	Amanda Martin	Newtownards Borough Council	NI		X
77	11 Mar 2011	Cliff Sore		Unknown		X
78	11 Mar 2011	Sam Bidwell		Unknown		X
79	11 Mar 2011	Stephen Gilmore		NI	N/A	N/A
80	11 Mar 2011	Tom Butcher		England		X
81	11 Mar 2011	T. Price		NI		X
82	12 Mar 2011	Simon Adams		Wales		X
83	12 Mar 2011	Karina Stewart		England		X
84	13 Mar 2011	Vincent McCorry		NI		X
85	14 Mar 2011	Patrick Morgan		New Zealand		X
86	14 Mar 2011	Mayer Hillman	Policy Studies Institute London	England		X
87	14 Mar 2011	Derek Armstrong	Bikedock	Belfast		X

No	Date Rec'd	Name	Organisation	Country	For	Against
88	14 Mar 2011	Bevan Woodward		New Zealand		X
89	14 Mar 2011	Rob Lamb		Unknown		X
90	14 Mar 2011	Debra Stansfield	Transport & Health Study Group	England		X
91	14 Mar 2011	Mike McKillen	Cylist.ie	RoI		X
92	14 Mar 2011	Fergal o'Brien		RoI		X
93	14 Mar 2011	Paul Megson		Unknown		X
94	14 Mar 2011	Cllr A Montague		RoI		X
95	14 Mar 2011	Dr R Keatinge		Unknown		X
96	14 Mar 2011	Ellen Booth	Brake	England	X	
97	14 Mar 2011	Trevor Parsons		England		X
98	14 Mar 2011	Darren Boyle	Da	NI		X
99	14 Mar 2011	Roy White	NI Cycling Initiative	NI		X
100	14 Mar 2011	Dr Chloe Galley	Centre for the Environment, Trinity College, Dublin	RoI		X
102	15 Mar 2011	Brian Morris		Unknown		X

No	Date Rec'd	Name	Organisation	Country	For	Against
103	14 Mar 2011	John Mallows	CycleNation	England		X
104	14 Mar 2011	Roger Geffen	CTC (Cycling Touring Club)	England		X
105	14 Mar 2011	Steven Patterson	Sustrans	NI		X
106	14 Mar 2011	Clare Conry		Unknown		X
107	14 Mar 2011	Niall Shanahan		RoI		X
108	14 Mar 2011	Marcin Piotrowicz		Poland		X
109	14 Mar 2011	Eric Patterson		Belfast		X
110	14 Mar 2011	Philip Benstead		England		X
111	14 Mar 2011	Stephen Harris		England		X
112	15 Mar 2011	Gráinne Magee	British Medical Association	NI	X	

## Key Issues

### Voluntary versus compulsory wearing of cycle helmets

21. Cycling organisations such as CTC (Cyclist Touring Club – the national cyclists organisation) voiced opposition to the Bill while advocating a voluntary approach to wearing of helmets.

22. The Northern Ireland Cycling Initiative (NICI) also opposes the mandatory wearing of helmets and instead advocates their voluntary use.

23. The British Medical Association Northern Ireland (BMA NI) supports the Bill and advocates the compulsory wearing of cycle helmets. However, it believes that the first step should be to achieve higher rates of voluntary use e.g. through mass educational and promotional campaigns.

## **Ability of cycle helmets to reduce the number or severity of head injuries**

24. Key to the cycling organisations' opposition to the Bill is their assertion that the evidence that wearing a helmet reduces the number or the severity of head injuries is flawed or at best contradictory.

25. Headway, a head injury support organisation in favour of the Bill, states that the evidence is clear that helmets can save lives and can help prevent lifelong disability. It presents evidence from Australia, New Zealand, the USA and Canada to highlight the effectiveness of compulsory helmet wearing to reduce head injury.

26. Similarly Brake, a road safety charity, supports the Bill and again cites evidence from New Zealand, the USA and England to underpin this.

27. The BMA NI supports the Bill though it acknowledges that helmets:

"are most effective at low impact speeds (approximately 13mph or less), such as when a cyclist falls from a cycle without the involvement of other vehicles".

28. The BMA NI does however contend that helmets play a significant role in reducing head injuries.

## **Negative impact of mandatory wearing of cycle helmets**

29. A number of submissions from both individuals and organisations such as Sustrans and CTC cite evidence, particularly from Australia and New Zealand, which suggests that making the wearing of helmets compulsory actually deters people from cycling. It is therefore suggested that any limited safety benefit e.g. protection from a minor fall, is outweighed by the overall negative impact on public health due to reduced cycling rates.

30. The point is made that people are not injured because they fall off bikes; they are injured because they are hit by cars. Therefore, making helmets compulsory will only give the cyclist a false sense of security and also possibly make drivers less cautious when sharing the road with cyclists.

31. Related to this issue is the repeated assertion contained in those submissions opposed to the Bill that cyclists' safety improves as cyclist numbers increase. Leading from this is the suggestion that the aim therefore should be to increase cycling rates rather than introducing mandatory helmet wearing which will create the perception that cycling is an innately dangerous activity.

32. Many submissions indicate that while well-intentioned the legislation is viewed as disproportionate to the actual low risks associated with cycling.

## **Cost effectiveness of mandatory wearing of cycle helmets in making cycling safer**

33. A theme running through submissions voicing opposition to the Bill is that rather than focus on making helmets compulsory there are more cost-effective measures that government should pursue in order to make cycling safer. These include providing the necessary cycle-friendly

infrastructure, promoting cycle awareness to vehicle drivers and reducing the residential speed limit to 20mph.

34. These points are also made by CycleNation (The Federation of UK Cycling Campaign Groups) which goes on to ask if it is right that the burden of care should fall to the potential victim of an accident (the cyclist) when there is much more scope for improvement in driving-related matters.

35. The BMA NI states that compulsory helmet wearing and other initiatives to make cycling safer are not mutually exclusive e.g. cycle lanes, driver education and vehicle speed reduction initiatives.

## **Enforcement**

36. Some of those submissions opposed to the legislation question how the legislation would be enforced.

## **Changing behaviour**

37. The British Association of Neuroscience Nurses (BANN) supports the Bill and makes specific reference to the waiving of the fine (in the case of a first contravention) where a helmet is purchased and that this will reward a positive change in practices.

## **Cycle Helmet standards**

38. The BMA NI noted that should the legislation proceed then an appropriate standard of helmet should be designated.

## **Appendix 1**

### **Minutes of Proceedings**

#### **Thursday 3 February 2011, Room 144, Parliament Buildings**

Present: Mr Cathal Boylan (Chairperson)  
Mr Thomas Buchanan  
Mr Trevor Clarke  
Mr John Dallat  
Mr Danny Kinahan  
Mr Patsy McGlone  
Mr Peter Weir  
Mr Brian Wilson

In Attendance: Dr Alex McGarel (Assembly Clerk)  
Mr Sean McCann (Assistant Clerk)  
Mr Nathan McVeigh (Clerical Supervisor)  
Ms Antoinette Bowen (Clerical Officer)  
Ms Sian Woodward (Bill Office Clerk)

Apologies: Mr Alastair Ross  
Mr George Savage

10.13am The meeting began in public session.

## **1. Apologies**

Apologies are listed above.

## **2. Chairperson's Business**

The Chairperson informed members that the Cyclists (Protective Headgear) Bill had recently passed Second Stage and was now referred to the Committee.

The Chairperson further informed members that a decision needed to be made on whether the Committee conducted Committee Stage of the Bill.

10.19am Mr Kinahan joined the meeting.

10.19am Mr Weir joined the meeting.

Agreed: That the Sponsor of the Bill is asked to write to the Committee to advise as to which Committee he wished to conduct scrutiny of the Bill.

Cathal Boylan  
Chairperson, Committee for the Environment

10 February 2011

[EXTRACT]

## **Thursday 17 February 2011, Room 144, Parliament Buildings**

Present: Mr Cathal Boylan (Chairperson)  
Mr Trevor Clarke  
Mr Willie Clarke  
Mr Danny Kinahan  
Mr Patsy McGlone  
Mr Alastair Ross  
Mr Peter Weir  
Mr Brian Wilson

In Attendance: Dr Alex McGarel (Assembly Clerk)  
Mr Sean McCann (Assistant Clerk)  
Mr Nathan McVeigh (Clerical Supervisor)  
Ms Antoinette Bowen (Clerical Officer)

Apologies Mr John Dallat

## **6. Cyclists (Protective Headgear) Bill**

The Committee deliberated over several options on how to handle the Cyclists (Protective Headgear) Bill.

Agreed: That at the meeting on 10 March 2011 the Committee takes oral evidence from the sponsor of the Bill and several stakeholders.

Agreed: That members are content for the motion to extend the Bill to be lodged with the Business Office.

Agreed: That the public notice calling for written evidence on the Bill is issued in the 3 main newspapers.

Cathal Boylan  
Chairperson, Committee for the Environment  
24 February 2011

[EXTRACT]

## **Thursday 10 March 2011, Everglades Hotel, Londonderry**

Present: Mr Cathal Boylan (Chairperson)  
Mr Thomas Buchanan  
Mr Willie Clarke  
Mr John Dallat  
Mr Alastair Ross  
Mr Peter Weir

In Attendance: Dr Alex McGarel (Assembly Clerk)  
Mr Sean McCann (Assistant Clerk)  
Mr Nathan McVeigh (Clerical Supervisor)  
Ms Antoinette Bowen (Clerical Officer)

Apologies Mr Trevor Clarke  
Mr Danny Kinahan  
Mr Patsy McGlone  
Mr George Savage  
Mr Brian Wilson

### **3. Briefing by Pat Ramsey MLA on the Cyclists (Protective Headgear) Bill**

Mr Ramsey briefed the Committee and answered members' questions on the Cyclists (Protective Headgear) Bill.

The main areas of discussion were enforcement of the Bill, an outline of the consultation on the Bill, examples of similar Bills in other countries, the cost of implementing the Bill and the impact the Bill would have on cycling.

### **4. Briefing by Headway NI on the Cyclists (Protective Headgear) Bill**



Representatives from Headway NI briefed the Committee and answered members' questions on the Cyclists (Protective Headgear) Bill.

The main areas of discussion were the effects of not wearing a helmet, legislation in other countries, enforcement and education.

## **6. CTC/Sustrans briefing on the Cyclists (Protective Headgear) Bill**

Representatives from CTC/Sustrans briefed the Committee and answered members' questions on the Cyclists (Protective Headgear) Bill.

The main areas of discussion were the effect the Bill could have on tourism and businesses, enforcement and education.

Cathal Boylan  
Chairperson, Committee for the Environment  
23 March 2011

[EXTRACT]

## **Thursday 23 March 2011, Room 144, Parliament Buildings**

Present: Mr Cathal Boylan (Chairperson)  
Mr Willie Clarke  
Mr John Dallat  
Mr Danny Kinahan  
Mr Patsy McGlone  
Mr George Savage  
Mr Brian Wilson

In Attendance: Dr Alex McGarel (Assembly Clerk)  
Mr Sean McCann (Assistant Clerk)  
Mr Nathan McVeigh (Clerical Supervisor)  
Ms Antoinette Bowen (Clerical Officer)

## **3. Cyclists (Protective Headgear) Bill – draft Committee report**

Members noted an e mail from Pat Ramsey MLA's advisor stating that the sponsor of the Bill did consult on the Bill with the Foyle branch of Sustrans.

Agreed: That a copy of the e mail is included in the Committee report.

The Chairperson informed members they had been provided with a draft Committee report on the Cyclists (Protective Headgear) Bill.

Agreed: That the report is ordered to be printed.

**Cathal Boylan**  
**Chairperson, Committee for the Environment**  
**23 March 2011**

[EXTRACT]

## Appendix 2

### Minutes of Evidence

10 March 2011

Members present for all or part of the proceedings:

Mr Cathal Boylan (Chairperson)  
Mr Thomas Buchanan  
Mr Willie Clarke  
Mr John Dallat  
Mr Alastair Ross  
Mr Peter Weir

Witnesses:

Mr Pat Ramsey MLA  
Ms Michelle Donnelly  
Ms Orlaith Donnelly  
Mr Peter McCabe      Headway NI  
Mr Johnny Turnbull  
Mr Derek Armstrong  
Mr Darren Boyle      Cyclists' Tourist Club/Sustrans  
Mr Roger Geffen  
Mr Steven Patterson

1. The Chairperson (Mr Boylan): Pat, you are very welcome to the Committee. We have deigned to come up to the good part of the country, and we have found it to be very hospitable.

2. Mr Pat Ramsey MLA: Thank you, and I warmly welcome the Committee to Derry. Wearing my other hat as a member of the Assembly Commission, along with Peter Weir, it is good to see the outreach work that is being done. It allows the Committee to be seen in different areas of Northern Ireland, and it is important that the public are aware of the issues that the Assembly is debating. I am very pleased to be here this morning. With me are Michelle Donnelly and her daughter Orlaith, who was seriously injured as a result of coming off her bicycle. I will not go into the details of that, but, at the appropriate time, I will invite Michelle to briefly give the Committee the background.

3. I thank the Committee for its co-operation. I know that it is under serious pressure with legislation. It did not have to take on the scrutiny of this Bill, and I acknowledge its kindness in doing so. I know that other Committees opted out of taking it, for whatever reason. Rather than have Michelle sit through and endure my briefing, I would much prefer that she talk for two or three minutes about what happened to Orlaith. That is important, because cases such as Orlaith's were part of the reason for my becoming involved in the campaign.

4. Ms Michelle Donnelly: I am here to speak to the Committee about the Bill because, around six months ago, Orlaith fell off her bike. When she fell, her friends brought her into the house, and she seemed fine. If instinct had not taken me to get her looked about, she would not have been

there the next morning. She had been opened from the top of her scalp right round to the back of her ear, and there was a bleed to the brain. It is practically a miracle that she is sitting with us today. We were told that she would never reach the hospital in Belfast and that, if she did, she would be severely brain damaged. She has ongoing pain and has to take tablets every day. No longer ago than yesterday, she could not lift her head off the pillow, and she suffers from back pain all the time. She still has to attend the Royal Belfast Hospital for Sick Children.

5. Why would any responsible parent not want to prevent any of their family from going through what I went through? My other two children are boys, and, as recently as the weekend, one of them was crying because of what his sister has gone through. They go out to play in the street with their friends, so why would a responsible parent not want to protect their child?

6. Mr P Ramsey: Thank you, Michelle. I will give some personal background to my reasons for introducing the Bill. Chairperson, you have worked with me on the all-party group on road safety, which is always trying to champion and advocate better road safety initiatives across Northern Ireland. All the all-party groups play such a role with their causes, and this cause is no different for me. From my perspective, the clear objective is to try to reduce deaths on the roads and, in this particular case, to reduce serious injuries among cyclists.

7. As you will recall, the proposal came from a detailed briefing that we received from Headway around 18 months ago. The briefing was about Headway's concern about the numbers of cyclists who were being injured. We heard from Sinead King about the serious injury that she suffered when she fell off her bike when she was six years of age. She appealed to us and asked whether we could, for heaven's sake, try to do something. This should not happen to children in Northern Ireland. Simple accidents such as that can occur. Michelle Donnelly's daughter, Orlaith, was not on a major road when she came off her bike, but she was quite close to her home.

8. I lost a brother and his wife, who were killed on the roads, so I have some personal experience of this. Therefore, I am trying to do what I can as a legislator to ensure that, in the future, families do not have to endure the trauma and awfulness of death on the roads.

9. I spoke with Michelle Donnelly as we were coming in. She said that she does not want any other family to have to endure the awful experience that she did. Her daughter was transferred by ambulance from Altnagelvin Area Hospital to the Royal Victoria Hospital for Sick Children and spent a lot of time there. Orlaith is still suffering and struggling, even with her schoolwork, because she had a considerable number of days off.

10. The aim of the Bill is to require cyclists of all ages to wear protective headgear when cycling on public roads and in public parks. I have heard the argument, and I think, Chairperson, that you said that purchasing a cycling helmet should be mandatory when purchasing a bicycle. I think that that is clear and obvious.

11. I proposed that the Police Service would be responsible for enforcing the provisions. There would be a fixed penalty fine of £50 for someone who was caught cycling without a helmet, unless it was a first offence and they presented at a police station with a receipt for the purchase of a helmet.

12. I made it clear in the Second Stage debate that police officers would have discretion on enforcement. I am not saying that police officers who are carrying out serious duties should have to run after somebody on a bicycle. That was certainly not my intention.

13. I conducted a wide consultation with relevant stakeholders in spring 2010. A number of written responses were received, most of which were very positive, particularly those from the medical profession. Cycling organisations had some reservations, which I understand and

respect. Representatives from some of those organisations — Sustrans and the Cyclists' Tourist Club (CTC) — are here today. I have a lot of time for those organisations, and I work with them continually, even in my own constituency, to highlight other issues that we have in common. Those issues include introducing 20 mph zones in residential areas, which I think we would all support, and more cycle lanes across the city.

14. In response to a number of the concerns that were raised, a clause was included to delay the commencement of the Bill. That would mean that there would be a lead-in time for the Department of the Environment (DOE) to bring forward education and awareness programmes. I spent considerable time with departmental officials going through the Bill. At that time, I was getting very positive responses from them; I certainly did not get any resistance.

15. It was not my intention at any stage, nor is it now, for anyone to be criminalised for not wearing a cycle helmet. I would much prefer it if there were no need for any law to be enforced. However, the evidence that I have seen from Europe, America, Australia and Canada suggests to me that such a law works. The initial effect would be a reduction in the number of people cycling, but that would balance itself out. However, I have no doubt that Sustrans and other organisations will make a different argument.

16. That is why I made the point at the Bill's Second Stage that the most important issue for me is that, in its scrutiny, the Committee brings together all the qualified evidence for and against the use of cycle helmets. I respectfully ask that that is done so that we have that evidence. It is on the record that there absolutely no chance of the Bill's being passed before the end of this mandate; it will be guillotined. However, it would be good to have that information banked for future reference, because it is an issue that will not go away.

17. Headway will talk in more graphic detail than I ever could about the range of debilitating conditions, personality disorders, physical and intellectual disabilities, loss of sight or hearing and speech disorders that people, particularly young children, suffer from as a result of coming off their bicycles. The British Medical Association (BMA) states that:

"while skull fractures can heal, injuries to the brain, unlike those to the rest of the body, generally do not and may sometimes have long-term consequences."

18. According to a UK Department for Transport report of 2008, cyclists accounted for over 50% of all those killed on the road and 9% of those seriously injured in road traffic collisions. In addition, Department for Transport figures for 2009 show that 115 pedal cyclists were killed and 2,450 were seriously injured across Britain.

19. Approximately 40% of seriously injured pedal cyclists were admitted to hospital with serious head injuries. That is quite an alarming figure. However, I do not want to suggest that it is dangerous for cyclists to be on the roads. That would be very misleading, and I would be misrepresenting my position. However, those are the facts of what happens in real life.

20. According to the BMA, properly fitted helmets reduce the risk of head injury by 65% to 68% and injuries to the upper and mid-face by 60%. Those are not my figures; they show that the British Medical Association clearly took a scientific approach to the matter. Making the wearing of helmets compulsory is one thing that we can do to make a difference on the roads. Other suggestions have been made. For example, John Dallat, in particular, brought forward motions to have 20 mph zones in residential areas. Other organisations that are giving evidence this morning are signing up to that.

21. I will repeat myself on this point: I would not have brought forward the Bill if I thought for one minute that it would result in a serious reduction in the number of cyclists. I spent a number

of years on the Committee for Culture, Arts and Leisure, and I know that the Programme for Government is trying to promote more active participation in sport. We know about the recent Health Committee report on obesity. It was never the case that I wanted a Bill that had an adverse effect on people participating in cycling.

22. The respected and rigorous Cochrane Collaboration, which is an independent body, produced evidence that showed that helmets provide a 63% to 88% reduction in the risk of head and severe brain injury for all ages of cyclists. That is a good figure that we should examine more. The Committee should get a summary of the Cochrane review, which stated that helmets provide equal levels of protection in crashes involving motor vehicles. Those figures are 69% and 68% respectively. Injuries to the upper- and mid-face areas are reduced by 65%.

23. We have all had injuries in the past. If someone breaks an arm, it is grand, and if they break a leg, it will mend. However, they may never come round from a brain injury. A UK Transport Research Centre review in 2009 concluded that up to 16% of fatalities could have been prevented had the cyclist worn an appropriate helmet.

24. The BMA's present position is that the wearing of cycle helmets should be made compulsory. The association recognises that voluntary wearing of helmets should increase before the law is enacted. Taking on board the submissions that I received, I would say that a three-year lead-in period is needed to ensure that adequate education and awareness programmes are brought forward, although I acknowledge the range of governing bodies, including CTC and others, that are involved in cycling racing. However, we should be clear that it is compulsory for cyclists to wear helmets in all the events that those organisations hold. Cycle helmets must also be worn during proficiency exercises or tests for children in schools. The children would not be allowed on the cycles without a helmet. Therefore, it is not a case of do as I say, not as I do. I say that quite deliberately. I know of no organisation involved in group cycling that does not insist that its members wear helmets.

25. A 2010 Canadian study by Jessica Dennis found that the compulsory wearing of cycle helmets had no adverse impact on the number of cyclists. Others speaking after me will argue differently, and that comes back to the finer point, which is that we need to independently examine that assertion in the round and get more detailed information from the Governments of those regions.

26. When an accident happens, it often results in the state having an obligation to provide lifelong financial and other support to the now-disabled person. In other words, head injuries have a wider social impact. It is not just the injured person who suffers; carers also suffer, and hospitals have to meet costs. Given that we are talking about efficiency savings, as one would imagine, if the numbers of serious head injuries were reduced, particularly among children, that issue could be dealt with. When I originally brought the Bill forward, I considered that it should be introduced just for children, because that is who it is aimed at. Children on the road do not have the same maturity as one would expect. Someone at nine, 10 or 11 years of age does not have the same maturity as someone aged 17 or 18. They do not know the roads and how dangerous they are, and they are not aware of speed limits and other such matters. However, I thought that it would be unfair to bring forward a Bill that would mean that if a mother or father brought their child out on a bike, the parents would not have to wear a helmet but the child would. I thought that a more consistent approach would be better.

27. The British Medical Association is strongly in favour of mandatory helmet legislation. It has informed me that its policy on pro-helmet legislation is shared by the Royal College of Surgeons in London, the Royal College of Paediatrics and Child Health, the Royal College of Nursing, and Headway, the brain injuries association, some of whose representatives are here this morning.

28. I thank the Committee for taking time out on this issue. I appeal to it to carry out a very detailed and intensive written consultation that can be banked for future reference. If it is not banked for me, I am sure it will be useful for other Members who may take up the mantle and challenge of this issue under the new mandate. Thank you.

29. The Chairperson: Thank you, Pat. Michelle and Orlaith, you are very welcome, and on behalf of the Committee, Orlaith, I wish you well for the future. I know you have been through a bad patch, and we sincerely hope that you get better and recover fully.

30. Pat, we are here now considering the legislation, and a child who has been involved in an accident is sitting in front of me. I have spoken on this before, and, although I am a member of the Committee, I should say that my party wants to try to reduce injuries and road deaths. That is part of my brief as the roads safety spokesperson for Sinn Féin, and I feel very strongly about it.

31. I have a couple of comments to make rather than questions to ask. You mentioned the costs of injuries, especially the health costs to, God forbid, young children. However, at the opposite end, there would also be a cost in enforcing the Bill. To be honest, I cannot see how the policing element would work out. I know that the party does not support it, but I wanted to give you an opportunity to bring something forward to the Committee. Indeed, in a future mandate, some work may be done on this matter.

32. My personal point of view is that this may be a stick, as opposed to an incentive. We always talk about the carrot and stick approach, and I think that this legislation is a stick approach. I do not know how it could be enforced, so I would not support it because of that.

33. I think that the way to go is down the route of the voluntary wearing of helmets. There should be a responsibility on the people who sell bicycles. I said that in the Chamber, and it would not be over-complicated to legislate for those people to provide helmets with the bicycles that they sell. I know that we are going to receive other presentations, and I will specifically ask questions about that to Sustrans and to Headway in particular, but I know that you feel that this is a very important subject, Pat, and that you wanted to bring it to our attention.

34. The Committee has scrutinised every single Bill that has come before it, and we take that role very seriously. We might have a bit of a laugh and a joke at times, but legislation is a very serious matter. I can speak only on behalf of Sinn Féin, but we would not support bringing forward legislation on this. We will work with you and look at other ways of bringing something forward.

35. While I am on the record, I may as well tell you this straight, because there is no point in giving you the impression that we will support the Bill. Clearly, we will not. We will look for other ways to implement the wearing of cycle helmets, especially for young people. Those were comments rather than questions. If you want to say something on that, you may respond, and after that I will open things up to questions.

36. Mr P Ramsey: I welcome your comments. It is for the Committee to get information from other regions, whether Europe or America, to determine the cost implications. Any evidence that I came across suggests that the costs would be seriously outweighed by the reduced loss of life, the deterrent factor and the ongoing cost to the Health Service as a result of serious injuries.

37. I brought in the idea that the PSNI should be the enforcement body. However, I was open to other proposals on bodies that could enforce penalties; for example, local authorities. I presented the Bill in a way that suggested that the PSNI would be the enforcement body, but I was open to any proposal, as long as it kept the principle of enforcing penalties.

38. Mr Ross: Thank you for your presentation, and I am glad that you had to opportunity to give it. As you are aware, I voted against the Bill at Second Stage. However, given that the Assembly voted to allow it to go to Committee Stage, I argued in Committee that you should be afforded the opportunity to give evidence, and I am glad that you did.

39. As I said at that stage, although the legislation is well intentioned, I will not support it, and I have not changed my mind. It is important to put on record that the argument is not about whether people should wear cycle helmets, and Orlaith's case highlights that they make a difference and demonstrates the logic of wearing them. However, as Michelle correctly said, responsible parents would make their children wear helmets anyway, just as responsible cyclists are accountable for their own safety and should therefore wear a cycle helmet. I just disagree with making it a legal requirement for everybody to wear one. I do not think that it would be good to have that type of legislation coming from the Assembly. Whether you call it the nanny state approach or big government, it is not good legislation.

40. The Chairperson mentioned some enforcement issues, and certainly, as a member of the Policing Board — I know that former members of the board are here — I am acutely aware of the pressures, including reduced budgets and so forth, that are on the police. I agree with the Chairperson. I do not think that the legislation is enforceable, and the police should not be spending time on what is a relatively safe pastime. Pat said that it is not about criminalising people, but I do not think that the public will see it that way when someone tries to issue a fixed penalty notice to a 10-year-old child who is out cycling or to a 70-year-old man cycling to his local shop without a helmet. I do not think that it would be in the greater public interest to prosecute those individuals. It would not be a good use of the courts' time, if those people were not to pay their fines because they felt that they were not appropriate and then had to go through the courts.

41. I am telling you of both the issues that I have, so you can respond to them. My second issue is with your evidence. If we look at European countries, such as Denmark and the Netherlands, where a higher proportion of the public cycles, we also find that they have the lowest proportion of people who wear cycle helmets and the fewest fatalities and road accidents. That is not to do with whether they wear cycle helmets; it is about how well trained they are and whether they know how to look after themselves and can cycle safely on the roads. Likewise, it is about ensuring that structures in towns and cities with high numbers of cyclists make pedestrians and drivers aware of cyclists and change their attitude to them.

42. Much like the Chairperson, I would argue that, rather than placing it in legislation, the emphasis should be on a road safety strategy and awareness campaigns. Over the past four years, the Committee, the Assembly and I have taken road safety very seriously. For example, we have considered 20 mph zones, graduated driver licensing and lowering the drink-drive limit, and we have achieved all-party support on those things.

43. I think that emphasising road safety is the way to go. I would prefer to see more emphasis on driver awareness of cyclists, rather than on trying to penalise people or taking the big government approach. I know that those were opinions rather than direct questions, but I made a few points to which Pat may want to respond.

44. Mr P Ramsey: I acknowledge, Alastair, that you made your concerns very clear in the Second Stage debate. You referred to other European countries, Holland in particular. However, those countries have invested hugely in a much safer infrastructure than we ever have. Compared with what has been done here, they have made huge investment in roads and cycle lanes.

45. We have done well in the city of Derry, and I worked with Sustrans on this during my time on the council to try to provide areas that are safe for families to cycle. Those measures are all

about trying to create that environment. We have some good areas in the city, between the two bridges, that are clearly family zones. Mothers with daughters, sons and fathers are out cycling in those areas. That is what we are all trying to create, and we want to encourage young people to participate in some level of sport. Cycling is certainly one of those sports.

46. As to the scrutiny role, global models have looked at this in the same way and thought that the best route was to create legislation. As a result of bringing forward legislation, places that adopted those models have seen a significant reduction in deaths and serious injuries on the roads.

47. My attitude to this is very simple. I may be able to help one child to not suffer the injuries that young Orlaith has or those injuries of the other girl, who made the original presentation to the Committee and who came off a Barbie bike outside her home. She had five or six serious brain operations. She has now become a champion for the cause. I will not bore the Committee by reading out her story, but I will leave it with the Committee Clerk.

48. The Chairperson: Members have it in their papers.

49. Mr P Ramsey: That is just as well. As to Alastair's point, fixed penalties will never be brought against children. Parents will be responsible under this legislation. As I said, it is not my intention to criminalise anyone. It would be the case that, in law, the parent would be responsible for children under 16.

50. Mr Weir: Thank you Pat, Michelle and Orlaith, for your presentation.

51. Like other members, I will not follow the example of the Chairperson and Mr Ross and give you a lecture on my views. I want to ask three questions. I have mixed feelings on this. Ultimately, I voted against the Bill, and the main reason for that was my concern over its enforceability. That will be a very big obstacle. This session is almost like a dry run in obtaining evidence. Enforceability will be one of the biggest obstacles that either you or another Member in the future will face.

52. I will ask three questions, but you may not be able to answer all of them. Statistically, what is the estimated percentage of cyclists who, at present, wear helmets? Do you have robust figures on that? What is the gap that needs to be closed? Are there figures on that?

53. Mr P Ramsey: I do not have evidence on the numbers of cyclists in Northern Ireland who do not use helmets, and I am not sure that it is readily to hand. I am sure that other organisations might be able to help you with that. In other areas where this law was introduced, careful studies were carried out, and we should get the evidence from those regions on what the situation was there before the legislation was introduced. There might be more definitive figures that could help in the round to accumulate the evidence that is required to form an objective opinion.

54. Mr Weir: When people look at the merits of this, one of the key elements is the impact that it would have, one way or the other. I appreciate what you say in that, if it saves one person's life, it is worth it. However, in law, a balance must be struck on a range of matters. If, at present, 80% of cyclists wear helmets, the impact of a law may be minimal, because most of the remainder will ignore it. We have seen some evidence of people saying, more or less, that they will not be dictated to on this issue.

55. Pat, some of your colleagues may be in a better position to answer this, but do you have any figures for the number of head injuries that occur in Northern Ireland each year as a direct result of cycling accidents?



56. Mr P Ramsey: I have tabled a number of questions to the Health Minister about that, and they are on the record now. I used some of the figures in the Second Stage debate, and I am sure that you read the Hansard report of that. However, I do not have those with me now. The issue of enforceability is important, and it has exercised me and the Bill Office in bringing this forward. In the 1960s, the same age-old arguments were made about seat belts, and you, Alastair and the Chairperson were probably among those who made such arguments.

57. Mr Weir: We are not all your age, Pat.

58. Mr P Ramsey: I accept that.

59. However, the same arguments were being made then about how this is a nanny state and how the legislation will not have an effect. Some people wore their seat belts anyway, but others said that they did not care what was brought forward because they would not wear one. I heard that, too. I understand the fears of those who cycle for leisure. However, at some stage, we have to take this fundamental decision, because there will have to be impact on and a reduction in the number of injuries. The figures that I gave for the number of people who have lost their lives or who have been seriously injured on the roads are clear. For every Orlaith or Sinead, there are dozens of others in Northern Ireland.

60. I am always prepared to look at different levels of enforceability. I do not want a police officer who was going to the assistance of an old woman whose home has been broken into or a shop that has been robbed having to run after a wean on a bike. That was never the case; it was always my intention that a police officer would have discretion to act. Would the legislation in itself be a deterrent? Would people be forced to change their habits if educational programmes and school- and community-based activities were available showing them how to? Although I accept Alastair's argument about enforceability, it would have taken a greater length of time and would have meant a change in mindsets.

61. Mr Weir: The evidence elsewhere seems to show that the different jurisdictions that have adopted something of that nature have taken either one of two different routes. Some jurisdictions have made wearing helmets more or less compulsory for everyone who cycles, whereas other jurisdictions have focused purely on children. I suppose that some started off with taking the initial step of focusing on children and then moved on.

62. You indicated that you did not want to go down that route, because you felt that it may be unfair if mummy and daddy did not have to wear their helmets but their children did. However, given that a child has less cognisance of road safety awareness and that adults are, quite clearly, in a position to make a rational decision and can stand over that, some argue that there is a distinction between a child who is probably not in a position to make a full decision and an adult who can clearly take responsibility for themselves in deciding to wear a helmet. How do you deal with that sort of consideration? There may need to be an examination of the potential of having the legislation for children only. However, adults are generally big enough and ugly enough to make up their own minds.

63. Mr P Ramsey: I thank Peter for his very reasonable question. For the record, I am open to making the legislation about children only. If the Bill were to proceed, I would respond appropriately by either proposing such an amendment myself or by supporting a Committee amendment. I take on board the reasonable and rational concerns that you rightly laid out, Peter. I am open to that.

64. Mr Dallat: Chairperson, you mentioned your party's position. I think that it is important that the visitors know that we seldom, if ever, mention party politics at Committee meetings. It would

maybe be wrong for people to go away with the impression that party politics dominates the Committee. I have to say that it does not.

65. It is very brave of Michelle and Orlaith to come here this morning. One thing that we sadly lack in Committees is the opportunity to meet at first hand people who have had personal experience of something as bad as Michelle and Orlaith suffered. While sitting here, my mind was wandering, and I can vividly see my own son Ronan riding past the house, down a bit of a hill, waving in at us, and going over the handlebar — I am sorry, I think I am upsetting Orlaith. He went off to the doctor, the doctor put the stitches in, and we were told to not let him sleep for a few hours. Why continue to live in that type of society? Why not change it? There is an expectation among the public — presumably that is why Michelle is here — that, because we have a local Assembly, we are not bound entirely by what might happen in some other selected part of the world where that law does not apply.

66. I will stop talking about my own family shortly. However, I have a niece called Clare who ranks among the top cyclists in the world. I am extremely proud of that. She lives in Australia, and she has a profile on Facebook. I asked her about this issue. She comes originally from Aghadowey, so she is fairly local. She cannot believe that we are having a debate on whether children — in fact, anybody — should wear helmets.

67. I know that Pat was encouraged not to give a history lesson. However, one of the advantages for anyone who has been about for a while is that they have seen these processes before. I remember ads on television that encouraged us to drink sensibly. Who in the name of God would not subscribe to that today? It was worse than that; the ad was financed by a wine company. I see the Committee Clerk laughing at that, but older people will remember that. It was Stewarts Wine or something. My adolescence was spent around a garage, and I can remember the great innovation of anchorage points being fitted for seat belts. However, there were no seat belts. Then, for years and years, there were seat belts, but nobody wore them. Then, when the law on seat belts came in, a few fundamentalists initially said that our human rights had been taken away. Would anybody in their right mind even think of driving without a seat belt today? Would anybody ever bum any more about not remembering driving the car home? I do not think so. I know that that is history, but this situation falls into the same category.

68. Public opinion is changing. To encourage me into a healthier lifestyle, my wife bought me a bicycle, and the helmet was part of the deal. I am not allowed to go out without a helmet. I am old-fashioned, and it would be easier for me to wear that helmet if a law says that I must. I would maybe then feel less embarrassed in the same way as, initially, I maybe felt like a bit of a pansy for wearing a seat belt. I am embarrassed to say that today, because we are all well enlightened. However, anybody who has spent time in the Royal Victoria Hospital, which, unfortunately, I have had to, would do anything to keep anybody out of the ward where the surgeons work 24 hours a day in teams of 11 or 12 trying to save the lives of people with brain damage.

69. I do not have much more to say about this. I am not supporting the Bill only because Pat Ramsey belongs to the same party as me. I was not even going to mention that. However, as this mandate comes to an end, I would have been as proud as punch if the Bill had gone through. If it had, I could have said that we are different here in Northern Ireland.

70. We are not subservient to what happens elsewhere; we are not bothered if people think that we are a nanny state. I do not think that everything is lost. I do not want to go back to the history lesson, but the process has moved forward, and I do not think that anything will stop it. I want to say to Orlaith in particular that her suffering and experience have not been lost. The debate has taken place in the Assembly, we have had our discussion today, and sometime —

hopefully sooner rather than later — there will be a law that people will respect, adhere to, and be amenable to if they are caught wanting. We can leave it at that.

71. I want to have a tongue-wag later with other people here about their approach. I feel passionately about the matter. Those of us who are parents want to do everything humanly possible to protect our children. That is what the Assembly is for. Perhaps we should look at it through eyes of a child to get the answers. I certainly believe that I have the answers.

72. Mr Ross: I know that Mr Clarke wants to come in, but can I make one quick comment? We need to keep a sense of perspective. It is not fair to compare it with the laws that have been passed on drink-driving. Drunk drivers not only hurt themselves; they can kill other road users. I do not think that seatbelts are a fair comparison. We are talking about a car travelling at up to 100 mph, which is a severe risk not only to the driver but to other people. Cycling is a relatively low-risk pastime; it is not fair to compare driving a car with riding a bicycle. Is it fair to introduce legislation that would make the wearing of cycle helmets compulsory based on the comparison with seat belts or drink-driving? It is not a fair comparison.

73. Mr Dallat: I will make my point in 30 seconds or less. If I were driving a car and a child rode out in front of me, I would rather have that child wearing a helmet than not wearing one. Some motorists have been in that situation and have killed a child, and they have to live with that for the rest of their lives.

74. The Chairperson: Just for clarification, it is seldom that I bring party politics into —

75. Mr Dallat: I know, but you did. [Laughter.]

76. The Chairperson: I only said that because I did not want to mislead you. There is no point in my giving the impression that I will support the legislation. I have spoken clearly on the matter. I do not want you to think that Sinn Féin are the bad guys with regard to the legislation; we want to bring something forward. I cannot remember the advertisement — was there electricity in the days that John was talking about? It may have been before my time. [Laughter.] I want to clarify that point; I know that John mentioned it, but it is not about Sinn Féin or anything else. I did not support the legislation, but we are here. I said, Pat, that I would give you the opportunity to come to the Committee.

77. Before we move to the next member, I want to say that I will not be as liberal with my time to those who make presentations later. I gave the member more time than was expected.

78. Mr W Clarke: Orlaith and Michelle, thank you for your contribution. Orlaith, you have been very brave today, and I wish you well in your recovery.

79. I commend Pat for introducing the Bill. He has raised awareness and by introducing the Bill has probably already saved children from serious injury. He has lifted the issue to a different level: it has been discussed and has received the attention of the media through the debates in the Assembly.

80. I want to pick up on the Chairperson's point about the legislation and whether it should be compulsory to buy a helmet when a bicycle is purchased. It should be the same for skateboarding and roller-skating. A way forward on that would be very welcome. If the helmet is there, there is an onus to ensure that a child wears it.

81. Mr Weir: John Dallat will feel a lot better when he is out skateboarding if he is wearing his helmet.

82. Mr Dallat: I can hardly walk, never mind skateboard. [Laughter.]

83. Mr W Clarke: I see the rationale behind children wearing helmets. My seven-year-old daughter insists on wearing her helmet; it is pink and she loves it. We need to make it fashionable and cool to wear cycle helmets. My difficulty is with older citizens. There are 80-year-olds who have cycled all their lives wearing a flat cap; they will tell us to go to hell if we try to get them to wear cycling helmets. We have those characters in every town, and they will tell us to take a running jump if we tell them to wear a helmet.

84. The Chairperson: There are some of them on this Committee by the sound of things. [Laughter.]

85. Mr W Clarke: We might have to take such people to court, and that would attract negative media attention. Pat, will you expand on your thoughts about making the purchase of cycle helmets compulsory when purchasing bicycles?

86. Mr P Ramsey: That would require a different form of legislation. Perhaps, as the Committee scrutinises the Bill, it could make recommendations, one of which would be to ensure that manufacturers or retailers of bicycles include helmets as part of a sale.

87. Willie, some of my friends who are of a similar age gave me a roasting over the Bill and asked how I dare introduce it. I accept that, and that is why in my response to Peter Weir I made it clear that, in the absence of anything else, I would have looked seriously at amending my own Bill so that it would apply only to children. I do not think that there is an appetite in the wider community to apply it to adults.

88. Passing the legislation would have been accompanied by a period of communication with the public. As Willie pointed out, discussions would have taken place, and we already created the awareness of the issue. People, particularly parents, would have understood that the state takes the issue seriously, and we would have encouraged them, as best we could, to take it just as seriously. The Bill would have required a major cultural change in the habitual wearing of cycling helmets.

89. I support cycling, safer roads, cycle paths and, in particular, properly constructed routes away from main roads. I want to see an increase in cycling and a reduction in the use of private transport, and I find it difficult to believe that people would use a car to travel to work instead of cycling because they must wear a helmet. I fundamentally believe, after listening to parents and children such as Orlaith, that accidents will continue to happen unless there is change. As other Members said, we are a legislative Assembly and it is important that we make that difference. We would have made a difference through the Bill, and I assure the Chairperson that, if I am returned in the next mandate, I will pursue the matter again.

90. The Chairperson: Pat, Michelle and, in particular, Orlaith, thank you for coming along. Pat, I want to respond to what you said. You referred to the danger of children in housing developments and on roads cycling without helmets, and you raised awareness in the Assembly of the issue. You have committed to taking the issue forward in the next mandate. The Committee would like an awareness and education programme to continue, and that will form part of our report. I do not think that any Committee member would oppose that.

91. As I said, however, enforcement is a major problem for the Committee. It is not just the problem of enforcing it on the open road; it would also need to be enforced on kids who are cycling without helmets in housing developments. Thank you again.

92. The Committee will now move on. As I said, we will not afford the same time to the other witnesses as we did to a fellow MLA. The next item on the agenda is a presentation from Headway NI, and I welcome Peter McCabe, chief executive, and Johny Turnbull, regional co-ordinator. You will have five to 10 minutes to make a presentation, after which I will open it up to members for questions.

93. Mr Peter McCabe (Headway NI): Chairperson, I thank you and the Committee for giving us the opportunity to present to you on this issue. As some of you may know, Headway is a charity that works to improve life after brain injury; we also campaign to reduce the prevalence of brain injury. We have a network of groups and branches, including six in Northern Ireland. Some of you may have come into contact with them in your constituencies.

94. We support the Bill and request that the Committee support the compulsory wearing of cycle helmets for cyclists in Northern Ireland. All cyclists should wear helmets, especially vulnerable road users such as children, who do not possess the maturity or judgement to assess risks. The evidence is clear: cycle helmets save lives and prevent lifelong disability; that has been demonstrated by numerous peer reviews published in scientific studies. As Pat said, that view is shared by the World Health Organization, the British Medical Association, the Association of Paediatric Emergency Medicine and doctors and neurosurgeons across the country.

95. At Headway, we know at first-hand the devastating effects of brain injury: they can cause blindness and physical disability; they can be cognitive and impair memory, the ability to plan, process thought and execute plans; they can also be behavioural: damage to frontal-lobe function can cause lack of control over executive function and lead to disinhibition, which creates major problems for people and their families. Several Headway service users sustained their head injury through cycle accidents; they face spending the rest of their lives dealing with the consequences. It affects not just the survivor but the family. In a sense, the statistics are meaningless to those people. They know, and doctors have told them, that their injuries could have been avoided if they had been wearing a helmet.

96. I do not want people to think that Headway thinks that cycling is unsafe; we know that it is safe. I am a cyclist. However, I never cycle — even to the shops or in the cul-de-sac where I live — without a helmet because I have seen too many families who have suffered the consequences of cycling without a helmet. I have had the privilege of being present during neurosurgery. One of the things that the neurosurgeon pointed out was just how thin the skull is, particularly at the sides and back and how easy it is to sustain an injury that will either end your life or change it for the rest of your days.

97. We have seen Orlaith and Michelle, and I believe that your packs contain the story of Sinéad King, who fell off her Barbie bike at the age of six. Thank God she has made a good recovery, but she had 13 operations between the ages of six and 20. She is now completing her teacher training; she is one of the fortunate ones. Sadly, there are people who do not do so well. I know a family whose son, at the age of 10, sustained an injury on a bike. He is now 31. His parents should be looking forward to the things that middle-aged parents do when their children are grown up and off their hands, but they cannot. They spend every day looking after Chris. They do not take him to and from work — he will never work — but to a place where he spends his days trying to do something useful. His life is very different from the one that his parents imagined. People are right that there are only a few accidents; however, preventing one death or disability is a prize worth having.

98. I recently met Olympic gold medal winner James Cracknell; he sustained a head injury last summer while cycling across the United States in a challenge event. His helmet split in two when a truck's wing mirror struck the back of his head as it passed him in the Arizona desert at 5.00 in the morning. His doctors told him that, without doubt, he would not be alive had he not been

wearing a helmet. If you asked him whether this debate is worthwhile, you would get a very clear answer.

99. The evidence is clear. Pat referred to the Cochrane reviews, copies of which I have brought for the Committee. It demonstrates beyond doubt that cycle helmets have a major effect. Moreover, a report from the Transport Research Laboratory concluded, as Pat mentioned, that cycle helmets are effective in preventing head and brain injuries. That report states that cycle helmets would be expected to be particularly effective for children.

100. Some of you may ask why you should go out on a limb on this issue. That would not be the case: there are cycle helmet laws across the world. They have been introduced in Australia, New Zealand, the United States, Canada, Iceland and Sweden. Research demonstrates that those laws have, without question, significantly reduced the number of cyclists who sustain brain injuries.

101. About a year ago, Jersey became the first British jurisdiction to introduce legislation. Its Transport Minister is drafting legislation to make it compulsory for — I emphasise this — children to wear cycle helmets.

102. The wearing of cycle helmets is mandatory for children in New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania, and the Northern Territory; in the rest of Australia, it is mandatory for all cyclists. You may hear that such legislation has decimated cycling in Australia; however, the Committee should find out the reality for itself and not take the word of people who do not know the facts. I have been in correspondence with Simon O'Brien, the former Transport Minister for Western Australia. He is no woolly minded liberal and represents a state that is known for being hard-headed and for being as far from a nanny state as you could get. I have correspondence from Mr O'Brien that states that legislation has worked in Western Australia and that there is no intention of repealing it. He believes that it has been beneficial to citizens. He states that although there was a decline in cycling for a short period, it subsequently picked up and the sales of bicycles in Western Australia have increased significantly over the past few years. It is the same in New Zealand.

103. In the US, 22 states with a combined population of more than 160 million have passed cycle helmet legislation. Again, they are not necessarily the woolly minded liberal states that you might expect. Yes, Massachusetts is one of them, but the list also includes states that have never elected liberal representatives and never will. Those states span the political spectrum.

104. Headway is not anti-cyclist; it just wants to make cyclists safer. We know exactly how devastating brain injuries can be, so we want to avoid them. Some say that fewer people will cycle; however, I refer you to the experience of Western Australia. I have a letter from Simon O'Brien describing exactly what happened, which I am happy to provide.

105. Some people refer to the nanny state. We heard exactly the same arguments about seatbelts. We heard that people had the right to make their own decisions; that they are adults and that the state should not tell them what to do. However, no right-minded person would now say that that legislation has not saved lives and prevented disability. Interestingly, the same arguments were made when motorcyclists were forced to wear helmets. Many motorcyclists explained that they liked the feel of the breeze blowing through their hair as they rode along, but they too had to comply with the law. We never see motorcyclists without helmets. The law has saved lives and prevented disability.

106. Some members raised the issue of enforcement. I have spoken to people in the state of California where legislation exists to make it compulsory for all cyclists up to the age of 18 to wear helmets. I spoke to a senior police officer there, who told me that it has not been a

problem. He said that it is not their number-one priority for policing, but they exercise common sense, judgement and discretion and that officers are more inclined to give a word of friendly advice than to start the process of prosecution. He also said that people in California generally respect the law. I think that that is true of the people of Northern Ireland.

107. Some people asked what percentage of cyclists wear helmets. I looked that up while I was waiting, and the study that I referred to from the Transport Research Laboratory — which I think deals with the UK, but it is as good as I have got — stated that 34% of cyclists wear helmets on major roads and 17% on minor roads. There is still a long way to go as a great many people do not wear helmets.

108. We have heard that the cost of implementation will be high. I refer to California: they do not spend a great deal of time and money enforcing the law because people respect it. One can look at the costs to society. Sinéad King has had 13 operations since her initial neurosurgery; how much has that cost?

109. I have visited units where the annual cost of care for someone who suffered a severe brain injury in a road accident is £200,000. Survivors of brain injury often incur the injury in their early years when they are children, teenagers or young adults, but their life expectancy is the same as yours or mine. Multiply the cost of caring for one person at £200,000 per year by their life expectancy and you can see why, when the courts make awards in road-traffic accidents where people have been disabled as a consequence of someone's negligence, the awards can be from £8 million to £10 million. If somebody does not have insurance and a compensation claim, that cost falls on the state. The question of cost has to be addressed from the other end. The question has to be posed: can the state afford to continue to let young people suffer unnecessary injury and fund their care for the rest of their days?

110. The cost of helmets was mentioned. A wise man once said to me not very long ago that a way of tackling the issue could be for helmets to be part of the package: if a young person buys a bike, the retailer would be required to provide that essential piece of safety equipment as part of the deal. The person who first suggested that is very wise indeed. At some point, an amendment or some other legislation should be introduced to make that happen. That would make a difference.

111. People in Denmark and the Netherlands do not cycle in the numbers that they do because they do not have to wear helmets but because those countries have invested significantly in making cycling safer, by providing safe routes, safe cycling paths and so on.

112. We see far too much misery and too many families having to deal with awful situations. You have heard from just one of those families today, but there are many more. We want to stop that happening to other families. Thank you for listening.

113. The Chairperson: Thank you very much for your presentation. Johnny, would you like to make a quick comment?

114. Mr Johnny Turnbull (Headway NI): Between 2005 and 2010, more than 300 children and 100 adults presented to hospitals across Northern Ireland with head injuries caused by coming off their bicycles. Those figures may not be staggering, but they show that more than 500 people have been affected by a cycling accident, and some of them will have incurred a severe brain or head injury. As Peter said, that requires a further resource from our health and social care services.

115. Last summer, six children presented to the Royal Victoria Hospital and the regional acquired brain injury unit in Belfast. That is six families that require support both medically and through

the voluntary and statutory sectors. That is an ongoing process, and one of those families is Michelle and Orlaith's. That is a snapshot of six families affected over the summer period, and there may be others that we are not aware of.

116. Highlighting the need for protective headgear and passing this Bill would be a fantastic achievement for the Assembly and the community.

117. The Chairperson: Are you saying that all those people were not wearing helmets?

118. Mr Turnbull: We do not have evidence that they were or were not wearing helmets, but they presented to A&E with cycling injuries.

119. The Chairperson: Thank you very much for your presentation.

120. I take on board what you said, Peter, but there are other ways of doing this. It is not appropriate to introduce legislation to enforce something that is not a priority, and you referred to California in that context. For someone to say that it is enforceable but not top of their list does not make sense.

121. A better approach is going into schools to talk to children. I know that the Member is genuine in introducing the Bill, and we understand what he is trying to achieve. However, let us go back to how I think we could achieve that, bearing in mind what you said about enforcement in other countries. There is a better way through education, going into schools and raising awareness. I suggested in the Chamber that it should be compulsory to give out a helmet with every bicycle sold. That is the major way to go.

122. You talked about enforcement. Money would be better spent in schools on education, and much is already being done. Everybody thinks that we are talking about kids on main roads. I am talking about children; that is my main concern. I know that other members mentioned older people in flat caps cycling to the shops. That is up to them; it is their responsibility.

123. To be honest: it comes down to responsibility. There is a responsibility on us all collectively and on parents. We should take it into the schools. Everybody, particularly parents, should have a role and responsibility.

124. It is an issue in housing estates mostly. I do not want to belittle the situation but, when the Bill was first presented, I thought of PSNI cars driving into housing estates and enforcing the law on children who are not wearing helmets while jumping on kerbs on their BMXs. I do not think that that would be a sensible approach. As I said to Pat, I would work along the lines of having an education system and making children more aware through programmes in school as opposed to going down the route of a stick approach.

125. Johny, you gave figures for the amount of injuries. We, as a Committee, do not want accidents to occur. We want to cut the figures to zero if we can. We need to look at education and increasing awareness, particularly among children, as opposed to the stick approach.

126. Mr Ross: It is a worrying development, but, again, I find myself in total agreement with the Chairperson.

127. The Chairperson: Will someone please record that comment? It comes at the second last meeting of the four-year term.

128. Mr Weir: To be fair: I doubt whether either of you will put that in your election literature.



129. Mr Ross: It was a bit disingenuous for Peter to claim that people are saying that lots of people in the Netherlands and Denmark cycle because they do not have to wear cycle helmets. That is not the point that I made, and I do not think that anyone is making that point. The point is that there is no requirement to wear a cycle helmet in the Netherlands and Denmark, yet the number of casualties and accidents caused by cyclists there is very low. The fact that there are fewer accidents in those countries is linked to driver attitude and awareness rather than the existence of any legislation. That is the important point that I made. It has nothing to do with what you suggested, Peter. I was also disappointed that you drew a comparison with wearing helmets on motorbikes, seat belts in cars, and so on. I do not think that that is a fair comparison.

130. That having been said, no one on the Committee is questioning the impact of head injuries, nor, as I said, is anyone questioning that responsible people should wear helmets and that responsible parents should ensure that their children wear helmets, knee pads or whatever else is important. That is a given.

131. You said in your presentation that very few accidents occur. Therefore, if we, as an Assembly and a Committee, are to be responsible, we have to look at whether legislation is a proportionate response, particularly given the issues that we, and other groups, have identified in respect of the difficulties with, and desirability of, enforcement of the legislation. There is quite a lot of evidence that, in places where the wearing of seat belts is compulsory, the law is simply ignored by enforcement agencies or individuals. That also has to be borne in mind.

132. Why have you decided that the legislative route is the right way to go? Why have you decided that it would be better to put the resources, energy and all the rest into creating legislation rather than into building an awareness campaign into the road safety strategy? In some of the areas in which legislation has been introduced, there was a drop-off in cycling for a short period, but it maybe balances out over time. The reason why a lot more people wear helmets when legislation is introduced is not necessarily the law itself but the awareness campaign that surrounds it. I think that an awareness campaign, rather than legislation, would be a sensible first step. I would appreciate some comments on that.

133. Mr McCabe: Chair, you asked what is the point of a law that is not enforced. The very simple answer is that, in countries that have introduced legislation, the numbers of people who are treated for head injuries in A&E departments and neuro departments has fallen significantly. Therefore, the point is to save lives and prevent disability.

134. The Chairperson: I am talking about bringing something forward in legislation. There is a better way to educate. Mr Ross mentioned road safety, and that is the way to go. It is not acceptable to say that there is a power but it is not being used. It is like a big stick: you wear a helmet or you do not. This is about education and making people aware of their responsibilities as opposed to the other way. It should be more about incentivising rather than using a stick. That is how we usually deal with legislation. You spoke about California, and this issue not being a priority on the list. What, then, is the point of going through that process? I think there is a better way to go about this piece of work, especially for young people.

135. Mr McCabe: To respond to Mr Ross's questions: it is not a question of having only legislation or education; it should be both. I would be happy to organise a programme of education in schools in Northern Ireland, and we would be delighted if the Committee supported funding for that. We could take head injury survivors into schools and nothing would make people sit up and take notice more than seeing somebody who had been through what we were describing. Maybe we can discuss that.

136. I do not believe that the law is ignored in those jurisdictions. The statistics for helmet wearing after legislation has been introduced show a huge increase from the very low levels that we have here up to very high levels because, generally speaking, people respect the law. People know there is a law whether or not somebody is chasing them round a housing estate.

137. I often hear parents say that a law would help them because they say to their kids, "We want you to put your helmet on." The kids then say, "It's not cool and not what all my mates do." If the parents can say, "But it is the law and you will do it", and the child asks, "Why do I have to wear a helmet?", the parent can reply, "Because that is the law and we respect the law in this house." How many parents have had the why-do-I-have-to-do-this question?

138. The Chairperson: Mr Dallat, you want to come in no doubt on that point.

139. Mr Dallat: I do not know, Chairman, why you use the term "no doubt". I know that you are in a difficult position trying to remain impartial in this discussion but —

140. The Chairperson: I am being impartial, I am trying to bring a wee bit of common sense to what we are trying to achieve.

141. Mr Dallat: I will not rise to that one.

142. The Chairperson: Just before Mr Dallat speaks, I will be honest: making the comparison between what we are discussing with seat belts, cars, being able to drive down the road at 100 mph and the idea of motorbikes and helmets should not be reflected in that respect.

143. Mr Dallat: We have a small window of opportunity to put our case —

144. The Chairperson: I agree, and I think there is another way.

145. Mr Dallat: It is unfair to punctuate it with terms such as that. Anyway, we will not fall out over it.

146. Am I right in assuming that the vast majority of injuries to children happen on housing estates within a very short distance of where they live?

147. Mr McCabe: I do not know whether there are statistics that show how far away from home accidents take place. However, we heard Michelle say that Orlaith's accident took place very close to home. Sinead's accident took place very close to her home in Newry. That is what I hear anecdotally.

148. Mr Dallat: Sorry for cutting across you, Peter. I know that you cannot have all the information in your mind, but perhaps I should have declared that I am a former teacher of traffic studies and I know that the vast majority of accidents happen within a very short distance from home. The case made about children in their wee housing estate not having to wear helmets is wrong. That is where the risk is highest.

149. The Chairman talked about the armoured PSNI vehicle driving into an estate. We are getting to a normal society with community police officers in most parts of the North, thank God. Hopefully, that will continue. If there is legislation, it would make it a lot easier for a community police officer to tell a young person to wear their headgear because it is the law. If the law does not exist, that is a lot more difficult.

150. We have heard about education before, and we could apply the education concept to everything in life, but would any society rely on that? My local primary school comes top all the time in cycling proficiency tests and so on, and they all wear their headgear, but the trouble is that, when they go home in the evening, the same emphasis is not attached to the wearing of headgear. I think that is what Michelle and Orlaith were saying earlier.

151. People have talked about a nanny state, but thankfully, we are not a police state either. There will not be a situation where a police officer will bound out of a car with a notebook shouting, "You are caught and you are for court." It is not going to be that way.

152. The Chairperson: You would be lucky to find a policeman in some areas, never mind find one bounding out of a car. Anyway, we will definitely go down that route today. Is that you finished Mr Dallat?

153. Mr Dallat: We will keep routes out of it.

154. The Chairperson: Mr Clarke, would you like to come in on that? You mentioned your daughter.

155. Mr W Clarke: Yes. I am very proud to do so.

156. Following what John said, and as I said to the previous witnesses, the biggest issue is raising awareness. Bringing the Bill forward has achieved that, and that is why we are talking about it today. The subject of housing estates has been touched on. There is a greater public responsibility there, because, as has been said, the majority of accidents on housing estates are caused by residents of those estates. The majority of people who would be on the estate are from there, so they have that responsibility. Even if there is a non-enforced 20 mph speed limit, residents should be conscious that there are children at play in the area.

157. I also said that the voluntary route is the best. To bring legislation where the helmet comes with the bicycle may mean that government has to subsidise that so the helmet can be given free, and we would need to look at the resources that would involve.

158. Mr McCabe: Can I quote you on that?

159. Mr W Clarke: We could probably spend more on enforcement than on providing a subsidised helmet. To cut the VAT on helmets to nothing in order to make them as cheap as possible is probably a very important thing to do. Also, as I said, to make it a fashion accessory and cool to wear one would be a good job of work. Obviously, we would need role models to do that, be it pop stars, footballers or whatever. We need to be able to make it fashionable, and for young children to look up to their role model and think that that is the thing to do and that they need to be like those people. That is where I see the situation, and I think Pat is willing to look at that as well. He has acknowledged that we need to target young people, they are the target audience.

160. Those are my broad comments. I did not take part in the debate in the Chamber, but I am encouraged by the awareness that the Bill has already raised. However, I think we need to go along the lines of people getting a helmet when purchasing a bike, awareness and look at making it popular to wear one.

161. The Chairperson: You can read my comments on the Bill in the Hansard report of the debate. That is where I am coming from about purchasing helmets.

162. Mr Buchanan: Many good comments have been made today. We can bring forward reams upon reams of legislation, but it will still not change the situation. There is a responsibility that has to be adhered to by all sections of society. No matter how much legislation we bring, it will not do anything. You get most resistance from a young person when you try to enforce something on them. It is best to look at a different way of trying to deal with this particular matter.

163. As John Dallat said earlier, we have cycling proficiency tests at schools. That is one way, and there are many other ways of looking at it. Therefore, it really is an educational matter, and we should educate children that they really need to wear helmets for their own safety. I think that is the way forward rather than seeking to enforce something on people. If we enforce something like that on elderly people in particular, they will turn away from it, as will younger children. There is a much better way of going about it, and that is the way we should go.

164. The Chairperson: Are there any more comments?

165. Mr McCabe: I think that we have explored it fully. Thank you, Chairperson and members of the Committee.

166. The Chairperson: Thank you.

167. We will now receive a joint presentation from the Cyclists' Touring Club (CTC) and Sustrans. I welcome Steven Patterson, director of Sustrans; Roger Geffen, policy manager of CTC; Derek Armstrong from Bikedock; and Darren Boyle, manager of the 'da' Young Fathers Project. You have attended different Assembly Committees, so you know the process. I have two presentations left. I will try to allot as much time as I can, but you should try to keep to the point, and I will open it up to members for questions.

168. Mr Steven Patterson (Cyclists' Touring Club/Sustrans): I thank the Committee for taking the time to come to see us today. I appreciate the distance that members have travelled from all arts and parts. I know that you were busy dealing with the Budget until late in the evening yesterday. So, I appreciate that a lot of work has gone into researching the issue over the past couple of months. Chairman, approximately how much time do we have in which to make a presentation?

169. The Chairperson: It is normally five minutes to 10 minutes. I know that I allowed Mr Ramsey some time, but I want you to specifically stick to the proposals in the Bill and to the key points, after which I will open up the session for questions. We have another presentation and then some legislation to deal with, and I know that members need to get away. We are trying to balance it out, but I will watch the clock.

170. Mr Patterson: That is a nice balanced approach. If it is all right, the four of us want to speak for a couple of minutes each. We will try to keep to the 10 minutes, because we each come to it from a slightly different angle. I will introduce the team. I am the regional director of Sustrans. I am accompanied by Roger Geffen, CTC policy and campaigns director, Derek Armstrong from Bikedock and Darren Boyle from the 'da' Young Fathers Project in the city of Derry/Londonderry.

171. The Committee has our paper. CTC and Sustrans object to all 17 clauses of the Bill. We also object to its principle. We came into the discussion quite late in the process. Mr Ramsey did not include us in his consultation process, so we heard about that only informally and got about a week's notice in advance of the Monday night committee. So, excuse us if we are fairly new to the process and want to talk about the principle of the Bill as well as the clauses. As we pointed out, that is the gist of the letter that we sent to the Committee a week ago.

172. There are five main reasons that we feel point to the Bill being a bad piece of legislation. We are not in any way anti-cycle helmet; we merely think that it should be a personal choice for young people or a parental choice. We are here today to discuss the principle and whether it should be a compulsory law. The first reason is that we think that the Bill will deter people from cycling and will result in a disbenefit to the economy, health and tourism. Northern Ireland has come quite far in the past 15 years in the development of sustainable travel. Cycling has done well, particularly in areas where there has been a focus on good infrastructure and good marketing campaigns. In the greater Belfast area, cycling has increased by 145% in the past 10 years. We worry that imposing a requirement to wear a cycle helmet, or even actively promoting that, will lead to a significant reduction in cycling. A study from New Zealand shows that 47,000 teenagers stopped cycling in the immediate aftermath of helmet legislation coming in there in 1994.

173. Secondly, we think that this law is disproportionate to what is a relatively safe activity. I extend sympathy to any parent or child who has been involved in a bicycle accident that has resulted in any injury. I extend that sympathy particularly to Orlaith and her mother, who are here today and from whom it was useful to hear. However, as some Committee members alluded to, the implementation of laws or decisions on them should be based on a population-wide evidence base rather than on some individual case studies. We are glad that the Committee has recognised that. Cycling is a relatively low-risk activity. Among young people, cycling is the second most common form of physical activity, yet only 6% of head injuries that young people sustain come from cycling. The other 94% of head injuries that young people sustain come from other forms of activity. Making helmet use compulsory is therefore disproportionate.

174. Thirdly, there was a lot of talk about enforcement. We believe that the law would be difficult to enforce and that there are other issues for priority in the Police Service of Northern Ireland's budget. Darren will speak about the view that communities might prefer the police to work with them on other matters.

175. A number of questions were raised on enforcement, and two or three people discussed a quotation from the Cochrane review. The review looked at four studies on where helmet use has been made compulsory. It states:

"Many jurisdictions with helmet legislation impose monetary fines for non-compliance. Unfortunately, there was insufficient evidence available to determine the level at which legislation was enforced in four of the included studies. The study conducted in rural Georgia, however, clearly demonstrates the importance of police enforcement. Prior to the enforcement program, the existing helmet legislation had a negligible effect on actual helmet use with no children observed using a bicycle helmet despite the pre-existing law. The positive effect of the enforcement program in which police were instructed to impound the bicycle of non-helmeted child cyclists was still discernible two years later".

176. The point is that the legislation will have to be rigorously enforced for it to work. The question then is: is that what the police should be doing? I apologise that that quotation is not in our paper submission, but we will include it in our submission for Monday.

177. Fourthly, the law would have a disproportionate impact on socially deprived children. It would apply more to children in those areas than to children in more affluent areas. I will give one example of that. For a number of years, Sustrans has been working with schools to promote cycling in Northern Ireland. Under a recent project called the Bike It project, we go in and empower kids to cycle. We motivate them, and a high-quality cycle training programme is also included in that. One of the conditions of government funding is that the children have to wear helmets when partaking in the cycling programme in the playground. If they do not have a

helmet, we supply it. We found that, at an affluent, middle-class school in Newtownabbey, almost 100% of the kids came to the event with cycle helmets.

178. At a school in a poor housing estate in Belfast, 86 kids turned up on their bikes. We were delighted at that, because there is not a cycling culture there. Only five of them had helmets. Therefore, the Bill will have a disproportionately large effect on socially deprived communities, as well as on ethnic workers. Chinese and Polish people tend not to wear helmets.

179. I am delighted that the Committee is looking at alternatives as to how to encourage child safety and promote lifestyle physical activity. We have outlined the alternatives in our paper. We think that they all have to happen together. One of the things that has come up is how we work with young people. The debate is actually now focused on young people. The quality of cycle training is important. In Northern Ireland, it is basically playground-based cycle training. The new English model has recently been extended to Scotland and Wales. It is the Bikeability model, which includes an on-road element as well as a playground-based one. That may be something that we can explore later. That is the way to go, and the Ipsos MORI poll that independently advised it came out with the very strong figure that 87% of adults felt that their child was safer on the road. Half of the adults polled said their child was cycling more after that. Those are the five main points.

180. As I said before, we came to the discussion quite recently. We have been consulting with our supporters. We represent 40,000 supporters and the CTC has 67,000 supporters. We do not claim to represent all cyclists. We set up a petition linked to the issue last Tuesday. We had 1,400 sign-ups by last night, and today, I have just heard, that has increased to 1,650. Of those, 70% are from Northern Ireland, so we have already 1,200 people from Northern Ireland petitioning against the Bill.

181. We have just handed out an additional paper. We asked people to put comments on the website, and some of those comments reflect the public attitude to the Bill.

182. The Chairperson: I am mindful of the fact that that took over 10 minutes. I must ask Roger not to go over the same points. I will give you an opportunity to speak, Roger, but, unfortunately, you have found yourself last on the list.

183. Mr Roger Geffen (Cyclists' Touring Club/Sustrans): I will avoid duplication. I thank the Committee for inviting us to give evidence. I will give some facts and figures to amplify the points that Steve has made.

184. Cycling is an enormously healthy activity. Cycling in mid-adulthood gives one a level of fitness equivalent to being 10 years younger and a life expectancy of about two years above the average. That is a huge health benefit. By contrast, cycling is not a particularly risky activity. That point has been made. A person is less likely to be killed in a mile of cycling than in a mile of walking. As has already been mentioned, cycling accounts for 6% of children's injuries, whereas pedestrian injuries count for something between 35% and 40% and those of vehicle occupants for another substantial proportion. The following question needs to be raised: on what basis are we trying to legislate for helmet use for cycling when no one would even dream of saying that we should be encouraged to use helmets for all the other things that also cause head injuries. We have to get things in proportion.

185. Thanks to those extra life-years that I mentioned, the health benefits of cycling outweigh the risks involved by 20:1. That estimate is endorsed by the UK Department for Transport. Based simply on that ratio, it has been shown that we cannot achieve a public health benefit from a helmet law if we have more than a tiny reduction in cycle use. Even if helmets were 100% effective at preventing cyclists' injuries — all injuries, not just head injuries — we could not

afford to lose more than one unit of cycle use for every 20 units that remain. Therefore, a 4% reduction in cycle use would mean that we had a negative health impact, regardless of the benefits of helmets, and those benefits are contested. I am not going to go through that evidence now, but it will be in our full paper.

186. The point here is that the number of cyclist injuries is mercifully low — between zero and two cycle fatalities a year.

187. On that basis, a helmet law would cause far more extra deaths and ill health due to people not —

188. Mr Weir: You said that there are zero to two fatalities a year. Are those the figures for Northern Ireland?

189. Mr Geffen: Yes; I can give you the GB figures as well if you want. In Northern Ireland there have been between zero and two cyclist fatalities in each of the past few years. A helmet law would cause far more extra deaths due to people not cycling, and therefore a helmet law would cause far more damage than helmets could possibly help to prevent, regardless of the debate about their effectiveness. Therefore although we have full sympathy with the promoter of the Bill, we urge the Committee to reject the Bill because it would do far more harm than it could possibly hope to do good.

190. Mr Darren Boyle (Cyclists' Touring Club/Sustrans): Thank you for the opportunity to speak. My name is Darren Boyle, and I am the project co-ordinator of the Da Young Fathers project, which is based in the city. We work with young dads aged 14 to 25 from the Derry, Strabane and Limavady areas to put young fathers on the agenda, get them more involved in the lives of their children and encourage them to take responsibility.

191. We have three services: an advocacy service, for obvious reasons, and another two services directly linked to it. We have a programmes service, which delivers between 45 and 50 programmes a year to young fathers. A big programme that we are to launch in April is a cycling programme, for which we have secured almost £15,000 between Sport NI, Derry City Council and the Western Health and Social Care Trust. We have also established a Handymen Social Economy Service, which involves recycling bikes and promoting a bike maintenance programme to pass on the skills that are no longer passed on from father to son.

192. The young fathers we work with will be directly affected by this legislation, because we have more than 120 young fathers involved, a high proportion of whom are under 18. Our key messages are not just about the financial pressures on them as young people: 44% of our young fathers claim job seeker's allowance, only 6% are in full-time employment and 11% claim disability living allowance; 92% drink alcohol, and 39% started drinking between the ages of 14 and 16. Fifty-eight per cent have no academic qualifications, 30% have been diagnosed with mental-health issues, 30% have been treated for such issues and 30% have felt suicidal. Those percentages do not necessarily represent the same young people.

193. Those young people are so used to taking risks that the wearing of a helmet will simply not enter their psyche. Most of our fathers come from working-class or very disadvantaged backgrounds, and their experiences of, and attitudes to, the police are not what could be expected in a normal society. I hasten to add that we are not in a normal society, although we are getting closer to one. The young men that we deal with do not see our society as a normal one in which the police are acceptable, because 58% of them have been arrested, 39% have been convicted of an offence, 14% are involved in criminal proceedings and two are in jail.

194. Therefore even if the Bill was passed, our young fathers would not see cycling safety as a critical factor in their lives. They may understand that there are safety aspects to consider, but they do not have the money to purchase cycle helmets. They will do everything possible to provide for their children, but the additional expense of buying a helmet at £20 or £25 — the next witness will be able to tell you the exact cost — is far down their list of priorities. If wearing a helmet was made a condition of purchasing a bike, given the number of bikes that are passed on between families or from brothers to sisters, I question the likelihood of a helmet also being passed on. I am not sure that it would work.

195. The Chairperson: I think that he has taken up some of your time, Derek, but we will see how you go.

196. Mr Patterson: One of the interesting things for Derek is how important his cycle programme will be in working with those young people.

197. Mr Derek Armstrong (Cyclists' Touring Club/Sustrans): Thank you for this opportunity. My name is Derek Armstrong, and I run a bicycle retail business in Belfast called Bike Dock; we are one of the largest bike shops in Ireland. I want to begin by saying that I am not against the principle of using helmets; I am very much in favour of it. I spend a great deal of time and money on promoting safe cycling, and that includes the use of helmets.

198. I am here today because I have a real concern that if cycling helmets are made compulsory in Northern Ireland, between 20% and 40% of my bike sales would disappear overnight. That would result in immediate redundancies and, for some smaller retailers, closing down altogether. At a time when retail viability is a growing problem, that would be another burden on society. In New Zealand, when the law was introduced in 1994, cycle trips dropped by 26% and continued to fall until 2006, when they had dropped to 51% below pre-law levels. That would be devastating for Northern Ireland, which has one of the poorest cycling cultures in the world.

199. Compulsory helmet use would also create a stigma suggesting that all — not just some — cycling activities are more dangerous than they really are. Enforcement practicalities and costs would make it unworkable. It would put pressure on community policing in Northern Ireland, because community police officers would be involved in pulling people into line.

200. I have a cycle-hire department that services tourists from countries all over the world that do not have cycle-helmet legislation. If those tourists were told that they had to wear a helmet, they would be deterred from coming, and that would be a serious blow to tourism, North and South. Tourists from Holland arriving in Dublin for a cycle touring holiday around Ireland might be unaware that they were breaking the law when they crossed the border. Prosecution of such tourists would mean very bad international public relations, and that would spread like wildfire.

201. Belfast is planning to install a public bike scheme similar to those in Dublin and Paris. In the first year of that scheme, Dublin experienced an uptake four times greater than expected and has deemed the scheme a positive and significant success for tourism and local businesses alike. There are plans to expand that facility. Compulsory helmet legislation here would make that newly planned scheme a non-starter.

202. There are fewer women cyclists than men in Northern Ireland, but their numbers are growing steadily. Many women do not wear helmets for reasons of vanity; helmet hair is not very attractive. The Bikedock Belles, a ladies' cycling group, has been working hard for years to attract ladies to cycling. Most of that hard work would be wasted, and their future efforts would be in vain. On a point of information, cycle helmets are already VAT-free.



203. In summary, I strongly believe that helmet use in a healthy cycling society should continue to be voluntary and not made compulsory. Thank you for your time.

204. The Chairperson: Thank you very much; we got through that rightly. I will make a few quick points before opening it up for members to ask questions. The report referred to the negative side of enforcement. Will you clarify that point?

205. Mr Patterson: The Cochrane report, which referred to one area in rural Georgia —

206. The Chairperson: It is an example.

207. Mr Patterson: It states that laws to make helmet wearing compulsory are ignored unless the police enforce them by impounding children's bicycles. Only with that level of enforcement does compliance become a reality.

208. Mr Geffen: The question was whether helmet laws necessarily reduce cycle use: the answer is that enforced helmet laws necessarily do. Cycle use remains depressed in places such as New Zealand and the state of Victoria, which issued 19,200 bicycle notices in the first year of the law alone. In places where enforcement has lapsed, cycle use has recovered, but that is because the people who do not wear helmets come back onto the streets. There is a relationship between a helmet law reducing cycle use and whether it is enforced; if it is enforced, it will reduce cycle use.

209. The Chairperson: Therefore the drop in use was dramatic.

210. Mr Geffen: Yes; certainly in the first years of a law when it is enforced rigorously, although if enforcement lapses cycle use might recover. However, in Canada, although cycle use has recovered in states that have helmet laws, the states with no helmet laws have seen a 30% increase, compared with just about recovering in places that have helmet laws, all of which begs the question: what would cycle use have been in states that have helmet laws if those laws had not been passed? Sorry, that was rather convoluted. I hope that it makes sense.

211. Mr D Armstrong: Mr Ramsey said that the DOE's road safety department would be in charge of promoting the policy, with the police enforcing it. There would then be an issue with the priorities given to the ever-diminishing resources of the road safety department, and the Committee will be aware of that as much as us. What it does with its limited resources would have to be considered; there must be alternatives to enforcing compulsory helmet wear.

212. The Chairperson: Derek, what percentage of people buy a helmet along with a bicycle?

213. Mr D Armstrong: Our figures for helmet sales in the past 12 months show that 51% of people who bought a bike bought a helmet with it; three years ago, the figure was 32%, so it is improving all the time. Year-on-year bike sales, however, have gone up by 40%, which shows that cycle culture here is improving. Statistics show that we are in the top five in the world for bike ownership but in the lowest six for usage. We buy bikes only to put them in the garage and leave them there.

214. The Chairperson: There are many garages full of bikes. It is important to encourage people who buy a bicycle to buy a helmet too. We could put pressure on manufacturers to include the cost of a helmet in the price, and, as I said in the Chamber, that is the road that I would like to go down.

215. Mr D Armstrong: Dealing with customers every day, I get the feeling that obliging the average customer to take a helmet with a bike would make him feel that he was being forced to do something. He would probably feel that although he was getting something for nothing it would really be costing him money, because, in life, nothing is free.

216. The Chairperson: Responsible adults should be able to make that decision for themselves, but let us consider children. I would support that element.

217. Mr D Armstrong: I work very closely with Steven, and we tackle the problem by sending two people to schools; indeed, this week, we sent them on two days. I do not charge anything for two of my staff to go into a school for a day to educate kids on safe cycling to school, how to look after their bikes and the use of a helmet, all of which is extremely important. Even though he had a very bad experience with one school, Steven will tell you that, on average, after we have been to a school, the use of cycle helmets increases, as does the use of bikes to get to school. It is a very worthwhile programme. Does that answer your question?

218. The Chairperson: What is the price range for helmets?

219. Mr D Armstrong: All helmets must reach a certain standard of quality. Children's cycling helmets cost just under £20. The ceiling for an adult helmet is whatever one wants to pay, but the average is about £30.

220. The Chairperson: I do not think that there are any Lance Armstrongs on the Committee. [Laughter.] However, if there are, I stand corrected.

221. Mr Weir: The last question was one of the two that I wanted to ask. I am not a cyclist, but we talked about the average price of helmets. Derek, you are dealing with your shop, but perhaps Steven or one of the others could answer from a statistical point of view. Do you have any idea of the total volume of bicycles that are sold in Northern Ireland each year?

222. Mr Patterson: I do not have a clue; perhaps the traders would know.

223. Mr D Armstrong: That is difficult. We are the largest retailers and we sell 5,000 plus units a year. The average shop would probably sell between 500 and 1,000 units a year.

224. Mr Weir: What is your market share each year?

225. Mr D Armstrong: I do not really know.

226. Mr Weir: You may not have exact figures, but I am trying to get a ballpark figure of whether 50,000 or 100,000 bicycles are sold here each year. What would be the total sold each year?

227. Mr D Armstrong: We probably have 30% to 35% of the market share.

228. Mr Weir: Therefore we are probably talking about 15,000 units being sold here each year.

229. Mr D Armstrong: Yes; that would be a ballpark figure.

230. Mr Weir: I appreciate that I was asking you to pluck a figure from the air. I was just trying to get — I was going to say a handle, but that might be misconstrued. Of the 5,000 that you sell — and this follows on to the issue of helmets, and you mentioned that children's helmets cost about £20 on average and adult helmets cost £30 on average — what would be the rough

breakdown of your sales between children's bikes that are sold to families of under-16s and adult bikes?

231. Mr D Armstrong: If you are classifying children's bikes, they stop when a child reaches the age of 10. Once a child turns 11, they move on to an adult-sized bike with a very small frame, and the frame sizes go up —

232. Mr Weir: Presumably, you would have parents buying bikes for teenage children. I appreciate that they will be buying an adult bike, but, and this might be very unscientific, can you give the Committee a rough estimate of how many of those 5,000 are for children —

233. Mr D Armstrong: Aged 16 and under?

234. Mr Weir: Yes, and how many would also be for adults?

235. Mr D Armstrong: You are putting me on the spot, but, at a guess, 30% to 35% would be for kids. The thing to remember about children's bikes is that an adult buys a bicycle to last for a long time, whereas a bike for a three-year-old lasts only for two years before they have to get another one. There are a lot of repeat sales in children's bikes.

236. Mr Dallat: It has been a long debate. Steven, there is no halfway house for you; you are totally against the Bill. Am I correct?

237. Mr Patterson: I am totally against the compulsion aspect; I am not against cycling helmets, although the two issues sometimes get blurred.

238. Mr Dallat: It is important to clear that up. Are you the chief executive of Sustrans?

239. Mr Patterson: I am the Northern Ireland director.

240. Mr Dallat: OK. We have to keep these things right. How many members —

241. Mr Patterson: I am not on the salary of a chief executive. [Laughter.]

242. Mr Dallat: How many members do you represent?

243. Mr Patterson: We have 40,000 members across the UK.

244. Mr Dallat: That is a lot. Are those 40,000 members totally against any law that would make cycling helmets compulsory?

245. Mr Patterson: I would not say that all 40,000 members are, but I would say —

246. Mr Dallat: That is important.

247. Mr Patterson: Sorry, if I could just finish. I anticipate that a very significant majority of them would be against it.

248. Mr Dallat: It is important to clarify that, because you are giving evidence to a Committee, and we must assume that your evidence is rock solid. We have established that not all the 40,000-odd members of Sustrans are against the Bill. If I sound harsh it is because you were quite robust. You were highly critical of the sponsor of the Bill, and you said that you had not been given enough notice. You had a whole series of complaints.

249. Mr Armstrong, you are from the commercial sector and your primary interest in this is the sales of your bicycles and the vanity of women.

250. Mr D Armstrong: I am merely repeating what they tell me.

251. Mr Dallat: I am trying to take in something serious for the future. I am sure, Chairman, that you are hopeful of getting back into the Assembly, as I am, and want to bring something forward from this morning's session that might bring some comfort to Michelle and Orlaith, who very bravely came here with no commercial interest and no concern for the vanity of women. Nor, indeed, do they claim to represent 40,000 people, which we have established you do not. On balance, we want to be sure that we get something valuable out of this. That is why the Committee does outreach work and has come to Derry to listen to people's view. However, it worries me a wee bit when commercial interests get roped into evidence sessions, as I do not think that that was helpful.

252. Darren, you mentioned young fathers and social deprivation. I am proud to come from that background. When I was a child, I had an old bicycle that was down to the canvas. I would have been grateful if somebody had recognised that.

253. In Newtownabbey you had 106 people, 103 of whom turned up with helmets. I can picture the scene. Those people came from affluent backgrounds and had top-of-the-range bicycles, supplied by Derek, and good headgear; the whole works. Then, we have Darren's group, coming from a background in which there are no helmets. Do you not think that the Assembly might have some responsibility to protect the skulls of the children from the background that you are talking about? Do you accept that, until now, education might not have been the most powerful factor in getting children from socially deprived backgrounds to wear helmets?

254. Mr Boyle: If I can just clarify, we are starting a programme and the bikes have, coincidentally, been supplied by Derek. That went out to tender, and he came in as the best. We are going to have 20 bikes and 10 kids' trailers, and the kids will have helmets supplied.

255. Yesterday, I was delivering child protection training to 12 young fathers. I asked them what they thought about the Bill. They said "Yeah, yeah, yeah, we understand it, but that's mad, that's crazy, because you're never going to get me to wear a helmet." I said that, as part of our programme, they would have to wear a helmet, and they said that that was fine because it was the Young Fathers project that was behind it. When we take them out on a programme as part of a project, they are more likely to buy into it. If things are imposed on that client group, they are much less likely to do it of their own volition. If they do not wear helmets when they are outside our influence, that is when they are likely to come to the attention of the police. That is when their experiences and attitudes towards the police will lead to a very negative outcome for them and, from our perspective, their children. It is about educating them in the benefits and safety aspects of wearing a helmet.

256. Mr Patterson: I want to make a point about working in schools in socially deprived communities, as the Bill would disproportionately affect such communities. That is the only point that we are making on that. There are important alternatives, and we have practical ideas.

257. Last year, we worked with a school in the Shankill area, and we are now working with a school in a housing estate in Andersonstown in west Belfast. There was a drastic difference in the ownership and quality of bicycles in the schools in the Shankill area and in west Belfast from that in the more affluent schools. We engage with children in socially excluded schools; they are not engaged in cycle training, cycle proficiency or road safety programmes. The children are riding round on bicycles that are, generally, of a lesser quality and with dodgy brakes, etc, and they are not engaged in cycle proficiency schemes. They get no support.

258. We went into Edenbrooke Primary School along with Belfast City Council and offered the children recycled bikes. However, as a condition of receiving that bike, they had to undergo on-road cycle training. We had a similar situation in west Belfast that involved playground-based activities. If I am wrong, I apologise, but I understand that if children do not have a helmet they cannot take part in the cycle proficiency scheme. Therefore we supply helmets; we are inclusive in our approach to children. Ultimately, however, whether they come to school with or without a helmet is the choice of their parents.

259. We recognise that there are different issues in different sectors of society. Cycling safety is not just about preventing people falling off their bike; it is about the wider health benefits. The teenage girls that we talked about in New Zealand, where there has been a dramatic fall-off, are the hardest to reach to encourage physical activity, and if they are worried about their vanity and their gelled hair, etc, that would be another barrier to getting them to cycle.

260. We work with children, we are not anti-helmet; in fact, we supply helmets for the playground-based activities. We also offer on-road cycle training, which builds on the good DOE scheme that teaches basic bike-handling skills in the playground. However, the DOE scheme does not teach children how to cycle in traffic. If children do the cycle proficiency training, what does that qualify them to do? Does it qualify them to cycle to school? If they have not trained on roads and dealt with traffic, there is a major gap.

261. As you know, Minister Poots will have a report at the end of March on the future of the road safety officer service. We have been working on that report with him, and we have corresponded with the Committee. We think that he will be very favourable to changing the cycling proficiency model in Northern Ireland to develop it from building on the playground-based bike-handling skills to include the on-road element. With limited DOE resources, such investment must be the way to go. That also includes general road-safety messages.

262. Mr Dallat: Chairperson, I am conscious that I have used up far too much of your time. However, I want to respond quickly to a point made by Darren, which was that a law might alienate people from socially deprived backgrounds. I do not accept that at all; my experience has been the opposite. Where there are good laws, and where young people recognise them as good laws, the opposite happens. You get respect. With that, I am finished.

263. Mr W Clarke: I disagree. There is an impact on people in socially deprived areas: they can hardly afford the bike, never mind the helmet. In the working-class areas that I am involved in, large families find it difficult to provide helmets. I also disagree with John about the business input: it is very valuable. After all, we have to work with the industry.

264. Have you a breakdown of the number of children's helmets sold? Do 51% buy helmets?

265. Mr D Armstrong: For every adult helmet sold, we sell two children's helmets.

266. Mr W Clarke: Do you see a subsidy as being necessary for neighbourhood renewal areas, or should there even be a general subsidy for helmets for children? Is that economic driver required?

267. Mr Boyle: It would be a factor in assisting, but attitudes to putting on a helmet still need to change. The big factor is to try to encourage young men and young mums to put on their helmets so that they are seen to be a good, positive role model for their child. It is not only about the safety of the child but about them being safe. That is the big barrier that we have to try to overcome. Parents want to keep their children safe, but my understanding of the Bill is that it would make it compulsory for everybody to wear a helmet. I do not want to get drawn into the enforcement aspect, but if the Bill becomes law and the police come into an area and

see children on a bike without a helmet, it becomes a bit of craic for the children. Let us not forget about that: it is a bit of craic to get a chase. A child is quicker on a bike than when running, and running around Galliagh here in Derry on a bike is good craic.

268. Mr Geffen: I will briefly add something on the social exclusion point. Children in the lowest 20% of the population in social deprivation terms are five times more likely to be injured on the roads — full stop. If police officers went into those areas and said, particularly to the young teenagers, that they should be wearing helmets, those teenagers would ask the police why they are not doing something about the speeding drivers in that neighbourhood. We are fully in favour of more road traffic policing, but it really needs to be targeted at the source of the problem rather than the symptoms.

269. Mr Ross: I was not going to speak, but, after listening to John Dallat, I had to. From my current role and previously, when I worked as a researcher for Sammy Wilson, I know that some of the work that Sustrans does is very good, such as the Safe Routes to School project and all that sort of stuff. John said that you are not representative of your 40,000 members. There is no organisation anywhere in the world that has uniformity of opinion. It is ludicrous for John to have accused you of not speaking for 40,000 members. You are an organisation, and you are speaking on behalf of that organisation. I know for a fact that some SDLP members are opposed to this legislation. There is not uniformity in any grouping.

270. John also said that Derek's contribution was just about how much money he was making. That was grossly unfair. We want to see more people cycling for the health benefits and everything else. If fewer people are buying bicycles and cycling, it is totally relevant to what we are discussing today. I dissociate myself from John's comments.

271. I want to make two points, and I do not want huge answers. After the initial debate, I was contacted by around 50 different individuals who are cyclists. I am quite sure that it was the same for other members of the Committee. Almost all are opposed to the legislation and the compulsory wearing of helmets. If the people who cycle day in, day out for sport or recreation do not believe that the legislation is necessary because they do not believe that there is any inherent danger, that tells me an awful lot. If I were involved in an activity and I identified a risk, and if there were legislation to make that activity safer for me and other people who do that activity, I would be the first to say that that should be looked at. The fact that almost nobody who cycles or who is in a cycling organisation is saying that speaks volumes.

272. The second issue is probably more political. The Assembly cannot take the role of having to legislate for every aspect of people's lives. We have to start trying to promote the idea of individual or parental responsibility. Whether that be through cycling proficiency tests in schools and teaching children, through having an overall road safety strategy, through TV commercials or through working with the community and voluntary sector, we have to try to promote the idea of individual responsibility — if folks are involved in an activity, they should be responsible for themselves and their safety. That is more the route that we should go down. I am not expecting a response. I just wanted to make those comments after listening to John.

273. Mr Patterson: I appreciate that. We could have come here with four cycling campaigners, but we think that this issue is wider than just cyclists because it also affects potential cyclists. On John's point, I just want to clarify that everyone in this room, including Pat Ramsey, is interested in cyclist safety, and I thought that I had made it perfectly clear that we respect where Pat is coming from. The point that I made about not being consulted is a fact. The reason that I brought that up was simply to point out that we have come to this discussion late in the game and have, therefore, had only a couple of weeks to engage with our supporters. The petition with 1,600 signatures, 70% of which are from Northern Ireland, is the start, and we will keep

the Committee informed. We asked for and received comments on the website, and those were very balanced. We would like to continue to engage with this Committee and its successor.

274. The Chairperson: Thank God that I get the final say. However, Mr Ross summed up fairly well what I wanted to say. I want to dissociate myself from what was said, and it is pity that Mr Dallat is out of the room. I think that people from right across the board are contributing to the discussion on the legislation, and we want to hear about the prices and everything else to do with the business. I congratulate Cyclists' Touring Club and Sustrans on that work. Good luck with it.

275. Steven, the reason that I asked you about enforcement — Mr Clarke alluded to it — is that we know that that would affect those in lower social-class areas. You are dealing with that day and daily, and we want to get totally away from that. I think that the legislation will provide the scope for police to go into those areas, and we have serious problems with that. I do not want to make a broader political issue out of this, but there are definitely problems with the legislation.

276. Like I say, Steven, I am delighted that you brought people from right across the board to make presentations here. We now have a clear indication and idea of exactly what is going on in the industry and of what people are genuinely trying to do on a daily basis. As Mr Ross said, I do not think that we need to legislate on every single issue, and this is one such issue. There needs to be more awareness, education and programmes on road safety and strategies. That is the way to go.

277. Mr Patterson: I just want to make one comment and ask one question. If the successor Committee wants to come and see our work on the ground in socially deprived areas, we would be very happy to facilitate that very early in the next mandate.

278. I want to ask a question about the process from this point. Obviously, the Committee has another meeting or two, but where do you think that we are going with this?

279. The Chairperson: Obviously, we will publish a Committee report when we are finished.

280. The Committee Clerk: The Committee report will be based on a compilation of the evidence that we have heard today and the other oral and written evidence that we received. That report will go in front of members at the Committee's final meeting on 23 March. It will be up to members, but I doubt that there will be time for any opinions or recommendations on or amendments to the Bill.

281. Mr Weir: There will be no further legislative stages, because the Bill will fall on 24 March.

282. Mr Patterson: If the process is started again in the new mandate, will it have to start from scratch?

283. The Chairperson: Yes.

284. Mr Patterson: Thank you for qualifying that and thank you for your time.

## **Appendix 3**

# Written Submissions Relating to the Report

## Contents

[A Merelo](#)

[Adam Bent](#)

[Alastair Kennedy](#)

[Amanda Martin – Newtownards Borough Council](#)

[Andrew Davis](#)

[Andrew Hassard](#)

[Anna Semlyen – 20's Plenty For Us](#)

[Bevan Woodward](#)

[BMA Response](#)

[Borghert Borghmans](#)

[Brian Morris](#)

[Brid Coady Weeks](#)

[Chris Bloomer](#)

[Chris Rissel](#)

[Claire Ferry](#)

[Clare Conry](#)

[Cliff Sore](#)

[Cllr A Montague](#)

[Colin Clarke](#)

[Dan Woodall](#)

[Darren Boyle – Da](#)

[Dave McCraw – Wrong Headed](#)

[David Fawcett](#)



David Monaghan

David Monahan

David Singer

Dean Foden

Debra Stansfield – Transport & Health Study Group

Declan Dempsey

Derek Armstrong – Bikedock

Douglas Ferguson

Dr Alan Dawson

Dr Chloe Galley – Centre for the Environment, Trinity College, Dublin

Dr D Robinson

Dr David Beasley

Dr Dolan F Byrne

Dr Elaine Hardy – Right to Ride

Dr Nigel Perry

Dr R Keatinge

Dr Ronan Matthews

Drew Ritchie – Antrim and District Road Safety Committee

Ellen Booth – Brake

Emma Robinson

Eric Patterson

Fergal O'Brien

Frank Krygowski

Gavin Clark

Geoffrey Ede

Gillian Law

Grainne Magee

Hamilton Pruim

Helen Booth

Herve

Hugh Barry

Jayne Taylor – North Down Borough Council

John Franklin – Consultant in Cycling Safety Skills

John Mallows – [www.cyclenation.org.uk](http://www.cyclenation.org.uk)

John Muir

John Radcliffe

John Robson

John Wood

Julian Black

Juliet Kemp

Karina Stewart

Ken Henderson

Kevin Harrington

Linda Cottrell

Luke Griggs – Headway

Luke Turner

Marcin Piotrowicz

Mark Wareham

Mayer Hillman – Policy Studies Institute London

Michael Cooke

Michael Davis

Mike McKillen – [Cyclist.ie](http://Cyclist.ie)

Mrs Pat Martin – Road Safety Council NI

Neal Cook – British Association of Neuroscience Nurses

Neil Irvine

Neil Mearns

Niall Shanahan

Oliver Bock

Patrick Morgan

Paul Alexander

Paul Megson

Peter Teow

Philip Benstead

Philip Morrow

Piers Maffett

Pieter Meiring

Rob Hatley

Rob Lamb

Roger Geffen – CTC (Cycling Touring Club)

Rosie Pelan

Roy White – NI Cycling Initiative

Ruth Turner

Sam Bidwell

Sara Dowling – RoadPeace

Simon Adams

Simon Davies

Sport Northern Ireland

Stephen Gilmore

Stephen Harris

Steven Patterson – Sustrans

Steven Patterson – Sustrans & CTC

T Price

Tim Beadle

Todd Edelman – OPENbike

Tom Butcher

Tony Collins

Trevor Parsons

Trevor Williams

Vincent McCorry

William Methven

## **20's Plenty For Us Submission to the Cyclists (Protective Headgear) Bill**

From: Anna Semlyen [mailto:[anna.s@20splentyforus.org.uk](mailto:anna.s@20splentyforus.org.uk)]

Sent: 09 March 2011 14:35

To: +Comm. Environment Public Email

Cc: Rod King; [terry.hoey@pop3.palmerston-residents-association.org](mailto:terry.hoey@pop3.palmerston-residents-association.org);  
[tom.mcclelland@btinternet.com](mailto:tom.mcclelland@btinternet.com)

Subject: No to compulsory cycle helmets, Yes to 20 mph limits in Northern Ireland

Anna Semlyen

24 Grange St  
York  
YO10 4BH

9 March 2011

Dear NI Assembly

**I am opposed to wearing cycle helmets becoming compulsory in law.  
I believe 20 mph limits work.**

I authored Cutting Your Use, a traffic reduction manual that has sold over 115,000 copies. When researching this book, I found no evidence that motor traffic reduces when cycling helmets are made compulsory or that cyclists are safer.

Evidence from Australia is that when cycle helmets are made compulsory, people stop cycling as much and that casualties to cyclists increase due probably to

- motorists driving closer to them
- cyclists perhaps cycling in a different manner
- fewer cyclists - (drivers take more notice of cyclists where there is a critical mass of people)
- less cycling generally

This issue could affect cycle tourism to Northern Ireland.

To really improve road safety for all road users, please implement 20 mph limits where people live.

This is the single most effective road danger reduction policy available today. In Portsmouth 22 % fewer people were injured after 2 years with this policy on 1200 roads. It is also cost effective. Warrington found an 800% rate of return in the first year on its pilots and subsequent years are free of charge.

Slower speeds are the way to protect cyclists and other vulnerable road users.

I attach a fact sheet about why 20 is Plenty See [www.20splentyforus.org.uk](http://www.20splentyforus.org.uk) for more details and a list of authorities with a total population of over 5 million who have agreed this policy including Oxford, Bristol, Islington, Lancashire and many more.

Best wishes

Anna Semlyen  
20's Plenty for Us Campaign Manager  
T: 07572 120439 e: [Anna.s@20splentyforus.org.uk](mailto:Anna.s@20splentyforus.org.uk)

[www.20splentyforus.org.uk](http://www.20splentyforus.org.uk), [www.20splentyforus.blogspot.com](http://www.20splentyforus.blogspot.com)  
Join our campaigner Yahoo group [groupregister@20splentyforus.org.uk](mailto:groupregister@20splentyforus.org.uk)  
Join our facebook group <http://tinyurl.com/20splentyonfacebook>

## Why 20's Plenty The Case for 20 mph Limits. Dec 2010

20 mph limits - an inexpensive and popular way to improve safety, cut pollution and encourage smarter travel choices.



More than 4.7 million people live in place committed to 20 mph limits - Portsmouth, Bristol, Colchester, Hackney, Islington, Leicester, Lancashire, Newcastle, Norwich, Oxford, Southwark, Warrington and Wirral. Edinburgh and Cambridge are piloting.

Where People Live

**20 mph limits are safer –resulting in 22% fewer casualties in Portsmouth. Other reasons to introduce 20 mph limits include:**

**Popularity** - 72% of drivers support 20 mph speed limits on residential streets. (British Social Attitudes Survey 2005)

**Pollution, Climate Change and Air Quality** - When 30 km/h (18.5 mph) zones were introduced in Germany, car drivers on average changed gear 12% less often, braked 14% less often and required 12% less fuel.

**20 mph Limits Cost 50 Times Less Than Zones** - DfT Guidelines (1/06) relaxed requirements for 20 mph limits in residential areas. It is no longer mandatory to impose physical measures such as bumps. Portsmouth's 20 mph limit cost just £333 per street.

**Self-Enforcing** - 20 mph speed limits are community led and establishment endorsed. Strong support from communities and an increasing police focus on community policing supports 20 mph limits which can be enforced with a "light touch".

**Economic Impact** - Lowering urban and residential limits to 20 mph (excluding arterial roads) increases the average car journey time by just 40 seconds. At 20 mph the gap between vehicles shortens, leading to improved traffic flow.

**Health Improvements** - Reduced local emissions, improved air quality and increased likelihood of a shift to active modes of transport like walking or cycling.

**Better Quality of Life and Reduced Inequalities** - Slower speeds benefit large numbers of non-car users, reducing noise and allowing better urban design standards for quality places. Those currently suffering the greatest inequalities tend to live nearer to busy roads and therefore benefit more from 20mph limits. 20 mph reduces health inequalities by extending the life expectancy of disadvantaged people.

**20's Plenty For Us campaigns for a 20mph default speed limit in residential streets without the installation of physical traffic calming measures.**

### Feedback

We welcome your response on this briefing. We provide more information on our site [www.20splentyforus.org.uk](http://www.20splentyforus.org.uk) and can recommend experts on technical issues.

Anna Semlyen  
Campaign Manager  
20's Plenty for Us  
[anna.s@20splentyforus.org.uk](mailto:anna.s@20splentyforus.org.uk)  
07572 120 439

Rod King  
Founder  
20's Plenty for Us  
[rod.k@20splentyforus.org.uk](mailto:rod.k@20splentyforus.org.uk)  
07973 639 781

## A.Merelo Submission to the Cyclists (Protective Headgear) Bill

From: :: sindandune :: [mailto:sindandune@gmail.com]

Sent: 08 March 2011 08:41

To: +Comm. Environment Public Email

Subject: calling for the scrapping of proposed helmet legislation

Dear members of the committee,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

I note that there were no cyclist deaths in 2009 or 2010 and no child cycling deaths since 2005. Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit.

I strongly urge you to reject this well-intentioned but fatally flawed legislation.

Yours sincerely,

A. Merelo

## **Adam Bent Submission to the Cyclists (Protective Headgear) Bill**

From: Adam Bent [mailto:[adam.bent@gmail.com](mailto:adam.bent@gmail.com)]  
Sent: 05 March 2011 20:02  
To: +Comm. Environment Public Email  
Subject: Proposed Mandatory Cycle Helmet Legislation

Dear Committee Members,

I wish to express my deep concern about the proposed legislation which will make it an offence to ride a bicycle in any open space in Northern Ireland without a helmet.

I note that the effects of obesity kill many more people than cycling does. I understand that there have been no cyclist deaths in Northern Ireland in 2009 or 2010. There have been no child deaths since 2005. I also note that DfT studies in the UK estimate that only 10 to 16% of deaths caused by head injuries to cyclists would have been mitigated by wearing a helmet. Only one third of fatalities amongst cyclists are as a result of head injuries anyway. The reduction in cyclists deaths resulting from a mandatory helmet law will be miniscule in comparison to the increased number of deaths caused by the reduction in cycling. The reduction in cycling will have a two fold effect: it will reduce the amount of exercise being taken and therefore increase obesity level. Fewer cyclists on the roads will also make them a more dangerous place for an individual cyclist to be.

Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit. The comparison that has been made with Canada - the only country that did not suffer drops in the rate of cycling after the introduction of mandatory helmet laws is flawed. It is generally recognised that the Canadian legislation is universally ignored by both the enforcing authorities and the cycling population. Although it is common place to see Canadian cyclists flouting the mandatory helmet law, there has yet to be a single prosecution. All other countries that have introduced such laws (e.g. Australia and New Zealand) have seen a

reduction in the amount of cycling and an increase in the number of deaths per cyclist if the cycling mileage reduction is taken into account. The reduction in the amount of cycling has contributed to an increase in obesity levels in these countries with the corresponding increase in death rates.

I urge you to take a second look at, and reject this well-intentioned but fatally flawed legislation.

Yours sincerely,

Adam Bent,  
Lime Garth,  
Sherburn Road,  
Durham,  
DH1 2JR

## **Alastair Kennedy Submission on the Cyclists (Protective Headgear) Bill**

From: alastair kennedy [mailto:ajk52405@yahoo.co.uk]  
Sent: 05 March 2011 10:20  
To: +Comm. Environment Public Email  
Subject: Compulsory helmets for cyclists

Dear Sir/Madam,

I am writing to express my concerns over the proposed introduction of compulsory helmet laws for cyclists in Northern Ireland.

I have witnessed the effect that such laws have on the participation in cycling in Australia. Not only has it led to a fall in numbers cycling with an impact on the health and wellbeing of the population, it has also led to an increase in the vulnerability of those cyclists that do wear helmets. There is strong evidence to suggest that the roads are safer the more that non-motorised traffic use them.

The barrier to using a cycle from having to wear a helmet is clearly demonstrated by the poor take-up of the free cycle hire scheme in Melbourne Australia - a scheme similar to the ones in Paris and London where the schemes have been popular.

Discouraging cyclists off the roads reduces driver's awareness of cyclist in general, it reduces the attractiveness of a healthy and green way to travel and overall "costs" the community more than it would benefit.

I urge you to reject the introduction of such a law.

Regards

Alastair Kennedy  
49 Coval Rd  
London  
SW14 7RW



## **Andrew Hassard Submission to the Cyclists (Protective Headgear) Bill**

From: Hi-Elbow Triathlon Club [mailto:hielbowtri@gmail.com]

Sent: 08 March 2011 16:00

To: Barry, Hugh

Subject: Re: Opposition to compulsory cycle helmets

Hugh

Your campaign is a disgrace.

Would you also propose removing seat belts from cars or banning motor cyclists from wearing helmets? No? Why not? Because they save lives!

I am extremely happy that you have not had any accidents whilst cycling and long may that continue. Forever hopefully.

However, there are some people who have not been so lucky. Some of these cyclists will have walked away but others will not and without knowing the stats I'd be fairly confident that where a helmet was not worn it could have saved at least one life if it had.

As cycling popularity continues to grow and roads become busier this only increases the chances of accidents happening. Being proactive and having a strategy and rules in place now rather than wait should be supported by the community.

There are plenty of reasonably priced helmets available so the cost/benefits argument doesn't really stand up either.

I have also cc'd in the DOE committee and would like to add my support to their campaign.

Happy & Safe Cycling

Thanks

Andrew Hassard  
Hi-Elbow Triathlon Club

On 8 March 2011 11:43, Barry, Hugh <Hugh.Barry@uk.thalesgroup.com> wrote:

I attach a statement of opposition that I sent to my MLA's. Feel free to cut-and-paste and send to your own.

Ref:

The Northern Ireland Assembly are currently considering a Private Members Bill from Pat Ramsay MLA the "Cyclists (Protective Headgear) Bill" to make cycle helmet wearing compulsory for all cyclists in all public places. Currently the Bill is being considered by the Committee for the Environment and written submissions from the public must be with the Committee by 14th March 2011.

I wish to stress my opposition to the above proposed legislation.

I have been cycling for decades, most of that time without a helmet, and fortunately have not endured any head injury. However I choose to wear a helmet if cycling in a group, and helmet wearing is generally compulsory in cycling events, which is a good thing. In casual cycling the level of risk is very low in my view (and in my experience) and does not warrant legislation. Compulsion is an infringement of personal choice and may instill an unrealistic sense of danger in the intrinsically very safe and very healthy past-time of cycling. Don't discourage cyclists. It's right that we should be aware of risk, but it's also right that we should make a personal choice as to how we handle the risk.

Instead legislate on making our roads safer and creating safe cycle routes. Cyclists are already contributing significantly to removing unnecessary motorised traffic from the roads, to easing congestion and pollution. Don't discourage cyclists and potential cyclists by this unnecessary legislation, and by exaggerating the risks.

Regards,

-----Original Message-----

From: Volunteer BFOE [mailto:belfastfoe@googlemail.com]

Sent: 07 March 2011 19:39

Subject: Opposition to compulsory cycle helmets. Belfast Cycle City is supporting Sustrans in their three actions on the compulsory cycle helmet issue -

#### MLA CALLS FOR CYCLE HELMET COMPULSION

The Northern Ireland Assembly are currently considering a Private Members Bill from Pat Ramsay MLA the "Cyclists (Protective Headgear) Bill" to make cycle helmet wearing compulsory for all cyclists in all public places. Currently the Bill is being considered by the Committee for the Environment and written submissions from the public must be with the Committee by 14th March 2011.

Sustrans is OPPOSED to the Bill for the following reasons:

1. The law would deter people from cycling. With numbers of cyclists already low, a legal requirement to wear a helmet would be an obstacle to getting more people on bikes and the costs to health will greatly exceed the benefits.
2. The law would disproportionately affect people from socially deprived households who have enough obstacles to their travel choices without the cost of cycle helmet.
3. The law ignores the fact that cycling is a relatively safe activity - the health benefits from cycling far outweigh the dangers. This disproportionate law would make cycling appear dangerous and fails to deal with any of the wider threats to cyclists' safety.
4. The law would undermine the potential for highly cost-effective investment to be made in measures to increase cycling levels.
5. The law would be unenforceable and require considerable costs at a time of budget constraints. Resources would be better spent tackling the causes of road danger by developing safer and well designed roads and supporting programmes to promote cycling such as modern on road cycle training, especially for school children.

There are 3 ACTIONS we would encourage you to take if you oppose the Bill:

1. Sign the petition against the proposed Bill.  
<http://www.surveymonkey.com/s/cyclehelmetbill>

2. Write to the Northern Ireland Assembly Environment Committee by no later than 14th March 2011 at [doecommittee@niassembly.gov.uk](mailto:doecommittee@niassembly.gov.uk).

3. Write to your local MLA's and voice your opposition to the Bill.

Find your MLA via the NI Assembly website. Remember there are 6 MLAs representing each constituency - please send an email to each of your 6 MLAs.  
[http://archive.niassembly.gov.uk/members/constmap\\_res.htm](http://archive.niassembly.gov.uk/members/constmap_res.htm)

## **Antrim and District Road Safety Committee**

## Antrim and District Road Safety Committee

(Affiliated to RoSPA)

**Chairman:** B Graham

**Secretary:** A S Ritchie  
8 Vicarage Gardens  
Antrim  
BT41 4JP  
☎ 028 9446 6103

9 March 2011

Committee Clerk  
NI Assembly  
Room 412, Parliament Buildings  
Ballymiscaw  
Stormont Estate  
BELFAST  
BT4 3XX

Dear Sir / Madam

**RE: CYCLISTS (PROTECTIVE HEADGEAR) BILL**

The Committee discussed the above proposed Bill at their recent Meeting.

The Committee were unanimous in the view that wearing protective headgear while riding cycles is a positive step for road safety and would contribute to saving lives. Cyclists are by their very nature among the most vulnerable group of road users. At present they are not required to wear any special clothes or headgear and many serious injuries or death are caused when cyclists fall off and strike their head on a hard surface.

- DOE, PSNI, Road Safety Education Officers, Road Safety Committees and parents must lead by example and encourage all to wear headgear.
- Children must be given the opportunity to understand the reasons for the Bill.
- Headgear should meet E.U. standards and ensure proper/securely fit.
- It was acknowledged that the PSNI may have some difficulty with enforcement and it was suggested that other responsible agencies be requested to assist and that young people who break the law should be treated in a balanced, sensitive manner.

Thank you for the opportunity to participate in the consultation exercise.

Yours faithfully



**DREW RITCHIE**  
Secretary, Antrim District Road Safety Committee

## Ards Borough Council Submission to the Cyclists (Protective Headgear) Bill

From: Amanda.Martin@ards-council.gov.uk [mailto:Amanda.Martin@ards-council.gov.uk]  
Sent: 11 March 2011 16:10  
To: +Comm. Environment Public Email  
Subject: Cyclists (Protective Headgear) Bill - Call for Evidence

Dear Sir/Madam,

Thank you for writing to Ards Borough Council seeking its views on the proposed Cyclists (Protective Headgear) Bill.

The proposed Bill was considered at a recent meeting of the Council's External Affairs & Planning Committee where it was resolved to respond rejecting the Bill.

While members welcomed any improvements to road safety and to the prevention of head injuries generally, the Committee expressed support for the individual's freedom of choice. The Committee acknowledged the importance of people acting responsibly and parents exercising responsibility for their children but it could not see how legislation of this nature would assist with this and expressed reservations about how and by whom such legislation could be enforced. The Committee further expressed the view that the introduction of legislation was a disproportionate response to this activity and would only serve to reduce the number of people cycling.

I hope that this is of assistance to you.

Yours sincerely

Amanda Martin  
Principal Administrative Officer  
Ards Borough Council  
2 Church Street  
Newtownards  
BT23 4AP  
Tel: 02891 824190

## **Bevan Woodward Submission to the Cyclists (Protective Headgear) Bill**

From: Bevan Woodward [mailto:bevan.woodward@betterworldnz.com]  
Sent: 14 March 2011 09:20  
To: +Comm. Environment Public Email  
Subject: Submission re: mandatory helmet law in Northern Ireland

Dear Sir/Madam,

The mandatory helmet law has been a disaster in New Zealand.

It has caused a pronounced and significant decline (30%) in the numbers of people cycling but no noticeable decrease in the number of head injuries from cycling. Similarly in Australia, researchers have found that the number of heads being saved by their mandatory helmet law is greatly outnumbered by the hearts being lost.

If you want to improve cycling safety then follow the European example (of safer traffic speeds, facilities for cyclists and reducing motorised vehicle access) rather than New Zealand where cycling as a mode share is now virtually non-existent.

Signed...

Bevan Woodward | B.Com PGCertEng (Transport) BetterWORLD NZ Ltd Lilburn Workspace, 5  
Lilburn St, Warkworth, Auckland 0910, NZ

## **Bikedock**

**11th March 2011**

### **Cyclists (Protective Headgear) Bill Written Evidence on the Bill**

My name is Derek Armstrong and I run a retail bicycle business in Belfast called Bikedock.

At the outset, I must make it clear that I, and my staff, are in favour of cyclists wearing helmets and we actively educate and promote their usage every day. However, we strongly that forcing people to do so, is not the right way to increase helmet usage.

I am here today because I have very real concerns that if cycle helmets are made compulsory in NI, between 20% and 40% of my bicycle sales would disappear overnight. This would result in immediate redundancies and in some cases for smaller retailers, closing down altogether, at a time when retail viability is already a growing problem. Another financial burden on the public purse.

In New Zealand when the law was introduced in 1994, cycling trips dropped by 26% and continued falling until 2006 when they had dropped to 51% below their pre-law levels. That affect would be devastating for NI, which already has one of the poorest cycling cultures in the world.

Compulsory helmet use would also create a stigma that suggests that all and not just some, cycling activities are more dangerous than they really are. This is not the case, as evidence has proved.

Enforcement practicalities and costs, will make this Bill unworkable and will undoubtedly put unwelcome pressure on Community Policing.

I have a cycle hire department which services tourists from countries all over the world that do NOT have cycle helmet legislation. If these tourists were told that they had to wear a helmet here, they would be deterred from coming – a serious blow to tourism north and south. Tourists from Holland arriving in Dublin for a cycle touring holiday around Ireland might be unaware that they are breaking the law when they cross the border. Prosecution of such tourists would make very bad international PR and would spread like wild fire.

Belfast is planning to install a public bike scheme, similar to those already in use in Dublin and Paris. In the first year Dublin experienced an uptake 4 times greater than expected and has deemed it to be a positive and extremely significant success for tourism and local businesses alike. They have plans to expand this facility. Compulsory helmet legislation here would make this newly planned Scheme a non-starter.

There are fewer women cyclists than men in NI but their numbers are growing steadily. Many don't wear helmets for reasons of vanity, as amny will admit that they don not want "Helmet Hair". The Bikedock Belles, a ladies cycling group, has been working hard for years now to attract ladies into cycling – most of this hard work would be wasted and their future efforts would be in vain.

In summary, I believe strongly that helmet use in a healthy cycling lifestyle society should continue to be voluntary and not be made compulsory.

Thank you for your attention.

## **Bikedock Submission to the Cyclists (Protective Headgear) Bill**

From: Derek Armstrong [mailto:derek@bikedock.com]  
Sent: 14 March 2011 09:53  
To: +Comm. Environment Public Email  
Subject: Submission  
Reference: CYCLISTS (PROTECTIVE HEADGEAR) BILL

CALL FOR EVIDENCE

Please find attached my evidence for the above Bill.

Many thanks

Regards

Derek Armstrong  
Managing Partner

www.bikedock.com  
79-85 Ravenhill Road  
Belfast  
BT6 8DQ

Tel: 02890 730600  
Fax: 02890 730608

Bikedock is a bike shop and cycling specialist based in the UK. We stock a wide range of quality, affordable bikes and bike accessories. Our experienced team will help you choose the best bike for you, online or in-shop, whatever your interest in cycling. Our workshop's qualified mechanics will deal with all your repair work needs. Bikedock has helped a number of companies with the Cycle to Work scheme, and provides trikes for children and adults with special needs. Cycling is for everyone!

### **BMA (NI)**

### **March 2011 Cyclists (Protective Headgear) Bill**

#### **Introduction**

The British Medical Association is a professional organisation and trade union for the medical profession across the United Kingdom, with over 140,000 members in the UK. BMA(NI) represents around 70% of the medical profession in Northern Ireland.

## General comments

Best evidence supports the use of cycle helmets. They have been shown to reduce the risk of head injury and its severity should it occur. This does not apply to fatal crashes but in such instances, the force of impact is considered to be so significant that most protection would fail. Cycle helmets do not prevent all types of injury or death, however, they play a significant role in reducing head injuries. They are most effective at low impact speeds (approximately 13 mph or less), such as when a cyclist falls from a cycle without the involvement of other vehicles.<sup>[1]</sup>

The consequences of traumatic brain injury are significant not only to the individual involved, but to their families and to society as a whole. It is BMA members, and in particular accident and emergency staff who witness at first hand the devastating impacts cycling injuries can have.

Therefore, as a part of a range of measures to improve cycling safety, the BMA supports compulsory wearing of cycle helmets when cycling for children and adults.<sup>[2]</sup> The Association wants to see an increase in voluntary use prior to the introduction of cycle helmet legislation and supports initiatives that so increase such use.

BMA(NI) thanks the committee for the opportunity to comment on the Bill. We have presented below some key areas, which we hope shall add to the committee's evidence and support the progress of the Bill.

## Response to specific clauses

### Clause 1: Requirement to wear protective headgear

The BMA, as a part of its policy to improve safe cycling supports compulsory wearing of cycle helmets when cycling for children and adults and therefore supports clause 1.

### Clause 2: Regulations

BMA(NI) welcomes that consultation will take place with respective organisations, before regulations are made setting out what constitutes appropriate headgear and how it should be worn.

Safety standards are intended to give consumers confidence that the cycle helmet they own will provide an appropriate level of protection in the event of a crash. Many different standards governing helmet safety exist, however, some safety standards are more stringent than others.<sup>[3]</sup>

For your information, the BMA strongly recommends that all cyclists wear proper fitting helmets which as a minimum are certified to the EN 1078 standard, but preferably certified to the Snell B95 standard which provides greater protection in the event of an accident.<sup>[4]</sup>

You may be interested to know that the BMA position on cycle helmets is shared by the following organisations:

- Royal College of Surgeons of London
- Royal College of Paediatrics and Child Health
- Royal College of Nursing
- Headway: Brain Injury Association



In addition:

- Cycle helmets are compulsory in all professional races in the UK International Cycling Union (UCI) - 5th May 2003
- The Royal Mail introduced compulsory helmets for all 37,000 employees who use a bicycle as part of their job in April 2003

Clauses 3 to 11 covers issues related to penalty charges adjudications and appeals.

As with any other legislation, enforcement is as important as the law itself. Without compliance, the law is at best ineffective. At a practical level, enforcement of legislation can be achieved through on-the-spot fines or tickets issued by police and traffic wardens. The BMA has no existing policy on whether a breach of the new law should be a fine based or a fixed penalty notice system and has no comment to make on the amount of the penalty charge. We feel others are best placed to advise on this.

## **Clause 12 Promotion of protective headgear**

Clause 12 requires the Department, during the period prior to the Act coming into operation, to carry out a campaign and prepare a programme of measures to promote awareness of the provisions in the Act, and the importance of wearing protective headgear.

This is an important clause, as while the BMA advocates the compulsory use of cycle helmets, we believe that the first step before enacting this is to attain higher rates of voluntary use. To achieve maximum compliance, the law should be complemented by non legislative interventions including mass educational and promotional campaigns.

It appears that a good watershed level for when to progress from non-legislative interventions to mandatory legislation is around 40 per cent voluntary wearing. Following the introduction of non legislative interventions in New Zealand, cycle helmet wearing increased to 43 per cent, at which point legislation was introduced and helmet wearing increased to 92 per cent. In Western Australia helmet wearing prior to legislation grew to 37 per cent at which point helmet wearing became mandatory. Subsequent to the laws introduction, cycle helmet wearing had more than doubled to 82 per cent.<sup>[5]</sup>

An observational study evaluated the influence of the effectiveness of cycle helmet legislation for children (aged 5 to 14 years old) over an eight year period.<sup>[6]</sup> It was found that cycle helmet wearing increased steadily in the six years before legislation from four per cent to around 44 per cent and that it rose markedly in the first year following legislation to 68 per cent.<sup>[7]</sup>

BMA(NI) acknowledge that the detail of the promotion campaign and programme of measures are not covered in the legislation, however, we feel it is useful for the committee to be aware of initiatives that have worked well. For example:

- The Department for Transport (DfT) cycle helmet review found that most helmet educational programmes increased helmet wearing. This was most effective among young children and especially girls. As well as these measures, reducing the cost of helmets through discounts or giving helmets away without charge was also found to increase helmet uptake.<sup>[8]</sup>
- A UK hospital-led community-based programme was initiated in 1992 to evaluate the effect of a cycle helmet promotion campaign on helmet wearing among cyclists aged 11 to 15. It consisted of school based talks; age specific information; true case

scenarios/videos of head injured children; a demonstration using an egg and small helmet to illustrate the effect of a head injury with and without a helmet; information on how to wear a helmet properly; and a low cost helmet purchase scheme. The programme also ran promotional and awareness events. After five years it was found that self reported helmet use increased from 11 to 31 per cent, with no change in controls.<sup>[9]</sup> Hospital casualty figures for cycle related head injuries also fell in the intervention group from 21.6 to 11.7 per cent of all cycle injuries.<sup>[10]</sup>

- Community-based studies that included the provision of free helmets alongside an educational programme produced the largest increases in observed helmet wearing.<sup>[11]</sup>

## Conclusion

BMA(NI) considers that the provisions of the Bill set out an appropriate legislative framework that will support the necessary changes. Although not covered in this legislation, we would emphasise that cycle helmet legislation and other safe cycling promotions are not mutually exclusive, and there is a clear role for the simultaneous introduction of more primary prevention measures including cycle lanes, driver education and vehicle speed reduction initiatives. For example, Germany and the Netherlands have significantly reduced the number of cyclist deaths by implementing a wide variety of policies improving safety.<sup>[12]</sup> A safer cycling environment and infrastructure is vital to having safer cyclists.

We have highlighted a few areas in which we consider further thought is required. If the committee would like any clarification on any of the issues covered in our submission, we will be most happy to provide same.

For further information please contact:

Gráinne Magee  
BMA(NI) Assembly & Research Officer  
16 Cromac Place Ormeau Road BELFAST BT7 2JB

TEL: 028 9026 9673  
FAX: 028 9026 9674  
EMAIL: [gimagee@bma.org.uk](mailto:gimagee@bma.org.uk)

[1] British Medical Association (1999) Cycle helmets. London: British Medical Association

[2] See BMA web resource – Promoting safe cycling (2010) for further information  
[www.bma.org.uk/health\\_promotion\\_ethics/transport/promotingsafecycling.jsp](http://www.bma.org.uk/health_promotion_ethics/transport/promotingsafecycling.jsp)

[3] Cycle (2005) Heads up: London: Cycle

[4] British Medical Association (1999) Cycle helmets. London: British Medical Association

[5] Department of Public Health/University of Western Australia (1999) An economic evaluation of the mandatory bicycle helmet legislation in Western Australia. Perth, Western Australia: Department of Public Health, University of Western Australia.

[6] Parkin PC, Khambalin A, Kmet L et al (2003) Influence of socioeconomic status on the effectiveness of bicycle helmet legislation for children: a prospective observational study. *Pediatrics*, 112, 192-196.

[7] Ibid

[8] Department for Transport (2004) Bicycle helmets: review of the effectiveness (No. 30). London: Department for Transport.

[9] Lee AJ, Mann NP & Takriti R (2000) A hospital led promotion campaign aimed to increase bicycle helmet wearing among children aged 11-15 living in West Berkshire 1992 - 1998. Injury Prevention, 6, 151-153.

[10] Lee AJ, Mann NP & Takriti R (2000) A hospital led promotion campaign aimed to increase bicycle helmet wearing among children aged 11 - 15 living in West Berkshire 1992 - 1998. Injury Prevention, 6, 151-153.

[11] Lee AJ, Mann NP & Takriti R (2000) A hospital led promotion campaign aimed to increase bicycle helmet wearing among children aged 11 - 15 living in West Berkshire 1992 - 1998. Injury Prevention, 6, 151-153.

[12] British Medical Association (1999) Cycle helmets. London: British Medical Association.

## **BMA Response**

### **09 April 2010 Cycle Helmets legislation**

#### **Introduction**

The British Medical Association is a professional organisation and trade union for the medical profession across the United Kingdom, with over 140,000 members in the UK. BMA(NI) represents around 70% of the medical profession in Northern Ireland.

#### **Safe Cycling**

Following previous research by the BMA Board of Science on cycling, the BMA established specific policy at its 2006 Annual Representative Meeting (ARM) that the Association promotes cycling as a safe, healthy and sustainable alternative to car use. The promotion of safe cycling is of importance to doctors for two key reasons: Firstly, it is doctors who witness and treat the range of cycle related injuries after they occur. Secondly, cycling plays an important role in the promotion of individuals' and the nation's health, of which doctors have a vested interest in.

#### **Would you support legislation to make cycle helmet wearing compulsory?**

The BMA, as a part of its policy to improve safe cycling supports compulsory wearing of cycle helmets when cycling for children and adults.<sup>[1]</sup>

While the BMA advocates the compulsory use of cycle helmets, we believe that the first step before enacting this is to attain higher rates of voluntary use. The Association wants to see an increase in voluntary helmet use prior to the introduction of cycle helmet legislation and supports initiatives that so increase such use.

Therefore, as a part of a range of measures to improve cycling safety, the BMA calls for cycle helmet wearing to be made compulsory.

Cycle helmets are designed to reduce the risk of serious injury caused by impacts to the head. Injuries to the head generally take one of two forms; skull fractures and brain injuries. As doctors know only too well, while skull fractures can heal, injuries to the brain, unlike those to the rest of the body, generally do not and may sometimes have long-term consequences. Though not always visible and sometimes seemingly minor, brain injury is complex. It can cause physical, cognitive, social and vocational changes that affect an individual for a variable time period. In many cases recovery becomes a lifelong process of adjustments and accommodation for the individual and those caring for them.

Depending on the extent and the location of the injury, impairments caused by a brain injury can vary widely. Among the most common impairments are difficulties with memory, mood and concentration. Other impairments include significant deficits in organisational and reasoning skills, learning, cognitive and executive functions.

There is extensive literature that reviews the case for and against the wearing of cycle helmets. Best evidence supports the use of cycle helmets. They have been shown to reduce the risk of head injury and its severity should it occur. This does not apply to the most serious crashes which may well be fatal where the force of impact is considered to be so significant that any usable protection would fail.

The most reliable research comes from Cochrane Reviews which are based on the best available information about healthcare interventions. They explore the evidence for and against the effectiveness and appropriateness of treatments (medications, surgery, education, etc) in specific circumstances. A Cochrane review considering five case-control studies from the UK, Australia and the USA illustrates a large and consistent protective effect from cycle helmets, reducing the risk of head and brain injury by 65 to 88 per cent and injury to the upper and mid face by 65 per cent<sup>[2]</sup>.

As part of its policy to improve the safety of cyclists, the Department for Transport (DfT) conducted an independent critique of evidence on the efficacy of cycle helmets<sup>[3]</sup>. It concluded that:

- Bicycle helmets have been found to be effective at reducing the incidence and severity of head, brain and upper facial injury
- Bicycle helmets have been found to be effective in reducing head injury for users of all ages, though particularly for children.

A recent review conducted by the Transport Research Laboratory (2009)<sup>[4]</sup> into the effectiveness of cycle helmets in the event of on-road crashes concluded that up to 16 per cent of fatalities could have been prevented if the cyclist had worn the appropriate cycle helmet.

## **Safety standards**

Safety standards are intended to give consumers confidence that the cycle helmet they own will provide an appropriate level of protection in the event of a crash. Many different standards governing helmet safety exist, however, some safety standards are more stringent than others<sup>[5]</sup>.

The BMA strongly recommends that all cyclists wear proper fitting helmets which as a minimum are certified to the EN 1078 standard, but preferably certified to the Snell B95 standard which provides greater protection in the event of an accident<sup>[6]</sup>

You may be interested to know that the BMA position on cycle helmets is shared by the following organisations:

- Royal College of Surgeons of London
- Royal College of Paediatrics and Child Health
- Royal College of Nursing
- Headway: Brain Injury Association

In addition:

- Cycle helmets are compulsory in all professional races in the UK International Cycling Union (UCI) - 5th May 2003
- The Royal Mail introduced compulsory helmets for all 37,000 employees who use a bicycle as part of their job in April 2003

## **Do you agree there should be a lead period before making helmets compulsory?**

While the BMA advocates the compulsory use of cycle helmets, we believe that the first step before enacting this is to attain higher rates of voluntary use.

It appears that a good watershed level for when to progress from non-legislative interventions to mandatory legislation is around 40 per cent voluntary wearing.

Following the introduction of non legislative interventions in New Zealand, cycle helmet wearing increased to 43 per cent, at which point legislation was introduced and helmet wearing increased to 92 per cent. In Western Australia helmet wearing prior to legislation grew to 37 per cent at which point helmet wearing became mandatory. Subsequent to the laws introduction, cycle helmet wearing had more than doubled to 82 per cent.<sup>[7]</sup>

An observational study evaluated the influence of socioeconomic status on the effectiveness of cycle helmet legislation for children (aged 5 to 14 years old) over an eight year period.<sup>[8]</sup> It was found that cycle helmet wearing increased steadily in the six years before legislation from four per cent to around 44 per cent and that it rose markedly in the first year following legislation to 68 per cent.<sup>[9]</sup>

## **Increasing voluntary wearing of cycle helmets**

Many authors have described cycle helmet programmes that aim to encourage cyclists to wear helmets. These programmes have varied widely both in their effectiveness and the type of strategy employed. It is difficult to know from individual trials how effective cycle helmet promotion schemes have been; which elements of the programme contribute to their effectiveness and whether the effect seen is similar for all jurisdictions.

Community-wide interventions include education campaigns, media campaigns, and the distribution of free or subsidised helmets, counselling from GPs or emergency clinicians or, more frequently, combinations of all of these methods.

## Promotional and educational programmes

A review of 22 promotional campaigns that encouraged children to wear helmets with the intention of determining the most effective format, found that campaigns varied widely in terms of content where they were conducted and as the target age of the children.<sup>[10]</sup>

The Department for Transport (DfT) cycle helmet review found that most helmet educational programmes increased helmet wearing. This was most effective among young children and especially girls. As well as these measures, reducing the cost of helmets through discounts or giving helmets away without charge was also found to increase helmet uptake.<sup>[11]</sup>

A UK hospital-led community-based programme was initiated in 1992 to evaluate the effect of a cycle helmet promotion campaign on helmet wearing among cyclists aged 11 to 15. It consisted of school based talks; age specific information; true case scenarios/videos of head injured children; a demonstration using an egg and small helmet to illustrate the effect of a head injury with and without a helmet; information on how to wear a helmet properly; and a low cost helmet purchase scheme. The programme also ran promotional and awareness events. After five years it was found that self reported helmet use increased from 11 to 31 per cent, with no change in controls.<sup>[12]</sup> Hospital casualty figures for cycle related head injuries also fell in the intervention group from 21.6 to 11.7 per cent of all cycle injuries.<sup>[13]</sup>

## Subsidised and free helmets

Community-based studies that included the provision of free helmets alongside an educational programme produced the largest increases in observed helmet wearing.<sup>[14]</sup>

There is evidence that interventions offering subsidised helmets increased observed helmet wearing, but to a lesser extent than those providing free helmets.<sup>[15]</sup> There is also evidence that interventions set in schools increased helmet wearing, and given that studies demonstrating the largest positive effects were those that included the youngest participants; this may reflect a tendency for interventions to be most effective in younger children.<sup>[16]</sup>

## Impact of legislative interventions

A case control study investigated the prevalence of cycle helmet wearing two years after legislation was introduced making it mandatory for children under 18 to wear cycle helmets in the Canadian province of Alberta. Helmet wearing increased significantly among youths post legislation but remained unchanged among adults to whom the law did not apply.<sup>[17]</sup>

Studies from Western Australia and New Zealand, where cycle helmet wearing is mandatory for all ages have shown that among adults, legislation has the effect of increasing helmet wearing rates.<sup>[18]</sup> The Macpherson and Spinks 2007 Cochrane review found positive evidence that bicycle helmet legislation both increases bicycle helmet use and reduces bicycle related head injuries.<sup>[19]</sup>

No evidence was found to either support or counter the possibility that legislation may lead to negative societal and health impacts such as reductions in cycling participation.

**Do you believe this law should be enacted alongside additional road safety measures such as Traffic management and road design?**

Cycle helmets do not prevent all types of injury or death, however, they play a significant role in reducing head injuries. They are most effective at low impact speeds (approximately 13 mph or less), such as when a cyclist falls from a cycle without the involvement of other vehicles[20].

Cycle helmet legislation and other safe cycling promotions are not mutually exclusive, and there is a clear role for the simultaneous introduction of more primary prevention measures including cycle lanes, driver education and vehicle speed reduction initiatives. A safer cycling environment and infrastructure is vital to having safer cyclists.

Germany and the Netherlands have significantly reduced the number of cyclist deaths by implementing a wide variety of policies improving safety. Between 1978 to 1996 The Netherlands almost doubled the mass of cycle networks and had a drop of 57 per cent in cyclist deaths. During the period of 1976 to 1995 Germany almost tripled their mass of cycle networks and this led to a 64 per cent drop in cyclist deaths.[21]

## **Improving cyclists' safety**

The 1999 BMA report Cycle helmets identified a number of measures to improve cyclists' safety[22]. These include:

- Publicity and education campaigns in order to raise drivers' awareness of more vulnerable road-users, including cyclists
- The creation of a safer cycling environment (e.g. improving cycle routes)
- Reductions in vehicle speeds and traffic volume in urban areas
- The provision of cycling training for all children
- Recognising road safety, including cycling proficiency education, as part of the curriculum for all school children. This should include basic cycle maintenance, and safety precautions (e.g. lights, reflective clothing), information on the health benefits of cycling, as well as encouraging cycle helmet use
- Ensuring the correct fitting of cycle helmets as poorly fitted helmets are less effective
- advertising standards officials should ensure that the public are protected against misleading safety claims from manufacturers
- Cycle manufacturers and retailers should consider supplying a free cycle helmet (or helmet voucher) with every bike sold
- Helmet costs should be reduced substantially (in the UK helmets are free of value added tax).

## **Enforcement**

As with any other legislation enforcement is as important as the law itself. Without compliance the law is at best ineffective. To achieve maximum compliance the law should be complemented by non legislative interventions including mass educational and promotional campaigns.

At a practical level, enforcement of legislation can be achieved through on-the-spot fines or tickets issued by police and traffic wardens, while educational establishments can ensure children wear helmets on journeys to and from school.

For further information please contact:

Gráinne Magee  
BMA(NI) Assembly & Research Officer  
16 Cromac Place Ormeau Road BELFAST BT7 2JB

TEL: 028 9026 9673  
FAX: 028 9026 9674  
EMAIL: [gimagee@bma.org.uk](mailto:gimagee@bma.org.uk)

[1] See BMA web resource – Promoting safe cycling (2010) for further information  
[www.bma.org.uk/health\\_promotion\\_ethics/transport/promotingsafecycling.jsp](http://www.bma.org.uk/health_promotion_ethics/transport/promotingsafecycling.jsp)

[2] Thompson D. C., Rivara F. P. & Thompson R. S. (1999), Helmets for preventing head and facial injuries in bicycling. Cochrane database of systematic reviews 1999, Issue 4, CD001855

[3] Bicycle helmets: review of the effectiveness (No. 30), DfT, November 2004

[4] Transport Research Laboratory (2009) The potential for cycle helmets to prevent injury – a review of the evidence. Wokingham, Berkshire: Transport Research Laboratory.

[5] Cycle (2005) Heads up. London: Cycle

[6] British Medical Association (1999) Cycle helmets. London: British Medical Association

[7] Department of Public Health/University of Western Australia (1999) An economic evaluation of the mandatory bicycle helmet legislation in Western Australia. Perth, Western Australia: Department of Public Health, University of Western Australia.

[8] Parkin PC, Khambalin A, Kmet L et al (2003) Influence of socioeconomic status on the effectiveness of bicycle helmet legislation for children: a prospective observational study. *Pediatrics*, 112, 192-196.

[9] Ibid

[10] Royal S.T., Kendrick D. & Coleman T. (2005) Non-legislative interventions for the promotion of cycle helmet wearing by children. *Cochrane Database of Systematic Reviews*, Issue 2.

[11] Department for Transport (2004) Bicycle helmets: review of the effectiveness (No. 30). London: Department for Transport.

[12] Lee AJ, Mann NP & Takriti R (2000) A hospital led promotion campaign aimed to increase bicycle helmet wearing among children aged 11-15 living in West Berkshire 1992 - 1998. *Injury Prevention*, 6, 151-153.

[13] Lee AJ, Mann NP & Takriti R (2000) A hospital led promotion campaign aimed to increase bicycle helmet wearing among children aged 11 - 15 living in West Berkshire 1992 - 1998. *Injury Prevention*, 6, 151-153.

[14] Lee AJ, Mann NP & Takriti R (2000) A hospital led promotion campaign aimed to increase bicycle helmet wearing among children aged 11 - 15 living in West Berkshire 1992 - 1998. *Injury Prevention*, 6, 151-153.



[15] Lee AJ, Mann NP & Takriti R (2000) A hospital led promotion campaign aimed to increase bicycle helmet wearing among children aged 11 - 15 living in West Berkshire 1992 - 1998. *Injury Prevention*, 6, 151-153.

[17] Hagel BE, Rizkallah JW, Lamy A et al (2006) Bicycle helmet prevalence two years after the introduction of mandatory use legislation for under 18 year olds in Alberta Canada. *Injury Prevention*, 12, 262-265.

[18] Department for Transport (2004) Bicycle helmets: review of the effectiveness (No. 30). London: Department for Transport.

[19] Macpherson A & Spinks A (2007) Bicycle helmet legislation for the uptake of helmet use and the prevention of head injuries, *Cochrane Database of Systematic Reviews*, Issue 2, CD005401.

[20] British Medical Association (1999) Cycle helmets. London: British Medical Association.

[21] British Medical Association (1999) Cycle helmets. London: British Medical Association.

[22] British Medical Association (1999) Cycle helmets. London: British Medical Association.

## **Borghert Borghmans Submission to the Cyclists (Protective Headgear) Bill**

From: Borghmans, Borghert [mailto:[borghert.borghmans@belfasttrust.hscni.net](mailto:borghert.borghmans@belfasttrust.hscni.net)]

Sent: 02 March 2011 12:49

To: +Comm. Environment Public Email

Subject: The Cyclists (Protective Headgear) Bill

To whom it may concern,

The Cyclists (Protective Headgear) Bill represents a retrograde step for Northern Ireland. This Bill will send out the message from Government that cycling is a dangerous activity. Far from it, it is a healthy alternative to our sedentary lifestyle.

Parents and children will be discouraged from cycling when they are faced with the message that cycling is so dangerous that one needs a helmet. Figures from countries where cycling helmets were made compulsory show that in all but one case cycling decreased. Pat Ramsey, when presenting the Bill, failed to mention these figures. It was disappointing to hear that his main motives for introducing the Bill were firmly emotive (reading out a letter from a child), and not based on hard fact.

Government should be seen to encourage an active and outdoor lifestyle. We are faced with an epidemic of obesity and associated diseases. It has to be pointed out that the one Western country that bucks the obesity trend is the Netherlands where most adults own and regularly ride bicycles.

The Netherlands also do not envisage bringing in a Cycle Helmet Bill. The approach there, and it should be adopted here, is to place the onus on the drivers (who are in charge of a dangerous killing machine) to adapt their driving style to the weakest and most vulnerable road users. To that end the traffic landscape has been reformed: pavements removed, cycle lanes removed, road signs and other clutter removed, and a reduction in the speed limit across the country

(except for long-distance A-roads and motorways). The result is that car drivers go at the pace of the slowest, and the experience and safety of cycling and walking is enhanced.

There is some research that demonstrates small children have a benefit from wearing helmets, because they have large heads relative to their body size. They also are more prone to distraction and falling. The figures do not support a case for adults wearing helmets, because of the accidents they have are mostly down to bad, dangerous and reckless drivers, from which no amount of padding will save them.

The final issue: were a child caught without a helmet the parent would be criminalised. How do the supporters of the Bill suppose it being policed? It would be fine for the child to cycle around the park without a helmet, but as soon as it is out through the park gates it is a delinquent!

All in all, the Cycle Helmet Bill is a poorly conceived idea. Let common sense prevail and reject this Bill.

Yours sincerely,

Borghert Jan Borghmans  
71 Edenderry Village  
Shaw's Bridge  
Belfast BT8 8LQ  
P: 02890693930  
M: 07736681356  
E: [bj.borghmans@btinternet.com](mailto:bj.borghmans@btinternet.com)

## **Brake**

### **Cyclists (Protective Headgear) Bill: A submission to the Northern Ireland Assembly Environment Committee Hearing**

**Response from Brake, the road safety charity  
14 March 2011**

#### **About Brake**

Brake is an independent road safety charity, dedicated to stopping death and injury on UK roads and caring for people bereaved and seriously injured in road crashes.

Brake carries out research into road users' attitudes on a range of road safety issues, delivers road safety education to thousands of people in their local communities, and provides a range of services for road safety and fleet safety professionals. These include news bulletins and information sheets, workshops and conferences that disseminate international research and information on effective policies and best practice initiatives.

#### **Cycle helmets**

Brake advocates the use of a helmet when cycling and would support a law to make helmets mandatory for cyclists in Northern Ireland.

In a significant number of crashes between vehicles and bicycles, for example, when a cyclist is knocked off their bike, and in cycle crashes when no vehicle is involved, a cycle helmet can often save a cyclist's life when their head hits the ground. This makes a cycle helmet an important safety measure. It costs little, and offers simple protection in some crashes.

## How safe is cycling?

In Great Britain, cyclists are nearly 13 times more likely to be killed per kilometre travelled, than people in cars[1].

In 2009, cyclists made up 0.5% of traffic, yet accounted for 5% of deaths and 11% of serious injuries on roads in Great Britain in 2009[2].

While these figures are not immediately available for Northern Ireland, this should go some way to show the vulnerability of cyclists.

Head injuries are prevalent among cyclist hospital admissions. The Transport Research Laboratory approximates that 40% of cyclists that are admitted to hospital have head injuries[3].

## Impact of cycle helmets

If a cyclist is knocked off their bike, there is a significant chance their head will hit the road or another object. A helmet dramatically reduces the risk of skull fracture when a cyclist's head hits an object or the road. A helmeted head can fall at least four times as far for the same risk of injury as an unhelmeted head[4]. It also reduces the chances of concussion and helps to protect the head from cuts and scrapes.

In a study by The University of Washington, it was found that helmet use reduces the risk of head injury by 85%, brain injury by 88% and severe brain injury by at least 75% for recreational cyclists[5].

There are numerous studies by highly reputable universities and institutes that confirm that helmets are beneficial for cyclists' safety. (See end).

## Case studies

Compulsory helmet wearing has successfully been introduced in some countries. In New Zealand, a law passed in 1994 made cycle helmet wearing compulsory for all age ranges. It increased helmet wearing from around 20% for adults and teenagers, and 40% for younger children, to more than 90% in all age groups. While cycle helmet wearing cannot protect a cyclist from injuries sustained elsewhere to their body (eg. in the chest area), researchers in New Zealand have concluded that the law has reduced cyclist head injuries significantly. The large increase in helmet wearing associated with the passing of the compulsory helmet wearing law reduced head injuries by between 24-32% in non-motor vehicle crashes, and by 20% in motor vehicle crashes, according to research, which looked at hospitalisations for head injuries among cyclists[6].

Canada, the Czech Republic, Iceland, Spain and some states in Australia have introduced similar legislation.

In early 2004 in the UK, Eric Martlew MP unsuccessfully introduced a Ten Minute Rule Bill (Protective Headgear for Young Riders), to make helmet wearing compulsory for children. This bill was supported by the Royal College of Nursing, the Royal College of Paediatrics and Child Health, Brake, the Child Accident Prevention Trust, the Children's Brain Injury Trust, Headway (the brain injury association), the Royal Society for the Prevention of Accidents.

## **Potential pitfalls**

One argument put forward by anti-helmet campaigners is that compulsory helmet wearing puts off people from cycling, and therefore combats the war against obesity and poor health due to lack of exercise, and the battle against choosing to take the car rather than cycle. Brake believes that the main way to encourage people to cycle is to provide comprehensive off-road networks, and reduce traffic speeds rather than to fight against sensible cycle helmet laws that are supported by health professionals working in the field of neuro-science.

A Brake and Green Flag survey of drivers found that more than a third of people who do not currently cycle on roads, said they would cycle to locally as a means of transport if off-road facilities were available. These people account for nearly one in four of the population<sup>[7]</sup>.

Another argument is that the price of helmets will put people off cycling. While Brake would question the evidence for this, the BMA and Brake argue that cycle manufacturers and retailers should supply free helmets with new bicycles and that there should be no tax on any cycle helmet.

## **Additional comments**

In order to tackle cyclist safety and encourage cycling, legislators must also consider the environment in which cyclists ride. While cycle helmets are proven to be effective in injury prevention, the cause of the injury must also be addressed. A major part of this is on-road safety.

As well as advocating cycle helmet law, Brake would urge the escalation of works to increase the number of 20mph limited roads, independent cycle lanes, cycle paths and schemes to teach effective cycle safety to children and adults.

## **Appendix**

### **Selected list of supportive research on cycle helmets**

#### **14.02.10 - TRL (Transport Research Laboratory), UK The potential for cycle helmets to prevent injury**

Up to 16% of cyclist deaths on roads could be prevented if cyclists wear an appropriate helmet.

#### **17.07.00 - Imperial College School of Medicine Trends in serious head injuries among cyclists in England: analysis of routinely collected data**

Findings indicate that cycle helmets are of benefit both to children and adults. The reason that people most frequently cite for not cycling is risk of injury; measures to increase cycle use must

therefore address safety. Local publicity campaigns encouraging the voluntary wearing of helmets have been effective and should accompany national drives to promote cycling

#### **01.04.98 - University of Washington**

##### **Cycle helmets and the prevention of injuries: recommendations for competitive sport**

**Helmet use reduces the risk of head injury by 85%, brain injury by 88% and severe brain injury by at least 75%. Helmets should be worn by all riders whether the cyclist is a recreational rider or a serious competitor engaged in training or race competition. The International Cycling Federation (ICF) should make the use of helmets compulsory in all sanctioned races.**

#### **11.06.94 - University of Cambridge**

##### **Injury patterns in cyclists attending an accident and emergency department: a comparison of helmet wearers and non-wearers**

The findings suggest an increased risk of sustaining head injury in a bicycle crash when a motor vehicle is involved and confirm the protective effect of helmet wearing for any bicycle crash.

#### **28.09.93 - Queensland Institute of Medical Research**

##### **Effectiveness of bicycle helmets in preventing head injury in children: case-control study**

The risk of head injury in bicycle crashes is reduced among children wearing a helmet. Legislation enforcing helmet use among children should be considered.

For further information, contact Ellen Booth, Brake's campaigns officer, on 01484 550067 or email [ebooth@brake.org.uk](mailto:ebooth@brake.org.uk)

[1] Road Casualties Great Britain 2009, Department for Transport, 2010

[2] *ibid*

[3] The potential for cycle helmets to reduce injury, Transport Research Laboratory, 2009

[4] *ibid*

[5] Cycle helmets and the prevention of injuries: recommendations for competitive sport, University of Washington, 1998

[6] Cycle helmet effectiveness in New Zealand, Land Transport Safety Authority, 1999

[7] The Green Flag report on safe driving, PART FOUR: A risky Business, Brake and Green Flag, 2006

## **Brian Morris Submission to the Cyclists (Protective Headgear) Bill**

From: Brian Morris [mailto:brmbrian@waitrose.com]  
Sent: 14 March 2011 17:04  
To: +Comm. Environment Public Email  
Subject: Helmet laws

You will find that statistics in your country will demonstrate that more lives would be saved if all Irish men wore helmets when walking down staircases or diving cars. Far more than any injury to folks simply riding a bike to the shops or touring by bike in your beautiful land

Brian Morris

## **Brid Coady Weekes Submission to the Cyclists (Protective Headgear) Bill**

From: Brid Coady Weekes [mailto:brid.coady@phonecoop.coop]  
Sent: 08 March 2011 15:01  
To: +Comm. Environment Public Email  
Subject: compulsory helmets for cyclists

Please do not pass the bill compelling cyclists to wear helmets when out cycling. In my several decades of cycling I have had a few falls but never on my head. I would find having to wear a helmet very restrictive and would be discouraged from cycling if forced to do this. Yours, Brid

Brid Coady Weekes  
Apt 42, Danesfort  
Malone Road  
Belfast  
BT9 5QL  
Telephone: 028 90 661 591  
e-mail: brid.coady@phonecoop.coop

## **British Association of Neuroscience Nurses Submission to the Cyclists (Protective Headgear) Bill**

From: Cook Neal [mailto:NF.Cook@ulster.ac.uk]  
Sent: 02 March 2011 09:46  
To: +Comm. Environment Public Email  
Cc: Pelan, Dr Kevin; Anne Preece; Magee, Andrienne  
Subject: Cyclists (Protective Headgear) Bill - Response from the British Association of Neuroscience Nurses  
Importance: High

Dear Sirs

Please see attached the response from the British Association of Neuroscience Nurses to the Cyclists (Protective Headgear) Bill.

Yours sincerely

Neal Cook (On Behalf of the British Association of Neuroscience Nurses)

Neal Cook  
Academic Coordinator - Practice Learning  
Lecturer in Nursing  
University of Ulster  
Magee Campus  
Northland Road  
Londonderry  
BT48 7JL  
Northern Ireland  
Ph: 028 716 75463  
Email: nf.cook@ulster.ac.uk

## **FILE TO GO HERE (FOLLOW UP TO BRITISH ASSOCIATION OF NEUROSCIENCE NURSES**

### **Chris Bloomer Submission to the Cyclists (Protective Headgear) Bill**

From: Chris Bloomer [mailto:Chris.Bloomer@consarc-design.co.uk]  
Sent: 10 March 2011 13:10  
To: +Comm. Environment Public Email  
Subject: Cyclists (Protective Headgear) Bill

Dear Sir / Madam,

I am contacting you with regard to the 'Cyclists (Protective Headgear) Bill', tabled by the SDLP MLA, Pat Ramsey, and currently being considered by the Assembly Environment Committee. I wish to register with you my concerns about this Bill, and hope you will oppose it.

This Bill would, if enacted, make it compulsory for adults and children to wear a helmet when cycling in any public place, and there would be a £50 fine for non-compliance. This would deter people from cycling, while the costs of helmet promotion and enforcement would undermine efforts to encourage more people to cycle more safely more often.

The Bill would be harmful in the following ways:

1. It would deter people from cycling. Where attempted elsewhere, enforcing a legal requirement to wear a helmet has led to a dramatic drop in cycling levels. If this happened in Northern Ireland, it would cause a serious loss of cycling's health, environmental and other benefits.
2. It would be a disproportionate response to the relatively low risks of cycling. Cycling is a safe activity which significantly improves people's health and life expectancy. With so few injuries, the health costs alone of this proposed law would far outweigh any possible benefits.
3. It would be difficult for the police to enforce, requiring considerable costs at a time of tight budget constraints.

4. It would particularly affect people from socially deprived communities, as they are less likely to wear helmets.

5. The substantial costs of helmet promotion and enforcement campaigns would detract from better and more cost-effective ways to achieve more and safer cycling. The available resources would be better spent tackling the causes of road danger by developing safer and well designed roads and supporting programmes to promote cycling such as modern on road cycle training.

I would be grateful if you could share with me your views on this proposed legislation. I look forward to hearing from you.

Yours sincerely

Chris Bloomer  
105 Seaview Drive  
Belfast  
BT15 3ND  
bloomerchris@hotmail.com

CONSARC DESIGN GROUP  
The Gas Office, 4 Cromac Quay  
Ormeau Road, Belfast BT7 2JD.  
t: 028 90 828 400  
f: 028 90 241 182

Also at:

Derry Office - 18 Clarendon Street, Derry, BT48 7ET t: 028 7137 8990 f: 028 7126 6459  
Dublin Office - 1-3 Westmoreland Street, Dublin 2 t: +353 (0)1 612 5256 f: +353 (0)1 679 0046

[www.consarc-design.co.uk](http://www.consarc-design.co.uk)

Please consider the environment before printing this email

This e-mail (and any attachments) may contain privileged and/or confidential information. If you are not the intended recipient please do not disclose, copy, distribute, disseminate or take any action in reliance on it. If you have received this message in error please reply and tell us and then delete all copies on your system. Any opinion on or advice or information contained in this e-mail is not necessarily that of the owners or officers of this company. Should you wish to communicate with us by e-mail, we cannot guarantee the security of any data outside our own computer systems.

## **Chris Rissel Submission to the Cyclists (Protective Headgear) Bill**

From: Chris Rissel [mailto:[chrisrissel@bigpond.com](mailto:chrisrissel@bigpond.com)]  
Sent: 08 March 2011 09:33  
To: +Comm. Environment Public Email  
Subject: No to bicycle helmet legislatio

Don't introduce bicycle helmet legislation. Learn from Australia and avoid this mistake.



As with all modes of travel, there are injury risks from cycling, not just head injuries. However, a recent analysis has compared the risks and benefits, and estimated that the gained life expectancy due to increased physical activity was many times larger (3-14 months gained) than the lost life expectancy due to increased air pollution (0.8-40 days lost) and increased traffic accidents (5-9 days lost), when shifting from a car to cycle commuting in urban settings. The benefits of cycling outweigh the risks, with helmet legislation actually costing society more from lost health gains than saved from injury prevention.

When helmet legislation was introduced we did not have the epidemics of diabetes and obesity that threaten to bankrupt state health budgets. Strategies to increase population levels of physical activity are desperately needed, even if there is a small risk involved.

Chris Rissel

67 Junction Road  
Summer Hill NSW 2130  
Australia

## **Claire Ferry Submission to the Cyclists (Protective Headgear) Bill**

From: Claire Ferry [mailto:claire@dunlin.net]  
Sent: 07 March 2011 21:25  
To: +Comm. Environment Public Email  
Subject: Please vote against compulsory cycle helmets

Dear Mr Boylan

I am writing to you as chair of the Environment Committee with a concern I have about a proposed Bill on cyclist headgear.

I am a long-time cyclist and wear a helmet by choice - and it has helped me in the past. But I do not want to see Assembly time and Government resources wasted on debating and putting through a compulsory cycle helmet Bill!

It is extraordinary that this is even being proposed. There are so many more well-researched and proven ways of making cycling safer, and this isn't one of them. What we need is better investment in cycling, research as to the best routes that cyclists use and implementation of things like cycle paths (in the right places), safe crossings and support for the excellent cycle education work that charities like Sustrans do. It is also potentially discriminatory, but affecting people on lower incomes more. And at this time, when there are so many other important Bills to go through, this feels like a waste of time.

Simply advocating cyclists to wear a helmet sounds like a car user who wishes to lay the blame on unsafe driving and 'annoying' cyclists by putting the onus on the cyclist. Instead, thoughtful road design with real incorporation of routes for non-fossil fuelled cyclist and pedestrians is the way forward.

I would be grateful if you and the Committee would vote against this proposal, and encourage DRD and DOE to invest more in cycling to benefit the environment, human health and wellbeing, and to tackle traffic congestion.

Many thanks,

Claire  
208 Cregagh Rd  
Belfast BT6 9EU

## **Clare Conry Submission to the Cyclists (Protective Headgear) Bill**

From: Clare Conry [mailto:clareconry@gmail.com]  
Sent: 14 March 2011 17:25  
To: +Comm. Environment Public Email  
Subject: Arguments against mandatory helmets for cyclists

Dear Sir/Madam,

Please bear the following points in mind when considering the Bill on mandatory helmet-wearing for cyclists.

There is an unfortunate perception, widespread among non-cyclists and especially the media, that cycling is not safe. Fear is the main reason people give for not cycling (1). The view of many cycling groups is that cycling is safe:

Statistically, the risks associated with cycling are not negligible, but are very low, and similar to those faced by pedestrians and motorists (2). Risks vary significantly depending on circumstance and how risks are measured (3); riding with due care and attention, that is, appropriate risk management, improves safety, as it does for any potentially risky activity, including driving.

Regular cycling is very good exercise and confers a long-term health benefit that far outweighs the risk of cycling (4, 10).

Safety in numbers: the more people who cycle, the safer it becomes (5); this is a prime reason to promote cycling, and to resist measures that discourage it.

1. Helmet law discourages cycling; where applied this has resulted in fewer cyclists (6), hence, because of the 'safety in numbers' effect (see above), the net effect of mandatory helmet wearing has been to actually increase the net risks of cycling.

2. There is also evidence that cyclists wearing helmets are at increased risk, due to two specific factors:

Cyclists wearing helmets take more risks (7,11), perhaps because they feel safer

Motorists treat cyclists with helmets with less care and attention (8)

Most cycling groups prefer to see helmet wearing as a matter of individual choice.

Regards,

Clare Conry.

Notes-

1. Dave Horton 'Fear of Cycling'
2. Active Transport, Health and Transport Group (UK)
3. Ibid, p. 2-9
4. Ibid, p. 2-23
5. Cyclists Touring Club, UK: 'Safety in Numbers'
6. Transport & Health and Australia
7. 14%
8. Dr. Ian Walker. Walker, I. (2007). Drivers overtaking bicyclists: Objective data on the effects of riding position, helmet use, vehicle type and apparent gender. Accident Analysis and Prevention, 39, 417-425.
9. Active Transport, p. 24
10. In the Republic of Ireland, 61% of adults and 20% of children and teens are overweight or obese and 2,000 adults die prematurely due to obesity-related illness in Ireland each year. These deaths cost the State up to €4 billion per year
11. "Cyclists are less likely to ride cautiously when wearing a helmet owing to their feeling of increased security. In this way, they consume some, if not all, of the benefit that would otherwise accrue from wearing a helmet." [Adams, J & Hillman M. (2001). Brit. Med. J. 322, 1063]

I search the web and raise money for charity with Everyclick.

Join me: <http://www.everyclick.com/clareconry>

## **Cliff Sore Submission to the Cyclists (Protective Headgear) Bill**

From: Cliff Sore [mailto:[cliffsore@hotmail.com](mailto:cliffsore@hotmail.com)]  
Sent: 11 March 2011 17:15  
To: +Comm. Environment Public Email  
Subject: Committee For the Environment Cyclists (Protective Headgear) Bill

Where is the supporting data to justify the introduction of this Bill?

Cliff Sore

## **ClIr. Andrew Montague Submission to the Cyclists (Protective Headgear) Bill**

From: Andrew Montague [mailto:[andrewmontague@gmail.com](mailto:andrewmontague@gmail.com)] On Behalf Of Andrew Montague  
Sent: 14 March 2011 15:19

To: +Comm. Environment Public Email  
Subject: Compulsory Cycle Helmets

## **Submission on Proposed Compulsory Cycle Helmets for Northern Ireland.**

My name is Andrew Montague, and I'm a councillor on Dublin City Council. In 2004 I proposed the introduction of a Bike Rental scheme for Dublin at the City Council. This idea took off and in September 2009 I had the pleasure of launching the Dublin Bikes scheme. The scheme has turned out to be very successful and in many respects it has turned out to be one of the most successful bike schemes in the world.

Our target was to sign up 2,000 members in our first year. This figure was based on the typical numbers that signed up in other cities. In fact we signed up over 30,000 members and our 450 bikes do about 6,000 trips per day. There have been over 1.5 millions trips since our launch.

In the 18 months since our launch there has been just one accident that required hospitalisation. Thankfully the woman was released from hospital within 24 hours. After 1.5 million trips, nobody has been killed on a Dublin Bike and there have been no serious head injuries. You couldn't get much safer than this.

We don't have compulsory helmets. One survey showed that less than 10% of users of Dublin Bikes use helmets. Yet there were no serious head injuries in our first year. In contrast we have 30,000 members that regularly use the bikes and are getting lots of exercise. That is very important from a Public Health point of view.

But what would happen if helmets were made compulsory? Well there could be no reductions in head injuries because we haven't had any head injuries. But we know from other cities there would be a dramatic reduction in the numbers cycling in the city and most of the public health benefits would be lost.

Melbourne and Brisbane both launched Public Bike schemes in the last year. Both cities have compulsory helmet laws and in both cities the public bike schemes are not working. Both Melbourne and Brisbane are getting around 100-200 trips per day. Contrast that with Dublin where we get 6,000 trips per day. Dublin City has announced plans to expand our bike scheme from 450 bikes to 5,000 bikes in the next five years. It's likely that the Brisbane and Melbourne schemes will be abandoned due to lack of usage.

Belfast, like Dublin, should have a public bike scheme. If compulsory helmets laws are brought in, it will not be possible to have a viable public bike scheme. A compulsory helmet law would make little difference to the number of head injuries in the city, but it would be very bad for the public health of the city. All the other environmental and traffic benefits would also be lost.

I urge you not to adopt a compulsory helmet law.

Regards

Cllr. Andrew Montague  
44 Shangan Green  
Ballymun  
Dublin 9  
087 908 0409

## **Colin Clarke Submission to the Cyclists (Protective Headgear) Bill (1)**

From: COLIN CLARKE [mailto:member@vood.freeseerve.co.uk]  
Sent: 10 March 2011 22:26  
To: +Comm. Environment Public Email  
Subject: Submission to committee

Dear Committee Members

Please find attached my submission for the Cycle helmet bill.

If I can assist in any way please email or phone and I will try to assist.

Best wishes Colin Carke  
tel 01759 373045

## **Colin Clarke Submission to the Cyclists (Protective Headgear) Bill (2)**

From: COLIN CLARKE [mailto:member@vood.freeseerve.co.uk]  
Sent: 13 March 2011 16:11  
To: +Comm. Environment Public Email  
Subject: Submission to committee Appendix

Dear Committee Members

Please find attached an appendix (relating mainly to Canada) to my submission for the Cycle helmet bill.

If I can assist in any way please email or phone and I will try to assist.

Please confirm receiving my submissions.

Best wishes Colin Carke  
tel 01759 373045

## **Cyclists (Protective Headgear) Bill (Bill NIA Bill 9/10)**

### **Submission – March 2011**

**Colin Clarke,  
9 The Crescent, Stamford Bridge, York, YO41 1BU.**

**Qualified Cycling Coach, EmailColin@vood.freeseerve.co.uk , author of:**

1. Safer Cycling 1st Edition 1995, 80 page technical booklet detailing cycling and safety issues plus information regarding helmets and legislation.
2. Bicycle helmets and accident involvement; Cycling World, UK, June 2003, a technical article relating helmets and the accident involvement rate.
3. Safety in numbers for walkers and cyclists; Health Promotional Journal of Australia, Vol 16, No 2, 2005, a letter detailing many of the concerns that exist relating to cycle helmet laws.
4. The Case against bicycle helmets and legislation, Canadian Multidisciplinary Road Safety Conference, Winnipeg, Manitoba, Canada 2006. A paper presented at the main road safety annual conference in Canada explaining the basic case against helmet use and legislation.
5. World Transport Policy & Practice Volume 12, No. 2, 2006 The case against bicycle helmets and legislation <http://www.eco-logica.co.uk/pdf/WTPP12.3.pdf>
6. The Case against bicycle helmets and legislation, VeloCity cycling conference, Munich 2007. A detailed report presented at the world's leading cycling conference providing details showing how helmet use and legislation has reduced both health and safety in general terms. [http://www.ta.org.br/site/Banco/7manuais/colin\\_clarke\\_cycle\\_helmet.pdf](http://www.ta.org.br/site/Banco/7manuais/colin_clarke_cycle_helmet.pdf)
7. Assessment of Australia's Bicycle Helmet Laws, refer 'Mandatory' can have unanticipated consequences – Civil Liberties Australia web site, 25 Nov. 2008. Providing details of the effects of the legal requirement to wear cycle helmets. <http://www.cla.asn.au/Article/081125BikesHelmetPolicy.pdf>
8. Evaluating bicycle helmet use and legislation in Canada, 2009. [http://www.cycle-helmets.com/canada-hel ... ssment.doc](http://www.cycle-helmets.com/canada-hel...ssment.doc) This paper evaluates helmet law effects on children for provinces with helmet legislation and compares to provinces without legislation for the period 1994 to 1998. It shows a relative net benefit for those without legislation.
9. Health and safety assessment of state bicycle helmet laws in the USA. [http://www.ctcyorkshirehumber.org.uk/USA\\_helmet\\_laws.pdf](http://www.ctcyorkshirehumber.org.uk/USA_helmet_laws.pdf)

## **Clause1**

### **Protective headgear - Requirement to wear protective headgear**

Many reports can be quoted to support bicycle helmet legislation but when examined in close detail they have substantial flaws, see Cyclehelmets.org for numerous examples (<http://www.cyclehelmets.org/>). Sales figures for helmets are quoted as 15 million for the USA per year. Underlying the incentive for helmet promotion is a multi-million pound industry with a vested interest. The Netherlands has a cyclist fatality rate per billion km cycled of about 11. The GB rate is approximately 20+. Northern Ireland appears to be similar at about 20+ rate. The Netherlands mean rate is near to 5 or 6 with many older people pushing up their rate. The low rate of 5-6 is achieved by separating cyclists from HGV type and fast moving traffic, having a low drink drive limit, a low speed limit 80km/hr (50mph) for country roads and with drivers taking more care when passing cyclists.

The charity Headway has campaigned for cycle helmet legislation with misleading information and they are not alone in making statements that are incorrect.

The proposed legislation has in practice no substantial merit. It would result in discouraging cycling, result in many fines, contribute to discrimination in accident compensation, contribute to reducing overall road safety over time, remove the civil liberty of allowing for a personal choice based on circumstances, have negative health effects and tend to increase the accident rate per km cycled. The following details provides a summary:

## Cycle helmet law not the best approach

### Helmet laws discourage cycling, safety concerns and fines

The first all-age bicycle helmet law to be introduced was in Victoria, Australia in 1990 and the number of cyclists riding dropped by about 36%<sup>1</sup> compared to 10% extra wearing helmets, as shown in Fig 1.

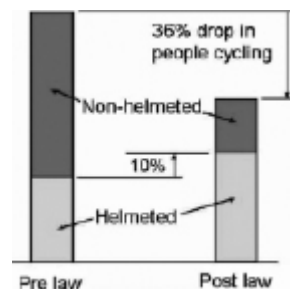


Fig 1 Helmet law effect from Melbourne

In rural areas outside of Melbourne, where they had a higher cycling rate, accident data suggests cycling reduced by more than 40%.

This result of discouraging people was in sharp contrast to other measures such as seat belts, which did not discourage driving.

The Melbourne surveys, 64 sites at 10 hours per site, showed 30 more teenagers wearing helmets but 623 fewer cycling. The main effect of the law was to discourage cycling.

Robinson 1996 report<sup>2</sup>, Table 5 shows data for children in Victoria. The equivalent number of injuries for pre law level of number of cyclists increased from 897 (88 head + 809 other injuries) in 1990 to 1035 ( 91 head + 944 other injuries) in 1992. The increased injury rate was 15%, from 897 to 1035.

For New South Wales their survey data also showed reduced cycling following legislation in 1991.

#### Children counted

1991 – 6788

1992 – 4234

1993 – 3798

A reduction of 44% occurred. For children cycling to school and back, a reduction of 47%.

Robinson 1996 report, Table 2 shows data for children in NSW. The equivalent number of injuries for pre law level of number of cyclists increased from 1310 (384 head + 926 other injuries) in 1991 to 2083 (488 head + 1595 other injuries) in 1993. For NSW the helmet laws

discouraged cycling and reduced children's safety. The increased injury rate was 59%, from 1310 to 2083.

In 2008 Curnow<sup>3</sup> concluded, "Compulsion to wear a bicycle helmet is detrimental to public health in Australia but, to maintain the status quo, authorities have obfuscated evidence that shows this" and "Cycling declined after the helmet laws by an estimated 40% for children, with loss of the benefits of the exercise for health. As serious casualties declined by less, the risks to cyclists, including death by head injury, increased." A link to the paper is at <http://www.ncbi.nlm.nih.gov/pubmed/18481926> ,

Erke and Elvik (Norwegian researchers) 2007<sup>4</sup> stated: "There is evidence of increased accident risk per cycling-km for cyclists wearing a helmet. In Australia and New Zealand, the increase is estimated to be around 14 per cent."

European Cycling Federation reported<sup>5</sup>, "The evidence from Australia and New Zealand suggests that the wearing of helmets might even make cycling more dangerous."

The UK's National Children's Bureau (NCB) provided a detailed review<sup>6</sup> of cycling and helmets in 2005, stating that the case for helmets is far from sound and the benefits of helmets need further investigation before even a policy supporting promotion can be unequivocally supported.

Survey data from New Zealand and Canada also indicates cycling being discouraged when helmet laws are enforced. Safety for cyclists relates strongly to the number of people cycling and the expectation of motorists encountering cyclists (Jacobsen<sup>7</sup>), fewer cyclists' means reduced overall safety. Helmet laws, where enforced, have consistently led to substantial reductions in cycle use.<sup>8</sup>

## Deaths

On average in Northern Ireland approximately 2 cyclists die from 136 road deaths<sup>9</sup> annually and 4480 deaths occur due to circulatory disease per year. In 1985, Sage et al<sup>10</sup> mentions that out of 20 bicycle riders fatally injured in Auckland, New Zealand, between 1974 and 1984, 16 died (80%) of injury to multiple organ systems. They stated, "This study indicates that compulsory wearing of suitable safety helmets by cyclists is unlikely to lead to a great reduction in fatal injuries, despite their enthusiastic advocacy." The BMA reported that in fatal accidents the force of impact is considered to be so significant that most protection would fail<sup>11</sup>.

In Northern Ireland cycle helmets cannot save many lives, if any, per year. Approximately 12 million people cycle in the UK, proportionally 340,000 in Northern Ireland. If 30% did not wear helmets, 100,000 would be subject to police action. It is known that lower income and minority groups are more likely not to wear helmets. Taking up valuable police time with cycle helmet enforcement may have unexpected consequences and tend to detract from other very worthwhile road safety measures. Evidence from Australia suggests this adverse effect may occur.

The WHO has developed an assessment method, "Quantifying the positive health effects of cycling and walking" and this can be used to evaluate changes in the level of cycling activity.<sup>12</sup> Recently the CTC (UK's national cycling organisation) has provided a detailed assessment of the effects a helmet law for all ages could have on the UK.<sup>13</sup> The CTC stated "we estimate that a law making helmets compulsory for cyclists may result in an overall increase in 253 premature deaths (265 more from reduced cycling, 12 fewer from the reduced pool of cyclists receiving fatal head injuries)." By proportion for Northern Ireland the increase would calculate at about 7 premature deaths per year.



UK's Transport Research Laboratory in 2009 predicted that between 10 per cent and 16 per cent of fatalities could have been prevented if the cyclists had worn a helmet. Reports on helmets detailing impact locations, show that most impacts occur on the sides and temporal areas, with fewer on the top or back. Helmets can be about 40% wider than a bare head and therefore incur more impacts. According to one estimate, helmet use may double the impact rate<sup>14</sup>. The TRL report and the 10%-16% estimate is not allowing for many more head impacts or the increase in accidents,<sup>15</sup> therefore its conclusions are unreliable. The report is misleading in important aspects- see <http://www.cycle-helmets.com/head-helmet.doc>



X - ray images

Source Department for Transport helmet-promotion campaign.  
(Highly undesirable image for promoting cycling)

Accidental hanging is still occurring among young children who wear bicycle helmets while engaging in activities other than bicycle riding. Worldwide, the toll of deaths has now reached at least 14, with examples in the USA, Canada, Australia and Scandinavia.<sup>16</sup>

Taking into account the discouraging effects of enforced helmet legislation and loss of associated health benefits plus issues of diverting the police from concentrating on highly effective road safety measures, it can be concluded that helmet legislation would cost lives rather than save them.

## Head injuries

Great Britain accident data<sup>17</sup> for 2009 reports the proportion of road casualties with injury to head/face. For the age group 0 - 15 years, pedestrians 53%, car occupants 46%, pedal cyclists 40%

For all ages, pedestrians 46%, car occupants 32%, pedal cyclists 37%.

The UK rate for children (0–14 years) admitted to intensive care with TBI between February 2001 and August 2003 was 5.6 per 100 000 population per year<sup>18</sup>. The mortality rates were 23% of vehicle occupants, 12% of pedestrians, cyclists 8% and falls 3%. Rates for 0–14-year-old children admitted with TBI in England & Wales - 551, Scotland - 45, and Northern Ireland – 27 (7.3 per 100 000 per year in Northern Ireland). Of the cases pedestrians were 36%, falls 24%, cyclists 10%, vehicle occupants 9% and others 21%.

## Length of stay in hospital

Great Britain accident data details the average length of stay in hospital was:

pedestrians 4.8 days, car occupants 3.3 days, pedal cyclists 2.3 days.

Australian data for length of stay for head injury<sup>19</sup>: pedestrians 8.8 days, motorcyclists 5.4 days, car passengers 5.2 days, car drivers 4.9 days and cyclists 3.0 days

## **Great Britain data**

The Great Britain helmet wearing rate has increased for mainly adults, children about 18% on major roads and 12% on minor roads. adults about 35% on major roads and about 18% on minor roads perhaps.

Great Britain accident data 2009, table 7C provides data by age groups. Comparing cyclists to pedestrians, age group 25-59, 2009 compared to 1994-98 averages. Change in number of casualties, cyclists +3%, pedestrians - 38%.

The adult group, who increased their helmet-wearing rate, also had increased casualties of 41% compared with pedestrians. For children cycling with a low use of helmets, they have reduced casualties by more than 50%, similar to child pedestrians.

Velocity report from 2007 lists about 15 reports indicating increased accident involvement with helmet use.

[http://www.ta.org.br/site/Banco/7manuais/colin\\_clarke\\_cycle\\_helmet.pdf](http://www.ta.org.br/site/Banco/7manuais/colin_clarke_cycle_helmet.pdf)

Erke and Elvik (Norwegian researchers) 2007 stated: "There is evidence of increased accident risk per cycling-km for cyclists wearing a helmet. In Australia and New Zealand, the increase is estimated to be around 14 per cent."

## **Discrimination in accident compensation**

Every individual should be equal before the law and has the right to the equal protection and equal benefit of the law without discrimination. Pedestrians and motor vehicle occupants suffer many head injuries. Discrimination can occur in accident compensation cases where a cyclist was not wearing a helmet, compared to pedestrians or indeed motor vehicle occupants who suffer head injuries. Cycle helmet law results in unfair compensation and a biased legal process plus discrimination.

Where exemptions are allowed, the person cycling may be stopped at any time and questioned by the police. Cycle helmet laws promote unequal aspects in the legal processes and thus act as an incitement to discrimination.

## **PART III, Article 7 of the International Covenant of Civil and Political Rights.**

### **Article 7**

No one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment. In particular, no one shall be subjected without his free consent to medical or scientific experimentation.

The UK report RSRR3020 reported 31 papers in favour of helmets or legislation compared with 32 against. The evidence supporting helmet use and legislation is clearly divided. Around the world, a few cycle helmet laws have been introduced for all ages, whilst others have been introduced for younger cyclists only, thus giving adults freedom of choice. In other areas, helmet laws have been rejected or at least not supported.

Standard tests for cycle helmets do not include capacity to reduce angular acceleration, and in some circumstances, wearing a helmet can increase the angular acceleration, which an oblique impulse imparts to the head, increasing the risk of damage to the brain, especially diffuse axonal injury<sup>21</sup>.

In effect helmet laws are an experiment in health, social and safety aspects on a population basis. The public has a right not to take part in medical or scientific experimentation. In Canada the average length of stay in hospital for cyclist head injury has increased by 60% between 1994/1995-2003/2004, from 4.3 days to 6.9 days and serious head injuries reported to have increased since 2001. There is evidence of increased accident risk per cycling-km for cyclists wearing a helmet. In Australia and New Zealand, the increase is estimated to be around 14 per cent.

Road safety is improving with total deaths reducing in the UK and the greatest threats are from obesity, heart disease and other illnesses resulting in large part from inactivity. Roughly per million population, 2 cyclists deaths occur compared to 2000 from circulatory disease. Cycling has a key role to play in preventing these illnesses. Less cycling through a helmet law would aggravate the situation.

## **Clause 2 – Regulations**

The Department is allowed to decide and consult with who it pleases as to what helmets may be suitable or safe or questionable.

Little if any control or safeguards for the public to challenge what is decided, they are required to purchase and wear, but have no sound or easy avenue to challenge the Department. E.g. In tests on helmets by the consumer magazine Which?<sup>22</sup>, it was reported that only 9 from 24 passed all tests and therefore even new helmets may not be reliable.

## **Clause 3 - Penalty charges**

The penalty charge payable in respect of a contravention of section 1 is £50.

In Australia they started off at \$25 penalty but now it is over \$100 in Victoria.

Approximately 12 million people cycle in the UK, proportionally 340,000 in Northern Ireland. If 30% did not wear helmets, 100,000 would be subject to police action.

In the USA minority poorer groups tend not to wear helmets, similar in Canada, if similar in Northern Ireland then problems could occur with minority groups thinking the police are acting against their group.

In Victoria Australia (4.34 million population 1990) 19229 fines were issued in the first 12 months of their law. Pro rata for Northern Ireland a similar level of fines could result in approximately 7500 fines per year.

"The Department may by order vary the amount of the penalty charge."

This potentially allows excessive fines to be imposed without asking MLA for their consent. A provision to keep fines in line with inflation would provide guidelines for the Department and not to exceed the intentions of MLA.

## **Clause 4 - Issue of penalty charge notice**

The Times reported 'Jailed for not putting on a bike helmet'<sup>23</sup>. It mentions, a 15-year-old Aboriginal girl was strip-searched and spent a night in a detention centre for not paying a fine. Her offence was not wearing a bicycle helmet.

Courts in Australia have found it difficult to deal with the many fines being issued.

The police time involved in dealing with cyclists would over time detract from other worthwhile road safety matters. Children may regard the police as a problem rather than a help.

## **Clause 5 - First contravention: further provision**

Extra time required by the police to deal with cases.

## **Clause 6 – Waiver**

Extra time required by the police to deal with cases.

## **Clause 7 - Register of Penalty Charges**

Would result in keeping records of children for offences and adults, similar to a criminal conviction.

## **Clause 8 - Appeal to an adjudicator**

A process that may favour a person well funded to try and find an appeal.

Time consuming.

## **Clause 9 - Adjudicators**

Expensive people to employ.

## **Clause 10 - Proceedings before adjudicators**

Could entail court type procedures for adults or children and cost. Not in keeping with promoting a healthy, safe and relaxed society.

## **Clause 11 - Further provisions relating to adjudicators**

Extra expense and time consuming activities.

## Clause 12- Campaign

Generally the challenge is to achieve more cycling and safer cycling, making it more convenient and comfortable. Any risks associated with cycling are exceeded by health benefits. In terms of life-years gained and lost, the health benefits of cycling outweigh any risks by a factor of 20 to 1 according to health researchers. Dr Hillman considered the evidence for helmets in 'CYCLE HELMETS the case for and against'<sup>24</sup> and did not advise helmet promotion. The UK's National Children's Bureau (NCB) provided a detailed review<sup>25</sup> of cycling and helmets in 2005, stating that the case for helmets is far from sound and the benefits of helmets need further investigation before even a policy supporting promotion can be unequivocally supported. Helmets are sold without testing for levels of rotational accelerations that can lead to death of serious brain injury<sup>26</sup>. Neck injury results show they may increase with helmet use. Strangulation of young children is also a risk. Helmet promotion by one school near Derby resulted in children being expelled because they refused to wear them when cycling to school and fewer children cycling to school. Additionally the accident rate increases with their use, Erke and Elvik 14%, referred to previously. Campaigns for helmet promotion are not a suitable choice and especially without due warnings of their dangers. Cyclehelmets.org provides additional information at <http://cyclehelmets.org/1020.html>

Campaigns for safer passing of cyclists may be worthwhile, requiring that allowing at least 1 metre clearance may provide more benefit to increase cycling and safety.

## Clause 13 - Regulations and orders

"(2) Regulations made under this Act shall be subject to negative resolution."

Not clear to the public what this will mean

## Clause 14-17

No comment.

Additional unpublished information regarding British Columbia, Canada has been prepared. If members of the committee have any question or require additional information, they are welcome to email.

## References

### (Endnotes)

1 Finch C, Heiman L, Neiger D; Bicycle Use and Helmet Wearing Rates in Melbourne, 1987 to 1992: The Influence of the Helmet Wearing Law; Report 45. Melbourne (Vic): Accident Research Centre, Monash University, 1993.

2 Robinson DL; Head injuries and bicycle helmet laws; *Accid Anal Prev*, 28, 4: p 463-475, 1996  
<http://www.cycle-helmets.com/robinson-head-injuries.pdf>

3 Curnow WJ, Bicycle helmets and public health in Australia, *Health Promotion Journal of Australia*, 2008 Apr. 19 (1):10-15

- 4 Erke A, Elvik R, Making Vision Zero real: Preventing Pedestrian Accidents And Making Them Less Severe, Oslo June 2007. page 28  
[http://www.toi.no/getfile.php/Publikasj ... 7-nett.pdf](http://www.toi.no/getfile.php/Publikasj...7-nett.pdf)
- 5 European Cycling Federation 1998 ' IMPROVING BICYCLE SAFETY without making helmet-use compulsory', 060131\_ECF\_Helmet\_brochure.pdf
- 6 Gill T, Cycling and Children and Young People, A review, National Children's Bureau, 2005.  
[http://www.cycle-helmets.com/cyclingreport\\_timgill.pdf](http://www.cycle-helmets.com/cyclingreport_timgill.pdf)
- 7 Jacobsen PL; Safety in numbers: more walkers and bicyclists, safer walking and bicycling; Inj Prev, 9(3);205-9, 2003.
- 8 Robinson D. Do enforced bicycle helmet laws improve public health? BMJ vol. 332, p722. 2006.
- 9 Northern Ireland Transport Statistics [http://www.drdni.gov.uk/index/statistics/stats-categories/ni\\_transport\\_statistics.htm](http://www.drdni.gov.uk/index/statistics/stats-categories/ni_transport_statistics.htm)
- 10 Sage M D, Cairns F J, Toeimeyer T D, Sweeton W M I, 'Fatal injuries to bicycle riders in Auckland' New Zealand Med J, 25 Dec, 1985.
- 11 BMA, Promoting safe cycling, A briefing from the Board of Science, March 2008
- 12 Quantifying the positive health effects of cycling and walking  
[http://www.euro.who.int/transport/policy/20070503\\_1](http://www.euro.who.int/transport/policy/20070503_1)
- 13 Cycle Safety Study - helmets review,  
<http://www.ctc.org.uk/DesktopDefault.aspx?TabID=5339> accessed 17 Feb 2010.
- 14 Clarke CF, The Case against bicycle helmets and legislation, VeloCity, Munich 2007..  
[http://www.ta.org.br/site/Banco/7manuais/colin\\_clarke\\_cycle\\_helmet.pdf](http://www.ta.org.br/site/Banco/7manuais/colin_clarke_cycle_helmet.pdf)
- 15 Comparing impacts for helmeted and non-helmeted <http://www.cycle-helmets.com/head-helmet.doc>
- 16 Doctors draw attention to helmet hanging risk, Cyclehelmets.org  
<http://www.cyclehelmets.org/1207.html?NKey=54>
- 17 Reported Road Casualties Great Britain: 2009,  
<http://www.dft.gov.uk/pgr/statistics/datatablespublications/accidents/casualtiesgbar/rrcgb2009>
- 18 Parslow RC, Morris KC, Tasker RC, Forsyth RC, Hawley CA, Epidemiology of traumatic brain injury in children receiving intensive care in the UK, Arch Dis Child 2005;90:1182–1187. doi: 10.1136/adc.2005.072405
- 19 Assessment of Australia's Bicycle Helmet Laws, refer 'Mandatory' can have unanticipated consequences – Civil Liberties Australia web site, 25 Nov. 2008..  
<http://www.cla.asn.au/Article/081125BikesHelmetPolicy.pdf>
- 20 Towner E, Dowswell T, Burkes M, Dickenson H, Towner J, Hayes M; Bicycle Helmets – A review of their effectiveness, A critical review of the literature, road safety report No 30; Department for Transport, UK, 2002. Note: report contains misleading claim for helmets.

21 W.J. Curnow, 'Bicycle Helmets: a Scientific Evaluation' in Anton de Smet (ed), Transportation Accident Analysis and Prevention (2008), 139, 155.

22 Which?; Get a head start, p 28 – 31, October, UK, 1998.

23 Jailed for not putting on a bike helmet', Times Educational Supplement, 27 March 1998.  
<http://www.tes.co.uk/article.aspx?storycode=303664>

24 Hillman M, 'CYCLE HELMETS the case for and against' Policy Studies Institute, London 1993

25 Gill T, Cycling and Children and Young People, A review, National Children's Bureau, 2005.  
[http://www.cycle-helmets.com/cyclingreport\\_timgill.pdf](http://www.cycle-helmets.com/cyclingreport_timgill.pdf)

26 Curnow WJ, The Cochrane Collaboration and bicycle helmets, Accid Anal and Prev 37 (2005) 569–573

## **Cyclists (Protective Headgear) Bill (Bill NIA Bill 9/10)**

### **Submission – March 2011 – Appendix**

**Colin Clarke,  
9 The Crescent, Stamford Bridge, York, YO41 1BU.**

Qualified Cycling Coach, EmailColin@vood.freeseerve.co.uk

I wish to add this additional information, mainly relating to Canada, to my main submission.

Northern Ireland Assembly debates, 31 January 2011

Mr Ramsey, stated

"Let me refer to a peer-reviewed 'British Medical Journal' study into the impact of cycling helmet legislation in Canada, where there are different pieces of legislation in various states. It makes for interesting comparisons. The study found that helmets were reportedly worn by 73·2% of respondents in Nova Scotia, where legislation applies to all ages; by 40·6% of respondents in Ontario, where legislation applies to those who are under 18 years of age; and by almost 30% of respondents in similar areas where no legislation exists.

It also found that, following the implementation of legislation in Prince Edward Island and Alberta, recreational and commuting bicycle use remained unchanged among youths and adults.

The study concluded that Canadian youths and adults are more likely to wear helmets as the comprehensive use of helmet legislation increases. Interestingly, it also found that helmet legislation is not associated with changes in ridership. In other words, it did not impact negatively on the number of people who use bicycles. I can provide references on those figures if any Member is interested in reviewing any of the evidence that I have presented."

From the following information you may see Mr Ramsey was referring to misleading claims. The Assembly may have been unintentionally misled. I have concerns about reports from Canada because on a few occasions they have failed to provide reliable information.

Cyclehelmets.org provides comment on the Canadian papers.  
<http://www.cyclehelmets.org/1201.html>

"The authors therefore conclude that provincial helmet legislation in Canada has not led to the sharp declines in cycling that were seen in Australia and New Zealand following enforcement of cycle helmet legislation[1],[2].

The data presented do not support these conclusions. There are in fact sharp falls in cycling after legislation evident in the data, which the authors do not draw attention to."

In Canada they have failed to provide full surveys and assess the data properly.

<http://injuryprevention.bmj.com/content/16/4/219>  
[http://injuryprevention.bmj.com/content ... ev\\_el\\_2778](http://injuryprevention.bmj.com/content...ev_el_2778)  
[http://www.cycle-helmets.com/canada\\_helmets.html](http://www.cycle-helmets.com/canada_helmets.html)  
[http://www.cycle-helmets.com/canada-hel ... ssment.doc](http://www.cycle-helmets.com/canada-hel...ssment.doc)

Mr Ramsey also mentioned

Macpherson and Spinks in 2008 concluded that:

"Although the results of the review support bicycle helmet legislation for reducing head injuries, the evidence is currently insufficient to either support or negate the claims of bicycle helmet opponents that helmet laws may discourage cycling."

Earlier, I referred to a 2010 Canadian study, which found no adverse effect on the number of people who cycle. I will share my references with my colleagues in the Chamber, if they wish. I have the information, and they can see it for themselves.

[http://injuryprevention.bmj.com/content/16/4/219/reply#injuryprev\\_el\\_2778](http://injuryprevention.bmj.com/content/16/4/219/reply#injuryprev_el_2778)

## **Cycle helmet law not properly assessed**

Published 2 September 2010,

Cyclists (Protective Headgear) Bill: Second Stage  
Private Members' Business  
Northern Ireland Assembly debates, 31 January 2011

Mr Ramsey made a point of the claim that legislation had not reducing cycling and referred back to it. However, he did not mention that Injury Prevention had published an e-letter saying 'Cycle helmet law not properly assessed', claiming

"it appears the conclusions reached were ill considered and unreliable for a number of reasons"

and

"The article concludes that helmet legislation is not associated with changes in ridership. This statement is somewhat misleading. Fig 3 in the article shows trends of recreational bicycle use and the mean number of times cycled in Alberta and Prince Edward Island. Alberta youth data 2001 shows approximately 58% use bikes, 30 times a year, a combined product of 17.4 may indicate the level of cycling activity. In 2007, 58% also used bicycles but only 16 times per year, indicating a product of 9.28 and suggesting a reduced level of cycling activity by 47%."



The authors did not reply. A previous e-letter published asked about contradictory in a Canadian cycle helmet report without a proper reply.

Canada - East Yorks, Toronto studies.

Claims that the helmet law, a non-enforced law, did not discourage cycling appear not to be reliable. Law introduced Oct 95. The reports 2001, 2003 and 2006 contradict each other. I asked the authors to provide more information but they did not respond to my e-letter published in Injury Prevention.

[http://injuryprevention.bmj.com/content/12/4/231.abstract/reply#injuryprev\\_el\\_2451](http://injuryprevention.bmj.com/content/12/4/231.abstract/reply#injuryprev_el_2451)

The article by Macpherson et al, 2003i relies on surveys from 111 sites around East York (Toronto) and some questions remain about these surveys. Data from two reports provides confusing indications on the level of cycling. In 2001ii figures were published for the hourly rate for several years and by comparison in 2003 counts for 8-years were provided based on 1 hour observation at each site. An hourly rate is calculated base on the 111 sites and 1 hour per site , 'A' divided by 111. The table below shows the data;

The 2003 article (8 year study) provides count figures and for 1995 and 1996 they were, 1227 and 1202.

See table below.

	1990	1991	1992	1993	1994	1995	1996	1997	1999	2001
2001 report cyclist counted				1597	2355	763	1371	1375	1128	
Helmeted % From ref 1						45*		68	45	
Hourly rate quoted				6.58	5.54	4.32/4.33	6.84	4.57	10.07	
Calculated Total hours (count divided by 111 hrs)				242.7	425	176.6	200	300	112	
2003 report cyclist counted 'A'	914	1879	1563	984	1083	1227	1202	916		
Helmeted	34	303	383	438	460	568	818	609		
% wearing rate	3.7	16.1	24.5	44.5	42.5	46.3	68.0	66.5		

	1990	1991	1992	1993	1994	1995	1996	1997	1999	2001
Calculated hourly rate (count divided by 111 hrs)	8.23	16.93	14.08	8.86	9.85	11.05	10.8	8.25		
2006 reportiii cyclist counted										
Helmeted % approx						45*		68	45	46
Hourly rate quoted				6.58	5.54	4.32/4.33	6.84	4.57	10.07	4.03

Accident data Ontario, cyclist 0-14 age group, (0-19 age group)

1994 – 1456 (1629)

1995 – 1250 (1400)

1996 – 1088 (1251)..... $1251/1629 = 77\%$ .... ( $1088/1456 = 75\%$ )

1997 – 1149 (1296)

Approx accident data, non-head admissions from Macpherson article 2002, 5-19 age group, rate per 100,000

94/95 – (23.7)

95/96 – (21.7)

96/97 – (20.48)..... $20.48/23.7 = 86\%$

97/98 – (20.98)

Data from the 2003 report and accident data suggests a drop in cycling from 95 to 96.

Robinsoniv stated

"The Canadian study had 111 pre-selected sites, each recorded for one hour, but weather conditions were not reported (though elsewhere 1999 was described as a particularly sunny summer; A K Macpherson, personal communication). Table 1 in the Macpherson et al paper<sup>2</sup> shows that, in some years, some sites were recorded more than once. Moreover, observations were not at the same time of day and day of the week each year (A K Macpherson, personal communication)"

A number of aspects arise,

- 1) Why the counts for years 1993 to 1997 were quite different in the published reports.
- 2) Why the total hours of surveys calculated should vary from 112 hours to 425 hours.
- 3) Why the observation hours were not a multiply of 111, as per number of sites.

4) Which survey details would be more likely to reflect the true level of cycling activity, 2001 or 2003, if either.

5) Could there have been an 17% drop in cycling, 2003 data - average count pre law 1275, post law 1059

6) How reliable are the surveys for indicating the overall level of cycling activity for those aged to 19 years.

Helmet use of 46% before legislation is identical to that in 2001 at 46%, seems like no appreciable effect from legislation.

Where a helmet law was enforced the effect are clear. The 1996 paper by Robinson, <http://www.cycle-helmets.com/robinson-head-injuries.pdf>

For New South Wales their survey data showed reduced cycling following legislation in 1991. Children counted, 1991 – 6788, 1992 – 4234, 1993 – 3798. It should be noted that this is a downward trend so in 1994 it could have been lower than 1993 etc.

## **Endnotes**

i. Parkin PC, Khambalia A, Kmet L, et al. Influence of socio-economic status on the effectiveness of bicycle helmet legislation for children: a prospective observational study. *Pediatrics* 2003;112:e192

ii Macpherson AK, Parkin PC, To TM. Mandatory helmet legislation and children's exposure to cycling. *Inj Prev* 2001;7:228–30.

iii Macpherson AK, Macarthur C, To TM, et al. Economic disparity in bicycle helmet use by children six years after the introduction of legislation. *Inj Prev* 2006;12:231-235  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2586775/>

iv Robinson DL, Helmet laws and cycle use, RESEARCH LETTER, *Inj Prev* 2003;9:380-381

## **Cyclists (Protective Headgear) Bill: the case against legislation**

### **Supplementary submission to the Northern Ireland Assembly Environment Committee From CTC, the UK national cyclists' organisation - March 2011**

#### **About this submission**

This document provides supplementary evidence to the main evidence submission made jointly by CTC and Sustrans.

Part A surveys the contradictory evidence on the uncertain effectiveness of helmets, as noted in paragraph 3.18 of our main submission. It also addresses the question of whether the Canadian experience shows that helmet laws can be introduced without reducing cycle use.

Part B summarises the key message of a recent research paper showing that helmet laws, and even promotional campaigns, are almost bound to have a large net disbenefit to public health – see paragraphs 3.15 to 3.17 of our main submission.

Part C responds to some of the claims made by the promoter and backers of the Cyclists (Protective Headgear) Bill, and other arguments regularly made by advocates of helmet laws.

## **About us:**

CTC, UK's the national cyclists' organisation, was founded in 1878 and has 67,000 members throughout the UK, including 500 in Northern Ireland. CTC works to promote cycling by raising public and political awareness of its health, social and environmental benefits, and by working with all communities to help realise those benefits.

CTC  
Parklands,  
Railton Rd,  
Guildford,  
Surrey  
GU2 9JX  
Tel : 0844 736 8450  
cycling@ctc.org.uk  
www.ctc.org.uk

## **Appendix A: Helmet laws and effectiveness: contradictory evidence**

A1. The evidence-base regarding the effectiveness or otherwise of helmets is extremely complex, with vast amounts of ink having been spilled on both sides of the debate. This appendix attempts a brief summary of the territory. It also responds to claims that the experience of helmet laws in Canada shows that helmet laws can be introduced without reducing cycle use.

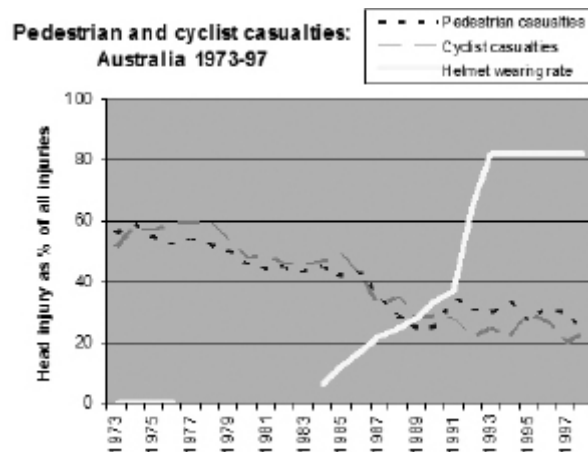
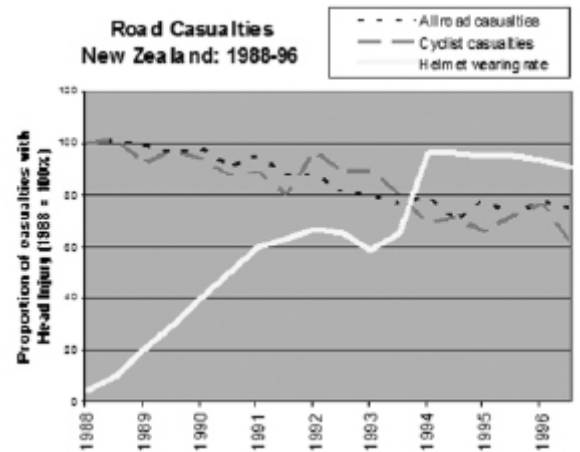
### **"Case-control" and population-level evidence**

A2. A number of early studies on the effectiveness of helmets reported substantial safety benefits from helmet use. These were predominantly hospital-based "case-control" studies, where a "case" group (e.g. cyclists with head injuries) are compared with a "control" group (e.g. cyclists with non-head injuries) to show whether the use or non-use of a helmet might have made a statistically significant difference to the probability (or the severity) of head injuries between the two groups.

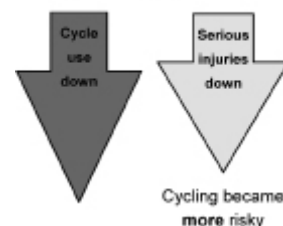
A3. However the findings of these studies are contradicted by a systematic review by Robinson of the evidence from places with helmet laws (e.g. Australia and New Zealand), which found no link between increases in helmet-wearing and improvement in cyclists' safety. They are also at odds with the evidence of two papers by Hewson, which found no detectable link between changes in cycle use and cyclists' safety, either for cyclists in general or for children in particular. There is even a case-control study which also found no detectable benefits from helmet use.

A4. Whilst helmet laws have undoubtedly reduced the numbers of cyclist head injuries, the available evidence suggests this has been wholly or largely due to reduced cycle use, rather than improvements in cyclists' safety<sup>5</sup>. In the case of New Zealand, it seems that other road safety improvements also played a part. The percentage reduction in cyclists' head injuries was no

different from other road users, with no effect detectable in the year the law was introduced, despite a very sharp increase adult and teenage helmet wearing rates that year<sup>6 7</sup>. Similarly, reductions in cyclist head injuries in Western Australia and Victoria matched those gained by pedestrians – and again, there was no particular effect at the point when helmet use rose sharply.



Impact of helmet law in New South Wales, early 1990s



A5. In some places, cycle safety for the remaining cyclists even seems to have worsened, even though most of them were now wearing helmets. For instance, in New South Wales a 44% reduction in children cycling was observed 2 years after the law, but only a 32% decline in serious and fatal injuries<sup>8</sup>. In Nova Scotia the initial 60% reduction in cycle use recovered to a 40% reduction in the second year of the law, however the initial 50% reduction in cyclist hospitalisations bounced back up and was 6% higher after the law<sup>9</sup>. There were similar instances of cycle use apparently falling by more than cyclist casualties in Victoria, South Australia and Vermont<sup>10</sup>.

A6. A review of helmet evidence for the UK Department for Transport by the Transport Research Laboratory (TRL) found it was "impossible to definitively quantify the effectiveness or otherwise of cycle helmets based on the literature reviewed" (for more on this review, see paragraphs A23 and A24 below). Similarly the Parliamentary Advisory Council on Transport Safety notes that "it is not possible to predict accurately expected injury reduction from increased rates of helmet use; estimates range between 0 and 85%"<sup>11</sup>.

A7. Faced with this contradictory evidence, one has to weigh up the plausibility of the evidence suggesting higher or lower values for helmet effectiveness respectively. In doing so, one must also consider whether it is more plausible that there are flaws in the evidence pointing to values at the opposite end of the range. These questions cannot be settled with any certainty, however the following paragraphs set out why we believe the more plausible explanations point towards a lower value for helmet effectiveness – or even the possibility that helmet use might increase the risks to cyclists of injury impacts occurring in the first place, potentially undermining any protective effect helmets might have in the event of those impacts.

### **The lack of detectable net benefits from helmets: possible explanations**

A8. We have noted (paragraph Error! Reference source not found.) that cycle helmets are – and can only be – designed to withstand low impact forces, equivalent to falling of a bike from a stationary riding position. The old British Standard for cycle helmets (BS6863, 1987) stated that they were "intended to give protection in the kind of accident in which the rider falls onto the road without other vehicles being involved." Subsequent standards (including the current EU standard EN 1078) have been progressively weakened due to lobbying by the manufacturers themselves<sup>12 13</sup>.

A9. Cycle helmets are inevitably a design compromise between seeking to provide protection, and designing helmets which are light, aerodynamic, well-ventilated, stylish and cheap. Yet all of these design criteria are at odds with the aim of making them strong. There is also an inevitable trade-off between designing a helmet to protect against impact with flat surfaces (e.g. car windscreens) and angular ones (e.g. the corners of kerbstones)<sup>12</sup>. Helmet manufacturers themselves are typically very cautious in the safety claims they make for their helmets<sup>14</sup>, stating only that they meet the relevant European or other standards.

A10. Nonetheless the lack of a detectable relationship between in helmet wearing rates and cycle safety (noted in paragraph 3.18 of our main submission) may still appear counter-intuitive to many people. So too is the evidence suggesting that helmet-wearers may have a 14% higher risk than non-wearers of being involved in collisions in the first place<sup>15</sup>. Nonetheless, there are many possible explanations for these phenomena.

A11. For instance, it is known that some cyclists ride less cautiously when wearing a helmet<sup>16 17</sup>. This is an example of what is known "risk-compensation"<sup>18</sup>, and it has also been observed in young children with helmets<sup>19</sup>. Drivers may also "risk-compensate", as they have been found to leave less space when overtaking helmet-wearing cyclists than those without<sup>20</sup>. The increased size weight or even the temperature of the head may also be factors. Indeed it has been suggested that glancing blows to a head which has been effectively enlarged by a helmet could lead to some very serious brain or spinal injuries, in situations where an unhelmeted head would have suffered a mere glancing blow or not been hit at all<sup>21</sup>. There is further evidence suggesting that helmet use increases the risks of neck injuries<sup>22</sup>, or brain injuries due to "rotational force" impacts (i.e. those which effectively cause the brain to rotate within the skull on impact, causing subdural haematoma or diffuse axonal injury, two of the most common causes of very serious

brain injuries)<sup>21 23</sup>. Helmets could therefore be contributing to some of the most serious and permanently disabling spinal and brain injuries.

A12. Cycle helmet retention systems (i.e. straps and associated clips) are poorly designed, making it difficult to fit and wear helmets correctly<sup>24</sup>. The need to do so is widely recognised by all protagonists in the helmet debate (indeed it is one of the few issues on which there is universal agreement). Yet this is difficult to achieve in practice – e.g. one American study found that only 4% of the 478 children examined had fitted their helmet correctly, and not one parent out of 52 in the study was able to fit their child's helmet correctly<sup>25</sup>. Fourteen children are known to have been killed through strangulation by their helmet straps<sup>26 27 28</sup>.

A13. There is one other very important possible link between increased helmet use and increases in the risks to cyclists of both head and non-head injuries. This is the possibility that the reductions in cycle use due to helmet laws or promotional campaigns cause a loss of the "safety in numbers" benefits previously enjoyed by the remaining cyclists – see paragraphs 2.10-2.11 of the main CTC-Sustrans submission.

### **Contradictions between population and "case-control" evidence: possible explanations**

A14. The explanation for the contradictions in the evidence may lie in the inherent flaws of "case-control" studies, which are known to be prone to spurious results<sup>29</sup>. Studies into hormone replacement therapy, vitamin supplements and the MMR vaccine, used the same type of "case-control" methodology, and yielded what are now known to be false outcomes<sup>30</sup>. Similarly, the best known of the "case-control" studies of cycle helmets, from Seattle, reported that helmets could prevent 85% of head injuries and 88% of brain injuries<sup>31</sup>. However this finding has been repeatedly criticised on the grounds that it compared two unlike groups riding in different environments. The helmet-wearers were more likely to be white, affluent and to be cycling in parks, while the non-wearers were more likely to be from lower-income ethnic minority groups riding on busy streets. This is unsurprising: people from lower income and racial minority groups are far less likely to wear helmets<sup>32 33 34</sup>, and there is a vast literature showing that people (particularly children) from these groups face significantly higher risks of road injury<sup>35 36 37</sup>.

A15. A second factor may be that willing helmet-wearers have a different attitude to risk. Those who readily take up helmet use (i.e. the "early adopters" of helmets, who would have featured in the helmet studies of this period) are more likely to be safety-conscious people, who are averse to risk and therefore avoid the situations where more serious injuries might occur. (By contrast, the "later adopters" – i.e. those who only wear helmets reluctantly in response to laws or the peer-pressure that comes from helmet promotion campaigns, or who simply "follow the trend" in adopting helmets – may be more risk-accepting. This in turn might at least partly explain why there has been a progressive decline in the estimates of helmet effectiveness from these studies<sup>22</sup>). A third factor is that, in the USA context, people from more affluent backgrounds are more likely to have health insurance, and thus are more likely to go to hospital when they suffer relatively minor injuries, whereas groups without insurance are more likely to go to hospital only if their injuries are serious.

A.16 It is therefore very likely that the results of the Seattle study, and others like it, are in fact due to differences between the people who do and don't wear helmets, the types of cycling they do and the environments where they cycle, rather than due to helmets themselves. To reinforce the point, it has been shown that the data and methodology used in the Seattle study could also be used to show that helmets prevent 77% of injuries to parts of the body other than the head<sup>38</sup>.

## **Effect of helmet laws on cycle use: the case of Canada**

A.17 In recent years, Canadian helmet advocates have mounted a concerted effort to argue that helmet laws there have been successful in improving cycle safety, without reducing cycle use. This followed criticism of a paper by LeBlanc et al<sup>9</sup> which claimed that Nova Scotia's helmet law had been successful, when the cycle count data presented in that paper showed an initial reduction of 60% in the numbers of cyclists counted one year after the law, and that by the time cycle use had recovered slightly (to 40% of pre-law use), the numbers of cyclists hospitalised was higher than before the law<sup>39 40</sup>.

A.18 A paper by Alison Macpherson and others in 2001 suggested that Ontario's helmet law had increased helmet wearing rates without reducing cycle use, based on a study conducted in an affluent district of Toronto<sup>41</sup>. However Macpherson is recorded as having subsequently acknowledged that the law had not been enforced<sup>42 43</sup>; while a later study by Macpherson et al (published in 2006<sup>32</sup>) showed that helmet use had risen only temporarily, falling back to pre-law levels within 2 years of the law's passing, while cycle use had done the opposite (i.e. it had initially fallen, despite Macpherson's denials), then recovered as cycle helmet use fell back [ref – cf C16].

A.19. Macpherson's count data for the 2001 study was also criticised as unreliable as it had not controlled for variations in the time of year, weather etc<sup>44</sup>. Finally, her team had also collected data, which they have not published, for three years prior to the law, during which time a strong helmet promotion campaign was conducted. Hence the possibility cannot be discounted that the unpublished data might have shown a fall in cycle use during the three years of the pre-law helmet promotion campaign.

A.20 Macpherson's 2001 paper was subsequently cited by the British Medical Association as the reason for deciding to support helmet legislation<sup>45</sup>, having previously supporting helmet promotion but not laws. The BMA has since withdrawn the paper which justified its change of policy, but has so far not reconsidered the policy itself.

A.21. In 2002 Macpherson and other colleagues published a study comparing head and non-head injuries to child cyclists hospitalised in Canadian states with and without helmet laws respectively<sup>46</sup>. The paper claimed to show a benefit from helmet laws because head injuries had declined more steeply relative to non-head injuries in the helmet-law provinces, compared with the non-law provinces. However the proportion of cycling injuries which were head injuries continued to decline even after the downturn in helmet use recorded in Macpherson's 2006 paper<sup>47</sup>, while the differences in injury trends between states with and without laws were as evident for pedestrian injuries as for cycling injuries<sup>48</sup>. Hence Macpherson's attempt to link increases in helmet use with a reduction in the proportion of cyclist injuries which were head injuries cannot be considered as valid.

## **Re-examining the evidence: Cochrane reviews and other meta-analyses**

A.22 More recent helmet studies have attempted to bolster the evidence for helmets and helmet-laws by re-analysing it. For instance there have been two Cochrane reviews, a process normally regarded as a benchmark of objectivity in meta-analysis of medical evidence. However the first Cochrane review<sup>49</sup>, which considered evidence on the effectiveness of helmets, was limited to "case-control" studies, eliminating any consideration of population-level evidence, such as that presented in papers by Robinson or Hewson. Moreover it was conducted by the same authors who had produced 4 of the 7 case-control evidence they were reviewing<sup>50</sup>. Subsequent meta-analyses by Attewell et al<sup>51</sup> and Towner et al<sup>52</sup> (the latter being an evidence-review in 2002



commissioned by the UK Department for Transport) likewise restricted their scope to "case-control" studies, hence it is unsurprising that they too concluded that the evidence suggested helmets were beneficial – although Towner acknowledged that helmet laws could reduce cycle use. A second Cochrane review, by Macpherson and Spinks 53, looked specifically at evidence on the impact of helmet laws (n.b. it will be noted that Macpherson was not an unbiased commentator, having previously authored several papers advocating helmet laws). It concluded that helmets were beneficial but found no reliable evidence to determine whether helmet laws might reduce cycle use. However it omitted to consider Robinson's 2006 BMJ paper<sup>2</sup> which would have provided that evidence.

A23. The UK Department for Transport recently attempted to "settle" the helmet question with a second evidence review, published in 2010<sup>54</sup>. The researchers identified flaws in all of the case-control evidence and hence the meta-analyses of that evidence, reaching the conclusion quoted in paragraph A6 above. They also identified weaknesses in the evidence of Robinson<sup>2</sup> and Hewson<sup>3 4</sup>, noting that they too had employed study designs which left open the possibility of confounding factors (and hence possibly to flawed conclusions). Hewson himself acknowledged this point in both his papers, noting that the absence of a detectable helmet benefit does not rule out the possibility that an effect may exist, perhaps for particular groups of cyclists and/or for particular types of cycling. However the DfT review authors did not put forward any reasons for assuming that helmets must have some benefits, in preference to the possible alternative explanations suggested by Robinson for the lack of detectable benefits from helmets (e.g. that reductions in head injuries might be due to reductions in cyclist numbers and the consequent loss of the "safety in numbers" effect for the cyclists who remain, and/or that helmet-wearing cyclists might be more prone to being involved in collisions in the first place e.g. due to "risk compensation").

A24. However the most notable feature of the DfT-commissioned study was a claim that "A specialist biomechanical assessment of over 100 police forensic cyclist fatality reports predicted that between 10 and 16% of the fatalities could have been prevented if they had worn an appropriate cycle helmet". This finding has been strongly criticised by CTC, Sustrans and other members of the study advisory panel, on the following grounds:

- The 10-16% figure is based solely on notional estimates of the effectiveness of helmets in impacts with the ground (50%) and with motor vehicles respectively (10-30%). However the authors noted that they had "no specific evidence to support these estimates" (p37). In other words, there was no specialist biomechanics involved in the assessment; moreover the Department for Transport has declined to release the identities and qualifications of the individuals who carried out the assessment<sup>55</sup>.
- The fatalities considered were not randomly selected and were acknowledged not to be representative of cyclist fatalities in general (p34).
- The study focuses on "whether cycle helmets reduce the frequency and severity of injury in the event of a collision" (page vi, emphasis in the original – n.b. this acknowledgement was only added at CTC's insistence). The study, and the 10-16% estimate in particular, takes no account of the possibility that helmets may increase the risk to cyclists of having a head impact in the first place. We have previously noted that another study found helmet-wearing cyclists have a 14% higher risk of injury per mile travelled<sup>15</sup>. This would therefore approximately cancel out a 10-16% benefit even if it were to prove correct (despite the lack of evidence supporting it).

A25. Finally, the most recent meta-analysis found that early results – including the Attewell analysis and the Cochrane review of helmet effectiveness (and subsequent updates of it) – had significantly overstated the protective value of helmets. It also found that helmets may increase the risk of neck injuries<sup>22</sup>.

## Conclusion

A26. From the evidence available, it is possible that helmets might perhaps provide some limited protection in the event of certain types of impact occurring (e.g. minor falls). However, any such benefits might also be undermined or even outweighed by a variety of ways in which helmet-wearing may increase the likelihood of such impacts occurring in the first place. There are some places (e.g. New South Wales and Nova Scotia) where increased helmet-wearing appears to have been associated not only with reduced cycle use but also with an increased risk of injury for those cyclists who remain. There is also some evidence that helmet use increases the risks of neck injuries, and of brain injuries due to "rotational force" impacts. Helmets could therefore be contributing to some of the most serious and permanently disabling spinal and brain injuries. A number of children are known to have been fatally strangled by their helmet straps.

A27. We reiterate the observation from the helmet evidence-review commissioned by the Department for Transport<sup>54</sup>, which noted that it was "impossible to definitively quantify the effectiveness or otherwise of cycle helmets based on the literature reviewed."

## Appendix B. Weighing up the costs and benefits of helmet laws and promotion campaigns

B1. A key issue in the helmet debate is the need to weigh up whether the possible injury savings due to helmet-wearing justify the likely reductions in cycle use and the consequent loss of its health, environmental and other benefits.

B2. Just two attempts have been made to weigh up the costs and benefits of actual helmet laws. An analysis of Western Australia's helmet law suggested its net impact lay in the range from a 2 million AUS\$ benefit to a 10 million AUS\$ disbenefit<sup>56</sup>. An analysis of New Zealand's helmet law found a small benefit for child cyclists (aged 12 and under) but disbenefits for teens and adults<sup>57</sup>. A re-analysis of the latter study found no benefit for child cyclists either<sup>58</sup>.

B3. Recently however, a study by Australian statistician Piet de Jong<sup>59</sup> has attempted to address the question purely algebraically. De Jong presents his central finding in the form of an equation, where a public health benefit can only arise if:

$$eq > \mu\beta$$

B4. In this equation,  $e$  and  $q$  are both fractions, i.e. their value lies between 0 and 1.  $q$  is the proportion of the health costs of helmet-free cycling which is due to head injuries, while  $e$  is the proportion of those costs which could be avoided if all cyclists wore helmets. So the left hand of the equation  $eq$  represents the total injury costs of (helmet-free) cycling which would be avoided if all cyclists wore helmets. It is clearly less than 1, it is probably closer to 0 and it might even be negative.

B5. The right hand side of the equation consists of two ratios.  $\beta$  is the ratio of the health benefits of (helmet-free) cycling relative to its risks. In our main submission, we noted the widely quoted figure (which is endorsed by the UK Department for Transport<sup>60</sup>) of 20:1 for  $\beta$ <sup>61</sup>. The other quantity,  $\mu$ , represents the ratio of cycle use lost following a helmet law to cycle use retained (n.b. this is not quite the same as the percentage reduction – for instance a 33% reduction in cycle use can be thought of as 1 unit of cycling lost for every two that remain, hence the equivalent value of  $\mu$  would be 0.5).

B6. It will be clear that, if there is to be a net health benefit, the two ratios  $\mu$  and  $\beta$  need to counter-balance one another so that, when multiplied together, the result is less than the

fractional quantity  $eq$ . In other words, if 20:1 is a correct value for  $\beta$ , then a helmet law can only yield a net health benefit if  $\mu$  is less than 1:20 (i.e. there is no more than 1 unit of cycling lost for every 20 which remain), even if head injuries accounted for all of the injury costs of cycling and if helmets were 100% effective at addressing these risks (i.e. if  $e$  and  $q$  both equalled 1). So even under these implausible assumptions, a disbenefit occurs if the reduction in cycle use is any more than 4.7% (i.e.  $1/21$ ). This figure then has to be reduced further still, in proportion to the values of  $e$  and  $q$ . The value of  $e$  is much debated (as we have seen in section 2 and Appendix A above). However  $q$  is likely to be about 0.5, given that c40% of cyclist injuries serious enough to merit admission to hospital and c80% of fatalities involved head injuries (although by no means all of these were head-only injuries, particularly in the case of fatalities)<sup>62</sup>. On this assumption, the allowable reduction in cycle use drops to just 2.4%. It falls by another whole order of magnitude (i.e. to 0.24%) if the effectiveness of helmets is only 10% rather than 100%.

B7. As we saw in section 1, the experience of enforcing helmet laws typically results in reductions in cycle use of the order of a third (i.e.  $\mu = 1:2$ ), and sometimes more than this. On that basis, and again assuming that head injuries amount to about 50% of the injury costs of cycling (i.e.  $q = 0.5$ ), a helmet law would have disbenefits unless the health benefits outweighed the risks of cycling by less than about 1 to 1 – not 20:1 as estimated – even if helmets were 100% effective.

B8. In short, a benefit can only arise under some pretty extreme assumptions, namely that cycling is highly risky relative to its health benefits, that helmets are highly effective in addressing those risks, and that there is negligible loss of cycle use as a result of helmet laws. Given the evidence presented earlier, we believe it is beyond reasonable doubt that a helmet law will in practice have a large net health disbenefit.

B9. Finally it should be noted that these calculations take no account of cycling's wider benefits for tackling congestion, air pollution, quality of life, equality opportunity and the climate.

## **Appendix C: Responses to claims from helmet law advocates**

C1. This appendix responds to some of the claims made by the proposer and backers of the Bill, together with a few of the other common arguments put forward by proponents of helmet laws.

### **Risk of cycling**

422 children and 213 adults were admitted to hospitals in Northern Ireland with cycling-related head injuries in the 5 years to 2010.

C2. According to the Travel Survey for Northern Ireland (TSNI) 2007-09, 27% of people in Northern Ireland say they have cycled in the past year – around 450,000 people in total – increasing to 61% among both boys and girls aged 0-15. TSNI data also shows that around 29,400 cycle trips are made each day in Northern Ireland, and there are about 60 million km cycled annually<sup>63</sup>. In this context, an average of 127 hospitalisations annually is not large – a rate of one hospitalisation per 472,000 km cycled. It should also be borne in mind that many children's hospitalisations will relate to play on bicycles, not cycle travel, i.e. a rate per km cycled overstates the risk of cycling injuries.

C3. As noted in our main submission (see paragraphs 3.10-3.14), the above figures for cycling injuries amount to 6.5% of all children's hospital admissions for head injuries<sup>64</sup>. An equivalent figure for UK hospitals is 10%, compared with 36% for child pedestrian head injuries<sup>65</sup>. Cycling is not a particularly high-risk activity relative to other forms of travel or physical activity, and there is no reasonable justification for forcing people to wear protective headgear for cycling

when we do not even contemplate encouraging it for other activities which result in a far greater numbers of potentially preventable head injuries.

## **The effectiveness of helmets**

The Cochrane review presents evidence that helmets provide a 63% to 88% reduction in the risk of head, brain and severe brain injury for all ages of cyclists. Helmets provide equal levels of protection for crashes. For those involving motor vehicles, the protection rate is 69%, and for crashes from all other causes, the protection offered is 68%. Injuries to the upper and mid facial areas are reduced by 65%.

C4. This Cochrane review has been much criticised (see paragraph A22 and references 21, 22 and 50), not least because it was conducted by authors who were responsible for 4 out of the 7 studies they were reviewing. The scope of the Cochrane review was restricted to "case-control" studies, a study methodology which is prone to errors, e.g. those made in relation to Hormone Replacement Therapy and the MMR vaccine<sup>29 30</sup>. Case-control studies cannot control for differences between helmet-wearers and non-wearers in terms of their attitudes to risk, the types of cycling they are engaged in, or the environments where they cycle (and hence the likelihood that the injuries they suffer will result from collisions with motor vehicles). They are also unable to take account of the many ways in which the wearing of helmets may increase the risks of cyclists being involved in collisions in the first place. See paragraphs A11 to A16.

C5. There is no consensus on the validity of the Cochrane review's findings. The Parliamentary Advisory Council on Transport Safety notes that "it is not possible to predict accurately expected injury reduction from increased rates of helmet use; estimates range between 0 and 85%"<sup>66</sup>. Similarly, the TRL helmet review for the UK Department for Transport (which included consideration of the Cochrane evidence) concluded that it was "impossible to definitively quantify the effectiveness or otherwise of cycle helmets based on the literature reviewed." It also suggested that helmets might have prevented 10-16% of the cycle fatalities it considered (although it also acknowledged it had no evidence to support the assumptions behind this calculation). More recently, Elvik has criticised the Cochrane review (as well as the review by Attewell et al), suggesting that the protective effect of helmets (in the event of a collision occurring) is about 15%, while also noting that helmet use appears to be associated with an increased risk of neck injuries<sup>22</sup>. Elvik has separately estimated that helmet-wearing cyclists have a 14% higher rate of injury per mile cycled, potentially eroding any benefits helmets may have in the event of these collisions<sup>15</sup>. See paragraphs A22 to A25.

A review conducted by the UK Transport Research Laboratory in 2009 concluded that up to 16% of fatalities could have been prevented if the cyclist had worn a helmet. That's why the BMA policy on cycle helmets has recently been changed. In February 2010, the BMA called for cycle helmet wearing to be made compulsory.

C6. As noted in paragraph A24, the 10-16% figure from the TRL review is based entirely on assumptions about the effectiveness of helmets in collisions with motor vehicles and with the ground respectively, even though the TRL report authors themselves note that they had "no specific evidence to support these estimates". The review also noted that it was "impossible to definitively quantify the effectiveness or otherwise of cycle helmets based on the literature reviewed", and explicitly noted that it had excluded consideration of the possibility that helmet use might increase the risk of cyclists being involved in collisions in the first place.

C7. The TRL review was in any case not the reason why BMA changed its stance. The amended policy was proposed in November 2004 and adopted at the BMA's Annual Representatives meeting in July 2005, i.e before the TRL review was even commissioned. The BMA's previous stance was to support the promotion of helmets but not compulsion<sup>67</sup>. The change of stance

was justified<sup>45</sup> with reference to evidence (from Macpherson et al, 2001<sup>41</sup>) that a helmet law had been introduced in Ontario, apparently without reducing cycle use. It was later shown that the author was aware that the law was not enforced but neglected to mention this. Moreover her team has never published the data they collected on cycle use in the 3 years prior to the law's introduction [ref]. During that time there was a strong helmet-promotion campaign, and it is suspected this may have so deterred cycle use that the law's eventual introduction made little further difference. The BMA paper which cited Macpherson 2001 as its justification has since been withdrawn from the BMA website.

## **Impact of helmet laws on cycle use**

A peer-reviewed British Medical Journal study compared states in Canada with and without helmet law found no change in recreational and commuting bicycle use following the introduction of helmet laws in Prince Edward Island and Alberta. ... It also found that helmet legislation is not associated with changes in ridership.

C8. The study referred to<sup>68</sup> was published in 2010 in Injury Prevention magazine, a title owned by BMJ. Its methodology is extremely weak:

- Its data on helmet use in Nova Scotia (which has a helmet law for all ages), for Ontario (which has a child-only helmet law) and Saskatwan (which has no law) are gathered through a cold-calling telephone survey. Hence there is an obvious reason (acknowledged by the authors) why cyclists in areas with helmet laws will tend to state that they use helmets even if this is not necessarily the case.
- Its data on cycle use in two different states with more recent helmet laws – Alberta and Prince Edward Island (PEI) – are also gathered through telephone survey. The survey asked respondents whether they had cycled in the previous 3 months, and also how many trips they had made. There are some obvious discrepancies in the data. For instance, the number of adult recreational cyclists in Alberta rose following the law, while the number of recreational cycle trips went down; similarly there is a recovery of youth cycling trips made by youths in PEI but no change in the number of young cyclists.
- Nonetheless, the approximate halving of cycling trips made by young people in Alberta corresponds with actual cycle count data from a different survey of the effect of Alberta's helmet law <sup>69</sup>. It recorded 57% fewer cyclists overall, including falls of 71% among teenagers (aged 13-17) and 80.3% among children (aged <13).
- The apparent recovery in cycling trips among young people in PEI may be explained by a relaxation in the enforcement of the law there. No data is provided on enforcement, however there was a similar recovery recorded in cycle use in Ontario after an initial reduction, after it became apparent that the child-only law there was not being enforced.

C9. It is therefore disingenuous for the study authors to claim that the data shows no reduction in "ridership", when the data shows a more mixed picture. For a fuller critique see 70.

An authoritative review of various studies into the impact of helmet legislation by Macpherson and Spinks in 2008 concluded that "Although the results of the review support bicycle helmet legislation for reducing head injuries, the evidence is currently insufficient to either support or negate the claims of bicycle helmet opponents that helmet laws may discourage cycling"

C10. The lead author of this Cochrane review<sup>53</sup> had previously published several papers advocating helmet laws<sup>32 41 46</sup>, and therefore cannot be considered an unbiased reviewer. The review's conclusion about the lack of clear evidence that helmet laws deter cycle use was reached because none of the studies which met the review criteria contained any data on cycle

use. However the reviewers neglect to explain the omission of Robinson 2006, which does provide this data. See paragraphs A18 to A22.

Cycle use can recover following a helmet law. According to Monash University, "By 1992, two years after the law, the number of bicyclists was approaching pre-law levels in adults and children, but was still greatly reduced among teenagers."

C11. This quote is from a report on cycle use in Melbourne<sup>71</sup>, where cycle use had grown by 47% in the three years before the law (1986-89)<sup>72</sup>. The report quoted above contains data showing that, by 1992, teenage cycle use had reversed to 46% below pre-law levels. Even before the growth of cycling in the late 1980s, cycle use had accounted for 3.4% of trips in Melbourne in 1985-6. In recent years, Melbourne has started making strong efforts to encourage cycle use and there has now been a partial recovery of cycle use – however in 2004 it still only accounted for 2.0% of trips<sup>73</sup>. Compared with the successes of the cycle hire projects in Dublin, London and Paris, a similar scheme in Melbourne remains little used, a failure which is widely blamed on the state's helmet law<sup>74</sup>.

C12. More generally, even where cycle use does recover to pre-law levels, this does not mean that the negative effect of the law has "worn off", as there are two possible alternative explanations.

C13. The first explanation is that the "recovery" may in fact simply be a resumption of the growth of cycling which was going on before the law was imposed. In this case, the "recovery" may still leave cycle use some way below the levels it would otherwise have reached in the absence of a helmet law.

C14. There is evidence from Canada which supports this interpretation. Four Canadian states introduced helmet laws, either for all ages or for children only, over the period 1995 to 1997, with two more following suit in 2002. Subsequent Canadian census data shows that the mode share for cycle commuting in Canadian states with all-age helmet laws was 3.66% higher in 2006 than in 1996. However this compares with a 17.3% increase in states with child-only laws, and a 31.7% increase in cycle use in states with no helmet laws ([see "Mode share"]). The city-based comparison (see ["mode share city"]) produces similar results – cities with all-age helmet laws saw a 3.5% increase in the mode share for cycle-commuting, but it was 12.9% in cities with child-only laws and 38.7% in cities with no laws.

C15. Incidentally, one noteworthy feature of these figures is that they are based on cycle commuting. It would appear then that child-only laws are evidently negatively impacting on cycle use among adults. That suggests that helmet laws deter people from cycling not just for personal reasons (e.g. because they're perceived as uncool, uncomfortable and inconvenient). Whilst other explanatory factors cannot be ruled out, this appears to be persuasive evidence that helmet laws affect people's perception of the safety of cycling, and hence their willingness to cycle, even if the law doesn't affect them personally.

C16. The other possible explanation for post-law "recoveries" of cycle use is that they may be related to reduced enforcement of the law, allowing a recovery of cycle use among those previously deterred by the requirement to wear helmets, and a consequent drop in the proportion of helmet-wearers as the cycling population recovers. [Example(s)]

C17. However, even if cycle use were to recover following a helmet law, AND this brought it back to the level it would have been at in the absence of the law, there would still be a significant loss of public health benefits in the meantime. In section 2 we reported CTC's estimate (using the World Health Organisation's "Health Economic Assessment Tool" HEAT) that a helmet law in Northern Ireland would result in an average increase of c3.3 deaths per year,

with a net economic disbenefit of c£5.0m excluding the costs of helmet purchases. However it is worth considering what would happen to these costings if it is assumed that, after an initial 30% reduction, cycle use then recovers at an annual rate of 4% over a 10 year period, compared with the continued 4% annual growth that would have occurred in the absence of a law.

C.18 Using the mid-range of the 10-16% figure for cycle helmet effectiveness from the recent TRL helmet study (an estimate CTC does not accept), the HEAT methodology indicates:

- Benefits from reduced injuries worth £11.4m (£2.38m due to reduced fatalities, £6.55m due to reduced serious injuries and £2.47m due to reduced slight injuries);
- Disbenefits of increased physical inactivity worth £67.7m.

C19. Hence the disbenefits outweigh the benefits by around 6:1, and Northern Ireland suffers a net disbenefit of £56.3m over the 10 years of this scenario. Full calculations can be provided.

### **A three-year helmet promotion campaign before enforcing the law, to avoid loss of cycle use**

To avoid causing a loss of cycle use, the Bill proposes a 3-year period when the Northern Ireland administration would conduct an extensive campaign to encourage more voluntary use of helmets. This is the approach advocated by the British Medical Association.

C20. There is very little data on the effect of voluntary promotion campaigns on cycle use. However, what little data exists suggests that this approach too can significantly reduce cycle use (see main submission, paragraphs 2.12-2.13). Studies of helmet promotion campaigns, including those undertaken in the run-up to helmet laws in other countries, appear not to have considered the effect of these campaigns on cycle use, and have instead focused solely on whether there were increases in the proportion of the remaining cyclists who were wearing helmets.

C21. The Assembly must consider the likelihood of even the voluntary promotion of helmets doing more harm to public health than any possible injury reductions that might possibly be achieved by increased helmet use – see Part B above. In the absence of clear evidence that such a campaign can be waged without undermining cycle use, we believe this proposal too should be rejected.

### **Other arguments**

In addition to the BMA, the following organisations also support helmet compulsion: the Royal College of Surgeons, the Royal College of Paediatrics and Child Health, the Royal College of Nursing, and Headway, the brain injury charity.

C22. In addition to CTC and Sustrans, organisations opposed to helmet compulsion include

Health organisations:

- Royal College of General Practitioners.
- Transport and Health Study Group

Safety organisations:

- The Parliamentary Advisory Council on Transport Safety (PACTS)<sup>11</sup>.
- The Royal Society for the Prevention of Accidents (RoSPA). Like PACTS, they also support voluntary helmet promotion but note the potential adverse impacts on cycle use and enforcement difficulties<sup>75</sup>.
- Roadpeace, the road crash victims' charity.

Cycling organisations:

- Cyclenation, the UK federation of voluntary local cycle campaign groups
- The Northern Ireland Cycling Initiative
- The London Cycling Campaign
- British Cycling, the governing body for cycle sport in Great Britain.
- The Bicycle Association, the representative body for cycle manufacturers
- The Association of Cycle Traders
- The European Cyclists' Federation

The main governing body for cycle racing, the Union Cycliste Internationale (UCI) has made helmets compulsory in all racing events. It is therefore surprising that some cycling organizations argue against the same level of protection for children and adults as they insist on for themselves.

C23. This view fails to recognise the diversity of cycling and the many different forms it can take. British Cycling, the cycle sport governing body in Britain, fully supports the UCI rules for cycle racing, yet it does not support helmet compulsion for everyday cycling. The situation is analogous to Formula 1 racing, another activity for which drivers are required to wear helmets, as it involves a high degree of competitive risk-taking. It does not follow that drivers need helmets for a short trip to the local shops.

The argument that helmet use is a matter for individuals to decide is the same civil libertarian movement argument that was made against compulsory motorcycle helmet use, compulsory seat belt wearing and the smoking bans.

C24. Neither CTC nor Sustrans seeks to argue against helmet laws on civil libertarian grounds. We would support their use if we believed they would encourage increased cycle use and improved safety for cyclists. However the evidence strongly suggests that enforced helmet laws reduce cycle use, without detectable improvements for the cyclists who remain.

C25. In contrast to cycle helmets, nobody would suggest that motorcycle helmet or seatbelt laws deterred an activity with substantial health, environmental and other benefits – indeed smoking bans are explicitly aimed at deterring an unhealthy activity. None of those three issues has an equivalent to the argument that a cycle helmet law would almost certainly cause far greater harm than any benefits it could possibly hope to achieve.

There are two counter-arguments to the civil liberties case against helmet laws. The first is child protection, similar to the requirement for child seatbelts. The second is that head injuries give rise to an often-lifelong obligation for the state to provide financial and other support. Head injuries have a wider societal impact – it is not only the injured person who suffers, it is the wider family and community.



C26. These arguments could apply equally for people who suffer serious head injuries however they are caused. Cycling is not particularly likely to result in serious head injuries, and the numbers suffered by pedestrians and car occupants are far greater (see main submission paragraphs 3.10-3.14). Yet nobody suggests even the voluntary promotion of helmets for walking or travelling by car, let alone imposing a requirement to wear them by law.

"A helmet saved my life"

C27. It is common to hear tales of cyclists who believe that their life was saved by a helmet. Such tales are often backed up by reports that the helmet shattered (with people assuming that their skull might therefore have shattered instead if it had not been for the helmet), and/or claims from nurses, doctors or brain surgeons that the cyclist might have died had they not been wearing a helmet. Conversely, when a cyclist is killed or injured when not wearing a helmet, it is often suggested by medical professionals and indeed sometimes by coroners (typically without any consideration of the evidence) that the cyclist might have been "saved" if they had worn one.

C28. It is unknown how many cyclists come to believe that their lives were "saved" by a helmet. However the frequency with which such claims appear in the media suggests that this belief is far more common than the number of cyclist deaths which ever used to occur before helmet-use became prevalent. In any case, as we have already seen, there is no evidence of the widespread adoption of helmet use leading to any detectable benefits to cyclists' safety.

C29. However there are two other flaws in this anecdotal approach to the helmet debate:

- Helmets are not meant to shatter – they are meant to absorb impact forces by compressing. If a helmet shatters, it has been subjected to an impact force which it could not withstand. Unless it has also compressed prior to shattering, it will not have provided any benefit, and it cannot be assumed to provide a benefit. The Senior Engineer at Bell Helmets is quoted as saying he "collected damaged infant/toddler helmets for several months in 1995. Not only did I not see bottomed out helmets, I didn't see any helmet showing signs of crushing on the inside" 76. Similarly, the Australian Federal Office of Road Safety found 1987 that, in real accidents, "very little crushing of the liner foam was usually evident"77.
- Whilst it is reasonable to assume that neurologists, doctors or nurses have varying degrees of knowledge of the workings of the human body (e.g. the skull, brain and nervous system), there is no particular reason to suppose they have specialist knowledge of the mechanical properties of cycle helmets, and what protection they can or cannot provide in the circumstances of a particular crash.
- The anecdotal opinions often given by health professionals are not supported by court evidence. Lawyers and insurance companies seeking to defend against claims for damages from head-injured cyclists without helmets will routinely counter-claim for "contributory negligence" (i.e. that the cyclist was at least partly at fault for his/her own injuries). Yet to CTC's knowledge there has yet to be a case where the courts have upheld this argument in the circumstances they were considering78. A helmet testing expert has noted the unwillingness of neurologists and materials scientists alike to testify for the effectiveness of cycle helmets79.

## References

### (Endnotes)

- 1 A list of studies indicating positive results for helmet effectiveness is at [www.cyclehelmets.org/1147.html](http://www.cyclehelmets.org/1147.html).
- 2 Robinson D. No clear evidence from countries that have enforced the wearing of helmets. *British Medical Journal* vol. 332, p722, 2006 (see [www.cycle-helmets.com/robinson-bmj.pdf](http://www.cycle-helmets.com/robinson-bmj.pdf)).
- 3 Hewson P. Cycle helmets and road casualties in the UK. *Traffic Injury Prevention*, vol. 6 no. 2 pp127-134, 2005 (see [here](#)).
- 4 Hewson P. Investigating population level trends in head injuries amongst child cyclists in the UK. *Accident Analysis & Prevention* vol. 37 no. 5 pp807-815, 2005 (see <http://dx.doi.org/10.1016/j.aap.2005.03.020>).
- 5 See reference 2, also paragraph A5 and paragraphs 2.3-2.9 of our main submission.
- 6 Robinson D. Changes in head injury with the New Zealand bicycle helmet law. *Accident Analysis and Prevention* vol. 33 pp. 687-691 (see [www.cycle-helmets.com/AAP2001DLRNZHI.pdf](http://www.cycle-helmets.com/AAP2001DLRNZHI.pdf)).
- 7 Perry N. The bicycle helmet legislation, curse or cure? University of Canterbury, 2001 (see [here](#)).
- 8 Robinson D. Head injuries and bicycle helmet laws. *Accident Analysis and Prevention*, vol. 28, no. 4, pp463-475, 1996 (see [www.cycle-helmets.com/robinson-head-injuries.pdf](http://www.cycle-helmets.com/robinson-head-injuries.pdf), table 3).
- 9 LeBlanc et al. Effect of legislation on the use of bicycle helmets. *Canadian Medical Association Journal*, vol. 166 no.5, pp592-5, 2002 (see [www.cmaj.ca/cgi/content/full/166/5/592](http://www.cmaj.ca/cgi/content/full/166/5/592)). See also online comment from M Wardlaw: [www.cmaj.ca/cgi/eletters/166/5/592#38](http://www.cmaj.ca/cgi/eletters/166/5/592#38).
- 10 Robinson D, 1996 (see reference 8).
- 11 Parliamentary Advisory Council on Transport Safety. Cycle helmet use and effectiveness. PACTS Parliamentary briefing PB05/04 (see [here](#)).
- 12 Walker B. Heads up. *Cycle magazine*, June/July 2005 (see [www.cyclehelmets.org/papers/c2023.pdf](http://www.cyclehelmets.org/papers/c2023.pdf)).
- 13 Walker B. Helmet standards and capabilities. Bicycle Helmet Research Foundation, 2004 (see [www.cyclehelmets.org/1081.html](http://www.cyclehelmets.org/1081.html)).
- 14 See for instance the Bell helmet instructions quoted at [www.chapmancentral.co.uk/wiki/Bell\\_instructions](http://www.chapmancentral.co.uk/wiki/Bell_instructions).
- 15 Erke A & Elvik R. Making Vision Zero real: preventing pedestrian accidents and making them less severe. TØI (Institute for Transport Economics) report 889/2007. Oslo, 2007 (see [www.toi.no/article19378-29.html](http://www.toi.no/article19378-29.html)).
- 16 Taylor S & Halliday M. Cycle helmet wearing in Britain. TRL report 156, 1996 (see [www.trl.co.uk/800/search.asp](http://www.trl.co.uk/800/search.asp)).
- 17 Halliday M et al. Attitudes to cycle helmets – a qualitative study. TRL report 154, 1996 (see [www.trl.co.uk/800/search.asp](http://www.trl.co.uk/800/search.asp)).

18 Adams J. Risk. UCL Press, London 1995.

19 Morongiello B et al. Understanding children's injury risk behaviour: wearing safety gear can lead to increased risk taking. Accident Analysis and Prevention vol.39(3) pp619-23, 2007 (see <http://linkinghub.elsevier.com/retrieve/pii/S0001457506001825>).

20 Walker I. Drivers overtaking bicyclists: Objective data on the effects of riding position, helmet use, vehicle type and apparent gender. Accident Analysis & Prevention vol. 39, Issue 2, 2007, pp 417-425 (see <http://linkinghub.elsevier.com/retrieve/pii/S0001457506001540>).

21 Curnow W. The efficacy of bicycle helmets against brain injury. Accident Analysis and Prevention vol. 35 pp287-292, 2003 (see <http://dx.doi.org/10.1016/S0001-4575%2802%2900012-X>).

22 Elvik R. Publication bias and time-trend bias in meta-analysis of bicycle helmet efficacy: A re-analysis of Attewell, Glase and McFadden, 2001. Accident Analysis and Prevention, article in press, 2011 (see <http://dx.doi.org/10.1016/j.aap.2011.01.007>).

23 St Clair V & Chinn B. Assessment of current bicycle helmets for the potential to cause rotational injury. TRL Project Report PPR213, 2007 (see [here](#)).

24 Walker B. Helmet standards and capabilities. Bicycle Helmet Research Foundation, 2004 (see [www.cyclehelmets.org/1081.html](http://www.cyclehelmets.org/1081.html)).

25 Parkinson G. Bicycle helmet assessment during well visits reveals severe shortcomings in condition and fit. Pediatrics vol. 112 issue 2, pp 320-323, 2003 (see <http://pediatrics.aappublications.org/cgi/content/full/112/2/320>).

26 Byard RW et al. Bicycle helmets and accidental asphyxia in childhood. Medical Journal of Australia, MJA 2011;194(1):49. 2011. See also [www.cyclehelmets.org/1227.html](http://www.cyclehelmets.org/1227.html).

27 Sydney Morning Herald, 3.1.2011. Playing in helmets is dangerous (see [www.smh.com.au/national/playing-in-helmets-is-dangerous-20110102-19d2h.html](http://www.smh.com.au/national/playing-in-helmets-is-dangerous-20110102-19d2h.html)).

28 For listing of other sources, see [www.cyclehelmets.org/1227.html](http://www.cyclehelmets.org/1227.html).

29 Ioannidis J. Contradicted and initially stronger effects in highly cited clinical research. Journal of the American Medical Association, vol. 294 no. 2, pp218-228, 2005 (see <http://jama.ama-assn.org/cgi/content/abstract/294/2/218>).

30 See [www.cyclehelmets.org/1134.html](http://www.cyclehelmets.org/1134.html) for references and commentary.

31 Thompson R et al. A case control study of the effectiveness of bicycle safety helmets. New England Journal of Medicine, 1989 v320 n21 p1361-7. 1989 (see [here](#)).

32 Macpherson A. et al. Economic disparity in bicycle helmet use by children six years after the introduction of legislation. Injury Prevention vol. 12, pp. 231-235, 2006 (see <http://injuryprevention.bmj.com/content/12/4/231.full.pdf>). For commentary see [www.cyclehelmets.org/1178.html](http://www.cyclehelmets.org/1178.html)

33 Guiseppi et al. Bicycle helmet use by children: evaluation of a community wide helmet campaign. Journal of the American Medical Association vol. 262 pp2256-226, 1989 (see <http://jama.ama-assn.org/content/262/16/2256.abstract>).

34 D Kendrick D & Royal S. Inequalities in cycle helmet use: cross sectional survey in schools in deprived areas of Nottingham. Archives of Disease in Childhood vol. 88 pp876-880, 2003 (see <http://adc.bmj.com/content/88/10/876.full>)

35 Edwards P et al. Serious injuries in children: variation by area deprivation and settlement type. Archives of Disease in Childhood vol. 93 pp485-489, 2008 (see <http://adc.bmj.com/content/93/6/485.abstract>).

36 Road Safety Analysis. Child Casualties 2010: A study into resident risk of children on roads in Great Britain 2004-08. RSA, 2010 (see [here](#) ).

37 White D et al. Road accidents and children living in disadvantaged areas: a literature review. Scottish Executive Research Unit, 2000 (see [www.scotland.gov.uk/Resource/Doc/156570/0042052.pdf](http://www.scotland.gov.uk/Resource/Doc/156570/0042052.pdf)).

38 Robinson D. Head injuries and helmet laws in Australia and New Zealand. Bicycle Helmet Research Foundation, undated (see [www.cyclehelmets.org/papers/c2022.pdf](http://www.cyclehelmets.org/papers/c2022.pdf)).

39 Chipman M. Hats off (or not?) to helmet legislation. Canadian Medical Association Journal vol. 166 (5), p. 602, 2002 (see [www.cmaj.ca/cgi/reprint/166/5/602](http://www.cmaj.ca/cgi/reprint/166/5/602)).

40 Wardlaw M. Butting heads over bicycle helmets. Canadian Medical Association Journal vol. 167 (4), pp. 337-338 (see [www.cmaj.ca/cgi/reprint/167/4/337-b](http://www.cmaj.ca/cgi/reprint/167/4/337-b)).

41 Macpherson A et al. Mandatory helmet legislation and children's exposure to cycling. Injury Prevention vol. 7 pp. 228-230, 2001 (see <http://injuryprevention.bmj.com/content/7/3/228.full>).

42 Burdett A. Butting heads over bicycle helmets. Canadian Medical Association Journal e-letter, 2002 (see [www.cmaj.ca/cgi/eletters/167/4/338#150](http://www.cmaj.ca/cgi/eletters/167/4/338#150)).

43 Wardlaw M. Timely release of information is important. E-letter, 2006 (see [http://injuryprevention.bmj.com/content/12/4/231.abstract/reply#injuryprev\\_el\\_1600](http://injuryprevention.bmj.com/content/12/4/231.abstract/reply#injuryprev_el_1600)).

44 Robinson D. Helmet laws and cycle use. Injury Prevention, vol. 9 pp. 380-381, 2003 (see <http://injuryprevention.bmj.com/content/9/4/380.full>)

45 BMA Board of Science. Legislation for the compulsory wearing of cycle helmets. BMA 2004, now withdrawn. For critiques see [here](#).

46 Macpherson A et al. Impact of mandatory helmet legislation on bicycle-related head injuries in children: a population-based study. Pediatrics vol. 110(5), p60, 2002 (see <http://pediatrics.aappublications.org/cgi/content/full/110/5/e60>).

47 Bicycle-Related Injuries Among Ontario Children Declining. Canadian Institute for Health Information, March 19 2003

48 Robinson D. Timely reporting, concurrent comparisons and common sense. E-letter, 2008 (see [here](#))

49 Thompson D et al. Helmets for preventing head and facial injuries in bicyclists. Cochrane Database Syst Rev, 2002 (see [www.cochrane.org/reviews/en/ab001855.html](http://www.cochrane.org/reviews/en/ab001855.html)).

50 Robinson D, Effectiveness of bicycle helmets in decreasing head and face injury. BHRF, 2000 (see [www.cyclehelmets.org/papers/c2010.pdf](http://www.cyclehelmets.org/papers/c2010.pdf)). For other commentaries of this Cochrane review see <http://dx.doi.org/10.1016/j.aap.2005.01.009> and [www.cyclehelmets.org/1069.html](http://www.cyclehelmets.org/1069.html).

51 Attewell R et al. Bicycle helmet efficacy: a meta-analysis. Accident Analysis & Prevention, vol. 33 no. 3 pp345-52, 2001 (see [http://dx.doi.org/10.1016/S0001-4575\(00\)00048-8](http://dx.doi.org/10.1016/S0001-4575(00)00048-8)). It has been criticised by Curnow W, 2003 (ref 21) and by Elvik R, 2011 (ref 22).

52 Towner E et al. Bicycle helmets - a review of their effectiveness: a critical review of the literature. Department for Transport, Road Safety Research Report RSRR30 (see [here](#)). For commentary see [www.cyclehelmets.org/1067.html](http://www.cyclehelmets.org/1067.html).

53 Macpherson A & Spinks A. Bicycle helmet legislation for the uptake of helmet use and prevention of head injuries. Cochrane Database of Systematic Reviews, Issue 3. Art. No.: CD005401, 2007 (see [www.cochrane.org/reviews/en/ab005401.html](http://www.cochrane.org/reviews/en/ab005401.html)). For commentary see [www.cyclehelmets.org/1181.html](http://www.cyclehelmets.org/1181.html).

54 Hynd D et al. The potential for cycle helmets to prevent injury - a review of the evidence. TRL research report PPR 446, 2009 (see [here](#)).

55 Department for Transport response to Freedom of Information request, February 2011 (publication awaited).

56 Hendrie D et al. An Economic Evaluation of the Mandatory Bicycle Helmet Legislation in Western Australia. Road Accident Prevention Research Unit, University of Western Australia (see [www.biketas.org.au/2008/20080404-3.pdf](http://www.biketas.org.au/2008/20080404-3.pdf)).

57 Taylor M & Scuffham P. New Zealand bicycle helmet law-do the costs outweigh the benefits? Injury Prevention, vol. 8 pp317-320, 2002 (see <http://injuryprevention.bmj.com/content/8/4/317.full>). For commentary see [www.cyclehelmets.org/papers/c2013.pdf](http://www.cyclehelmets.org/papers/c2013.pdf).

58 Robinson D. Cost and benefits of the New Zealand helmet law. Bicycle Helmet Research Foundation, undated (see [www.cyclehelmets.org/papers/c2019.pdf](http://www.cyclehelmets.org/papers/c2019.pdf)).

59 De Jong P. The health impact of mandatory bicycle helmet laws. Social Science Research Network, 2010 (see [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1368064](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1368064)).

60 Department for Transport. Active Travel Strategy, 2010 (see [www.dft.gov.uk/pgr/sustainable/cycling/activetravelstrategy/pdf/activetravelstrategy.pdf](http://www.dft.gov.uk/pgr/sustainable/cycling/activetravelstrategy/pdf/activetravelstrategy.pdf)).

61 Hillman M. Cycling and the promotion of health. Policy Studies vol. 14 pp49-58, 1993.

62 Knowles J et al. Collisions involving pedal cyclists on Britain's roads: establishing the causes. TRL report PPR 445, 2009 (see [here](#)).

63 Roads Service Northern Ireland. Travel Survey for Northern Ireland In-depth Report 2007-2009. Department for Regional Development, 2010 (see p16 and p41 of [www.drndni.gov.uk/tsni\\_indepth\\_report\\_2007-2009.pdf](http://www.drndni.gov.uk/tsni_indepth_report_2007-2009.pdf)).

64 Data on child hospital admissions supplied by the NI Department of Health, Social Services and Public Safety.

65 Parslow R et al. Epidemiology of traumatic brain injury in children receiving intensive care in the UK. Archives of Disease in Childhood, vol. 90 pp1182-1187, 2005 (see <http://adc.bmj.com/content/90/11/1182.full.pdf>).

66 Parliamentary Advisory Council on Transport Safety. Cycle helmet use and effectiveness. PACTS Parliamentary briefing PB05/04 (see [www.pacts.org.uk/docs/pdf-bank/cyclehelmets.pdf](http://www.pacts.org.uk/docs/pdf-bank/cyclehelmets.pdf)).

67 Glanville H & Harrison N. Cycle helmets. British Medical Association, 1999.

68 Dennis J et al. The effects of provincial bicycle helmet legislation on helmet use and bicycle ridership in Canada, Injury Prevention, vol. 16 pp. 219-24, 2010 (see <http://injuryprevention.bmj.com/content/16/4/219.abstract>).

69 Hagel B et al. Bicycle helmet prevalence two years after the introduction of mandatory use legislation for under 18s in Alberta, Canada. Injury Prevention vol. 12 pp. 262-265, 2006 (see <http://injuryprevention.bmj.com/content/12/4/262.abstract>).

70 [www.cyclehelmets.org/1201.html](http://www.cyclehelmets.org/1201.html)

71 Finch C, Heiman L & Neiger D. Bicycle use and helmet wearing rates in Melbourne, 1987 to 1992: the influence of the helmet wearing law. Monash University, Accident Research Centre report no. 45, 1993, pp. 35, 36, 43 (see [www.monash.edu.au/muarc/reports/muarc045.pdf](http://www.monash.edu.au/muarc/reports/muarc045.pdf)).

72 Lambert J. Number of cyclists, bicyclist trips and bicyclist accident reports in Victoria, 1986 - 1989. Vic Roads internal report, May 1990

73 Australia Bicycle Council. Australia Cycling: bicycle ownership and use. ABC, 2004 (see [www.cycle-helmets.com/australia-strategy-2004.pdf](http://www.cycle-helmets.com/australia-strategy-2004.pdf)).

74 See [www.cyclehelmets.org/1211.html](http://www.cyclehelmets.org/1211.html) and [www.cycle-helmets.com/bike-hire-schemes.html](http://www.cycle-helmets.com/bike-hire-schemes.html).

75 Royal Society for the Prevention of Accidents. Cycling Policy Statements. RoSPA, 2001 (see [www.rospa.com/roadsafety/policy/statements/cycling.aspx](http://www.rospa.com/roadsafety/policy/statements/cycling.aspx))

76 Sundahl J. Letter to the U.S. Consumer Product Safety Commission, 19th Jan 1998 (see [www.cpsc.gov/library/foia/foia98/pubcom/34c7a89b.pdf](http://www.cpsc.gov/library/foia/foia98/pubcom/34c7a89b.pdf)).

77 Corner et al. Motorcycle and bicycle protective helmets requirements resulting from a post crash study and experimental research. Report CR 55, Australian Government Department of Infrastructure and Transport, 1987 (see [www.infrastructure.gov.au/roads/safety/publications/1987/Mcycle\\_Helm\\_1.aspx](http://www.infrastructure.gov.au/roads/safety/publications/1987/Mcycle_Helm_1.aspx)).

78 Fulbrook J. Cycle helmets and contributory negligence. Journal of personal injury law, vol. 3. pp171-191, 2004 (see [www.cyclistsdefencefund.org.uk/files/fullbrook.pdf](http://www.cyclistsdefencefund.org.uk/files/fullbrook.pdf)). For a more recent update see [www.ctc.org.uk/DesktopDefault.aspx?TabID=5180](http://www.ctc.org.uk/DesktopDefault.aspx?TabID=5180).

79 See references 12 and 24.

## **Cycling Advocates Network Submission to the Cyclists (Protective Headgear) Bill**

From: Patrick Morgan [mailto:patrick@can.org.nz]  
Sent: 14 March 2011 04:19  
To: +Comm. Environment Public Email  
Cc: Bevan Woodward  
Subject: submission on CYCLISTS (PROTECTIVE HEADGEAR) BILL

## **Submission on Cyclists (Protective Headgear) Bill**

I urge the Assembly to reject this Bill.

I note that the objective of the Bill is to reduce death and serious injury amongst cyclists.

No doubt the Bill is well-intentioned, but it will fail in this objective, based on evidence from New Zealand and elsewhere.

Cycle helmet compulsion has been a health and safety disaster In New Zealand.

The injury rate has not changed while the amount of cycling decreased.

Less cycling means:

- higher health bills
- more motorised traffic
- higher emissions and pollution
- less independent children
- more traffic congestion
- higher roading bills and taxes.

Is this what the Assembly wants?

## **Summary of arguments**

### **1. The law is poorly thought out.**

The government introduced helmet laws without proof of helmet effectiveness; without community consultation; bypassing democratic principles and standards; and without considering other factors such as that there would be a decline in cycling.

### **2. Cycling has declined, partly as a result of the law.**

Numbers of cyclists have declined enormously since the law, and although cycling may have since increased, evidence indicates that the level is still below what would have been expected had there been no law.

More people have given up cycling or continued to ride helmetless than have worn a helmet because of the law.

### **3. The law has failed to reduce head injuries.**

The estimated number of head injuries per cyclist has not decreased despite increased helmet wearing rates.

#### **4. No scientific support**

The key scientific studies in support of the law have been proven flawed, usually due to limitations in their data or methodology.

#### **5. Anecdotes prove little.**

"My helmet saved my life" anecdotes do not validate enforcing the use of helmets on an entire population, notwithstanding the tendency for people to exaggerate their claims. Anecdotes can be a compelling argument for individuals to choose to wear helmets, but do not constitute the scientific evidence which should be a pre-requisite to legislation.

#### **6. Helmet wearers may be more at risk of injury.**

Some studies have suggested helmet wearers to be more likely to strike their heads and/or have an accident. There appears to be a rational explanation for this phenomena. Wearing a helmet increases the size and mass of the head. Helmet wearers, like all groups subject to safety interventionn, may also be subject to risk compensation - a well recognised problem, i.e. helmet wearers cycle more dangerously because they feel safer.

#### **7. Bicycle helmets may increase some kinds of brain injury.**

Studies of the mechanics of head injury show that one serious cause of brain injury is rotational forces, which helmets can do little or nothing to prevent and may actually worsen.

#### **8. Helmets may reduce scrapes, but are not designed to protect against serious injury.**

Helmets have little benefit in a severe collision with a motor vehicle. Bicycle helmets are certified only for simple falls up to about 20 km/h. Helmet promotion tends to exaggerate the effectiveness of helmets, and consequentially has probably reduced their effectiveness through the effects of increased risk compensation.

#### **9. Helmet laws erode civil liberties.**

Don't even think about civil liberties, you don't have any. Wear a helmet or else! Just as compulsory motorbike helmets were used to justify compulsory seatbelts, and compulsory seatbelts in turn were used to justify compulsory bicycle helmets, there can be little doubt that at some point in the future the bicycle helmets law will be used to justify other breaches of civil liberties.

#### **10. The law needs reviewing.**

The helmet law has fundamentally failed in its stated aim of reducing head injury, to say nothing of the adverse effects, but the Government has so far refused to review it.

#### **11. The helmet law has diverted attention from proven safety measures.**

The government has concentrated on enforcing an ineffective law rather than proven safety measures such as traffic calming, road engineering, skills training and cycling facilities.



Helmetless cyclists in the Netherlands, Germany, and Denmark are much safer than helmeted cyclists in New Zealand. Countries considering introducing mandatory helmet laws look at New Zealand as evidence of why NOT to have a helmet law.

## **12. The law blames the victim.**

The helmet law attempts to mitigate the effects of a crash, but does nothing to reduce the likelihood of that crash.

For these reasons, please reject this Bill.

Patrick Morgan  
Project Manager  
CAN – Cycling Advocates Network  
Tel 04-210-4967 Mob 027-563-4733, skype patrick.morgan.can  
PO Box 25-424, Wellington [www.can.org.nz](http://www.can.org.nz)  
More people on bikes, more often

## **Cyclist.ie Submission to the Cyclists (Protective Headgear) Bill**

From: Mike McKillen [mailto:mike@mckillen.com]  
Sent: 14 March 2011 12:04  
To: +Comm. Environment Public Email  
Subject: Bike Helmet Law Bill

Dear MLAs -

I am writing this submission from my position as chairman of 'Cyclist.ie', the all-island umbrella body for utility cyclists. I was born in Belfast and lived there for part of my childhood years. All my relatives live in Northern Ireland.

I would urge that you listen to what experienced cyclists (Cyclists Touring Club, NI Cycling Initiative, many individual cyclists, etc.) have been saying to you about this Bill. Its original proponents may mean well but what you, as legislators, have to consider is the unintended consequences of introducing it into law.

I would urge that you consider your answer to these two fundamental questions below:

1. Is the Bill going to reduce significantly the incidence of road traffic collisions involving a cyclist and a motorised vehicle?
2. Is the Bill going to reduce significantly the incidence of head injuries leading to death or morbidity in such collisions?

The peer-reviewed research evidence suggests that the answer will be 'no' to both these questions. The CTC and others have provided you with the references to this literature.

The over-weight and obesity incidence in our society has reached epidemic levels so the last thing we should be doing is to depress active travel, particularly use of the bike among young people of school-going age. Do you wish to reduce cycling levels, and therefore valuable aerobic exercise, by the enactment of this Bill?

You will have been presented with research literature evidence that mandatory and enforced helmet-wearing reduces levels of cycling in jurisdictions where it has been implemented by legislation.

One very telling research finding is that wearing of personal protective equipment, when its efficacy to protect riders from impact with a vehicle is dubious in the first instance, leads to the 'risk compensation' factor coming into play with the result that riders may feel less vulnerable and engage in riskier behaviour. This particularly applies to children.

What proponents of the Bill are failing to recognise is that wearing a bike helmet will not protect the rider from impact with a vehicle in a road traffic collision where the majority of fatalities arise from what are called 'left-hook' turns at a junction where the motorised vehicle is turning left and crushes the rider under the wheels. A bike helmet provides next-to-no protection against body crushing under wheel sets.

If parliament wishes to introduce legislative or administrative measures that would make our roads safer for all then attention would be better directed at the driving instruction and testing regime. Roads can be made much safer by behavioural change in the driver and bike rider cohorts. For instance if drivers were required to leave a 1.0-1.5 m space between the vehicle near-side and any rider while overtaking same then the effect would be dramatic. If this was coupled with altering drivers' behaviour at junctions in the proximity to riders then collisions would be virtually eliminated.

These measures would be cost-effective.

If the Assembly enacts this Bill then I will predict that the measures will not reduce the incidence of motorised vehicles' collisions with bikes or the outcome for the rider from such impacts. It is a clear case of an Act missing out on the proper 'target'.

It will involve the PSNI in the enforcement of legislation that will be subject to ridicule and produce odium towards the enforcing officers among the community.

Yours sincerely,

Dr. Mike McKillen  
Chairman of 'Cyclist.ie'

Dr. Mike McKillen  
'The Mews',  
3, Seaview Terrace,  
Ballsbridge,  
Dublin 4,  
Ireland.

Tel. Nos. 01-269 4210 (H); 01-896 1613 (W); 087-2314 613 (M)

Health & Safety consultant specialising in:

- \* ionising radiation and biological agents risks
- \* road safety issues.

Chairman of 'Cyclist.ie', the umbrella body for utility cyclists

## **A Submission to the Northern Ireland Assembly Environment Committee in respect of the Bill to**

# **legislate for Compulsory Cycling Helmets by CycleNation, the Federation of UK cycling Campaign Groups.**

**Registered 2, Newhams Row, London SE1 3UZ  
[www.cyclenation.org.uk](http://www.cyclenation.org.uk)**

## **Introduction**

This proposed legislation, if brought into effect, would be counterproductive leading to increased cycling casualty rates and other detriments to health. We consider our view is based on sound evidence, unlike arguments used to promote mandatory helmets which we believe do not bear up to robust scrutiny.

The arguments for compulsory helmets are typically based on the premise that cycling helmets are able to significantly reduce injuries; that cycling is an especially dangerous activity; that helmets have no adverse effects; that helmet promotion has no adverse effects. The evidence is to the contrary. And we are aware of no evidence of improved casualty rates due to helmet wearing.

Counterintuitive as it may be, this appears due in part to the physical limitations of helmets: a false sense of security leading to risk compensation: less care and consideration by drivers near helmet wearing cyclists; the presentation of cycling as an especially dangerous activity which deters the very cycling numbers which enhance safety; and a diversion of attention and funds for measures which really matter.

These factors are examined in more detail below, with several references. Where we have not made direct references, supportive references are at [www.cyclehelmets.org](http://www.cyclehelmets.org) the website of The Bicycle Helmet Research Foundation. But first there are arguably some principles which deserve consideration.

## **Relevant Principles**

The apparent compulsion to fetter, in the name of safety those who cycle can perhaps be explained by the sociological theories of 'in-group' identification and the tendency to impose disproportionate blame and responsibility on an 'out group' - in this case the relative minority of people who choose to cycle regularly, whether as enthusiasts or for utility purposes.

Those who don't identify with cycling might, by expecting cyclist to wear helmets, feel that they have confirmed that cycling is especially dangerous, thus justifying their own avoidance of cycling in the face of pro cycling strategies; feel that nevertheless they have made a 'caring' gesture to those who are 'brave' enough to cycle; feel justified in not modifying their driving to take extra care and consideration around cyclists. We should all be alert to the pitfalls of such flawed motives and rationale.

It is debateable whether the state's function is to pass legislation on safety issues outside, for example, employer / employee relationships or where there is a clear burden on the taxpayer. (e.g. NHS costs)

Furthermore is it right that the burden of special care should be placed on the victim when there is so much scope for improvement in driving and driving related measures – bad driving being by far the main factor in the collisions and casualties between cycles and motor vehicles.

Such principles would be irrelevant, at least in the short term, if there were strong practical reasons for insisting on cycling helmets. But there are not.

## **The Emotional Element**

Objecting to mandatory helmets, or even unqualified helmet promotion, can be seen as callous and indifferent to the suffering of crash victims and their families. Nothing could be further from the truth. It is to reduce the number of families who are directly affected in this way, as well as indirectly improving the health and longevity of countless more, that we are so strongly against compulsion. Unfortunately victims' and their families are vulnerable to persuasion by those who, for whatever reasons, are keen to promote the purchase and wearing of helmets, that helmets would make a difference. .

But emotional reaction, however tragic the circumstances, is no basis for legislation.

Neither is the reaction of the medical profession when they are confronted with injured cyclists. Of course there are cycling casualties, many of whom were wearing helmets, just as there are casualties from other activities like walking, ball games, driving and climbing. In fact 93% of UK head injuries have nothing to do with cycling; so why is there no clamour for helmets for these activities? And why, for example, is there no clamour for anyone taking a stroll near river, lake or canal to wear a lifejacket – without doubt lives would be saved. Maybe it's a case of the medical profession, falling into the trap of in-group vs. out-group thinking.

"If pedestrians and motorists wore helmets it would save 12 times more lives than if cyclists wore them." (The pattern of injury in fatal pedal cycle accidents and the possible benefits of cycle helmets - Kennedy A).

"The evidence on cycle helmets is limited and safety efforts should focus on accident reduction rather than on injury reduction" (Pedal cyclists, crash helmets and risk - McCarthy M)

## **The Factors in Detail**

Properly controlled experiments with randomised controls are, for obvious reasons, not easy. However, taking overall experience, there is no evidence, from anywhere across the world that helmet take up, by compulsion or coercion, has reduced casualty rates. (Robinson DL. Do enforced bicycle helmet laws improve public health?. BMJ, 2006;332:722)

Consequently for every case where a helmet has been of benefit, there must be a counterbalancing instance where a helmet has caused or contributed to a casualty.

Counterintuitive as this might seem, there are various possible reasons, including: physical limitation of helmets, risk compensation, danger exaggeration & consequent reduction in cycling (whereas more people cycling means safer cycling). But the situation is actually worse than just an unchanged casualty rate. The reduction in cycling resulting from helmet promotion or compulsion has a marked adverse effect on health due to lack of exercise. This ranges from obesity to cardiovascular problems. Basically it is safer to cycle than not. .

## **Cycling is relatively safe**

Cycling is not intrinsically dangerous. Arguably it is not a general everyday activity for which helmets would have been demanded had they not become commercially available. In fact the health benefits referred to above outweigh the risks by a factor of 20 to 1. (Wardlaw MJ. Assessing the Actual Risks Faced by Cyclists. Traffic Engineering & Control 2002;43:420-424).

Many everyday activities and pastimes are considerably more risky per participant than cycling. Walking in particular is about 50% more hazardous per mile. Yet there appears to be no insistence on walking helmets. If the concern is about the burden on the state, e.g. through NHS costs, rather than individual risk, then a substantial gain would be made by the insistence on driving and car passenger helmets.

The following table, from BHRF, shows risk relative to cycling based on fatality rates per UK participant

		<b>Relative risk per participant</b>
Less safe	Air sports	450
	Climbing	137
	Motor sports	81
	Fishing	41
	Horse riding	29
	Swimming	7.0
	Athletics	5.7
	Football	4.9
	Tennis	4.2
	Cycling	1.0
Safer	Golf	0.83
	Rambling	0.06

(These figures relate to 1986 and are derived from OPAS Monitors from the Office of Population Censuses and Surveys, UK. The number of fatalities are taken from Coroner's Court records and information on participation rates from the General Household Survey).

Risk assessments show that cyclists face everyday risks comparable to pedestrians and drivers (again, Wardlaw MJ. Assessing the Actual Risks Faced by Cyclists. Traffic Engineering & Control 2002;43:420-424).

- Pedestrians bear a higher fatality rate than cyclists, by a factor of almost 1.5;
- Cycling in Britain is safer than driving in many other countries, including France and Belgium;
- Cycling is far safer than driving anywhere when the health benefits and reduced risk to third parties are included;
- Cycling gets safer as it gets more popular;

- There is no known example in recent decades when an increase in cycling led to an increase in cyclist deaths. Cycling might even be saving lives

Similar conclusion are reached in Traffic Engineering and Control 2002;43:420-24.ii "Cycling, Safety and Health", Krag T in European Transport Safety Council Yearbook 2005.

## **Physical Limitations of Helmets**

Powerful support for cycle helmets comes from people who believe that a helmet has already saved them – or a relative or friend – from serious injury.

This is a very common experience, very much more common than the actual number of life-threatening injuries suffered by bare-headed cyclists. As there is no evidence that helmets save lives or serious injury at all across cyclists as a whole, most of these perceptions of helmet benefit must be exaggerated.

People often assume that a helmet has been beneficial because it has broken. However, it is common in these circumstances for the foam liner not to have compressed, indicating that the force towards the head was small. In many of these instances there may have been no impact at all without a helmet.

Brian Walker of Head Protection Evaluations Farnham, Surrey, UK stated in a paper published in Cycle June/ July 2005 that in collisions helmet can be subjected to loads which they cannot cope with, being limited in their design and construction to just giving reliable protection from simple falls with no other vehicle involved. He also referred to the 4 to 1 range in the permitted energy absorption parameter of approved helmet designs. A range of this size is hardly indicative of a serious safety device.

The more serious injuries are often as a result of angular or rotational acceleration, which leads to diffuse axonal injury (DAI) and subdural haematoma (SDH). These are the most common brain injuries sustained by road crash victims that result in death or chronic intellectual disablement. Cycle helmets are not designed to mitigate rotational injuries, and research has not shown them to be effective in doing so. On the contrary....

## **Helmets can cause casualties (from BHRF)**

Some doctors have expressed concern that cycle helmets might make some injuries worse by converting direct (linear) forces to rotational ones. These injuries will normally be from a very small proportion of the injuries suffered by cyclists, but they are likely to form a large proportion of the injuries with serious long-term consequences. In this way helmets may be harmful in a crash, but this harm may not be detected by small-scale research studies. (Ref: The efficacy of bicycle helmets against brain injury W J Curnow, Accident Analysis and prevention March 2003 Vol 35 issue2 pp 287 – 292 in which an examination is made of a pro helmet meta-analysis by Attewell, Glase and McFadden instigated by The Australian Transport Safety Bureau. It is shows that the design of helmets reflects a discredited theory of brain injury and concludes the meta-analysis does not provide scientific evidence that helmets reduce serious injury to the brain, and the Australian policy of compulsory wearing lacks a basis of verified efficacy against brain injury.)

There have been recorded cases of children being strangled by helmet straps. However the more significant effect is through the risk compensation which arises when both cyclist and drivers believe that an effective safety measure is in place. The physical limitation of helmets is then compounded by cyclist behaviour, for which there is anecdotal and other evidence. In addition reliable surveys have shown that drivers pass closer to helmet wearing cyclists . There is a 23%

increase in drivers passing closer than 1 metre, and significantly closer on average. (Ref : Walker, I. (2007). Drivers overtaking bicyclists: Objective data on the effects of riding position, helmet use, vehicle type and apparent gender. Accident Analysis and Prevention, 39, 417-425.)

## **Helmets deter cycling and defeat 'Safety in Numbers'**

A key factor affecting risk is the amount of cycling. When cycling increases, the risk decreases. There is a proved algebraic relationship, but in essence when cycling doubles, casualty rates drop by about 40%. This has recently been borne out in London where cycling levels have increased markedly.

(Refs. Leden L, Garder P, Pulkkinen U. An expert judgement model applied to estimating the safety effect of a bicycle facility. Accident Analysis and Prevention 2000;32:589-599 13. Ekman L. On the treatment of flow in traffic safety analysis: a non-parametric approach applied to vulnerable road users. Dept of Traffic Planning and Engineering, University of Lund, Bulletin 136, Lund, Sweden, 1996. And . Department for the Environment, Transport and the Regions Safety framework for cycling. National Cycling Forum, April 1999. And Jacobsen PL. Safety in numbers: more walkers and bicyclists, safer walking and bicycling. Injury Prevention, 2003;9:205-209.)

Enforced helmet legislation has repeatedly been linked to large declines in cycling and consequent increases in risk per cyclist. There are many examples of this e.g. an all-ages helmet law introduced in Nova Scotia in 1997 was followed by a substantial drop in the number of cyclists counted. Pro helmet analysis claiming that these reductions in cycling do not occur, or soon recover, are typically flawed.

## **Flawed Analyses – Two Further Examples**

The potentials for controlled experiment is, as already said, difficult, and even analysis of historic data is beset by questions such as 'is it the inherently cautious, or the more careless person who tends to wear a helmet'. Nevertheless there have been many attempts to analyse historic data to create a pro-helmet case . Two examples from BHRF are given below in addition to the brain injury study already mentioned. The Bicycle Helmet Research Foundation lists other examples.

Example 1: Trends in Paediatric and Adult Bicycling Deaths Before and After Passage of a Bicycle Helmet Law by Wesson D, Stephens D, Lam K, Parsons D, Spence L & Parkin P. Pediatrics. 2008;122:605-610. This wrongly concluded that the passing of a law making helmets compulsory for under 16 year olds in 1995 had been significant in the 52% reduction in mortality for that age group over a 12 year period 1991 - 2002

Despite using various ostensibly sound statistical techniques their conclusions were invalid because they had overlooked that by 1999 helmet wearing had dropped back to the level of the pre 1995 legislation in the absence of enforcement ((i)Macpherson A, School of Kinesiology, Toronto. Communication with author, reporting City of Toronto Police Services advice that no child cyclist was ticketed for violation of the helmet law. Dec 2005 and (ii) Macpherson AK, Macarthur C, To TM, Chipman ML, Wright JG, Parkin PC. Economic disparity in bicycle helmet use by children six years after the introduction of legislation. Injury Prevention, 2006;12:231- [iii] Ontario Road Safety Annual Reports, various years..)

Consequently the observed reduction in child casualties cannot actually be ascribed to helmets. A more rigorous analysis of the data shows that the decline in cyclist deaths closely correlates with the decline for pedestrians ( ref Ontario Road Safety Annual Reports (ORSAR) 1993-2004. Taking two three year periods, one before the legislation the other after the return to earlier lower helmet wearing for 1993-1995 and 2002-2004 show :

Child pedestrian deaths: -51%; Child cyclist deaths: -61%

Adult pedestrian deaths: -5%; Adult cyclist deaths: -13%

So from the earlier 3 year period to the later period we see that, owing to the small overall numbers involved (typically 3 per year) there is not significant difference between cycling and walking for children over the period and so this cannot be ascribed to helmet legislation, let alone the helmet wearing which had reduced to previous levels.

Interestingly for adults, where there had been no legislation, the improvement for cycling exceeded that for walking. The adult figures are arguably due to chance or other factors are at play.

Example 2 An quoted study states that 85% of head injuries could be avoided by helmet wearing. This comes from Thompson RS, Rivara FP, Thompson DC. - A case control study of the effectiveness of bicycle safety helmets. New England Journal of Medicine, 1989 v320 n21 p1361-7.

This paper is frequently cited in support of the promotion of cycle helmets. The claims that helmets reduce head injuries by 85% and brain injuries by 88% come only from this source, yet are quoted widely as fact. The prospect of achieving such massive reductions in injuries to cyclists lies at the root of helmet promotion and helmet laws around the world.

But detailed analysis has shown the paper to be seriously flawed and its conclusions untenable.

The most serious criticism concerns the considerable differences between the two main groups of cyclists upon which the research is based. An invalid comparison was made between 145 children treated in hospitals in Seattle for a head injury (the 'cases'), and a 'community control' group of 480 children who had, in one way or another, simply fallen from their bikes. A comparison of the two groups based mainly on helmet use of children under 15 years (21.1% of 'control' vs. 2.1% of 'case' children) leads to the frequently quoted claim that the reduction in head injury due to helmets is 85%. However a much more extensive survey of helmet use in Seattle showed just 3.2% wore helmets. This is not statistically different from the 2.1% of the hospital cases who were wearing helmets.

As well as having a helmet wearing rate 7 times that of the cyclists riding round Seattle, the 'community control' group came from higher income households and had parents with higher educational levels. The survey of child cyclists riding in Seattle found that helmet wearers were predominantly white, middle class, riding with their parents in parks, whereas the non-wearers were more often black or other races riding alone on busy city streets. The risk profile of these two groups would be quite different.

An alternative analysis of the data leads to the conclusion that helmets make no significant difference. This matches the conclusion from whole-population data around the world.

Note: It seems there is a lot of emotional association with helmet research and it appears some researchers may be too committed to a particular outcome to allow them to be as dispassionate as good scientific research requires.

## **There is no Real World Evidence that Helmets have Reduced Casualty Rates – Some More Evidence**



As early as 1988 Rodgers studied 8 million cases of injury or death to cyclists in the USA over 15 years - the largest survey of its kind ever undertaken. He concluded that there was no evidence that hard shell helmets had reduced head injury or fatality rates. Indeed, he found that helmeted riders were more likely to be killed.

A decade later, Kunich analysed cyclist and pedestrian fatalities in the USA and concluded that there was no evidence that cycle helmets were effective in reducing deaths.

In 2001, the US Consumer Product Safety Commission reported that although helmet use had risen over a decade from 18% to 50% of cyclists, head injuries had also gone up by 10%. There was no clear evidence that cycle use had increased.

An analysis of cyclist and pedestrian fatalities in Canada from 1985 to 2003 showed that trends for both modes were similar and the number of deaths fell in both cases. However, although cycle helmet use had grown from virtually zero to 50% over the period, there was no detectable impact on cyclist fatalities compared with pedestrians.

In 2009, a wide-ranging international review of the literature for the UK Department for Transport (when both pro-helmet and helmet-sceptic interests had the opportunity to contribute towards the evidence considered) concluded that there was no reliable evidence that cycle helmets have resulted in a lower risk of head injury for cyclists.

And from BHRF: The UK courts have not to date determined that wearing a helmet would have made any material difference in the cases of serious or fatal injury that they have considered

## **Effective Safety Measures and the Importance of a Cycling Culture**

Despite its relative safety and health benefits there are measures which would benefit cycling. Helmet promotion is not one of them and diverts attention from more effective and fairer measures, like broader publicity for the National Cycling Standards, better driving standards and consideration, and lower speed limits, such as are championed by the '20's Plenty' initiatives.

Resources devoted, on the continental model, to improving facilities for cyclists and to reducing urban speed limits are likely to be far more cost-effective than the introduction of helmet legislation.

The issues can be seen in a cultural context; countries such as those in the UK, despite pro cycling official strategies, do not have a genuine cycling culture. Countries like Holland and Denmark, which have high levels of cycling, low casualty rates, see cycling as a normal 'in-group' activity; they have little helmet wearing within a genuine cycling culture. This should be the strategy-consistent aim of Northern Ireland and the rest of the UK. Helmet promotion and compulsion will impede progress. The situation has been well put in :

Making Cycling Irresistible (PDF 876kb) (Pucher and Buehler, Transport Reviews, Vol. 28 2008):

In the USA, much of the effort to improve cyclist safety has focused on increasing helmet use, if necessary by law, especially for children. Thus, it is important to emphasize that the much safer cycling in northern Europe is definitely not due to widespread use of safety helmets. On the contrary, in the Netherlands, with the safest cycling of any country, less than one percent of adult cyclists wear helmets, and even among children, only 3-5% wear helmets (Dutch Bicycling Council, 2006; Netherlands Ministry of Transport, 2006). The Dutch cycling experts and planners interviewed for this paper adamantly opposed the use of helmets, claiming that helmets

discourage cycling by making it less convenient, less comfortable, and less fashionable. They also mention the possibility that helmets would make cycling more dangerous by giving cyclists a false sense of safety and thus encouraging riskier riding behaviour. At the same time, helmets might reduce the consideration motorists give cyclists, since they might seem less vulnerable if wearing helmets (Walker, 2007).

And Bruce Robinson of the Bicycle Federation of Australia has noted that "any countries or jurisdictions considering the introduction of compulsory helmet wearing laws should look very closely at the available data to see if it still supports such a move in light of the ambiguous Australian experience. It is essential that reliable evaluation methodologies be recognised, and the common shortcomings of both databases and interpretation which bedevilled the early Australian evaluations be avoided". .

THE CONCLUSION is clear: in our view the current Bill needs a re-assessment not assent.

CycleNation Board, JM./ March 2011

## **'Da' – Young Father's Project Submission to Cyclists (Protective Headgear) Bill**

From: Darren Boyle [mailto:darrenboyle@first-housing.com]  
Sent: 14 March 2011 16:26  
To: +Comm. Environment Public Email  
Cc: 'Steven Patterson'; 'Ross McGill'; 'Hazel Deeney - First Housing'; ruaidhri@da-youngfathersproject.co.uk; 'John gilmour'; 'ryan'  
Subject: Submission Re: Cyclists (Protective Headgear) Bill

### **Re: Cyclists (Protective Headgear) Bill**

Dear Sir/Madam

I would like to make a brief submission on the above proposed Private Member's Bill by MLA Pat Ramsay.

From the outset it should be noted that promoting, supporting and encouraging the use of cycle helmets remains of paramount importance to 'Da'-Young Father's Project and recognises their safety significance in cycling. It is the compulsion to wear a helmet which is objected to.

### **Brief overview & context - 'Da'-Young Father's Project**

'Da'-Young Father's Project was launched in July 2007 providing services to young fathers aged 14-25 and their families in the Derry, Strabane & Limavady areas. Ultimately the aim of the project is to put young fathers on 'the agenda' and make them 'visible' in the eyes of their child/ren and others. The project is pre-dominantly funded by Big Lottery at the minute with First Housing as lead agency with a range of other key funders, service providers and roles on the Project Steering Group e.g. Public Health Agency, Youth Justice Agency, a journalist, a doctor, midwives, etc.

3 main services are delivered:

- Advocacy service - provides support across a breadth of issues and sectors to young fathers and their families. Advice and support is provided on issues relating to seeking/increasing access to child, on housing/homelessness needs, attendance at court relating to access to their child or criminal proceedings, support with mental health through to employability issues, etc.
- Programmes - over 45 programmes are delivered to young fathers which are broken down into 3 different categories:
- 'Personal Development' - e.g. sexual health, drug & alcohol programmes, essential skills (literacy/numeracy), etc.
- 'Child Theory & Development' - e.g. ages & stages of development, nutrition, child protection, Early Years First Aid, etc.
- 'Kidzplay' - e.g. creates opportunity for young fathers to interact with their children through organised activities e.g visits, play, etc
- 'HandyMen NI' is our recently established social economy which creates and provides opportunities for young fathers to gain practical opportunities and qualifications which will increase their employability.

With support from Sport NI, Public Health Agency (West) and Derry City Council, 'Da'-Young Father's Project will be shortly launching a cycling/bike project. This will permit up to 20 young fathers and 10 children to participate and improve areas of their lives e.g. physical health and mental health; enhance relationships between father, mother and child; through 'HandyMen NI', bike maintenance and a bike recycling initiative will contribute not only to employability aspects of their lives but also developing an entrepreneurial spirit while utilising and promoting the use of local cycling routes.

'Da'-Young Father's Project opposes the Bill in line with submission and objections from Sustrans, namely:

1. The law would deter people from cycling. With numbers of cyclists already low, a legal requirement to wear a helmet would be an obstacle to getting more people on bikes and the costs to health will greatly exceed the benefits.
2. The law would disproportionately affect people from socially deprived households who have enough obstacles to their travel choices without the cost of cycle helmets.
3. The law ignores the fact that cycling is a relatively safe activity - the health benefits from cycling far outweigh the dangers. This disproportionate law would make cycling appear dangerous and fails to deal with any of the wider threats to cyclists' safety.
4. The law would undermine the potential for highly cost-effective investment to be made in measures to increase cycling levels.
5. The law would be unenforceable and require considerable costs at a time of budget constraints. Resources would be better spent tackling the causes of road danger by developing safer and well designed roads and supporting programmes to promote cycling such as modern on road cycle training, especially for school children.

## **Other pertinent points:**

Attitude to Risk-taking - 'Da'-Young Father's Project works directly with some of the most disadvantaged young men and families in our communities. This can be evidenced through

statistics of those engaged and their experiences which are highlighted below. The significance of these statistics relating to this proposed Bill is that the young fathers engaged through the 'Da'-Young Father's Project have a number of barriers, difficulties and issues in their lives which mean that their attitude to wearing helmets is an in-significant element to what is perceived by them to be a low risk-taking activity.

Disproportional - again as can be highlighted from the statistics and information below, 'Da'-Young Father's Project believes that the use of powers permitted under such a Bill would be used disproportionately in areas of social deprivation, particularly more so when many of 'our' young fathers have had significant experiences of the criminal justice sector and maybe 'known' to the e.g. PSNI officers and could possibly be targeted.

Attitudes to PSNI/Enforcement - given the relatively negative experience of agencies involved in the criminal justice sector, on a very practical basis, such a Bill not only has the potential to divert PSNI officers from more relatively important tasks, but may also be seen by young people as a 'bit of craic', getting chased through local areas on a bike by PSNI officers, either on foot or in a patrol vehicle can be seen as fun or evidence of masculinity.

Finances - This is coupled with the financial cost of purchasing a helmet in the first instance and decisions often having to be made on priorities of competing items, e.g. food, electricity, rent, clothes, etc. Again, given the social deprivation of these young men and their families, bicycles are often passed-on between family members and/or friends, but there is little likelihood that a helmet would also be passed-on. Additionally, if issued a 'Fixed Penalty Notice' of £x, there is little ability of young/people from socially deprived areas to be able to pay this fine. This only leads to pending further prosecutions and a cycle which further criminalises those already alienated.

Conclusion:

The health and safety of all those involved in cycling - children, parents/adults, etc - is of the highest importance and should not be replaced by complacency. However, the risks associated with this very low-risk activity should be out-weighed by common-sense. Cycling programmes and initiatives, such as those developed by 'Da'-Young Father's Project, which encourage and educate on the reasons why helmets should be incorporated into cycling activities, should be used as models of good practice.

I ask that the information highlighted below is not published but used as supporting information given the sensitive nature of some of the issues.

Please feel free to contact me to seek clarification on any of the points raised.

Mental Health issues:

- 30% diagnosed as having mental health issues
- 30% being treated; 30% have 'previously felt suicidal'
- 19% self-harming at the time of assessment
- 11% have taken at least one 'over-dose'

Education:

- 36% - 'literacy' difficulties (self-reporting!)
- 22% - 'numeracy' (self-reporting!)

- 6% - only 6% have had an essential skills assessment carried out
- 58% - NO academic qualifications!

#### Un/Employment & Training:

- 6% - full-time employment; 3% - part-time
- 17% - full-time education; 3% - part-time
- 11% - claiming DLA/Income Support
- 44% - claiming JSA

#### Housing/Homelessness:

- 17% have experienced homelessness

#### Alcohol/Drugs/Gambling:

- 92% drink alcohol
- 39% began drinking aged 14-16
- 22% began drinking under 13 years of age
- 24% spend over £30/week on alcohol
- 47% have taken drugs
- 35% began taking drugs aged 16-18
- 18% began taking drugs under 14 years of age
- 22% gamble
- 75% of those who gamble, gamble weekly
- 25% spend over £30 weekly
- 50% use bookmakers
- 37.% use machines

#### Criminal Justice:

- 58% have been arrested
- 39% have been convicted
- 14% are presently involved in criminal proceedings
- 11% under supervision order at time of assessment

Darren Boyle  
 Project Manager  
 'Da' - Young Father's Project  
 6 Pump Street  
 Derry  
 BT48 6JG  
 Tel: 028 7137 2787

[darren@da-youngfathersproject.co.uk](mailto:darren@da-youngfathersproject.co.uk)

# **Dan Woodall Submission to the Cyclists (Protective Headgear) Bill**

From: Daniel Woodall [mailto:Daniel.Woodall@virginmobile.com.au]

Sent: 09 March 2011 01:31

To: +Comm. Environment Public Email

Subject: Bicycle helmet laws

Dear members of the committee,

I note with concern that NI is considering making bicycle helmets mandatory. As a UK citizen living in Australia I have witnessed first-hand the damage that this flawed legislation has done both for cycling participation and public health in this country. Please do not repeat the mistakes made in Australia – mandatory helmet legislation is a flawed concept, and I urge the committee to reject this proposal.

In support, the committee should note that cycling is a very safe activity. International benchmarks show that it is about as dangerous as being a pedestrian – and the number of pedestrian deaths vs cycling deaths in NI should be testament to this fact. Singling out cycling as an activity that is so dangerous that it needs special armour is unwarranted, and also leads to unfortunate side-effects. About 40% of cyclists gave up riding when similar legislation was enacted in Australia; public health studies have shown that the overall health outcomes for Australia have accordingly worsened, with the corresponding rise in obesity and heart disease costing far more to treat than the tiny number of cycling head injuries saved. Studies have shown that the risk / benefit ratio for cycling is about 20:1 – that is to say cycling is twenty times more likely to extend your life than it is to shorten it. There is absolutely no justification for the introduction of helmet legislation on public health or safety grounds either as an absolute argument (as the total number of cycling injuries is very small) or a relative risk argument (cycling is no more risky than other everyday activities, so does not need to be singled out for special treatment).

Riding a bicycle is a safe activity. It is a healthy activity. It reduces the incidence of disease. It improves both the local and global environment. It helps reduce traffic congestion. It saves society money in health costs and improved productivity.

Please do not criminalise this very positive behaviour. I urge you to reject this flawed legislation.

Kind regards,

Dan Woodall  
13 Grove St  
Lilyfield  
NSW 2040  
Australia

PS You might also note that helmet legislation also makes the introduction of bicycle hire schemes impossible; these flagship schemes that are doing so much to improve transport, the environment and boost tourism in cities all around the world do not work where helmet legislation exists, as casual riders do not carry a helmet with them 'just in case they choose to borrow a bike'. This is demonstrated with the recent scheme launched in Melbourne, Australia – rider levels are very low, with utilisation only around 10% of the Dublin scheme (which is of similar size and geographic spread).

## **David Fawcett Submission to the Cyclists (Protective Headgear) Bill**

From: David Fawcett [mailto:cycleman31@hotmail.com]  
Sent: 09 March 2011 12:05  
To: +Comm. Environment Public Email  
Subject: Proposed legislation making it an offence to ride a bike bareheaded

Dear members of the committee,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

I note that there were no cyclist deaths in 2009 or 2010 and no child cycling deaths since 2005. Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit.

I strongly urge you to reject this well-intentioned but fatally flawed legislation.

Yours sincerely,

David Fawcett

## **David Monaghan Submission to the Cyclists (Protective Headgear) Bill**

From: David Monaghan [mailto:monaghd@googlemail.com]  
Sent: 07 March 2011 22:14  
To: +Comm. Environment Public Email  
Subject: Cycle helmet review

Dear committee members

I write to express my concern about the proposed legislation to make it an offence to ride bareheaded in any open space.

The scientific evidence is clear: cycling is a safe activity that extends the life of participants. I have not seen evidence from any country or region that has implemented a mandatory cycle helmet law that this has reduced the injury rate for cyclists. The best way to make cycling safer is through 'safety in numbers' - getting more people out on their bikes so that it becomes a normal choice for personal transport and so that cyclists are a normal part of road traffic.

Given that there have been no cyclist deaths in Northern Ireland for the past two years, and no child deaths for several years before that, this proposed legislation seems inappropriate to me.

The Dutch don't bother with cycle helmets. They just ride their bikes and their country is all the better for it.

Regards

David Monaghan  
Edinburgh

## **David Singer Submission to the Cyclists (Protective Headgear) Bill**

From: David Singer [mailto:[zetland39@tiscali.co.uk](mailto:zetland39@tiscali.co.uk)]  
Sent: 07 March 2011 21:03  
To: +Comm. Environment Public Email  
Subject: Cyclists (Protective Headgear) Bill

This is a bad bill. It will discourage people from cycling and curtail their freedom.

Making cycling helmets compulsory has been tried elsewhere; this is what happens.

First, it reduces cycling. Quite apart from the direct reduction in physical activity, this means for children:

- They have less independence: they get out less on their own; they get fewer opportunities to experience hazards and learn how to deal with them; their social lives are more constrained by what their parents will facilitate. One obvious effect these days is for them to spend more time in front of television and computer games, which present a bizarre picture of life and are unlikely to contribute to developing real life skills.
- There will be more car driving as children are ferried about by their parents. Children get less physical activity and the roads become more dangerous.

Second, there is no good evidence that it makes cycling safer. By reducing cycling it may make cycling less safe. Anyone who has cycled a lot knows that the way drivers behave makes most difference. The fewer cyclists they see, the less drivers are likely to accommodate them. Think about one routine hazard for cyclists: a car inching out of a side road into your path causing you to move out into the traffic if you want to go straight down the road. Occasionally a car driver in this country will pull back when they see they are obstructing me. In Holland an articulated lorry did so: I nearly fell off in surprise.

What about justice? People aren't killed or injured on the roads because they fall off; they get hurt because cars hit them. There is too much dangerous, illegal and inconsiderate driving. Existing traffic laws, such as speed limits, parking laws, traffic lights and other regulations are weakly enforced. If you have a free hour you could stand in the centre of any large city and count dozens of motoring offences, none of which attracts any attention. Where prosecution results it is generally for extreme cases and the sentences are small, in comparison with other life endangering acts.

Part of the problem is the view that only direct consequences count. Why should we bother if people drive at 35 mph down a long straight road? There's nobody about. This is why - nobody is about because the roads are full of people driving badly. Driving behaviour is not well regulated by its actual effects. Imagine this experiment: you walk across the road and I'll drive down it. If I hit you I may get punished. If you don't avoid me you will be injured and may be



dead. Either way you will be anxious and fearful. Which one of us is most interested in making sure you don't get hit?

I am 53 years old and have been a daily cyclist for nearly 40 years. I've worn a helmet for the past 25 years, from choice. I think it would be the most outrageous bullying to force me to wear one. And as far as i can see it would be pointless. I've been knocked off my bicycle a few times, by motor vehicles and pedestrians, but there's never been a time when my helmet has made any difference to my welfare when falling.

There is one thing that would make a huge difference to the safety of all road users, though, and that would be to restrict the brightness of headlights - and rear lights too. They have become so bright that road users are routinely dazzled, car drivers too; and being so bright they encourage people to drive faster in the dark because they feel safer. Doing something about that would do far more to promote the safety of all vulnerable road users.

David Singer  
zetland39@tiscali.co.uk

39 Zetland Road  
Manchester  
M21 8TJ  
UK

## **Dean Foden Submission to the Cyclists (Protective Headgear) Bill**

From: Dean Foden (Cefas) [mailto:Dean.Foden@cefas.co.uk]  
Sent: 08 March 2011 10:52  
To: +Comm. Environment Public Email  
Subject: Cycle helmet legislation

Dear members of the committee,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

I note that there were no cyclist deaths in 2009 or 2010 and no child cycling deaths since 2005. Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit. Furthermore, reducing the level of cycling has been shown to increase the risk to those cyclists who remain. The converse is also true and forms the basis of the CTC's safety in numbers campaign (see <http://www.ctc.org.uk/DesktopDefault.aspx?TabID=5225>). Legislation compelling cyclists to wear helmets could, therefore, result in an increase in cyclist injuries and deaths from the very safe levels currently enjoyed in Northern Ireland.

I strongly urge you to reject this well-intentioned but fatally flawed legislation.

Yours sincerely,

Dean Foden

## **Declan Dempsey Submission to the Cyclists (Protective Headgear) Bill**

From: Dempseys [mailto:dempseys@skynet.be]  
Sent: 08 March 2011 21:01  
To: =p.ramsey@sdip.ieRD  
Cc: +Comm. Environment Public Email  
Subject: Compulsory cycle helmet law

Dear Pat

I am writing to express my annoyance at your Private Members bill to criminalise those who choose to cycle without a helmet. This will do very little to reduce head injuries and everything to reduce the number of people in Northern Ireland using bicycles. It is a typical short term knee jerk reaction, a get out clause to try and make cycling safer by avoiding investing in a decent cycling network. This goes some way to making cycling appear to be a dangerous endeavour, and one to be avoided. Car salesmen and petrol station owners must be rubbing their hands as your move will encourage more people to drive, clog up the streets, pollute the air and get fat rather than use a bike. For almost twenty years, Australia has criminalised cycling without a helmet and has a very low cycling rate. The Netherlands has one of, if not the highest cycling rate in the world and very few of them wear helmets.

Do you not think that the already stretched PSNI have better things to do than book no-helmet cyclists? They rarely bother to book them for the certain dangerous practices like riding on the footpath, or cycling at night without lights. As I write, I bet that most of them are having a laugh at this crazy proposal.

This publicity stunt that you are pulling is rather typical of the attitude to cycling in the British Isles. Do nothing to help cycling, but shift as much blame on cycling injuries away from the government and motorist to the cyclist. I suggest that you take a trip to mainland Europe to some of the countries where politicians know a bit about cycling (Denmark, or the Netherlands for example) and see how they make cycling safer.

Take a long term European view of investing in cycling facilities, not a typically short term British one of hitting low income cyclists and the environment.

Yours sincerely

Declan Dempsey  
Lifelong cyclist and occasional helmet user.  
Belgium (via Belfast)

## **Douglas Ferguson Submission to the Cyclists (Protective Headgear) Bill**

From: Douglas Ferguson [mailto:jdferguson2000@hotmail.com]  
Sent: 10 March 2011 10:43

To: +Comm. Environment Public Email  
Subject: Cycle Helmet Legislation

Dear Sirs,

I understand that the NI Assembly is considering legislation to make the wearing of cycle helmets compulsory for cyclists in any public place in Northern Ireland.

This is very restrictive proposal, in my view, and does not need any further special legislation.

Currently, the wearing of cycle helmets is widespread amongst the cycling community in Northern Ireland and is already self-regulating.

Helmets are beneficial for many but NOT all cycling activities and cyclists currently have the freedom to make their own choice.

The removal of this freedom of choice would be a backward step. The enforcement of this proposed legislation would be time consuming and counter-productive for the PSNI.

For the above reasons, I urge your committee not to proceed with this proposal.

Yours faithfully

Douglas Ferguson  
48 Church Road  
Helen's Bay  
BT19 1TP

## **Dr Alan Dawson Submission to the Cyclists (Protective Headgear) Bill**

From: ALAN DAWSON [mailto:a.t.dawson@btinternet.com]  
Sent: 01 March 2011 21:42  
To: +Comm. Environment Public Email  
Subject: The cyclists (protective headgear) bill

85 Ardenlee Ave,  
Belfast  
BT6 0AD

Dear Sir/Madam,

I would like to support the above bill whereby helmets will have to be worn by all cyclists in public spaces.

I am appalled and horrified by the campaign mounted by Sustrans/CTC to oppose the bill. I received an email to-day from Sustrans asking me to oppose the bill. In response to that email I am writing to you to SUPPORT the bill.

Thank you

Yours faithfully,

Dr Alan Dawson.  
G.P. and life long cyclist (with a helmet).

## **Dr Chloe Galley Submission to the Cyclists (Protective Headgear) Bill**

From: Chloe Amanda Galley [mailto:GALLEYC@tcd.ie]  
Sent: 14 March 2011 16:55  
To: +Comm. Environment Public Email  
Subject: cycling helmets

Dear Environment Committee,

Please do NOT make cycling helmets mandatory for cyclists.

Experience has shown that making cycle helmets mandatory decreases the number of cyclists on the road, and this (having lots of cyclists on the road) is one of the best ways to make cycling safe.

The following blog contains useful information:

<http://www.guardian.co.uk/environment/bike-blog/2011/mar/14/cycling>

Kind regards

Dr. Chloe Galley  
Centre for the Environment  
Trinity College Dublin  
Dublin 2, Ireland

## **Dr David Beasley Submission to the Cyclists (Protective Headgear) Bill**

From: David Beasley [mailto:david@beasley.me.uk]  
Sent: 11 March 2011 15:37  
To: +Comm. Environment Public Email  
Subject: Cycle Helmet Legislation

Dear members of the committee,

I am extremely concerned about the proposed legislation making it an offence to ride a bike without a helmet in public.

I understand that there were no cyclist deaths in 2009 or 2010 and have been no child cycling deaths since 2005. However, our society becomes ever more obese, and thousands die from diseases related to this each year. A greater participation in cycling would help to improve the nation's health, so clearly cycling needs to be encouraged. But it is nonsensical to encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Where helmet legislation has been introduced in other countries there has been a large and persistent fall in cycle participation. Enforcing the use of helmets is disproportionate to the tiny risks of cycling. The health costs of discouraging cycle use far outweigh any imaginable benefit.

I strongly urge you to reject this well-intentioned but flawed legislation.

Yours sincerely,

Dr David Beasley

## **Dr Dolan Byrne Submission to the Cyclists (Protective Headgear) Bill**

From: Dolan Byrne [mailto:dfbyrne@gmail.com]  
Sent: 08 March 2011 13:39  
To: +Comm. Environment Public Email  
Subject: Please do not introduce compulsory cycle helmets

Dear Sir/Madame,

In reference to:

The Northern Ireland Assembly are currently considering a Private Members Bill from Pat Ramsay MLA the "Cyclists (Protective Headgear) Bill" to make cycle helmet wearing compulsory for all cyclists in all public places. Currently the Bill is being considered by the Committee for the Environment and written submissions from the public must be with the Committee by 14th March 2011.

I am very disappointed in this bill. I have been cycling all of my life without a helmet.

I have just finished my Ph.D. in Queen's physics department and I now intend to set up my own business. I use my bicycle to get around as it is cheap, better for the environment and for parking. Though I feel unsafe because of the lack of effort put into the road infrastructure for cyclists.

I and others see this bill as a strike back by the politicians to the active bicycle campaign and not actually in the interest of cyclists, as the dangers of cycling are not being tackled directly, but instead it will act as an extra reason why people couldn't be bothered using the bicycle.

A helmet will not make me or my colleagues/friends feel safer on the roads and streets, but instead will only be an extra deterrent to using the bicycle.

Kindest regards,

Dolan

Dr Dolan F. Byrne  
Main contact - 077 3632 0948  
dfbyrne@gmail.com

Centre for Nanostructured Media Business oil  
School of Maths & Physics 25 University Ave

Queen's University of Belfast Belfast  
University Road BT7 1GX  
Belfast N. Ireland, United Kingdom  
BT7 1NN 028 9023 7059  
N. Ireland, United Kingdom [www.business-oil.com](http://www.business-oil.com)  
<http://www.qub.ac.uk/research-centres/CentreforNanostructuredMedia/>

## **Dr Dorothy Robinson Submission to the Cyclists (Protective Headgear) Bill**

From: Dorothy L Robinson [mailto:[adorre@gmail.com](mailto:adorre@gmail.com)]  
Sent: 09 March 2011 04:22  
To: +Comm. Environment Public Email  
Subject: NI helmet legislation will seriously damage our health - please do not proceed with it

I have relatives in Northern Ireland. Their health, and the health of the whole community, will suffer because of this misguided bill.

Helmet laws discourage cycling and increase injury rates because of risk compensation and reduced safety in numbers - see the review published in the British Medical Journal - <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1410838>

Research by Dr Ian Walker shows that motorists pass closer to helmeted cyclists. Dr Walker was hit twice when conducting this research - by a truck and a bus - both times when he was wearing a helmet! [http://www.eurekalert.org/pub\\_releases/2006-09/uob-wah091106.php](http://www.eurekalert.org/pub_releases/2006-09/uob-wah091106.php)

The research is clear - bike helmets can't cope with forces that lead to serious brain injury in car/bike crashes. They create a false sense of security that leads to increased injury rates because of risk compensation and reduced safety in numbers.

Please read the research and be guided by the CTC and other cyclists' organisations and reject this bill which will discourage a healthy environmentally-friendly activity and increase injuries per cyclist from risk compensation and reduced safety in numbers.

This is a counter-productive bill that should not proceed.

Thank you for reading this and, I hope, acting to protect the health of the citizens of Northern Ireland.

Dr Dorothy L Robinson

## **Dr Mayer Hillman Submission to the Cyclists (Protective Headgear) Bill**

From: Mayer Hillman [mailto:[mayer.hillman@blueyonder.co.uk](mailto:mayer.hillman@blueyonder.co.uk)]  
Sent: 14 March 2011 10:01  
To: +Comm. Environment Public Email  
Subject: Consultation on cycle helmets

# **Cyclists (Productive Headgear) Bill**

## **Memorandum by Dr. Mayer Hillman, Senior Fellow Emeritus, Policy Studies Institute, London**

I apologise for emailing to you this Submission at the eleventh hour on the subject of the proposed legislation on making cycle helmet wearing compulsory in Northern Ireland. The notes below relate exclusively to paragraph 1, namely the 'Requirement to wear protective headgear'.

Early in the 1990s, I was commissioned by a Consortium of cycling bodies to undertake a study of the efficacy of cycle helmet wearing. Many bodies, including the government, the medical profession, and road safety organisations have promoted this practice. The majority of cyclists, on the other hand, question the need for this and were certainly worried about the consequences of helmet wearing being made mandatory.

The brief for the study was that it had to be undertaken by an independent research institute and that all the international evidence on the subject was to be reviewed in the process of arriving at its conclusions. In the event, Policy Studies Institute was chosen partly reflecting the commendatory reception that was accorded to the British Medical Association report *Cycling: towards health and safety* which had been written by the author of this Memorandum at Policy Studies Institute. The website of the author of this Memorandum –see below also contains relevant articles.

The report for the Consortium, entitled *Cycle helmets: the case for and against*, can be downloaded from the PSI website or read on the attachment to this email. It includes the concluding chapter. The dialogue over four journal issues between the principal proponents of cycle helmet wearing, namely Thompson, Thompson and Rivara (three hospital surgeons), and John Adams (author of two highly praised books on the subject of risk-taking) and myself in the international journal, *Injury Prevention* is attached. Readers of this exchange can draw their own conclusions as to which 'side' won.

Since the completion of these reports, other studies have been conducted on the subject reaching similar conclusions about helmet wearing. In particular, I draw attention to the work of Dr. Malcolm Wardlaw.

In particular, there is a strong case for pointing out that, whilst it is obvious that, in a crash, cyclists' head are better protected if they are wearing a helmet. On the other hand, there is no doubt that a cyclist's behaviour is influenced by their feeling of security, for which reason cyclists are likely to take marginally less care when wearing a helmet. The other substantive reason is that the message going out to a public considering the desirability of cycling is that it is a dangerous activity. However, just previous to writing the report on cycle helmets, I was also commissioned to write the report for the British Medical Association *Cycling: towards health and safety* noted above. The conclusion of this report was that cycling as a regular form of transport was a unique way of maintaining fitness and that the benefits for health in terms of 'life years' gained far outweighed the life years lost in cycle fatalities even on our relatively cycle hostile road network. Indeed, it was stated that it far more risk of premature death from heart disease can be attached to not cycling than to cycling. An important lesson can be learned from the introduction of the mandatory requirement to wear cycle helmets in Australia. It led to a sharp fall in cycling.

I would urge those considering the desirability of making cycle helmet wearing mandatory to pay proper regard to the evidence noted above. I am very confident that it would be wholly undesirable for the range of reasons noted in the attachments.

14 April 2011

[www.mayerhillman.com](http://www.mayerhillman.com)

## **Dr Mayer Hillman Attachment A**

### **The Cycle Helmet: Friend or Foe?**

**Mayer Hillman, Senior Fellow Emeritus, Policy Studies Institute, London**

Many bodies, including elected authorities, the medical profession and road safety organisations all over the world seek to persuade cyclists to wear helmets as a means of reducing the incidence and severity of head injury among them. Some cyclists question this course of action, whilst others are opposed. At the end of the day, many people are confused. Without research aimed at reviewing and marshalling all the evidence, no clear way forward can be determined. This paper, drawn from a major report by the author, which has just been published by the independent Policy Studies Institute (Hillman, 1993), is aimed at doing just that.

It concludes first, that by wearing helmets, cyclists are at best only marginally reducing their chances of being fatally or seriously injured in a collision with a motor vehicle which is the predominant cause of these injuries, and that cyclists may be less likely to have an accident if they are not wearing a helmet and therefore ride with greater care owing to an enhanced sense of their vulnerability. Second, that tackling the source of accidents in which cyclists are involved has far greater scope for reducing head injuries than the arguable benefits of promoting helmet wearing among cyclists.

### **Introduction**

Over 200 cyclists have been killed and over 80,000 injured in road accidents in Great Britain in each of the last few years. Children account for two in five of these casualties which typically occur without any vehicle being involved but by falling off their cycles after losing control. Injuries are rarely serious: admission to hospital usually reveals low severity, short-term concussion (Williams, 1991). However, the great majority of the fatalities and approximately half the injuries - most of them to adults - result from damage to the head following collision with a car or goods vehicle.

It might be assumed that greater protection of cyclists' heads would offer the possibility of lowering the number of fatalities and mitigate the worst effects of head injury, with the result that many injuries that would have been serious would be slight and many slight injuries would be prevented altogether. The case for encouraging cycle helmet wearing, and even for making it compulsory would appear, on the face of it, to be sound.

Such a judgement is widely shared. In the UK, it reflects the position of the government and politicians generally, road safety organisations, such as RoSPA (Royal Society for the Prevention of Accidents), PACTS (Parliamentary Advisory Committee on Traffic Safety), the Medical Commission on Accident Prevention, the Child Accident Prevention Trust, bodies involved in health promotion such as the Health Education Authority, and of surgeons, paediatricians and the medical press. All believe that wearing a cycle helmet provides a substantial measure of protection against brain injury and skull fracture.



## Studies of Head Injury Reduction by Helmet Wearing

A large number of studies have been undertaken in order to identify what effect helmet wearing has on the incidence and severity of head injuries. Some of the more important of these are set out in Table 1. As can be seen, most have concluded that it is highly beneficial. Claims range from that of a study suggesting that fatalities would be reduced by 90 per cent (Dorsch et al., 1987), another that there would be no reduction in cycle fatalities but about a 30 per cent in injuries (Mills, 1989), to a major study in the US which found '... no statistical evidence that hard-shell helmets have reduced head injury or fatality rates', and '... increasing helmet wearing is actually associated with an increase in injuries' (Rodgers, 1988).

**Table 1. Estimates from various international studies of reduction in head injuries to cyclists by wearing helmets**

Ref.	Injuries %				Notes
	Fatal	Serious	Slight	All	
1	90				hard-shell helmet with inner liner
2	80				only child cyclists considered
3	70			84	assuming 100% wearing rate
4	50				based on a review of studies
5	50				based on a review of studies
6	50				only for cyclists aged 5-19
7				85	also 88% of the brain injured
8			>50		also much reduced for serious injuries
9				20	with wearing rates up from 5% to 40%

	Injuries %				
Ref.	Fatal	Serious	Slight	All	Notes
10				13	assuming 100% wearing rates
11				< 1	assuming a low wearing rate
12	0	30		32	injuries to cranium only
13	0				based on statistical analyses

References: 1. Australia (Dorsch, op.cit.); 2. Ontario, Canada (Spence et al., 1993); 3. US (Sacks et al., 1991); 4. Quebec, Canada (Dussault, 1992); 5. Australia (Mathiesen, 1989); 6. UK (Lancet, 1988). 7. US (Thompson et al., 1989); 8. UK (Worrell, 1987); 9. Victoria, Australia (Vulcan et al., 1992); 10. Odense, Sweden (European Cyclists Federation, 1991); 11. UK (Downing, 1986); 12. UK (Mills, op.cit.); 13. US (Rodgers, 1988);

The wide variation in the estimates could be explained by a number of factors influencing the risk of accident in the first place such as personal characteristics - age, sex and the experience of cyclists and the mileage they travel; the comparability of data from 'before and after' surveys, including the level of reporting of injuries, the sample size, changes attributable to relevant legislation affecting cyclists' risk of accident, and varying weather conditions; the dangers of not comparing 'like with like'; the lack of consistency of classification of head injury; and the attention paid to the issue of risk compensation.

## Evidence from Australia

In theory, the best source of evidence on the subject of helmet wearing is studies conducted recently in Australia where helmet wearing has been made mandatory. In Victoria, Australia, a 40 per cent decrease in head injuries and a 24 per cent decrease in severe ones were recorded in a comparable period following introduction of a law on this (Vulcan et al., op.cit.). However, there are many factors other than helmet wearing that could account for this.

First, the legislation appears to have deterred many people from cycling - surveys have revealed 15 per cent fewer young children, over 40 per cent fewer teenagers, and 20 per cent fewer adults (ibid.). Second, danger on the roads has reduced generally over the last few years owing to a decline in traffic levels attributable to the state of the economy, and other legislation on drink-driving and speeding which is likely to have affected behaviour. In combination, these have contributed to a 50 per cent reduction in road accidents in a comparable period covered by the studies (Minerva, 1993), that is a sharper fall than the percentage reduction of head injuries following the new law, even discounting the reduction in the extent of cycling noted above.

Not surprisingly, one of the two main studies on the effect of the helmet legislation has concluded that it is 'almost impossible to isolate and measure the contribution of cycle helmets',

that 'there are no reliable figures on which to base analysis' ... but that 'the law has led to an increase in helmet wearing rates' (Cameron, Heiman and Neiger, 1992)!

## Questioning the Benefits of Cycle Helmets

There are other grounds too for questioning the benefit afforded by wearing cycle helmets, in particular those relating to their strength - the BSI specification makes it clear that cycle helmets only provide that degree of protection for low speed impact, that is up to about 20 kph, which is required to reduce injury if someone falls off their bicycle and without a motor vehicle being involved (British Standards Institute, 1991) - and the effect of helmet wearing on the propensity to take risks.

### Level of protection from cycle helmets

The protection afforded by cycle helmets falls well short of the heavier, more stoutly constructed and more complete coverage of motorcycle helmets which are better able to withstand the impact forces from collision with a motor vehicle. Table 2 shows the number of each type of road user who has died from head injury in an accident in the last five years for which the statistics are accessible for such analysis. It is salutary to note from this that, in spite of the fact that motorcyclists are obliged by law to wear a helmet with this enhanced level of protection at all times, 45 per cent of their fatalities still result from head injury, compared with 71 per cent of those of cyclists - only a minority of whom wear a helmet. It can be seen too that cycle fatalities account for only 1 in 17 of all road fatalities and 1 in 12 of those that are result from head injury.

**Table 2. Fatalities due to head injury\* according to road user group, England and Wales, 1987 to 1991**

	All fatalities		Fatalities from head injury		
Road user type:	Number	% of all	Number	% of all	% of all fatalities
Pedestrians	7983	34.8	4432	39.1	55.5
Cyclists	1344	5.9	958	8.5	71.2
2-wheel motor riders	3009	13.1	1348	11.9	44.8
Vehicle drivers	6459	28.1	2824	24.9	43.7
Vehicle passengers	4159	18.1	1761	15.6	42.3
All	22954	100.0	11323	100.0	49.3

Source: special tabulations from the Office of Population Censuses and Surveys.

\* The percentages in the Table have been calculated on the basis of the numbers of head injuries for which a safety helmet is likely to have afforded some protection: the types of injury covered are fracture of skull, intracranial injury excluding skull fracture, other open wound of head, injury to blood vessels of head and neck, late effects of intracranial injury without mention

of skull fracture, superficial injury of face, neck and scalp except eye, contusion of face, skull and neck except eyes, and injury to other cranial nerves.

It is clear that motor cycle helmets, let alone cycle helmets, can by no means be relied on to protect riders from head injury in road accidents. However, 90 per cent of serious injuries reported to the police and 94 per cent of fatalities in cycle accidents involve a motor vehicle. The weight and speed of the vehicle at the time of impact play a crucial role in terms of the degree of injury. This is not surprising given the evidence from research into 'safer' cars which shows that in each collision, its severity depends predominantly on the difference in the mass of the vehicles involved, and that the heavier the vehicle, the safer it is - for the occupants (Department of Transport, 1993)!

Table 3 shows that nearly three-quarters of serious injuries and two in three of fatalities result from collision with a car; and heavy goods vehicles account for a disproportionately high number of cycle fatalities - that is, 21 per cent - though representing only seven per cent of traffic (Department of Transport, 1992). Analysis of fatalities in road accidents in the last seven years in inner and outer London, with their relatively high traffic volumes, shows that HGVs (heavy goods vehicles) are involved in 56 and 30 per cent, and cars in 26 and 54 per cent respectively of all cycle deaths in these two areas of the capital (Gilbert and McCarthy, 1993).

**Table 3. Cycle fatalities and serious injuries, according to vehicle involvement, Great Britain, 1987 to 1991**

	Serious injuries		Fatalities	
	number	%	number	%
<b>Other vehicles involved:</b>				
None	2357	10.4	77	5.9
One or more*				
car	16323	72.2	748	57.6
heavy goods vehicle	1000	4.4	276	21.2
light goods vehicle	1525	6.7	108	8.3
bus	332	1.5	43	3.3
2-wheel motor vehicle	617	2.7	22	1.7
bicycle	249	1.1	6	0.5
other	215	1.0	21	1.6
<b>Total</b>	<b>22619</b>	<b>100.0</b>	<b>1299</b>	<b>100.0</b>

Source: Department of Transport, Volumes of Road Accident Statistics Great Britain: The Casualty Report, for the five years from 1987 to 1991.

## **Propensity to take risks**

Most importantly, considerable caution must be exercised in drawing conclusions about the likelihood of cyclists reducing their risk of head injury by wearing helmets as it is clear that such a practice affects their risk-taking behaviour (Adams, 1985; Evans, 1991). Discussion of this subject of behavioural adaptation no longer centres on whether it occurs but on how complete it is (OECD, 1990). In the first place, it must be recognised that cyclists who choose to wear helmets are likely by nature to be more cautious people and therefore to have fewer serious accidents, irrespective of the use of the helmet. This could account for much of the observed differences revealed in studies of the incidence of accidents leading to head injury - rather than the protection afforded by the helmet.

Furthermore, the theory of risk compensation suggests that the wearing of helmets may cause cyclists, as with motorists acquiring cars with better brakes and improved acceleration, to modify their behaviour on the road (Adams, *op.cit.*). This proposition can be illustrated by considering how much more carefully a motorist will drive a car with defective brakes than in one with effective brakes. Thus, when a safety aid such as a helmet is actually used, some of its potential safety benefits may be 'consumed' as performance benefits in the form of faster or more carefree riding.

There can be little doubt that the very act of wearing a cycle helmet must encourage cyclists to feel more confident that, in the event of an accident, their risk of head injury will be reduced. Yet road safety campaigners, helmet manufacturers, and others persuaded of the benefits of helmet wearing, effectively imprint on cyclists' minds that they will be safer if they wear a helmet, but do not warn of the very limited benefit that it would offer following an accident involving a motor vehicle. This may lead cyclists to take marginally more risk as they feel less vulnerable and are thereby more likely to have accidents. A similar outcome is likely to follow if parents allow their helmeted children to cycle on the roads under the erroneous assumption that it is then sufficiently safe to do so. It could be argued therefore that cyclists who do not wear helmets exercise more vigilance because they feel more vulnerable.

Another source of evidence often cited in support of helmet wearing is that it led to a reduction in casualties among motorcyclists when that was made compulsory in 1973. However, the claim made that this would lead to a reduction in their injuries was not subsequently substantiated: motorcyclists' rate per kilometre travelled fell significantly less than did that of car drivers and that of all road users. Moreover, standing out against the general trend of road accident reduction was an increase in pedestrian deaths and injuries in collision with motorcycles in the years after this legislation, suggesting that this may have been accounted for by more careless riding by helmeted motorcyclists (Davis, 1993).

## **Whose Responsibility for Minimising the Risk of Injury?**

It could be argued that it is unjust to shift so much responsibility for the safety of cyclists onto cyclists themselves because they are among the most vulnerable of road users and unable to markedly reduce the risk to themselves of being involved in a road accident - the prelude to head injury - other than by cycling less or giving up cycling altogether! The proposition that cycling is relatively dangerous overlooks the fact that few cyclists ride into motor vehicles. It is drivers of motor vehicles who are the source of most of the threat to their life and limbs.

Thus, it is unjust that solutions to the primary issue of the risk of injury among cyclists, namely the motor vehicle, should instead be focused on the secondary issue of how to minimise the injury in the event of an accident, for instance by wearing helmets. Moreover, it should be

recalled that the great majority of cyclists' deaths and serious injuries result from collision with a motor vehicle, that is the type of accident in which helmets are largely ineffective.

## Who Should Wear Helmets?

Most children own a bicycle but only one in four of them is allowed to use it as a transport mode and only one per cent use them to go to school (Hillman, Adams and Whitelegg, 1991). At present, their cycling is principally for recreation and takes place off the road where collision with motor vehicles is very unlikely to occur. Indeed, it has been seen that, where children are injured, it is rarely serious: the accidents usually occur as a result of falling off at low speed. It is this type of accident for which helmets are specifically designed to limit the severity of injury. It could be argued therefore that, in the event of an accident, cycle helmets could contribute to reducing head injuries among children more obviously than among adults. But, again, there is no reason to believe that children, as with adults, are not influenced in their riding behaviour by the greater feeling of security afforded when wearing a helmet, and consequently take marginally less care.

It is salutary too to observe that, if the case for encouraging child or indeed adult cyclists to wear helmets were valid, then arguments could be put forward that, when children are playing, they should wear helmets given the risk of them falling and hitting their heads: a survey has shown that they are between two and three times as likely to have a head injury after climbing or jumping than as a result of a cycle accident (O'Rourke, 1987). They should also wear knee, elbow and shoulder pads as well for there are three times as many serious injuries to cyclists' upper and lower limbs as there are to their heads (Mills, op.cit.).

Similarly, logic would suggest that all other road users should be encouraged to wear helmets, especially pedestrians and vehicle drivers for, in theory, this would hold out far a more significant prospect of success in saving lives in road accidents. Table 4 shows that, compared with cyclists, nearly five times as many vehicle occupants and nearly five times as many pedestrians die as a result of head injury. And twice as many lives are lost by head injury to elderly pedestrians (over the age of 65) than to cyclists of all ages.

**Table 4. Distribution of fatalities due to head injury according to road user group and age group, England and Wales, 1987 to 1991.**

									%
	0-9	10-14	15-19	20-24	25-54	55-64	65-74	75+	All
Pedestrian	4.14	2.38	2.65	2.41	8.62	3.46	5.38	10.09	39.14
Cyclist	0.46	1.49	1.04	0.63	2.28	0.96	0.87	0.72	8.46
Motorcyclist*	-	0.06	3.73	3.53	4.04	0.22	0.24	0.08	11.90
MV driver	-	0.01	3.24	5.67	12.39	1.80	0.96	0.87	24.94
MV passenger	1.38	0.64	4.36	3.14	3.83	0.64	0.73	0.83	15.55
<b>Total</b>	<b>5.99</b>	<b>4.58</b>	<b>15.02</b>	<b>15.38</b>	<b>31.16</b>	<b>7.09</b>	<b>8.19</b>	<b>12.60</b>	<b>100.00</b>

\* including pillion passengers

Source: special tabulations from the Office of Population Censuses and Surveys.

## **Encouragement Versus Compulsion**

Beyond the issue of the efficacy of pursuing a policy on exhorting cyclists to wear a helmet lies the more extreme proposition that wearing should be made compulsory. This is favoured by many surgeons who only see the head injuries and perhaps understandably assume that its severity would have been limited by wearing a helmet, but are unfamiliar with the issues of accident prevention (Davis, *op.cit.*). However, aside from questioning the benefits of helmet wearing, there are strong grounds, both practical and ethical, for opposing any proposal that would lead to it being an offence not to wear one. First, there are problems of enforcement. Second, compulsion would put civil liberties at risk. Third, if wearing a helmet were made compulsory, it would reinforce the idea that cyclists were responsible for injuries to their heads if they were not wearing one, whereas in accidents in which another vehicle is involved, it is the driver who is far more often at fault (Mills, *op.cit.*). Fourth, legislation requiring cyclists to wear helmets at all times might also reinforce public perceptions of the bicycle as an undesirably dangerous form of transport: as has been noted, the effect of such legislation in Australia has been to discourage it.

## **Life Years Lost Versus Life Years Gained**

Circulatory and respiratory diseases account for over half of the causes of death among both men and women. Thus, in determining policy on cycle helmets, there is the related issue of the promotion of health. A national survey in 1992 recorded that seven in ten men and eight in ten women in the UK fall below the 'age appropriate activity level' needed to achieve a health benefit (Allied Dunbar et al., 1992). And a series of studies has shown children's levels of habitual physical activity to be surprisingly low: few experience the intensity and duration of physical activity associated with health-related outcomes (British Medical Association, 1992; Armstrong, 1993). A most telling and supportive argument for cycling therefore, is that it is an ideal means of maintaining fitness from childhood through to old age (Hillman, 1992), particularly bearing in mind the fact that, compared with those who do not cycle, those who do so at least 25 miles a week halve their risk of heart disease (Morris et al., 1990).

The gain of 'life years' through improved fitness among regular cyclists, and thus their increased longevity exceeds the loss of 'life years' in cycle fatalities. An analysis based on the life expectancy of each cyclist killed in road accidents based on actuarial data, and the increased longevity of those engaging in exercise regimes several times a week compared with those leading relatively sedentary lives, has shown that, even in the current cycle-hostile environment in most of the UK, the benefits in terms of life years gained, outweigh life years lost in cycling fatalities by a factor of around 20 to 1 (Hillman, 1992). In these terms, a price is paid in not promoting cycling.

## **Alternative Approaches to Reducing Head Injuries**

Helmet wearing does not address the principal issue, namely the source of the danger - traffic moving too fast and thereby posing a threat to vulnerable road users in particular. For road users, the difference between colliding and not colliding is measured in fractions of a second. For this reason, heightening awareness among motorists and lorry drivers of the need to exercise a high level of vigilance on the roads in view of the vulnerability of cyclists to injury, could be paramount and far more effective in lowering the number and severity of head injuries among cyclists than the protection afforded by a few millimetres of polystyrene after an accident has occurred. There are also strong grounds for believing that public provision of cycle routes, traffic calming, 20 mph speed limit zones which have been shown to reduce casualties by more than 50 per cent (Carlisle, 1993) and for which 80 per cent of urban road networks are eligible (Chope, 1992), proper enforcement of existing speed limits, and improved road maintenance to minimise

the risk of accidents caused by cyclists riding into potholes or swerving to avoid them, are effective ways of reducing the number and severity of head injuries among cyclists. It is worth noting that helmets are far less on the road safety policy agenda of countries such as Denmark and the Netherlands which give a much higher priority to cycling in their transport policies, where fatality rates per kilometre cycled are between a quarter and a third of those in Great Britain, and where perhaps a critical mass of cycling has been reached ensuring safer cycling because of sheer numbers (Mynors and Savell, 1992).

## Conclusions

By wearing helmets, cyclists are at best only marginally reducing their chances of being fatally or seriously injured in a collision with a motor vehicle which is the predominant cause of these injuries. Even the most expensive ones provide little protection in these circumstances. Moreover, the argument in favour of helmets would have validity if there were proof that behaviour does not change in response to perceived risk. But there is no such proof. Safety devices encourage higher levels of risk-taking. As a result, cyclists are likely to ride less cautiously when wearing a helmet owing to their feeling of increased security. After all, the message of the advocates of helmet wearing is that such a practice will protect the cyclist's head adequately in the event of any accident, not just a minor one when cyclists are hit by very slow-moving vehicles or fall off and hit their heads on the ground. Cyclists may be less likely to have an accident if they are not wearing a helmet, and are therefore riding with greater care owing to an enhanced sense of their vulnerability.

Furthermore, people are discouraged from cycling if their perception is heightened that it is a 'dangerous' form of travel and that it is only safe to do so if a helmet is worn. The result of this is that the considerable latent demand for cycling - an ideal mode for the majority of the population for most of their journeys - continues to be suppressed. As cycling is also a convenient and routine way of maintaining fitness, a significant route to public health is prejudiced.

There remain then three questions to be answered. First, should helmet wearing be made mandatory? The report on which this paper is based has revealed no case for such a law. In addition to the absence of proof that helmet wearing reduces the risk of head injury, such a law would represent an infringement of civil rights. Moreover, where it has been introduced, it has led to a significant reduction in cycling.

The second question to address is whether, whilst not making it mandatory, cyclists should nevertheless be encouraged to wear helmets - in effect, obliged to do so by 'moral' persuasion rather than by law. However, other than concern on the civil rights issue, the approach to helmet wearing by this means rather than by coercion through legislation would appear to be equally invalid.

This then leads to the third question concerned with alternative and effective ways of reducing the risk of accidents, and therefore of head injury, among cyclists. The primary means of reducing serious head injury among cyclists is to create an environment in which accidents are less likely to occur. Such a strategy based on tackling the source of accidents in which cyclists are involved has far greater scope for reducing head injuries than the questionable benefits of promoting helmet wearing among cyclists.

Cycle Helmets: the case for and against (1992) was published by Policy Studies Institute, 100 Park Village East, London, NW1 3SR, UK.

## References



- Adams, J. G. U. (1985), *Risk and Freedom: the record of road safety regulation*, Cardiff, Transport Publishing Projects.
- Allied Dunbar, Health Education Authority and Sports Council (1992), *National Fitness Survey*, Allied Dunbar.
- Armstrong, N. (1993), 'Independent mobility and children's physical development', in ed. Hillman, M. *Children, Transport and the Quality of Life*, Policy Studies Institute.
- British Medical Association (1992), *Cycling: towards health and safety*, (A report written by Hillman, M. for the BMA), Oxford University Press.
- British Standards Institute (1991), *Specification for Pedal Cycle Helmets: revised text*, November.
- Cameron, M. and Heiman, L. (1992), 'Effects of the Mandatory Bicycle Helmet Wearing Law in Victoria', in Boivin, R, and Pronovost, J-F. (eds), *The Bicycle: Global Perspectives*, Paper presented at the Velo Mondiale Conference, Montreal, Quebec, 13-17 September.
- Carlisle, K. (1993), Written Answer, Hansard, Col.24, 19 April.
- Chope, C. (1992), Written Answer, Hansard, col. 221, 5 February.
- Davis, R. (1993), 'On Your Head Be It: Helmets', Chapter 11, *Death on the Streets - Cars and the Mythology of Road Safety*, Leading Edge.
- Department of Transport (1992), *Road Accidents Great Britain 1991, The Casualty Report*, HMSO.
- Department of Transport (1993), *Cars: Make and Model: Injury Accident and Casualty Rates, Great Britain 1991, Transport Statistics Report*, HMSO.
- Dorsch, M. M., Woodward A. J. and Somers, R. L. (1987), 'Do Bicycle Safety Helmets Reduce Severity of Head Injury in Real Crashes?', *Accident Analysis and Prevention*, Vol.19: 3, 183-90.
- Downing, C. (1985), 'Pedal Cycling Accidents in Great Britain', in Department of Transport *Ways to Safer Cycling*, Proceedings of a Conference at the Institute of Civil Engineers, 10 April.
- Dussault, C. (1992), *Bicycle Safety Helmets: Overview, Effectiveness and Behavioural Links*, in Boivin, R, and Pronovost, J-F. (eds), *The Bicycle: Global Perspectives*, Paper presented at the Velo Mondiale Conference, Montreal, Quebec, 13-17 September.
- European Cyclists Federation (1991), *Position Paper on Cycle Helmets for the World Health Organisation*, 23 October.
- Evans, L. (1991), *Traffic Safety and the Driver*, New York, Van Nostrand Reinhold.
- Gilbert, K. and McCarthy, M. (1993), Personal communication.
- Hillman, M. (1992), 'Cycling and the Promotion of Health', in Proceedings of Seminar on Environmental Issues, PTRC Summer Annual Meeting, September.
- Hillman, M. (1993), *Cycle Helmets: the case for and against*, Policy Studies Institute.

Lancet (1988), Editorial, 'When are we going to wear helmets?', Vol.1, pp.159-160.

Mills, P. (1989), Pedal Cycle Accidents: a hospital study, Transport and Road Research Laboratory Research Report RR 220, Crowthorne.

Mathiesen, J. (1989), 'Bicycle Safety Helmets', Paper presented at the National Bicycle Workshop, Geelong, Australia, April.

Minerva (1993), British Medical Journal (quoting a report in the Medical Journal of Australia, 1993, Vol. 158, p 433.

Morris, J.N. et al., (1990), 'Exercise in leisure time: coronary attack and death rates', British Heart Journal, Vol.63, pp.325-34.

Mynors, P. and Savell, A. (1992), 'Cycling on the Continent', London: Local Authority Cycling Planning Group, TM Transport.

OECD (1990), Behavioural adaptation to changes in the road transport system, Report prepared by an OECD Scientific Group.

O'Rourke, N. et al. (1987), 'Head injuries to children riding bicycles', The Medical Journal of Australia, Vol.146, 15 June, pp.619-21.

Rodgers, G. B. (1988), 'Reducing Bicycle Accidents: A Re-evaluation of the Impacts of the CPSC Bicycle Standard and Helmet Use', Journal of Products Liability, 11, 307-17.

Sacks, J., Holmgreen, P., Smith, S. M. and Sosin, D. M. (1991), 'Bicycle-Associated Head Injuries and Deaths in the United States from 1984 through 1988: How Many are Preventable?', Journal of the American Medical Association, 4 December, Vol.266: 21, 3016-18.

Spaite, D. et al. (1991), 'A Prospective Analysis of Injury Severity among Helmeted and Non-helmeted Bicyclists Involved in Collisions with Motor Vehicles', The Journal of Trauma, Vol.31: 11, pp.1510-16.

Spence, L., Dykes, E., Bohn, D. and Wesson, D. (1993), 'Fatal bicycle accidents in children: a plea for prevention', Journal of Pediatric Surgery, Vol.28: 2, pp.214-16, February.

Thompson, R., Rivara, F. and Thompson, D. (1989), 'A Case-Control Study of the Effectiveness of Bicycle Safety Helmets', New England Journal of Medicine, 25 May, 320: 21, 1361-67.

Transport and Road Research Laboratory (1989), Behavioural Research - Cycling, Leaflet LF 2010, August.

Vulcan, A.P., Cameron, M.H. and Heiman, L. (1992), Mandatory Bicycle Helmet Use: Experience in Victoria, Australia, Monash University Accident Research Centre. (See Cameron).

Walker, M. (1992), 'Law compliance and helmet use among cyclists in New South Wales', A third survey April 1992, New South Wales, Australia, July.

Williams, M. (1991), 'The protective performance of bicyclists' helmets in accidents', Accident Analysis and Prevention, Vol.23: 2/3, 119-131.

# **Dr Mayer Hillman Attachment B**

## **Risk Compensation & Helmet Wearing Published in 'Injury Prevention', June 2001**

An exchange on risk compensation & helmet wearing between

- Diane C. Thompson, Robert S. Thompson, Frederick P. Rivara, and
- John Adams & Mayer Hillman.

The two Thompsons and Rivara are internationally acknowledged as the principal exponents of cycle helmet wearing. Their conclusions are drawn from hospital-based surveys. John Adams is the author of two authoritative books on the subject of risk and also, incidentally, Professor of Geography at UCL, London. Mayer Hillman is Senior Fellow Emeritus, Policy Studies Institute, London.

### **1. Thompson, Thompson & Rivara.**

Pro: Risk compensation theory as it applies to motor vehicle safety interventions [seatbelts, airbags], motorcycle helmets and bicycle helmets should be subject to scientific evidence-based review.

### **Background**

Many readers of Injury Prevention are quite familiar with the debate over bicycle helmet use. The core of this debate is the opinion on one side that helmets are effective and thus should be worn, countered on the other side by the belief that risk compensation negates this protective effect of helmets. A systematic review on helmet effectiveness has been published in the Cochrane Library (Thompson 2000). The objective of the Cochrane review was to determine whether bicycle helmets reduce head, brain and facial injury for bicyclists of all ages involved in a crash. The principles required of high quality evidence based reviews were followed: a comprehensive literature search, pre-established study selection criteria and most importantly a critical review of study methods. A well-conducted systematic review identifies and considers all the literature, (peer reviewed, government reports and unpublished papers), and rates the study quality. Appropriately, such reviews only include better-designed and conducted studies. The evidence is then summarised across all the studies.

The literature search for the Cochrane Review yielded five studies meeting the pre-established criteria for inclusion. The strengths and weaknesses of five case control studies of bicycle helmet effectiveness were carefully evaluated. The scientific evidence indicates that bicycle helmets protect against head, brain, severe brain and facial (upper and mid-face) injuries has been well established. Additionally, the evidence indicates that helmets provided injury protection in all type of crashes including those involving motor vehicles.

Based on this review the authors recommended that as a policy bicycle riders of all ages should be encouraged to wear helmets. The purpose of publishing health research, and discourse about it, is to improve the health of the public. We believe that the evidence indicates such a strong protective effective of helmets, that the net effect on the health of the public will be positive.

### **What about the theory of risk compensation?**

## **What is risk compensation?**

Risk compensation is frequently raised during debates about helmet promotion and legislation. Briefly put, risk compensation theory suggests that individuals provided with a protective device such as a bicycle helmet or an automobile seat belt will act in a riskier manner because of the sense of increased protection from the helmet or seat belt and thereby nullify the protection afforded by the helmet or seatbelt. The theory of risk compensation is not applicable to case-control studies of helmet effectiveness per se. It applies to the impact of widespread use of helmets, particularly legislation to require helmet use, and its net protective effect.

## **What are the arguments for risk compensation?**

The theories of risk homeostasis and risk compensation are well summarized by Gerald Wilde and John Adams. (Wilde 1994, Adams 1995, Adams 1999). Those who argue that risk compensation must be taken into account before bicycle helmets are adopted as a safety measure have said:

1) Encouraging helmet use would have serious adverse consequences on the public health, without making any significant difference to the dangers of riding. (Keatinge in Cochrane comment)

2) Wearing of a helmet influences cyclists' behaviour, thereby affecting the likelihood of them being involved in such an incident in the first place. (Hillman in reply to Cochrane) Cyclists are less likely to ride cautiously when wearing a helmet owing to their feeling of increased security. In this way, they consume some, if not all, of the benefit that would otherwise accrue from wearing a helmet.' (Hillman Cycling and Health)

There have been no systematic reviews of the evidence for the relevance of risk compensation to bike helmets. Mayer Hillman states the evidence for risk compensation is "overwhelming".

## **What empirical evidence exists for risk compensation behaviour?**

If risk compensation plays a role, one would expect the gains from helmet effectiveness to be erased or strongly mitigated by increasingly risky riding habits of helmet wearers which would neutralize any protective effect provided by helmet wearing. What do the empiric data show?

### **a) Bicycle riders**

The evidence from time series studies in Australia, New Zealand, Europe and the U.S. that increased rates of helmet use resulting from multifaceted educational campaigns and/or legislation are linked to significant decreases in bicycle related head injuries. (Vulcan 1992, Carr 1994, Pitt 1994, Ekman 1997, Rivara 1998, Scuffham 2000) Given that helmets are very effective, cyclists would have to increase their risk taking four-fold to overcome the protective effect of helmets. This seems unlikely.

### **b) Motorcycle riders**

The closest analogy to bicycle helmet use is mandatory motorcycle helmet use laws in the United States. Although there is general agreement that motorcycle helmets reduce head and brain injury when a crash occurs, many motorcyclists dislike helmets. Risk compensation theory would propose that a motorcyclist might drive more recklessly if legislation requires helmet use.. Motorcyclists may also be considered vulnerable road users, since motorcycle crashes usually

result in serious injury to the motorcyclists themselves and not to cars and other motor vehicle passengers. In the United States nearly all 50 states passed laws requiring motorcycle helmets in the mid 1960's. In 1976 almost half of the states repealed their laws. This provided an opportunity for a natural experiment. Fewer motorcyclists wore helmets following the repeal of motorcycle helmet laws. This resulted in a 25% to 40% increase in motorcycle deaths. (Evans 1991, GAO 1991, Fleming 1992, Kraus 1994). These results strongly imply that wearing a helmet does NOT lead to large increases in risk taking. (Evans 1994)

### **c) Motor vehicle drivers and passengers**

An extensive systematic review of automobile safety interventions by a non-federal national Task Force on Community Preventive Services has been sponsored by the Centers for Disease Control and Prevention since 1996. The Task Force looks at both the benefits and the risk for any given intervention. Based on results of systematic reviews, the Task Force makes recommendations on population-based interventions to promote health and prevent disease, injury, disability and premature death, and to reduce environmental hazards. The Task Force found that child safety seats, seatbelts and alcohol laws all contributed to substantial reductions in motor vehicle injuries and deaths. The Task Force recommended a number of community-wide information and enforcement campaigns to promote these measures. (MMWR 2001)

John Adams has long opposed seatbelt legislation based on risk composition theory. (Adams, 1995, 1999). The Adams essay published on the Cato Institute website (Adams 1999) discusses risk compensation and seat belt legislation. The essay explains the theory of risk management and uncertainty but it is not a critical systematic review. Information on the United States experience with seatbelt legislation is omitted from the discussion. The reason provided in reference number 3, is that "calls by Cato staff to the National Highway Traffic Safety Administration to obtain research results about how many lives have been saved through seat belt use were unsuccessful." However, this information is available to the public from the National Technical Information Service, Springfield, Virginia. It is also indexed in the Transportation Research Information Service (TRIS) database. Authors of a systematic review would obtain and evaluate all available research before arriving at a conclusion.

### **Summary and conclusion on risk compensation theory arguments**

In summary the empirical evidence to support the risk compensation theory is limited if not absent. There are a number of studies in the traffic literature that point out problems or show data at odds with the risk compensation/homeostasis theory. No systematic review of the evidence for risk homeostasis has been conducted.

We recommend that interested readers consult a comprehensive discussion of the risk compensation debate presented by James Hedlund at the Fifth World Conference on Injury Prevention and Control (Hedlund 2000) James Hedlund provided his personal view: "I believe the evidence is overwhelming that every safety law or regulation is not counterbalanced by compensating behavior" We suggest risk compensation is an appropriate area for systematic reviews.

### **Conclusions on recommending the use of bicycle helmets**

Based on the solid empirical evidence for bicycle safety helmet effectiveness, we are confident in recommending their use, and policies to encourage their use. However, additional criticisms of our Cochrane Review have been raised by Bill Curnow and Dorothy Robinson. These criticisms and our replies are published on the Cochrane Injuries group web site (<http://www.cochrane-injuries.ich.ucl.ac.uk/HelmetComment.htm>) Criticisms from Richard Keatinge and Mayer Hillman

will be published along with author's replies in the next edition of the Cochrane Reviews. Please read this series of interesting debates. In our opinion, we have provided well-founded answers to the criticisms.

We feel there is strong scientific evidence recommending or mandating bicycle helmet use. This is a first step in reducing bicycle related head injuries. Encouraging cycling, building a bicycle friendly infrastructure, and promoting safe cycling instruction are also important activities. These activities are not mutually exclusive. Promoting bicycle helmet use does not exclude other road safety approaches. There are many aspects to bicycle injury prevention, helmet use is just one technique, one which has proven effective.

## References

- Adams J. Risk, UCL Press, London, 1995.
- Adams J. Cars, Cholera and Cows: the management of risk and uncertainty, Cato Institute, Washington, D.C., 335, 1999. <http://www.cato.org/pubs/pas/pa-335es.html>
- Hillman M. Cycle Helmets: the case for and against, Policy Studies Institute, London, 1993.
- Thompson DC, Rivara FP, Thompson R. Helmets for preventing head and facial injuries in bicyclists (Cochrane Review). In: The Cochrane Library, Issue 3, 2000. Oxford: Update Software.
- Wilde G. Target Risk, PDE Publications, Toronto, 1994.
- Evans L. Cycle helmets and the law: even when the science is clear policy decisions may still be difficult BMJ 1994; 308, 1521-1522.
- Fleming HS, Becker ER. The impact of the Texas 1989 motorcycle helmet law on total and head-related fatalities, severe injuries, and overall injuries. Medical Care 1992;30:832-45.
- General Accounting Office. Highway Safety: motorcycle helmet laws save lives and reduce costs to society. Washington, DC: US General Accounting Office, 1991.
- Hedlund J. risky business: safety regulations, risk compensation, and individual behavior. Injury Prevention 2000;6:82-90.
- Kraus JR, Peek C, McArthur DL, et al. The effect of the 1992 California motorcycle helmet usage law on motorcycle crash fatalities and injuries. JAMA 1994; 272:1506-11.
- Morbidity and Mortality Reports (MMWR) US Community Preventive Services Task Force recommendations. in press 2001.
- NHTSA Fourth report to congress: Effectiveness of occupant protection systems and their use. May 1999.
- NHTSA. Effectiveness of lap/shoulder belts in the back outboard seating positions. DOT HS 808 945 NHTSA Technical Report. June 1999.
- Scuffham P, Alsop J, Cryer C, Langley J. Head injuries to bicyclists and the New Zealand bicycle helmet law. Accid Anal Prev 2000; 32, 565-573.

## 2. Hillman & Adams

The Cochrane Review by Rivara and the Thompsons (Thompson DC, Rivara FP, Thompson R., 2000) found evidence that if you bang your head the consequences will be less severe if you are

wearing a protective helmet. Based on this review they recommend that cyclists should be "encouraged" to wear helmets. The form of encouragement that they favour is compulsion.

We accept the principal finding of their review – that protective helmets protect in the event of an accident – but not the policy conclusions that they derive from it. The issue that divides us is risk compensation – does the behaviour of cyclists change as a consequence of wearing a helmet in ways that offset the protective benefit of helmets in accidents? After briefly referring to selected references from the safety literature on cycling, motorcycling, and driving, Rivara and the Thompsons assert that "the empirical evidence to support the risk compensation theory is limited if not absent." Certainly such evidence is limited or absent from the sources they choose to cite – with a notable exception which we discuss below. We find abundant evidence for risk compensation.

It is important to distinguish between evidence for risk compensation in general – which is overwhelming – and evidence relating to cycle helmets – which is limited. Let us consider the general evidence first. Rivara and the Thompsons recommend readers to consult James Hedlund's article in *Injury Prevention* (2000; 6, 82-89) entitled "Risky business: safety regulations, risk compensation, and individual behaviour." We strongly support their recommendation. They quote James Hedlund: "I believe the evidence is overwhelming that every (our italics) safety law or regulation is not counterbalanced by compensating behaviour." But Hedlund also makes clear that the evidence is overwhelming that some laws and regulations, as well as safety measures voluntarily adopted, are counterbalanced by compensating behaviour. He states

"We all change our behaviour in response to changes in our environment. Safety measures change our environment, so we may change our behaviour in response to them. É Never assume that behaviour will not change."

Hedlund helpfully sets out four rules for judging the circumstances in which behaviour might or might not change:

1. If I don't know it's there I won't compensate for a safety measure. Bicycle helmets manifestly fail this test.
2. If it doesn't affect me, I won't compensate for a safety measure. He poses the question "Do I feel safer wearing a bicycle helmet?" and suggests that if the answer is yes compensation is likely to occur.
3. If I have no reason to change my behaviour, I won't compensate for a safety measure. Only if the behaviour of cyclists is completely unmotivated by concern for safety are they unlikely to compensate for a safety measure such as a helmet.
4. If my behaviour is tightly controlled I won't compensate for a safety measure. He singles out driving as an activity that offers very considerable freedom to compensate. Cycling offers at least as much.

Hedlund advises "to reduce or eliminate risk compensation, use measures rating low on at least one factor." Cycling scores high on all four. Of all the cases Hedlund considers perhaps sports offer the closest comparators. He observes:

"Sports provide interesting examples of the interplay between injury prevention, compensation, and control. In many sports, such as ice hockey and American football, players are required to wear protective equipment. Some players have compensated by acting more violently within the

confines of the rules. In some instances this has led to rules changes to control player actions more tightly."

Cyclists, like hockey and football players, are acutely sensitive to the likelihood that a miscalculation can result in serious injury, and govern their behaviour accordingly. We find it highly probable, in the absence of any change in propensity to take risks, that cyclists will respond like hockey and football players to measures that reduce the severity of the consequences of miscalculation.

Hedlund offers two further bits of useful advice:

1. Consider system effects. Cycle helmet laws have led to a decrease in cycling; after it became compulsory to wear helmets in Australia, the level of cycling fell by about twice as much as did the number of cyclists admitted to hospital for the treatment of head injury (Robinson 1996). Other studies have found that the health benefits of cycling, measured in years of life gained, far outweigh the injury risks measured in years of life lost (British Medical Association 1992) — by about 20 to 1 (Hillman 1993). By concentrating attention on the need to protect cyclists from head injuries Rivara and the Thompsons encourage the view of cycling as an inherently dangerous activity. Other countries, most notably Denmark and the Netherlands, demonstrate that, by making proper provision, cycling by largely helmetless cyclists can be made much safer.

2. Don't over-predict benefits: "many injury prevention measures promise more benefits than they can deliver.." Promises that deny the existence of risk compensation are almost certainly committing this offence.

Rivara and the Thompsons assert that "there have been no systematic reviews of the evidence for the relevance of risk compensation to bike helmets." So, ignoring Hedlund's "rules", and contrary to Hedlund's advice, they simply assume that there is no behavioural response to the protection afforded by cycle helmets.

The empirical difficulty with establishing the relevance of risk compensation to cycle helmets is that, compared to other activities such as motoring, there is a shortage of reliable data. Information about exposure is limited and difficult to interpret — the exposed population includes everyone from purposeful adults commuting on bicycles to small children using them for recreation rather than transport. There are few reliable surveys of helmet use. The jurisdictions in which helmet wearing is compulsory are few, and the level of cycle use in these jurisdictions is generally low. What is known is that helmet-wearing rates are very low in countries such as Denmark and the Netherlands, where cycle use is high, and that cycling in these countries is much safer.

So Rivara and the Thompsons turn to argument by analogy, asserting that experience of motorcycle helmet laws provides support for their cycle-helmet campaign. They say that motorcyclists are also vulnerable road users "since motorcycle crashes usually result in serious injury [only] to the motorcyclists themselves and not to cars and other motor vehicle passengers." The curious omission of pedestrians (and cyclists) from the list of motorcycle accident victims ignores the significant threat that they pose to the most vulnerable. Plowden and Hillman (1984) found that two-wheeled motor vehicles, per mile driven, were five times more likely than cars to cause the death or serious injury of a pedestrian. Nevertheless they proffer in support of their views "the natural experiment" in the United States in which some states passed and repealed motorcycle helmet laws and others did not. Here we find another curious omission. They make no mention of Adams' (1983) review of this experiment that found that motorcyclist fatalities increased by more in states that did not repeal their laws than in those that did.



Their brief review of evidence relating to seatbelts is equally selective. They complain that a four page discussion of seatbelt legislation in a 49 page paper on the management of risk and uncertainty by Adams (1999) was not a proper systematic review because it did not "evaluate all available research." This short discussion did not purport to be a comprehensive review of the subject. For a much fuller discussion of seat belts and risk compensation the reader is referred to various publications by Adams (1982, 1983, 1988, 1988(b), 1994, 1995, 1999) and Hillman , Adams, Whitelegg (1990).

There is now an intractable problem for those studying road safety in separating the wheat from the chaff. It is no longer possible to evaluate "all available research." Hedlund reports a literature search on nine motor vehicle injury prevention strategies that turned up 54 078 titles or abstracts. Most of these he suggests do not pass minimal standards of scientific rigour or quality. Faced with such an enormous volume of mostly poor quality research one must resort to crude filtering devices. One such filter might be to reject out of hand all studies that reject out of hand the possibility of risk compensation.

## References

- Adams J., The efficacy of seatbelt legislation. Society of Automotive Engineers, Transactions, 1982, 2824-38.
- Adams J., Public Safety legislation and the risk compensation hypothesis: the example of motorcycle helmet legislation. Environment and Planning C, 1983, 1, 193-203.
- Adams J., Risk and Freedom: the record of road safety regulation. London, Transport Publishing Projects, 1985.
- Adams J., Evaluating the effectiveness of road safety measures. Traffic Engineering and Control. June 1988, 344-52.
- Adams J., Risk homeostasis and the purpose of safety legislation, Ergonomics. 1988(b) 31(4), 407-428.
- Adams J., Seatbelt legislation: the evidence revisited. Safety Science. 1994, 18, 135-152.
- Adams J., Cars, Cholera and Cows: the management of risk and uncertainty, Policy Analysis, Cato Institute, No. 335, March 1999.
- British Medical Association. Cycling towards health and safety, Oxford University Paperbacks, 1992.
- Hedlund J. Risky business: safety regulations, risk compensation, and individual behavior. Injury Prevention 2000;6:82-90.
- Hillman M. Cycling and Promotion of Health, Policy Studies, Vol.14, No.2, 1993, pp.49-58.
- Hillman M, Adams J, Whitelegg J, One False Move: a study of children's independent mobility, Policy Studies Institute, 1990
- Plowden S, Hillman, M, Danger on the Road: The Needless Scourge, Policy Studies Institute, No.627, Table II.3, p.78, 1984.
- Robinson D. Cycle helmet laws & facts, figures and consequences, Proceedings of the Velo Australis Conference, Perth, 1996, Freemantle, Promaco Conventions, 1996.
- Thompson DC, Rivara FP, Thompson R. Helmets for preventing head and facial injuries in bicyclists (Cochrane Review). In: The Cochrane Library, Issue 3, 2000. Oxford: Update Software.

### 3. Thompson, Thompson & Rivara

We are pleased that Mayer Hillman and John Adams accept the central point of our Cochrane systematic review -- that bicycle helmets are effective in decreasing head injuries to cyclists. They disagree, however, with our conclusion that the use of helmets should therefore be encouraged based on our differing views of the evidence for risk compensation (RC). They claim there is solid evidence for this hypothesis. We believe there is not and that we will only know this once a systematic review of RC is conducted. Instead of being scientific, their arguments are based mainly on theory, philosophy or expert opinion. We do not accept their proposition that "it is no longer possible to evaluate all the available research". We believe a systematic review (SR) could sift the empirical evidence. A SR is not based on expert opinions, theoretical discussions, narrative literature reviews, or positions taken by professional groups, and neither Adams' nor Hillman's publications include systematic reviews. A SR does not "resort to crude filtering devices"; it employs explicit inclusion and exclusion criteria and sets forth the rules of evidence and analytical processes before any of the evidence is examined.<sup>1-5</sup> Clearly, it is time for an impartial body to examine the applicability of risk compensation theory to the use of bicycle helmets, and other areas where it has been invoked. A properly conducted systematic review that follows the criteria established by the CDC Task Force on Community Preventive Services Recommendations can provide solid scientific evidence to support or disprove this theory.<sup>3-5</sup> If RC is the "real deal" after a recognized group examines the evidence systematically, we will accept that the proven benefits of bicycle safety helmets are outweighed by the negative effects.

### References

1. Berg AO, Atkins D, Tierney W. Clinical practice guidelines in practice and education. *J Gen Intern Med* 1997;12 suppl 2:s25-33.
2. Straus SE, Sackett DL. Using research findings in clinical practice. *BMJ* 1998;317 (7154):339-342.
3. Briss PA, Zaza S, Pappaioanou M et al. Developing an evidence-based guide to community preventive services-methods. *Am J Prev Med* 2000;18(1S):35-43.
4. Zaza S, Wright-De Agüero, LK, Briss PA et al. Data collection instrument and procedure for systematic reviews in the Guide to community preventive services. *Am J Prev Med* 2000;18(1S):44-74.
5. Carande-Kulis, VG, Maciosek MV, Briss PA et al. Methods for systematic reviews of economic evaluations for the Guide to community preventive services. *Am J Prev Med* 2000;18(1S):75-91.

### 4. Hillman & Adams

We do NOT accept that bicycle helmets are effective in reducing head injuries. We had hoped that by putting it in italics they might have noticed that we were saying that protective helmets protect in the event of an accident.

We wish them luck in their systematic review of all the tens of thousands of articles that have a bearing on risk compensation. In undertaking this review we suggest that in devising more refined filters they be wary of the following:

- Studies that deal with small subsets of populations such as the often cited study of admissions to 16 hospitals in Sweden following the introduction of a seat belt law, which

concluded that the law had reduced injuries and fatalities. The fact that in Sweden as a whole the number of deaths and injuries suffered by car occupants increased after the law suggests that it must have been possible to find other sets of hospitals which found the opposite result.

- Claims based on statistical significance. One time in 20 researchers who use the conventional 5% test of significance will find "significance" by chance. Given the well-known desire of researchers to "prove" their hypotheses, one in 20 is probably a generous estimate of the ratio of tests published to test done.
- Empirical evidence of risk compensation. In Britain there is one cycling fatality for every 25 million miles cycled. The risk compensating behaviour required to offset the claimed benefits of helmets would require an extra fatal error once in many millions of miles &ndash; a behavioural change unlikely to be directly observable.

Hedlund, whom they cite respectfully, having surveyed the debate about risk compensation, says "if experiments cannot provide useful evidence, and if evaluations are contaminated by poor data and uncontrolled factors, we are left with theory." The theory supporting risk compensation is well-supported by empirical evidence in cases where the risks are large &ndash; trapeze artists will attempt manoeuvres with safety nets that they would not contemplate without them. The contention of those who would introduce measures that would criminalize self risk (eg riding without a helmet) is that this effect vanishes when the risk is smaller. Given the dismal record of the prohibitionists, we suggest that the burden of proof ought to lie with them.

## **Dr Nigel Perry Submission on the Cyclists (Protective Headgear) Bill**

From: Dr N Perry [mailto:perryresearch@zoot.net.nz]  
Sent: 07 March 2011 18:42  
To: +Comm. Environment Public Email  
Subject: Re: Proposed NI Bicycle Helmet Legislation

Dear Members of the Committee,

I am a New Zealand/British scientist and have researched and published in the area of bicycle helmets.

The New Zealand law is simply a health, safety and financial disaster. It only exists today due to the political cost of admitting the failure; there are concerns (valid or not) within Government that if the failure is admitted then the loss of confidence that would result in the Government's overall road safety programs would be significant and to date the cost of that is deemed higher than the cost of the law itself.

But you don't need to make the mistake in the first place. You can follow the Norwegians; they have looked at the NZ and Australian laws and concluded that they have produced a 14% increase in risk. Quite understandably they do not wish to inflict that on their citizens and have decided against legislation.

Those groups that still campaign for these laws (the "helmet church") do so from a limited, and often completely illogical, perspective. You must consider that the Australians published research around a decade ago showing that \*if\* "bicycle style" foam plastic helmets made sense as a public safety measure then car occupants should wear them, the potential costs savings are huge (A\$500M/year when safety belts are also used, reducing to A\$350M/year if the whole vehicle fleet is also fully airbag equipped, decade old dollars). There are a few members of the

helmet church, true believers, who wear helmets in their cars. However that vast majority do not, demonstrating at best that they in fact do not understand the subject at all - if you are going to protect any head you tend to protect your own!

Please do not visit our failure on the NI people.

If you would like further details please do not hesitate do contact me.

Yours Sincerely,

Dr Nigel Perry, Scientist, New Zealand

## **Dr Pieter Meiring Submission to the Cyclists (Protective Headgear) Bill**

From: Pieter Meiring [mailto:pmeiring@gmail.com]  
Sent: 09 March 2011 11:33  
To: +Comm. Environment Public Email  
Subject: Cycle helmet compulsion in Northern Ireland and the UK

Dear committee members,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space

As a medical professional closely involved in trauma, I have critically examined all the available evidence for and against helmet usage in cyclists and I am not convinced that there is a case to be made for compulsory helmet usage. All the studies that conclude that helmets may reduce head injuries are deeply flawed. Population based studies ALL conclude that helmet compulsion is detrimental. Furthermore, cycling is a healthy and very safe activity; more so when more people cycle. Helmet compulsion reinforces the fallacy that it is not safe. I am not against helmet wearing - that is a personal choice - just compulsion.

I also note that there were NO cyclist deaths in Northern Ireland in 2009 or 2010 and NO child cycling deaths in Northern Ireland since 2005. These statistics alone make a mockery of your supposed concern for the "dangers of cycling without a helmet"!! Why do you not legislate to force all car drivers and passengers to wear helmets? That would certainly save more lives.

Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Finally, I have on several occasions in the past enjoyed the beauty of cycling in Northern Ireland and hope to continue to do so. If such laws are enacted, I fear I will have to take my trade to more cycle friendly climes.

To repleat: 1. Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit. 2. Cycling is a very safe pursuit - why make it more dangerous through specious legislation?

I strongly urge you to reject this fatally flawed legislation.

Yours sincerely,

Dr Pieter Meiring. BSc (Hons) MB ChB FRCR.

**Dr Richard Keatinge**  
**Bicycle Helmet Research Association**

dr.richard@keatinge.net

14th March 2011

To: Northern Ireland Assembly Committee for the Environment  
Re: Cyclists (Protective Headgear) Bill

Dear Sirs,

I note that even if bicycle helmets could do all and more that their protagonists claim, they still would offer net harm to health by discouraging the healthy and safe practice of cycling,.

I write nevertheless, to provide background information on the deeply-contested scientific discussion on the benefits, or otherwise, of bicycle helmets. I attach a formal review of the literature to 2009, in which I conclude that Robinson's study (also attached, but published in the British Medical Journal in 2006) is of the best scientific quality, and it finds no clear beneficial effect of helmets. It is clear that any material on the head must offer some protection in some accidents, but the effect does not appear to be large enough to be detectable by the best science available.

There are also occasional cases in which helmets have hanged children who were playing off their bicycles; these are easily attributable because the mechanism is obvious, and they are the only confirmed association between helmet-wearing and death. Fortunately, none have come to my attention from Northern Ireland, and I hope that none will do so.

I hope that this is helpful.

Yours sincerely

Dr Richard Keatinge MFPHM MRCP MB

# Bicycle helmets: quality of evidence

Dr Richard Keatinge, MFPHM, MRCP  
dr.richard@keatinge.net  
for the Bicycle Helmet Research Foundation

February 2009

## Abstract

### Objectives

To analyze the quality of published evidence on the effects of large-scale helmet use

### Design

Establishment of quality criteria for the main forms of evidence; analysis of main threats to validity

### Data sources

The two Cochrane reviews, the website of the BHRF, and searches of Medline and Google Scholar

### Main outcome measures

The validity of studies in relation to their quality

### Results

Time-trend studies of good quality find no effect of helmets. Some, not all, lower-quality studies support effectiveness; most of these have well-documented and serious flaws. Case-control studies have severe methodological biases which potentially account for all of their positive results. Engineering evidence does not support the effectiveness of helmets in real crashes.

### Conclusions

Bicycle helmets have strangled children and may deter cycling. They have no scientifically-demonstrated useful effect on head injuries. There is fair evidence that the introduction of helmet laws have deterred cycle use, undermining its health and other benefits. There is no good evidence that they reduce the overall number of head injuries, or deaths, suffered by cyclists. A number of reviews have systematically omitted the best evidence and have come to erroneous conclusions as a result.

## 1. The BHRF

1.1 The Bicycle Helmet Research Foundation (BHRF) was founded to undertake and encourage the scientific study of the use of bicycle helmets and to provide a resource of factual information and analysis to assist the understanding of a complex subject. The BHRF is pro-cycling and pro-health. It is neither for nor against the use of cycle helmets as a matter of principle, but seeks a comprehensive understanding of their effects based on best scientific endeavor.

1.2 Many people associated with BHRF were at one time supportive of helmet use, but examination of the evidence has caused them to reconsider their views.

1.3 This paper summarizes our analysis of the evidence.

## 2. Initial assumptions

2.1 The history of bicycle helmets is of advocacy preceding evidence. Common sense recommended a device designed by engineers to protect against an obvious risk. Author Richard Ballantine described helmets as 'Vital... for road and track races, and for riding in traffic.'<sup>1</sup> as early as 1977, before scientific evidence had been produced about their effectiveness. The present author sympathizes with this point of view; in the early 1980s he wore a helmet (and for some years saw no other cyclist doing so).

## 3. Cyclists and helmets

3.1 Since then, a flood of academic and popular literature, and statements from authoritative bodies, have endorsed or (less often) rejected helmet efficacy. In some circles it is difficult to even mention academic doubts about helmets. Helmets had become a 'Mom and apple pie' issue in the United States by 1991 and helmet compulsion was seen to be unstoppable.<sup>2</sup> This position was supported by an early and widely-quoted series of case-control studies, from which an ongoing claim that helmets protect against 88% of head injuries is derived.<sup>3</sup> An official campaign in the UK was criticised for using "scare" images of skulls to promote helmets.<sup>4</sup> Helmetless cyclists are effectively voting against widespread pressure.

3.2 The overall rate of helmet wearing on major roads in the UK rose to 30.7% in 2006.<sup>4</sup> Most UK bicycle riders are still not wearing helmets, and many are aware that the level of absolute risk that they face is small. There is about one death per twenty million miles of cycling. A typical British cyclist who rides for 280 hours per year (about 45 minutes per day, 2,300 miles in total) will face an annual risk of road death about double that of a British driver, but the risk is still low, less than one in ten thousand per year.<sup>5-6</sup> The risk for children is also low.<sup>7</sup> In many Continental countries, notably France (which does not segregate cyclists) and the Netherlands (which does), the hourly risk is lower for cyclists than for drivers. The main differences are the widespread use of 30kmh speed limits on local streets, the social profile enjoyed by cyclists (which is largely a function of popularity<sup>8</sup>) and their legal protection if injured by bad driving.

### Health benefits

3.3 Regular moderate cycling reduces the death rate by about 40% after multivariate adjustment<sup>9</sup> and the effect is unlikely to be entirely due to confounding since people in this study who played vigorous sports also experienced lower death rate if they cycled.<sup>10</sup> Similar benefits were observed in women in Shanghai.<sup>11</sup> The effect is assumed to be mainly due to the healthy exercise involved. Exercise also increases quality of life.<sup>12</sup> A person cycling regularly in mid-adulthood typically has a level of fitness equivalent to being 10 years younger<sup>13</sup>, and a life expectancy 2 years above the average<sup>14</sup>. A 9-year study found that Whitehall civil servants who cycled for at least an hour a week (or 25 miles in a single week) had less than half the death rate of those who didn't during the study period<sup>15</sup>. The health benefits of cycling far outweigh the risks thanks to the life years gained – by a factor of 20:1 according to one estimate<sup>16</sup>. It has also been estimated that, if a group of 100,000 people took up regular cycling, statistically one would expect a net reduction of 50 deaths among that group within a year – there would be 7 cycling-related fatalities but 57 deaths averted through the health benefits of cycling.<sup>17</sup> On balance, at least for the great majority, cycling is a fitness-enhancing and life-extending activity. It also offers cheap transportation which poses little threat to

others.

## 4. Testing the hypothesis that helmets reduce injuries

4.1 It is generally accepted that randomised controlled trials provide the best form of evidence about the effectiveness of health interventions.<sup>18</sup> Despite assertion to the contrary from the Chairman of the British Medical Association at its 2005 Annual Representatives Meeting, no randomised trials of cycling helmets have been conducted (though there has been a randomized trial of walking helmets for schoolchildren).<sup>19</sup> A randomised study taking serious injury as its outcome would require a very large number of cyclists. Even if cycle helmets were 80% effective in preventing serious injuries of any sort, and on the high assumption that there is one serious injury per 8,000 years of average cycling, we would still require 235,500 cyclists to take part in a trial for one year in order to have an 80% chance of showing a statistically significant difference.<sup>20</sup> Also, "blinded" trials would be very difficult; subjects will know whether they are wearing a helmet or not, and arranging for those assessing the outcomes to be ignorant of helmet use would also be difficult. Few studies have been done on such a scale, no such trial seems likely, and in the case of helmets we need to rely on the results of "natural experiments".

.2. This paper makes no attempt to evaluate studies which consider only the effectiveness of interventions to promote helmet-wearing - such studies generally take it as read (implicitly or explicitly) that increases in helmet wearing are beneficial. We are concerned here only with publications of primary data that purport to test the effectiveness of helmets.

4.3 The available evidence broadly falls into two categories: population-level evidence and case-control studies. Most of the studies in the first of these categories analyse changes in helmet-wearing rates over time ("time-trend studies") to determine whether there has been any associated changes in cyclists' safety. Other population-level studies ("population comparison studies") consider whether a group who wore helmets had lower fatality rates than a comparison group who did not. These studies have the advantage that helmet use has generally been measured by third-party observers, but the disadvantage of not recording whether the individuals wearing helmets were those who had relevant accidents. The second category consists of case-control studies, based on much smaller hospital-based populations. All of the case-control studies use individual data on cyclists that had accidents, but they depend on the cyclists to report accurately whether helmets were used or not in the accident.

4.4 The following sections of this paper examine the evidence in the two categories identified above. There are methodological problems with many of the studies in the first group, however the best conducted studies find no evidence of safety benefits from increases in helmet wearing rates. By contrast, the case-control studies tend to indicate substantial benefits from helmet-wearing. However it will be shown that their findings cannot be relied on.

### Time-trend studies

#### Quality criteria

4.5 Numerous studies have analysed changes over time. Some study the proportion of cyclists using helmets, others simply the presence or absence of a helmet law. Outcomes have included deaths among cyclists, and the proportion of head injuries among cyclists. These studies have produced conflicting conclusions. Accepted good practice is to analyse the studies that meet pre-determined quality criteria. The Cochrane Collaboration is a leading international organisation which produces and disseminates systematic reviews of healthcare interventions. These are known internationally as sources of high quality, reliable health information. Those who prepare the reviews are mostly healthcare professionals who volunteer to work in one of the many Cochrane Review Groups, with editorial teams overseeing the preparation and maintenance of the reviews, as well as application of the rigorous quality standards for which Cochrane Reviews have become known.<sup>21</sup> Ordinarily, the criteria used by a Cochrane Review are definitive of good scientific practice.

4.6 Almost all Cochrane reviews are of randomised controlled trials, but two reviews have been done on observational studies of bicycle helmets. One, by Macpherson and Spinks, reviewed time-trend studies of bicycle helmet legislation,<sup>22</sup> another, by Thompson, Rivara, and Thompson, reviewed case-control studies in which cyclists with head injuries were compared with cyclists who had



injuries to other parts of the body.<sup>23</sup> It will be demonstrated that invalid studies have been used and valid ones systematically omitted.

4.7 Macpherson and Spinks would have used randomised trials if any had been available. They included *"the following study designs:*

***Types of studies***

*interrupted time series analysis with a concurrent comparison group*

*controlled before-after study.*

***Types of participants***

*The whole population.*

***Types of interventions***

*Enactment of bicycle helmet legislation for either the whole population or for children only at a provincial, state, or country-wide level.*

***Types of outcome measures***

*Head injuries (brain injuries, fractures, concussion, scalp lacerations and facial injuries) based on diagnosis given by a health professional and/or included in the medical chart.*

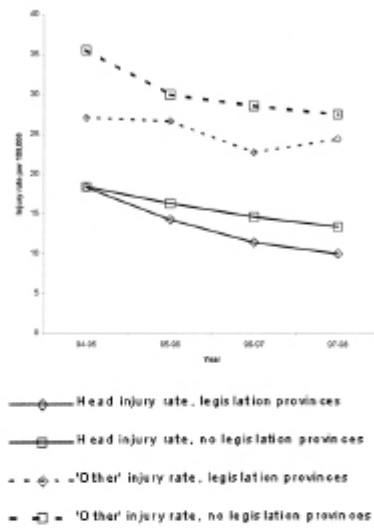
*Helmet use (both self-reported and observed measures).*

*Adverse effects of legislation (for example, reduced cycling participation)."*<sup>24</sup>

4.8 These criteria seemed to produce three papers which contributed to the final review of helmet effectiveness. One describes the Canadian experience, two the Californian experience. All used the percentage of cyclists with head injuries as their main outcome measure, and they analysed the presence or absence of a law, rather than any count of the percentage of helmet-wearing.

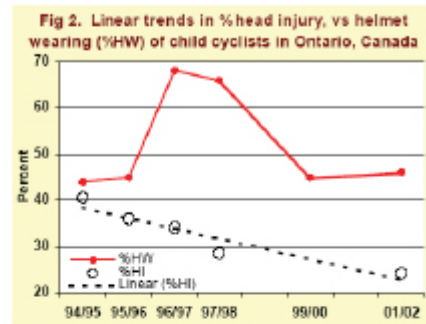
## The Canadian experience

4.9 Macpherson and colleagues suggested that the proportion of head injuries went down more in provinces that had introduced helmet legislation for children.<sup>25</sup>



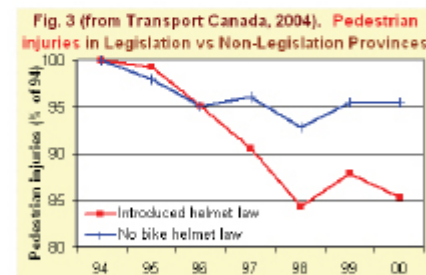
4.10 However, Macpherson and colleagues omit underlying trends and data on pedestrians, and present no information on actual helmet use. Where available, these give a very different story.

4.11 In Ontario, for example, the rate of helmet wearing increased for two years after the law and then returned to pre-law levels; the downward trend in percentage of head injuries continued without obvious change:



4.12 The results in British Columbia (which with Ontario makes up 89% of the population affected by the laws) were very similar.

4.13 Injury rates among pedestrians followed a very similar downward trend to cyclists:



4.14 The fuller data gives no support to the idea that helmets are responsible for any reduction in injuries. Rather, other road safety interventions approximately coinciding with the laws appear to have had measurable benefits for both pedestrians and cyclists (and presumably for other groups too).<sup>26</sup> The analysis by Macpherson and colleagues is clearly invalid and based on selected data.

## The Californian experience

4.15 California introduced a statewide helmet law for children and youths under 18 years old from 1st January 1994. There had been a helmet law since 1987 for cycle passengers aged under 5 years.

4.16 One study by Ji et al, included in the Cochrane review, looked at cycling in the single city of San Diego, comparing the injuries suffered by those subjected to the law (under 18) and the adults who were not.<sup>27</sup> No data from cyclists or pedestrians in other areas was adduced, but helmet use by cyclists under 18 in San Diego increased and then fell again:

Table 1.

1992	1993	1994	1995	1996
1%	10%	25%	39%	24%

4.17 This must give rise to the suspicion that helmet wearing rates in the state as a whole are not accurately modeled by the simple introduction of a law in 1994. The authors report that this study "did not confirm that helmet legislation alone significantly reduced head injury rates". Its other failings are analyzed at <http://www.cyclehelmet.org/1149.html>.

4.18 A second Californian study was included in the Cochrane review. Lee and colleagues used discharge records from all public hospitals in California, from 1991 through 2000, comparing those subjected to the law (under 18) and the adults who were not.<sup>28</sup> They gave no statewide data on helmet use, and in order to follow their analysis it is necessary to assume that the law was effective and that this effectiveness continued for the period covered by the study. This seems unlikely in view of the figures above from San Diego. Their multinomial logit models described a reduction of 18.2% in the proportion of traumatic brain injuries among youth bicyclists after the law. On the other hand, there was no statistically significant change in the proportions of injury outcomes for adult bicyclists. The bicycle safety helmet legislation was associated with a decrease in the likelihood of traumatic brain injury for non-urban residents but not for urbanites, for males but not for females, and for Whites, Asians, and Hispanics, but not Blacks and others. Other data in the paper shows that many other aspects of cycling were changing in this period.<sup>29</sup> A full analysis of data over the entire period of the study reveals no correlation between the law and proportion of head injury.<sup>30</sup> The published data seems to have been unconsciously selected to give a specific result.

4.19 Even if the full dataset showed any relation between a helmet law and head injury, Lee et al present no information on actual helmet use; it is difficult to be certain that any changes were even associated with changes in helmet wearing, still less that they were different from changes in control populations. No data is given on the experience of pedestrians. The conclusions of Lee et al cannot carry credibility.

## Criteria of quality for time-trend studies

4.20 It is clear that the criteria used to select studies by Macpherson and Spinks are inadequate; they have produced invalid work. Studies should analyse:

\* The actual use of helmets, not the mere presence of legislation, since helmet laws have often not been effectively enforced.<sup>31</sup>

\* A large change in the proportion of cyclists using helmets, since the effects of small changes are likely to be small, easily confounded with other causes of changing injury experience.

\* All available control groups, including pedestrians in the area affected, and cyclists in unaffected groups, since the unpredictable variations in the accident experience of road users may otherwise conceal real effects or suggest false ones. The correlation between cyclist and pedestrian fatalities in children is almost perfect in the US and the UK for 1979-2004, and pedestrians and cyclists are subject to similar risks on the roads.<sup>32</sup>

\* All available data for at least some years before and after, since underlying trends caused by other factors may be mistaken for the effects of a specific intervention.

4.21 Lack of one of these characteristics does not in every case imply that the work must be rejected at once, but their conclusions can only be tentative and should be abandoned if better work contradicts them, or if a more thorough analysis makes clear that they were incorrect.<sup>33</sup>

Time-trend studies of head injuries, analyzed by quality, by publication date:

Table 2.

Reference	Outcome is % of injuries to the head not only absolute numbers of injuries	Objective observation of helmet use, not self-reporting	Over 40% change in helmet-wearing	Comprehensive use of control groups including pedestrians	Author's conclusions about helmet effectiveness	Comments
Robinson 2006 March <sup>34</sup>	Yes	Yes	Yes	Yes	Not supported	This is the soundest paper and its conclusions are more robust than any other. An extraordinary omission from Macpherson and Spinks' review.
Ji et al 2006 January <sup>35</sup>	Yes	Yes	No	No	Not supported	No definite conclusions, no data that might lead to better answers
Hewson P 2005 June (TIP) <sup>36</sup>	Yes	Yes	No	Yes	Not supported	In 1995-2002 the rates of injury declined in close parallel among pedestrians and cyclists.
Hewson P 2005 May (AAP) <sup>37</sup>	Yes	Yes	No	Yes	Not supported	Helmet wearing is different between male and female children but there are no matching trends in head injury.
Lee et al 2005 <sup>38</sup>	Yes	No measurement of helmet use	Unlikely	Selected data only	Supported	A fuller analysis, above, makes clear that this analysis is poor and probably mistaken

Cook and Sheikh 2003 <sup>39</sup>	Yes	Yes	No, changes were a few percent only	Failure of detailed analysis; data set overlaps Hewson's but is smaller.	Supported	Children were reducing their use of helmets in the period analyzed, but had similar reductions in %HJ to adults. <sup>25, 36</sup>
Macpherson et al 2002 <sup>40</sup>	Yes	Yes	No	No	Supported	The analysis using control groups (above and in refs) does not support helmet use
Scuffham et al 2000 <sup>41</sup>	Yes	Yes	Yes	Pedestrians omitted	Supported	A fuller analysis indicates that the effects of helmets have been confused with a continuing trend which also affected pedestrians, and that random fluctuations have been misinterpreted as an effect of helmets. <sup>36</sup>
Povey et al 1999 <sup>42</sup>	No	Yes	Yes	No control groups used	Supported	Use of available data on time trends and control groups shows no effect of helmets. <sup>43</sup>
Ekman et al 1997 <sup>44</sup>	Yes	Yes	No	Failure of detailed analysis	Supported	Reduction in non-head injuries greater for intervention area than non-head injuries, other factors likely to have been at work. <sup>45</sup>



Robinson 1996 <sup>46</sup>	Yes	Yes	Yes	Yes	Not supported	Another important paper bizarrely omitted by Macpherson and Spinks, on the counterfactual grounds that no control group was used.
Carr et al 1995 <sup>47</sup>	Numbers only, not percentages of head injury	Yes	Yes	Not used	Supported	Percentage of head injuries fell by more among pedestrians than among cyclists. <sup>48</sup>
Rivara et al 1994 <sup>49</sup>	No	Yes	No	No control groups used	Supported	No control groups, reduction in head injuries higher than increase in helmets, other factors likely to have been responsible.
Pitt et al 1994 <sup>50</sup>	Yes in cyclists only	Yes	No	Yes - all head injuries	Supported	Proportion of head injury not reported for any control group.
Vulcan et al 1992 <sup>51</sup>	No	Yes	No	No	Supported	The helmet law coincided with other road safety improvements which are more likely to have caused the reduction in head injuries.

4.22 The soundest study to date is that of Robinson (2006), supported by Robinson (1996).<sup>52</sup> Robinson reviewed the experience of cyclists and control groups in jurisdictions where helmet use increased by 40% or more following compulsion. She concluded that "enforced helmet laws discourage cycling but produce no obvious response in percentage of head injuries". This remains the most defensible scientific position. Publications by other authors omit critical aspects of appropriate methodology, and many have come to indefensible conclusions as a result.

4.23 Robinson's findings are further supported by the two papers by Hewson. Although the changes in helmet-wearing rates considered by Hewson are smaller than those considered by Robinson's papers, and his first paper is based on data for overall cyclist injuries rather than head injuries specifically, both

papers have the benefit of comparing cyclist and pedestrian injury trends, and his second paper (which looks specifically at child cyclists) also compares trends for boys and girls. His papers find no association between changes in helmet wearing rates and cyclists' safety for the populations considered. Whilst this does not rule out the possibility that helmets may provide some benefits for some subgroups within the cycling population, Hewson concludes that there is no evidence to support the claims for helmets which typically arise from small-population case-control studies.

4.24 None of this comment should suggest that earlier authors were wrong to write, or editors to publish, studies that could be described as "quick and dirty". There is a role for such studies to give quick, albeit imperfect, evidence on new projects. However, now that so many of them are known to have serious flaws, repeated biased studies can best be described as pseudo-science. Macpherson and Spinks have excused their omission of Robinson (2006) on the extraordinary grounds that Robinson's work was "a commentary not a study"<sup>53</sup> and of Robinson (1996) on the counterfactual basis that no control group was used. There is no excuse for supposedly "systematic" reviews which selectively omit evidence - the best available - that disagrees with their conclusion.

#### Deaths: time trend studies

4.25 The largest of all the time-trend studies, analysing US cyclist fatalities up to the late 1980s, found a positive correlation of deaths with helmet use.<sup>54</sup> In the UK, cyclist deaths sharply increased in the years when helmets first became popular, despite steady declining trends for pedestrians.<sup>55</sup> Death rates in Canada for pedestrians and cyclists have declined in close parallel for the last thirty years, showing no obvious effect of helmet use.<sup>56</sup> On the other hand, Wesson et al. concluded that child deaths in Ontario were lower after a bicycle helmet law was passed.<sup>57</sup>

4.26 Macpherson et al report data on child cycle use in the suburb of East York, Toronto, Ontario, Canada before and after the introduction of a cycle helmet law for children.<sup>58</sup> The law came into force in October 1995. The authors stated that in the following years, there was no enduring fall in child cycle use, as had been seen in other countries that introduced such a law. The authors thus concluded that attitudes to cycle helmets must have changed, and that legislation could be introduced without compromising public health by discouraging people from cycling. Their conclusion is misleading and further, the authors should have been well aware that they were presenting their results in a misleading way. Between 1990 and 2000, they monitored child cyclist numbers and helmet wearing according to socio-economic area. They accumulated a valuable dataset, showing that helmet use by children is strongly influenced by socio-economic status. Children of wealthy parents were about twice as likely to wear helmets as compared with those from modest backgrounds.

4.27 Although helmet use did increase due to promotion during the period of study, the 1995 law itself was never enforced. The Toronto Metropolitan Police confirmed to the authors that no child cyclist was ever fined for riding without a helmet. There was thus a temporary increase in helmet wearing as the law came into force, especially amongst children from lower socio-economic groups. This rise faded after about three years, by which time helmet use returned to pre-law levels. The authors should have known from their own data that the effect of legislation was strictly temporary, a fact which is obvious even to casual local observers.<sup>59</sup> Despite this, they did not mention anywhere in their published research that the law was not enforced and helmet use soon returned to pre-law levels. Their analysis assumes that it had a lasting effect. Wesson et al cited Macpherson's work, described above, which presented data showing that helmet use returned to pre-law levels. Thus they should have known that the drop in child cyclist deaths was not in fact associated with helmet use. The authors quote Macpherson's results selectively. Consider this statement, from the paper:

4.28 "In the same urban community, helmet use increased from 3.4% in 1990 to 45% in 1995 before legislation, exceeded 65% in the 2 years after the introduction of legislation, and reached 85% in high-income areas 6 years after the introduction of legislation." The statement is seriously misleading and is fundamental to the analysis. Children of high-income parents are a minority in the population. Their habits are not significant relative to the majority of children drawn from middle and low income families. For the whole population of children, as mentioned above helmet use fell back to pre-law levels - therefore the authors' central reported conclusion that the helmet law led to a reduction in deaths is invalid. The BMA, for example, seem to have assumed that the authors had reported upon

enforced legislation. The authors did nothing to correct this misinterpretation even after it was pointed out them in a written response to Injury Prevention.<sup>60</sup> The actual reason for the reported fall in child cyclist deaths was probably reduced exposure and better street management, which benefited child pedestrians just as much.<sup>61</sup>

4.29 None of these studies meet the relevant quality criteria above. Fortunately, the number of cyclist deaths is small; large random fluctuations are therefore inevitable. These studies do not give a definite indication in one direction. For detailed analysis and full references, the BHRF has analyzed most of the available literature on this subject.<sup>62</sup>

#### Deaths: other population comparisons

4.30 A final group of two population-level studies has used comparisons between the proportion of cyclists observed to wear helmets on the roads, and the (lower) proportion of cyclist fatalities recorded as wearing helmets in routine police records.<sup>63 64</sup> The figures for dead cyclists are based on the U.S. Department of Transportation's Fatality Analysis Reporting System (FARS). The forms used by FARS do not in general have a convenient box for recording helmet use, which if done at all is done in free text. Thus data entry does not record helmet use accurately after fatalities, and many deaths where helmets were in fact worn will be recorded as "helmet not used".<sup>65 66</sup> As a result these studies cannot provide any useful evidence. They are nevertheless widely quoted; they appear, for example, to be the main support for New York State's assertion that "Bike helmets save lives!"<sup>67</sup>

#### Case-control studies

4.31 Most studies in this category are over ten years old, some nearly twenty years old. They are still widely quoted; this paper gives only a brief outline, concentrating on recent comment. A convenient list is given by the Cochrane review by Thompson, Rivara, and Thompson. Helmets for preventing head and facial injuries in bicyclists.<sup>68</sup> Similar comments apply to later case-control studies.

4.32 Case-control studies asked cyclists who had attended hospital after an accident whether they had been wearing a helmet. All find that cyclists with non-head injury are more likely to report wearing a helmet than are cyclists with a head injury. They have been reported (as a result of conceptual error) as showing that helmets prevent 88% of head injuries.<sup>69</sup> This figure is still widely used.

4.33 Before considering potential flaws in the case-control study methodology, it is worth looking at some data from the most widely quoted case-control study and some parallel evidence from the same area gathered at the same time, in Seattle in the late 1980s.

Table 2.

Helmet wearing objectively recorded on street survey <sup>70</sup>	Helmet use reported by head-injured cyclists <sup>71</sup>	Helmet use reported by cyclists with non-head injuries <sup>72</sup>
6%	7%	23%
Rates counted by third parties should be accurate	A cyclist with an injured head is unlikely to claim they were wearing a helmet if in fact they were not	Cyclists with an injury to other parts of the body are free to claim they were wearing a helmet even if they were not

4.34 The case-control study notes that there was a much higher rate of helmet-wearing among cyclists who suffered non-head injuries than head injuries. Like other case-control studies it assumes that the helmet-wearing and non-wearing cyclists were alike in all other respects, and that the helmet was the one difference that might explain the difference in the likelihood of head injury between the two groups. It is also worth noting at this stage that the objectively observed helmet-wearing rate is close to that reported by the cyclists who suffered head injuries, but much lower than that reported by those who suffered non-head injuries. This in turn suggests several possible sources of bias, all of which are inherent in the use of the case-control methodology to assess the effectiveness of helmets:

- Firstly, asking people to self-report whether they were wearing a helmet may be unreliable, with those who have not suffered a head injury having less motivation to reply accurately and a greater motivation instead to give the answer which they think will please the researcher. This mechanism could result in helmets appearing effective when in fact they are not.
- Secondly, the people who choose to wear helmets may be different from those who do not. In particular the former may be more prone to suffer simple falls (which are typically relatively minor injuries to body-parts other than the head), and/or to seek health care in the event of a fall. This again would result in case-control studies showing that helmets are effective when they are not.
- Thirdly, there are a number of ways in which the wearing of a helmet may increase the risk of having an accident in the first place, thus undermining any benefits a helmet might provide in the event. This could result in case-control studies that accurately found protection from helmets among those who crash, but incorrectly predicted benefit from mass use of helmets.

The following sections consider each of these possible sources of bias.

#### Ascertainment bias due to self-reporting: trying to please

4.35 All the case-control studies listed in the Cochrane review depended on cyclists reporting their own helmet use. In the case of the Seattle study cited in the table above, the study organisers observed helmet use on the streets but neither they nor other case-control researchers seem to have checked systematically and objectively whether a helmet was present at the site of the crash, or was worn at the time of the accident.<sup>73</sup> In this interpretation, helmets would have no significant effect, as the epidemiological evidence suggests. The directly observed figures would be reasonably accurate, as would those for cyclists with a head injury. These will find it difficult to persuade themselves, or anyone else, that they were wearing a helmet if in fact they were not. But those with other injuries would be free to improve on the truth to placate their interviewers, and some of them may well have done so. This would be a good example of ascertainment bias, a well-known problem in this type of study.<sup>74</sup>

4.36 There is other evidence which suggests that cyclists are prone to claim that they wear helmets when this is not the case. In one study that compared observations of helmet use to a statewide telephone survey, the survey overestimated helmet use by 15 to 20 percentage points.<sup>75</sup> In another paper, children were asked on two separate occasions whether they had been wearing protective equipment at the time of their accident; the percentage reporting use was 13% different between the two questionnaires, consistent with the possibility that individuals may "improve" their answers still more in face-to-face interviews.<sup>76</sup> (*Initial information obtained from the CHIRPP form revealed that 325 children used (protective equipment). However, at the [telephone] interview, only 234 claimed to have done so...*) Clearly, where there is pressure to wear bicycle helmets, a significant minority of people may say they wear a helmet when in fact they do not.

#### Social and behavioural differences between wearers and non-wearers of helmets

4.37 Helmet wearing has been associated with markers of higher socio-economic status in several studies.<sup>77</sup> These are likely to be markers in turn for different attitudes to risk and to seeking health care. Such confounding is very difficult to correct for; it is likely to have caused, for example, the finding from one case-control study that helmets provide a large measure of protection from arm and leg injuries.<sup>78</sup>

## Ways in which helmet-wearing may increase the risk of head injury

4.38 All the criticisms that have been leveled at the original case-control comparison apply also to the comparison with street cyclists. But it seems that crashed cyclists without head injuries report a high rate of helmet-wearing. The observed rate among cyclists on the roads is lower, as is the rate reported by cyclists with a head injury. There are several possible interpretations of this pattern. One is that the reported rates are accurate, and helmets are effective in averting head injuries. By the same logic, helmets also seem to cause crashes in the first place. This is not entirely implausible; apart from the obvious risks of a weight high up, they might cause the rider, or other road users, to change their behavior very slightly.<sup>79</sup> On this interpretation, wearing a helmet would increase the risk of an accident, but would give partial protection against the results.

## Risk compensation

4.39 "Risk compensation" describes the tendency of people to act less cautiously if they feel better-protected, or conversely to act more cautiously if they perceive greater threat. It is a mechanism which could allow accurate case-control studies to give inaccurate predictions of protection for whole populations. In this case, it would include a tendency to take more risks when wearing gear such as a helmet than without. This is well-described in children,<sup>80</sup> and the phenomenon has also been self-reported by cyclists, particularly teenagers.<sup>81 82</sup> There is no information available about the extent of this behavioural response, nor the degree to which it may influence the safety of helmet-wearing cyclists, but there is reasonable evidence that it occurs, and it is a bias that would cause case-control studies to give false predictions about the benefits of mass helmet use. (A paper denying the phenomenon of risk compensation has severe errors.<sup>83</sup> An account of these is available from the BHRF.<sup>87</sup>)

4.40 However it is not only cyclists who may engage in risk compensation – drivers might also do so. One small study found that drivers gave less road space when overtaking a helmeted cyclist than an unhelmeted one.<sup>84</sup>

## Rotational injury

4.41 Helmets are tested against direct impact without a significant rotational component. In almost any real accident to the head, a significant rotational component will be present.<sup>85 86</sup> *"In mechanical terms, the head is an elliptical spheroid with a single universal joint, the neck. It is therefore almost impossible to hit it without causing it to rotate. The head tries to dampen these forces using a combination of built-in defenses: the scalp, the hard skull and the cerebrospinal fluid beneath it. During an impact, the scalp acts as rotational shock absorber by both compressing and sliding over the skull. This absorbs energy from the impact."*<sup>87</sup> Most helmets provide no protection against rotational injury and may make it worse.<sup>88</sup> If helmets reduce scalp injuries, they may do so only by transferring rotational damage to the contents of the skull. Such injuries may be less spectacular at the time, but the long-term effects may be worse.<sup>89</sup>

4.42 In the context of case-control studies, if helmets give protection to the scalp but not the brain, unhelmeted cyclists with head injuries would be systematically overcounted and some of the positive results explained. This mechanism remains an interesting possibility.<sup>90</sup>

## Conclusions from case-control studies

4.43 Serious confounding is well documented in case-control studies of bicycle helmets. They are also based on invalid and potentially-biased ascertainment of the facts on which they depend. Either of these factors alone could account for all of their positive results. Other reasons why they may be mistaken have been described. They do not agree with the good-quality time-trend studies, which are based on objective observation of helmet use. These weaknesses are severe enough to disqualify them from use as robust evidence; reviews based on them also cannot carry weight.

## 5. Engineering evidence

### In laboratory tests

5.1 Standards call for helmets to reduce peak acceleration of instrumented metal headforms in carefully-controlled situations.<sup>91 92 93</sup> There is no good data on how these standards relate to heads made of flesh and blood in real accidents.

### In real or simulated accidents

5.2 It has been known for decades that helmet liners may be too stiff to be effective. Most standards require the use of headforms heavier and more rigid than the human head; these are more capable of crushing foam than is the human head.<sup>94</sup> The Australian office of road safety made an extensive study of helmets from real accidents in which *"very little crushing of the liner foam was usually evident... What in fact happens in a real crash impact is that the human head deforms elastically on impact. The standard impact attenuation test making use of a solid headform does not consider the effect of human head deformation with the result that all acceleration attenuation occurs in compression of the liner. Since the solid headform is more capable of crushing helmet padding, manufacturers have had to provide relatively stiff foam in the helmet so that it would pass the impact attenuation test."*<sup>95</sup> The senior engineer of Bell Helmets has made similar observations: *"I collected damaged infant/toddler helmets for several months in 1995. Not only did I not see bottomed out helmets, I didn't see any helmet showing signs of crushing on the inside."*<sup>96</sup>

## 6. Anecdotal evidence

6.1 This is worth mentioning only because of its large volume. It is produced by doctors who treat injured cyclists, and overwhelmingly by cyclists who may or may not have had an accident, and may or may not have hit their heads or destroyed their helmets. One non-sequitur may serve as an example of them all. Daniel Cline was cycling without a helmet when he was hit by a car door and fell off, severely injuring his shoulder. His head was fine. He has learned his lesson and now wears a helmet whenever he rides.<sup>97</sup> It is inappropriate that professional organisations such as the British Medical Association are using stories of this sort.<sup>98</sup> The issue is examined further in "A helmet saved my life!"<sup>99</sup>

## 7. Testing the hypothesis that helmets and their promotion cause harm

### Discouraging cycling

7.1 By analogy with the criteria for time-trend studies above, we should look for good-quality studies that describe the amount of cycling in relation to measurements of helmet use, in relation to figures from neighboring areas with different experiences of the use of helmets, and for significant periods before and after major changes in helmet use. There is a large amount of methodologically-modest data (most of which supports the idea that helmets reduce cycling)<sup>100 101</sup> The best work is again by Robinson, based on Australian census data on cycling to work.<sup>102</sup> It suggests that helmets do indeed have a serious effect in discouraging cycling.

### Reducing safety for those cyclists who remain

7.2 The discouragement of cycling may also have a secondary effect on the safety of cyclists who remain. There is substantial evidence that cycling gets safer the more cyclists there are – the “safety in numbers” effect.<sup>103 104 105</sup> Conversely, reducing cycle use erodes those “safety in numbers” benefits. This is another factor, in addition to those identified in section 4, which may help to explain the discrepancy between the best available population level evidence and the case-control studies.

### Hanged children

7.3 There are a few documented cases of young children, playing on bunk-beds, trees, jungle gyms, and so on, suffering death or severe brain damage as a result of strangulation by the straps of their bicycle helmets.<sup>106 107 108 109 110</sup> One Swedish researcher commented of the Swedish Helmet Initiative: “We knew we’d killed, but didn’t know we had saved anybody”.<sup>111</sup> The numbers are fortunately small but there can be little doubt about causality. There are likely to be more cases than those we have identified; no medical coding system makes it easy to identify cases of “strangulation by cycle helmet”. Most of these reports are from local media, and collected by Google searches for English-language phrases. Helmet promotion may encourage parents to put young children at risk of death by hanging.<sup>112</sup>

## 8. Conclusion; ineffectiveness and confirmation bias

8.1 In our considered opinion, effectiveness of bicycle helmets has not been demonstrated. The best-quality evidence shows no effectiveness of helmets. The remainder, a large quantity, has serious flaws, not minor imperfections but multiple errors, each one of which could invalidate an entire corpus of work. Most reviews have concentrated on the case-control studies, which we find to have fatal flaws.<sup>113</sup>  
<sup>114</sup> <sup>115</sup> The main review that purported to analyze the remaining literature omitted on bizarre and counter-factual grounds the evidence which contradicted its thesis.<sup>116</sup> This is very poor science at best. At its worst it is pseudoscience, in which inconvenient facts are ignored and support seized from invalid reports. The credibility of the Cochrane Collaboration is reduced by the state of its reviews on the subject of bicycle helmets.

8.2 The continued promotion of helmets by people who should know better can be attributed to confirmation bias, in which the obvious first guess is never subjected to testing. As the National Children's Bureau has said, *"The 2004 BMA statement announcing its decision to support compulsory cycle helmets shows how the uncritical use of accident statistics can lead to poor conclusions."*<sup>117</sup> The BMA's website still promotes cycle helmets.<sup>118</sup>

8.3 Good quality evidence does not show that helmets offer any advantage. They have many disadvantages, most notably helping to mislead the public to believe that a safe (by everyday standards) and extremely healthy form of travel is dangerous. Arguing about them is a distraction from the task of improving cycling. They should form no part of public policy.



## Serious error; bicycle helmets and the Cochrane Collaboration

The Cochrane Collaboration is "dedicated to making up-to-date, accurate information about the effects of healthcare readily available worldwide," (<http://www.cochrane.org/docs/descrip.htm>). It began by listing and reviewing randomized controlled trials, and in general continues to limit itself to them. With apologies to those who have spent years trying to define and identify them, these are in general a definable group of identifiable studies. There are well-established tools for the design and analysis of RCTs, supported by strong scientific community consensus. However, the Collaboration has extended to a few reviews in areas where RCTs have not been done. One example is the two reviews on bicycle helmets. (TRT, M&S) These reviews have led the Collaboration far from its origins, into areas where there is no consensus on how to synthesize research.

### Advocacy before evidence

The history of bicycle helmets is of advocacy preceding evidence. ("Vital... Use a helmet for road and track races, and for riding in traffic." Richard Ballantine. The Piccolo Bicycle Book, 1977. Pan Books, London. ISBN 0 330 25017 5) Helmets had become a "'Mom and apple pie' issue" in the United States by 1991 according to the League of American Bicyclists. (LAB/LAW Helmet law position. League of American Wheelmen (May, 1991). <http://www.helmets.org/labposit.htm>. Retrieved on 2007-09-06.)

### Engineering evidence

There is little mention in the medical literature of the known problems with cycle helmets. There is engineering evidence that they do not offer significant protection in real crashes. It has been known for decades that helmet liners may be too stiff to be effective. Most standards require the use of headforms heavier and more rigid than the human head; these are more capable of crushing foam than is the human head. (Sundahl) The Australian office of road safety made an extensive study of helmets from real accidents (Corner et al.) in which "very little crushing of the liner foam was usually evident... What in fact happens in a real crash impact is that the human head deforms elastically on impact. The standard impact attenuation test making use of a solid headform does not consider the effect of human head deformation with the result that all acceleration attenuation occurs in compression of the liner. Since the solid headform is more capable of crushing helmet padding, manufacturers have had to provide relatively stiff foam in the helmet so that it would pass the impact attenuation test." (Corner et al.) The senior engineer of Bell Helmets has made similar observations: "I collected damaged infant/toddler helmets for several months in 1995. Not only did I not see bottomed out helmets, I didn't see any helmet showing signs of crushing on the inside." (Sundahl)

Most helmets provide no protection against rotational injury and may make it worse. (Corner et al.) "The major discovery is that the skull plays an important role in protecting against rotational acceleration," says Phillips. He says almost all head injuries involve not just a direct blow to the skull but also damage to blood vessels caused by the brain rotating within the skull. "In mechanical terms, the head is an elliptical spheroid with a single universal joint, the neck. It is therefore almost impossible to hit it without causing it to rotate. The head tries to dampen these forces using a combination of built-in defences: the scalp, the hard skull and the cerebrospinal fluid beneath it. During an impact, the scalp acts as rotational shock absorber by both compressing and sliding over the skull. This absorbs energy from the impact." (Duncan Graham-Rowe) If helmets reduce scalp injuries, they may do so only by transferring rotational damage to the contents of the skull. Such injuries may be less spectacular at the time, but the long-term effects may be far worse.

Despite the engineering evidence, two Cochrane reviews have concluded that helmets reduce injuries in crashes, that helmet laws reduce injury rates, and that there is no controlled evidence that helmet laws reduce cycling.(TRT, M&S) Ordinarily, to disagree with a Cochrane review is to come perilously close to fringe science. But in these particular cases, the Cochrane reviews are based on invalid data, invalid literature searches, and invalid analysis.

### **Time-trend studies**

The definitive study to date is that of Robinson. She reviewed the experience of cyclists and control groups in jurisdictions where helmet use increased by 40% or more following compulsion. She concluded that "enforced helmet laws discourage cycling but produce no obvious response in percentage of head injuries". This contradicts the Cochrane review which suggests "a protective effect of bicycle helmet legislation against head injury among cyclists... No strong evidence yet exists to either suggest or discount an adverse effect of bicycle helmet legislation (for example, fewer cyclists)."  
Robinson's work is sound, but the papers reviewed by Macpherson and Spinks have omitted crucial data which demonstrates that helmets are not effective.

The Ontario experience - ORSAR

## 6f. Bicycles

Only collisions involving a bicycle and a moving motor vehicle or a streetcar are required to be reported. These tables do not include bicycle only, bicycle/bicycle, or bicycle/pedestrian collisions.

<b>Table 6.18 Bicyclists* Killed and Injured 1989-1993</b>				
<b>Year</b>	<b>Drivers</b>		<b>Passengers</b>	
	<b>Killed</b>	<b>Injured</b>	<b>Killed</b>	<b>Injured</b>
1989	33	4,020	-	139
1990	29	3,518	-	172
1991	27	3,797	-	178
1992	27	3,333	-	168
1993	31	3,290	-	123
1994	27	3,283	-	107
1995	19	2,983	-	105
1996	20	2,863	0	109
1997	22	2,997	1	101
1998	36	2,994	0	136
1999	17	2,702	0	136
2000	9	2,694	0	105
2001	16	2,349	0	254
2002	13	2,478	0	241
2003	13	2,398	0	243
2004	19	2,526	0	322

Subsets of data showing no effect. Two studies and Australian census data on amount of cycling. THE GRAPHS! No enforcement: Enforce law on kids wearing bike helmets. Sudbury Star Article ID# 1144968 from the Chatham Daily News  
<http://www.thesudburystar.com/ArticleDisplay.aspx?e=1144968&&#postbox>

The California experience

#### **Omitting better studies**

There is another serious problem with the review by Macpherson and Spinks. The best available study (Robinson 2006) is omitted on the counterfactual grounds that "No control community (was) used as comparison." In fact Robinson makes systematic use of all available data on control groups, including cyclists not affected by specific legislation, and pedestrians. The omission of Robinson has also been justified on the grounds that it was "a commentary not a study". (response by Macpherson and Spinks to my initial feedback). Others have criticized Robinson for leaving out studies (Thompson and Thompson 2006); the studies in question would not have met her quality criteria. The studies she omits are in fact the time-trend studies in the Cochrane review; their invalidity is analyzed above.

#### **Case-control studies**

These asked cyclists who had attended hospital after an accident whether they had been wearing a helmet. All find that cyclists with non-head injury are more likely to report wearing a helmet than are cyclists with a head injury. (refs) All depended on cyclists reporting their own helmet use; although study organisers saw some helmets, none checked systematically whether a helmet was present at the site of the crash, or was worn at the time of the accident. (Diane and Robert S. Thompson, personal communications from...) People do not always report accurately whether they used protective equipment or not; in another study, two questionnaires found very different rates of reporting. (Pless et al) Possibly, on questioning by a professional about protective equipment, some people give the answer which seems to be desired, rather than the truth.

The actual rate of helmet wearing cannot be determined in any of these groups, because no observer recorded it at the time. However, there are surveys giving the observed rate of helmet use by cyclists:

Table 1.	Helmet wearing on street survey	Helmet use reported by head-injured cyclists	Helmet use reported by cyclists with non-head injuries.
Thompson, Rivara, and Thompson 1989	6% (DiGiuseppi)	7% (TRT 1989)	23%(TRT 1989)
Maimaris 1994	Estimates of the use of helmets in the UK in this period are particularly unreliable. I thank the Cambridge Cycling Campaign for their efforts to locate one. Figures from about the time include 3% (1991, Cook and Sheikh 2001) or 16% (1994, Taylor and Halliday TRL156) or 20% among children (1995, Cook and Sheikh 2001)	4%	11%
McDermott 1993		25%	35%
Thomas 1994			
Thompson 1989			
Thompson 1990			
Thompson 1996			
Thompson 1996a			

Research International. *Attitudes and behaviour with regard to road safety: stage 5. Personal communication*. London: Department of Transport, 2000. As quoted in <http://www.bmj.com/cgi/content/full/322/7299/1427> Cook A, Sheikh A, *BMJ* 2001;322:1427 ( 9 June )

**Cook A, Sheikh A.** Trends in serious head injuries among cyclists in England: analysis of routinely collected data. *BMJ* 2000; 321: 1055[[Free Full Text](#)]. (28 October.)

The street surveys were carried out at varying distances and times from the case-control studies, and are not necessarily the true rates among those at risk or who presented to hospital. All the criticisms that have been levelled at the original case-control comparisons apply also to the comparisons with street cyclists. But the overall pattern is striking. It seems that crashed cyclists without head injuries generally report high rates of helmet-wearing. The observed rates among cyclists on the roads are

lower, as are the rates reported by cyclists with a head injury. There are several possible interpretations of this pattern. One is the view taken by authors of the case-control studies, and by the Cochrane reviewers: the reported rates are accurate, and helmets are effective in averting head injuries. By the same logic, helmets also seem to cause crashes in the first place. This is not entirely implausible; apart from the obvious risks of a weight high up, they may cause the rider, or other road users, to change their behaviour. (Ian Walker, Adams) On this interpretation, wearing a helmet would increase the risk of an accident, but would give partial protection against the results.

There is another possibility, that all groups had similar rates of helmet wearing, but a minority of those who were in a position to do so told their interlocutors what seemed likely to please them. In this interpretation, helmets would have no significant effect, as the engineering evidence suggests. The directly observed figures would be accurate, as would those for cyclists with a head injury. These will find it difficult to persuade themselves, or anyone else, that they were wearing a helmet if in fact they were not. But those with other injuries would be free to improve on the truth to placate their interviewers, and some of them may well have done so. If about x% of them did so, this would be enough to explain the apparent protective effect of helmets in these data. X% seems a rather low figure; indeed, to suggest that only x% will bend reality to give the desired answer seems to speak well for the honesty of cyclists in these studies.

On the principle of Occam's razor, the simplest hypothesis is usually the best; cycle helmets do not seem to be effective. Case-control studies in this review are based on invalid data (as are others not included ([http://www.iihs.org/research/fatality\\_facts\\_2005/bicycles.html](http://www.iihs.org/research/fatality_facts_2005/bicycles.html), [http://www.iihs.org/research/fatality\\_facts\\_2006/bicycles.html](http://www.iihs.org/research/fatality_facts_2006/bicycles.html), Geary R, **Faulty FARS bicycle helmet use data & implications for effectiveness.** <http://injuryprevention.bmj.com/cgi/eletters/12/3/148#294>)). Future studies of this sort, in order to achieve validity, should use the reports of third-party observers to assess helmet use.

#### **Serious consequences of erroneous review**

The erroneous results of these Cochrane reviews are not a trivial or harmless matter. Cycling is a healthy means of transport, (Andersen, refs) and helmet compulsion reduces cycling (Australian census data (Robinson) and graph.) One Cochrane review seems to deny that this work by Robinson exists ("there are [no high-quality] evaluative studies... that reported data on an possible declines in bicycle use". (M&S)

There are a few documented cases of young children, playing on bunkbeds, trees, jungle gyms, and so on, suffering death or severe brain damage as a result of strangulation by the straps of their bicycle helmets. (Valerie Zehl, CPSC, OCBC, ABC News, Sam Richeys, Nigel Perry) Helmet promotion may encourage parents to put young children at risk of death by hanging (<http://blogginghallie.blogspot.com/2008/08/hallie-haberdashery.html>).

#### **Cochrane Collaboration; discussion and feedback**

As any contributor to the online BMJ will know, the Web allows rapid interactions and conversations. Until 18th July 2007, it was possible to send a comment on a Cochrane review and anticipate that it would shortly appear on the website, with comments from the authors of the review. From issue 3 of 2007, "the 'official' timescale - it is advisory - is that feedback that the Cochrane Review Group has determined is acceptable will be published in the body of the review within 6 months..." (personal communication from Dr. John Carlisle) As a way to allow the limited conversations appropriate to a well-conducted review of randomised controlled trials, this may be reasonable. As a way to tackle the serious issues that arise when reviewing many groups of observational studies, it is inadequate. In the specific case of an issue where an erroneous view is propagated by a review group despite the evidence, the Collaboration seems to lack any effective procedure to rectify the matter.

## Conclusions

Two Cochrane reviews of observational studies have used invalid data, selected data that gives the wrong results, and omitted crucial good-quality work that disagrees with their conclusions. There is no good evidence that bicycle helmets, or bicycle helmet laws, offer any significant benefit, and there is reasonable evidence that they reduce cycling. The Cochrane Collaboration has lent its prestige to a serious error and may be assisting well-meaning individuals in harming health. The serious error procedure should be invoked ([http://www.cochrane.org/docs/process\\_for\\_serious\\_errors\\_in\\_Cochrane\\_reviews.htm](http://www.cochrane.org/docs/process_for_serious_errors_in_Cochrane_reviews.htm)); all relevant parties should be informed, the erroneous reviews should be removed, and a report produced on the causes of the error. Possible causes might include allowing assumptions to determine evidence, unsystematic review technique in a difficult area, and failure to implement the serious error procedure when errors were pointed out.

I find no quality criteria for time-trend studies which state that the data must include everything likely to be relevant. If the Collaboration is to continue to include time-trend and case-control studies, it is important that unambiguous quality criteria should be developed and that these should specify the inclusion of all data that tests the relevant hypotheses.

## References

What is The Cochrane Collaboration? <http://www.cochrane.org/docs/descrip.htm> accessed 16th February 2008

Macpherson A, Spinks A. Bicycle helmet legislation for the uptake of helmet use and prevention of head injuries. *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD005401. DOI: 10.1002/14651858.CD005401.pub2

Thompson DC, Rivara FP, Thompson R. Helmets for preventing head and facial injuries in bicyclists. *Cochrane Database of Systematic Reviews* 1999, Issue 4. Art. No.: CD001855. DOI: 10.1002/14651858.CD001855

Davis RM, Pless B. Letters: Evidence shows that cyclists should wear helmets. *BMJ* 1996; 312: 1310. <http://www.bmj.com/cgi/content/full/313/7057/629/a>

LAB Helmet Law Position. League of American Bicyclists May 1991  
<http://www.helmets.org/labposit.htm> accessed 25th August 2007.

Jim G Sundahl, Senior Engineer, Bell Sports. 19th January 1998. Letter to the U. S. Consumer Product Safety Commission, c/o Scott Heh, Project Manager, Directorate for Engineering Sciences, Washington, D. C, 20207. <http://www.cpsc.gov/LIBRARY/FOIA/FOIA98/PUBCOM/34C7A89B.PDF>, accessed 18th February 2008.

J.P. Corner, C.W. Whitney, N. O'Rourke, D.E. Morgan CR 55: Motorcycle and bicycle protective helmets requirements resulting from a post crash study and experimental research. DEPARTMENT OF TRANSPORT, FEDERAL OFFICE OF ROAD SAFETY. Report No. CR 55. Date May, 1987. ISBN 0 642 510 431 ISSN CR = 0810-770  
[http://www.atsb.gov.au/publications/1987/Mcycle\\_Helm\\_1.aspx](http://www.atsb.gov.au/publications/1987/Mcycle_Helm_1.aspx)

Duncan Graham-Rowe. Soft hat. *New Scientist*. 13 February 2001.  
<http://www.newscientist.com/article/dn418-soft-hat.html>

Diane Thompson, Robert S. Thompson. Rapid Responses to D L Robinson. No clear evidence from countries that have enforced the wearing of helmets. *BMJ* 2006; 332: 722-a-725-a  
<http://www.bmj.com/cgi/eletters/332/7543/722-a#137351>

Thompson, Rivara & Thompson. A case-control study of the effectiveness of bicycle safety helmets. *NEJM* 1989;320:1361-7.

DiGiuseppi CG, Rivara P, Koepsell D, Polissar L. Bicycle helmet use by children. Evaluation of a community-wide helmet campaign *JAMA* 1989;262:2256-2261.

Taylor SB, Halliday ME. Cycle Helmet Wearing in Great Britain. Transport Research Laboratory Report 156, UK, 1996.



Maimaris C, Summers CL, Browning C, Palmer CR. Injury patterns in cyclists attending an accident and emergency department: a comparison of helmet wearers and non-wearers. *BMJ* 1994;308(6943):1537-40.

McDermott FT, Lane JC, Brazenor GA, Debney EA. The effectiveness of bicyclist helmets: a study of 1701 casualties. *Journal of Trauma* 1993;34(6):834-45.

Thomas S, Acton C, Nixon J, Battistutta D, Pitt WR, Clark R. Effectiveness of bicycle helmets in preventing head injury in children. *BMJ* 1994;308:173-6.

Thompson 1989

Thompson RS, Rivara FP, Thompson DC. A case-control study on the effectiveness of bicycle safety helmets. *New England Journal of Medicine* 1989;320:1361-7.

Thompson 1990

Thompson DC, Thompson RS, Rivara FP, Wolf ME. A case-control study on the effectiveness of bicycle safety helmets in preventing facial injury. *American Journal of Public Health* 1990;80(12):1471-4.

Thompson 1996

Thompson DC, Rivara FP, Thompson RS. Effectiveness of bicycle safety helmets in preventing head injuries: a case-control study. *Journal of the American Medical Association* 1996;276(24):1968-73.

Thompson 1996a

Thompson DC, Nunn ME, Thompson RS, Rivara FP. Effectiveness of bicycle safety helmets in preventing serious facial injury. *Journal of the American Medical Association* 1996a;276(24):1974-5.

Lee BH, Schofer JL, Koppelman FS. Bicycle safety helmet legislation and bicycle-related non-fatal injuries in California. *Accident Analysis and Prevention* 2005;37:93-102.

Macpherson AK, To TM, Macarthur C, Chipman ML, Wright JG, Parkin PC. Impact of mandatory helmet legislation on bicycle-related head injuries in children: a population-based study. *Pediatrics* 2002;110:e60.

Valerie Zehl. After son's accident, family learns to find joy. Press and Sun-Bulletin, Greater Binghamton, New York. January 28, 2008.  
<http://www.binghamtonpress.com/apps/pbcs.dll/article?AID=/20080128/COLUMNISTS01/801280301>

/1005/

U. S. Consumer Product Safety Commission. Wear Bike Helmets On Bicycles - Not On Playgrounds. CPSC Document #5121. <http://www.cpsc.gov/cpscpub/pubs/5121.html>

Child deaths from helmet use. <http://www.magma.ca/~ocbc/kids.html>

Ambulance staff cleared over toddler's death. ABC News May 7, 2004. <http://www.abc.net.au/news/stories/2004/05/07/1103511.htm>

Sam Riches, police reporter. Helmet strangles boy, 3. The Advertiser, Adelaide, South Australia. April 05, 2007. <http://www.news.com.au/adelaidenow/story/0,22606,21510562-5006301,00.htm>

Nigel Perry. 1996. Notes on the 3rd International Conference on Injury Prevention and Control. <http://members.tip.net.au/~psvansch/crag/3icipc.htm>

Dr J Carlisle, Feedback Management Advisory Group convenor, Cochrane Collaboration, personal communication.

[http://www.cochrane.org/docs/process\\_for\\_serious\\_errors\\_in\\_Cochrane\\_reviews.htm](http://www.cochrane.org/docs/process_for_serious_errors_in_Cochrane_reviews.htm)

A GUIDE FOR REDUCING COLLISIONS INVOLVING BICYCLES  
-> [http://www.trb.org/news/blurb\\_detail.asp?id=8960](http://www.trb.org/news/blurb_detail.asp?id=8960)

TRB's National Cooperative Highway Research Program (NCHRP) Report 500, Vol. 18, Guidance for Implementation of the AASHTO Strategic Highway Safety Plan: A Guide for Reducing Collisions Involving Bicycles provides strategies that can be employed to reduce collisions involving bicycles. Despite the title, they discuss helmets on page 130.

## Objective F—Increase Use of Bicycle Safety Equipment

### Strategy F1: Increase Use of Bicycle Helmets (P)

The use of bicycle helmets has been proven to reduce fatalities and serious head injuries that result from bicycle crashes. Studies have shown that riders wearing helmets are 70 to 88 percent less likely to suffer serious head injuries or fatalities in a bicycle crash than unhelmeted riders. There is, however, no evidence that use of helmets reduces collisions and crashes. This strategy of encouraging increased helmet use is recommended as an approach for improving bicyclists' behavior (i.e., the decision to wear a helmet) that will result in fewer fatalities. The option of mandatory helmet use laws should be seriously considered. Helmet laws, along with enforcement of those laws, are effective in increasing helmet use, and helmet use decreases fatalities. This is the only proven strategy for reducing bicyclist fatalities when crashes do occur.

Note two errors:

1. The inappropriate use of the word serious
2. The inappropriate use of the word fatal

Also, Thompson, Rivara, Thompson (1989) inadvertently showed that helmeted riders had fewer collisions. (An example of confounding.)

They do make the proper distinction with the confounding of the choice and the chooser with their phrase "riders wearing helmets." They don't say "helmet prevent."

Peter Jacobsen  
Sacramento, California



## References

- 1 Richard Ballantine. The Piccolo Bicycle Book, 1977. Pan Books, London. ISBN 0 330 25017 5
- 2 Bicycle U.S.A. The magazine of the [League of American Bicyclists](http://www.helmets.org/labposit.htm). May, 1991.  
<http://www.helmets.org/labposit.htm>
- 3 Why it is wrong to claim that cycle helmets prevent 85% of head injuries and 88% of brain injuries.  
<http://www.cyclehelmets.org/1131.htm>
- 4 Teresa McGarry and Rob Sheldon, Accent. Cycle Helmet Wearing in 2006. Road Safety Research Report No. 84. February 2008. Department for Transport: London.  
<http://www.dft.gov.uk/pgr/roadsafety/research/rsrr/theme1/cyclehelmets.pdf>
- 5 Wardlaw M 2002. Assessing the actual risks faced by cyclists". Traffic Engineering & Control 43: 352-356.
- 6 Morgan JM. Risk in cycling. Crowthorne: Transport and Road Research Laboratory, 1988. (TRRL Working Paper WP/RS/75.)
- 7 <http://www.cyclehelmets.org/1148.html>
- 8 <http://www.cyclehelmets.org/1148.html>
- 9 Andersen LB, Schnohr P, Schroll M, Hein HO. All-cause mortality associated with physical activity during leisure time, work, sports, and cycling to work. Arch Intern Med 2000 Jun 12;160(11):1621-8.  
<http://archinte.ama-assn.org/cgi/content/abstract/160/11/1621>
- 10 Personal communication from Professor Andersen.
- 11 Matthews CE, Jurj AL, Shu X, Li HL, Yang G, Li Q, Cao YT, Zheng W. Influence of exercise, walking, cycling and overall nonexercise physical activity on mortality in Chinese women. American Journal of Epidemiology, 2007 165(12):1343-1350
- 12 Martin CK, Church TS, Thompson AM, Earnest CP, Blair SN. Exercise Dose and Quality of Life. A Randomized Controlled Trial. Arch Intern Med. 2009;169(3):269-278. <http://archinte.ama-assn.org/cgi/content/abstract/169/3/269>
- 13 Tuxworth W, Nevill AM, White C and Jenkins C. Health, fitness, physical activity and morbidity of middle aged male factory workers. British Journal of Industrial Medicine 1986, 43 (11): 733-753.
- 14 Paffenbarger RS Jr, Hyde RT, Wing AL, Hsieh CC. Physical activity, all-cause mortality and longevity of college alumni. New England Journal of Medicine, 1986, 314(10): 605-613.
- 15 Morris J N, Clayton D G, Everitt M G, Semmence A M, and Burgess E H. Exercise in leisure time: coronary attack and death rates. British Heart Journal, 1990, 63: 325-334.
- 16 Hillman M. Cycling and the promotion of health. Policy Studies, 1993, 14 : 49-58.
- 17 Rutter H. Valuing the Mortality Benefits of Regular Cycling. In Lind G. CBA of cycling. Nordic Council of Ministers, Copenhagen 2005  
([www.thepep.org/ClearingHouse/docfiles/CBA%20on%20cycling%20nordic%20council%20report%202005.pdf](http://www.thepep.org/ClearingHouse/docfiles/CBA%20on%20cycling%20nordic%20council%20report%202005.pdf))
- 18 <http://www.cebm.net/index.aspx?o=1047>
- 19 Effectiveness of Wearing Pedestrian Helmets while Walking from Home to School. Tatsuhiro Yamanaka, and Arata Ogihara. Paper presented by Yamanaka at Melbourne Injury Prevention and Control Conference, February 1996
- 20 <http://www.oxfordradcliffe.nhs.uk/research/projects/documents/medical-statistics-online-help.pdf>

- 21 <http://www.cochrane.org/reviews/impact/index.htm>
- 22 Macpherson A, Spinks A. Bicycle helmet legislation for the uptake of helmet use and prevention of head injuries. *Cochrane Database of Systematic Reviews* 2008, Issue 3. Art. No.: CD005401. DOI: 10.1002/14651858.CD005401.pub3
- 23 Thompson DC, Rivara F, Thompson R. Helmets for preventing head and facial injuries in bicyclists. *Cochrane Database of Systematic Reviews* 1999, Issue 4. Art. No.: CD001855. DOI: 10.1002/14651858.CD001855
- 24 Macpherson A, Spinks A. Bicycle helmet legislation for the uptake of helmet use and prevention of head injuries. *Cochrane Database of Systematic Reviews* 2008, Issue 3. Art. No.: CD005401. DOI: 10.1002/14651858.CD005401.pub3
- 25 Macpherson AK, To TM, Macarthur C, Chipman ML, Wright JG, and Parkin PC. Impact of Mandatory Helmet Legislation on Bicycle-Related Head Injuries in Children: A Population-Based Study *Pediatrics* 2002; 110: e60
- 26 Robinson DL. Confusing trends with the effect of helmet laws. <http://pediatrics.aappublications.org/cgi/eletters/110/5/e60>
- 27 Ji M, Gilchick RA, Bender BJ. Trends in helmet use and head injuries in San Diego County: The effect of bicycle helmet legislation. *Accident Analysis & Prevention*, 2006;38(1):128-134
- 28 Lee BH, Schofer JL, Koppelman FS. Bicycle safety helmet legislation and bicycle-related non-fatal injuries in California. *Accident Analysis & Prevention*, 2005;37:93-102
- 29 <http://www.cyclehelmets.org/1151.html>
- 30 Personal communication from Paul Hewson to Dorothy Robinson, analysing data supplied by Brian Lee
- 31 Abularrage JJ, DeLuca AJ, Abularrage CJ. 1997. Effect of education and legislation on bicycle helmet use in a multiracial population. *Arch. Pediatr. Adolesc. Med.* 151(1):41-44
- 32 Riley Geary. Determining true effectiveness of safety measures. *BMJ* 2006;332:852 (8 April), doi:10.1136/bmj.332.7545.852. <http://www.bmj.com/cgi/content/full/332/7545/852>
- 33 Bicycle helmet legislation: Can we reach a consensus? Robinson DL. *Accident Analysis & Prevention*, 2007;39(1):86-93.
- 34 Robinson DL. No clear evidence from countries that have enforced the wearing of helmets. *BMJ* 2006;332: 722-5. <http://www.bmj.com/cgi/content/full/332/7543/722-a>
- 35 Ji M, Gilchick RA, Bender BJ. Trends in helmet use and head injuries in San Diego County: The effect of bicycle helmet legislation. *Accident Analysis & Prevention*, 2006;38(1):128-134
- 36 Hewson PJ. Cycle helmets and road casualties in the UK. *Traffic Injury Prevention* 2005, 6(2): 127-134
- 37 Hewson PJ. Investigating population level trends in head injuries amongst child cyclists in the UK. *Accident Analysis & Prevention* 2005, 27(5): 807-815
- 38 Lee BH, Schofer JL, Koppelman FS. Bicycle safety helmet legislation and bicycle-related non-fatal injuries in California. *Accident Analysis & Prevention*, 2005;37:93-102
- 39 Cook A, Sheikh A. Trends in serious head injuries among English cyclists and pedestrians. *Inj Prev* 2003; 9: 266-266 <http://injury prevention.bmj.com/cgi/content/full/9/3/266>
- 40 Macpherson AK, To TM, Macarthur C, Chipman ML, Wright JG, and Parkin PC. Impact of Mandatory Helmet Legislation on Bicycle-Related Head Injuries in Children: A Population-Based Study *Pediatrics* 2002; 110: e60
- 41 Scuffham P, Alsop J, Cryer C, Langley JD. Head injuries to bicyclists and the New Zealand bicycle helmet law. *Accident Analysis & Prevention*, 2000;32,p565-573
- 42 Povey LJ, Frith WJ, Graham PG. Cycle helmet effectiveness in New Zealand. *Accident Analysis and Prevention* 1999 Nov;31(6):763-70

- 43 Robinson DL. Use of available control groups shows no effect of helmets. Changes in head injury with the New Zealand bicycle helmet law. *Accident Analysis & Prevention*, 2001 Sep;33(5):687-91
- 44 Ekman R, Schelp L, Welander G, Svanstrom L. Can a combination of local, regional and national information substantially increase bicycle-helmet wearing and reduce injuries? Experiences from Sweden. *Accident Analysis and Prevention*, 1997 May;29(3):321-8
- 45 <http://www.cyclehelmets.org/papers/c2010.pdf>
- 46 Robinson DL. Head injuries and bicycle helmet laws. *Accident Analysis & Prevention*. Volume 28, Issue 4, July 1996, Pages 463-475
- 47 Carr D, Dyte D, Cameron M. Evaluation of the Bicycle Helmet Wearing Law in Victoria during its First Four Years. Monash University Accident Research Centre Report 76, 1995
- 48 <http://www.cyclehelmets.org/1093.html>
- 49 Rivara FP, Thompson DC, Thompson RS, Rogers LW, Alexander B, et al. The Seattle children's bicycle helmet campaign: changes in helmet use and head injury admissions. *Pediatrics* 1994 93(4):567-69
- 50 Pitt WR, Thomas, Nixon J, Clark R, Battistutta D, and Acton C. Trends in head injuries among child bicyclists. *BMJ* Jan 1994; 308: 177. <http://www.bmj.com/cgi/content/full/308/6922/177>
- 51 Vulcan AP, Cameron MH, Watson WL. Mandatory bicycle helmet use: Experience in Victoria, Australia. *World Journal of Surgery* 1992, 16: 389-397
- 52 Robinson DL. No clear evidence from countries that have enforced the wearing of helmets. *BMJ* 2006;332: 722-5. <http://www.bmj.com/cgi/content/full/332/7543/722-a>
- 53 Response to author's comment on their Cochrane review
- 54 Rodgers GB. Reducing Bicycle Accidents: A Reevaluation of the Impacts of the CPSC Bicycle Standard and Helmet Use. *Journal of Products Liability*, 1988,11:307-317
- 55 Wardlaw MJ. Three lessons for a better cycling future.
- 56 The Vehicular Cyclist. Cyclist Fatality Trends in Canada. <http://www.vehicularcyclist.com/fatals.html>
- 57 Wesson DE, Stephens D, Lam K, Parsons D, Spence L, and Parkin PC. Trends in Pediatric and Adult Bicycling Deaths Before and After Passage of a Bicycle Helmet Law. *Pediatrics* 2008 122 605-610. doi:10.1542/peds.2007-1776
- 58 Macpherson A., Parkin P., To T., Mandatory helmet legislation and Children's exposure to cycling. *Injury Prevention* 2001;7:228-30. <http://injuryprevention.bmj.com/cgi/reprint/7/3/228>
- 59 Enforce law on kids wearing bike helmets. Sudbury Star Article ID# 1144968 from the Chatham Daily News <http://www.thesudburystar.com/ArticleDisplay.aspx?e=1144968&#postbox>
- 60 <http://injuryprevention.bmj.com/cgi/eletters/12/4/231#1600>
- 61 Wardlaw MJ Cycle helmets: an Ineffective and Unnecessary Intervention. <http://pediatrics.aappublications.org/cgi/eletters/122/3/605#39245>
- 62 What evidence is there that cycle helmets save lives? <http://www.cyclehelmets.org/1012.html>
- 63 Bicyclist Fatalities and Serious Injuries in New York City 1996-2005. A Joint Report from the New York City Departments of Health and Mental Hygiene, Parks and Recreation, Transportation, and the New York City Police Department, undated. <http://www.nyc.gov/html/doh/downloads/pdf/episrv/episrv-bike-report.pdf>
- 64 Insurance Institute for Highway Safety. Fatality Facts 2007 Bicycles [http://www.iihs.org/research/fatality\\_facts\\_2007/bicycles.html](http://www.iihs.org/research/fatality_facts_2007/bicycles.html)
- 65 Geary R, Faulty FARS bicycle helmet use data & implications for effectiveness. <http://injuryprevention.bmj.com/cgi/eletters/12/3/148>
- 66 <http://www.cyclehelmets.org/1174.html>
- 67 New York State department of health. Bike Helmets Save Lives! & It's the Law! Undated, <http://www.health.state.ny.us/publications/3128/>
- 68 Thompson DC, Rivara F, Thompson R. Helmets for preventing head and facial injuries in bicyclists. *Cochrane Database of Systematic Reviews* 1999, Issue 4. Art. No.: CD001855. DOI:

- 69 <http://www.cyclehelmets.org/papers/c2010.pdf>
- 70 DiGiuseppe CG, Rivara FP, Koepsell TD. Bicycle helmet use by children. Evaluation of a community-wide helmet campaign. *JAMA* 1989;262:2256-61
- 71 A case-control study of the effectiveness of bicycle safety helmets. Thompson, Rivara & Thompson. *New England Journal of Medicine* 1989, Vol 320 No 21 p1361-7
- 72 A case-control study of the effectiveness of bicycle safety helmets. Thompson, Rivara & Thompson. *New England Journal of Medicine* 1989, Vol 320 No 21 p1361-7
- 73 Thompson D, Thompson RS. Re: Objective observation of helmet use is essential. *BMJ Rapid Responses* 8th July 2006. <http://www.bmj.com/cgi/eletters/332/7543/722-a#137351>
- 74 K Sutton-Tyrrell. Assessing bias in case-control studies. Proper selection of cases and controls. *Stroke* 1991;22:938-942. <http://stroke.ahajournals.org/cgi/reprint/22/7/938.pdf>
- 75 Rivara FP, Thompson DC, Patterson MQ, Thompson RS. Prevention of bicycle-related injuries: Helmets, Education, and Legislation. *Annu Rev Public Health*, 1998. 19:293-318
- 76 Fless BI, Magdalinos H, Hagel B. Risk-Compensation Behavior in Children Myth or Reality? *Arch Pediatr Adolesc Med*. 2006;160:610-614. <http://archpedi.ama-assn.org/cgi/content/full/160/6/610>
- 77 Parkin PC, Khambalia A, Kmet L, Macarthur C. Influence of Socioeconomic Status on the Effectiveness of Bicycle Helmet Legislation for Children: A Prospective Observational Study. *Pediatrics* Vol. 112 No. 3 September 2003. pp. e192-e196
- 78 Spalte DW, Murphy M, Criss EA, Valenzuela TD, Meislin HW. A prospective analysis of injury severity among helmeted and non helmeted bicyclists involved in collisions with motor vehicles. *Journal of Trauma*, 1991 Nov;31(11):1510-6
- 79 Walker I. Drivers overtaking bicyclists: objective data on the effects of riding position, helmet use and apparent gender. *Accident Analysis and Prevention*. Volume 39, Issue 2, March 2007, 417-425. Summary at <http://www.drianwalker.com/overtaking/overtakingprobrief.pdf>
- 80 Morrongiello BA, Walpole B, Lasenby J. Accident Analysis & Prevention, 2007 May;39(3):618-23. Understanding children's injury-risk behavior: Wearing safety gear can lead to increased risk taking
- 81 Taylor S, Halliday M. Cycle helmet wearing in Britain. Report 156, TRL, 1996
- 82 Halliday M et al. Attitudes to cycle helmets – a qualitative study. TRL 1996 Report 154
- 83 Fless BI, Magdalinos H, Hagel B. Risk-Compensation Behavior in Children Myth or Reality? *Arch Pediatr Adolesc Med*. 2006;160:610-614. <http://archpedi.ama-assn.org/cgi/content/full/160/6/610>
- 84 Walker I. Drivers overtaking bicyclists: objective data on the effects of riding position, helmet use and apparent gender. *Accident Analysis and Prevention*. Volume 39, Issue 2, March 2007, 417-425. Summary at <http://www.drianwalker.com/overtaking/overtakingprobrief.pdf>
- 85 Curnow WJ. The efficacy of bicycle helmets against brain injury. *Accident Analysis & Prevention*, 2003;35:287-292
- 86 Albert I. King, King H. Yang, Liying Zhang, Warren Hardy, David C. Viano. Is head injury caused by linear or angular acceleration? IRCOBI Conference – Lisbon (Portugal), September 2003. [http://www.smf.org/articles/hic/King\\_IRCOBI\\_2003.pdf](http://www.smf.org/articles/hic/King_IRCOBI_2003.pdf)
- 87 Duncan Graham-Rowe. Soft hat. *New Scientist*. 13 February 2001. <http://www.newscientist.com/article/dn418-soft-hat.html>
- 88 Corner JP, Whitney CW, O'Rourke N, Morgan DE. CR 55: Motorcycle and bicycle protective helmets requirements resulting from a post crash study and experimental research. DEPARTMENT OF TRANSPORT, FEDERAL OFFICE OF ROAD SAFETY. Report No. CR 55. Date May, 1987. ISBN 0 642 510 431 ISSN CR = 0810-770. [http://www.atsb.gov.au/publications/1987/Mcycle\\_Helm\\_1.aspx](http://www.atsb.gov.au/publications/1987/Mcycle_Helm_1.aspx)
- 89 Curnow WJ. The Cochrane Collaboration and bicycle helmets. *Accid Anal Prev* May 2005; 37(3):569-573
- 90 <http://www.cyclehelmets.org/1039.html>.
- 91 Mills NJ, Gilchrist A. Finite-element analysis of bicycle helmet oblique impacts. *Int Journal of Impact Engineering*, 2008;35(9):1087-1101
- 92 Mills NJ, Gilchrist A. Oblique impact testing of bicycle helmets. *Int Journal of Impact Engineering*,

- 93 BS EN 1078:1997. Helmets for pedal cyclists and for users of skateboards and roller skates. 15 June 1997
- 94 Jim G Sundahl, Senior Engineer, Bell Sports. 19th January 1998. Letter to the U. S. Consumer Product Safety Commission, c/o Scott Heh, Project Manager, Directorate for Engineering Sciences, Washington, D. C., 20207. <http://www.cpsc.gov/LIBRARY/FOIA/FOIA98/PUBCOM/34C7A89B.PDF>, accessed 18th February 2008
- 95 Corner JP, Whitney CW, O'Rourke N, Morgan DE. CR 55: Motorcycle and bicycle protective helmets requirements resulting from a post crash study and experimental research. DEPARTMENT OF TRANSPORT, FEDERAL OFFICE OF ROAD SAFETY. Report No. CR 55. Date May, 1987. ISBN 0 642 510 431 ISSN CR = 0810-770 [http://www.atsb.gov.au/publications/1987/Mcycle\\_Helm\\_1.aspx](http://www.atsb.gov.au/publications/1987/Mcycle_Helm_1.aspx)
- 96 Jim G Sundahl, Senior Engineer, Bell Sports. 19th January 1998. Letter to the U. S. Consumer Product Safety Commission, c/o Scott Heh, Project Manager, Directorate for Engineering Sciences, Washington, D. C., 20207. <http://www.cpsc.gov/LIBRARY/FOIA/FOIA98/PUBCOM/34C7A89B.PDF>, accessed 18th February 2008
- 97 Daniel Cline. Commuting in Denmark. The Mailbag - Brain buckets, confessions and bike fit. Jan. 9, 2009. <http://www.velonews.com/article/86451/the-mailbag---brain-buckets-confessions-and-bike-fit>. I would recommend that he keeps clear of the door zone in future.
- 98 [http://www.bma.org.uk/wa/health\\_promotion\\_ethics/transport/promotingsafecycling.jsp?page=7](http://www.bma.org.uk/wa/health_promotion_ethics/transport/promotingsafecycling.jsp?page=7)
- 99 <http://www.cyclehelmets.org/1019.html>
- 100 <http://www.cyclehelmets.org/1020.htm>
- 101 <http://www.cycle-helmets.com>
- 102 Robinson DL. No clear evidence from countries that have enforced the wearing of helmets. *BMJ* 2006;332: 722-5. <http://www.bmj.com/cgi/content/full/332/7543/722-a>
- 103 Leden L, Gårdner P, Pulkkinen U. An expert judgment mode applied to estimating the safety effect of a bicycle facility. *Acc Anal Prev* 2000;32:589-99
- 104 Wardlaw M. Assessing the actual risks faced by cyclists. *Traffic Engineering and Control* 43;9 (2002) 352-256
- 105 Jacobsen P. Safety in numbers: more walkers and bicyclists, safer walking and bicycling. *Injury Prevention* 9 (2003) 205-209
- 106 U. S. Consumer Product Safety Commission. <http://www.cpsc.gov/cpscpub/pubs/5121.html> Wear Bike Helmets On Bicycles - Not On Playgrounds. CPSC Document #5121
- 107 Valerie Zehl. After son's accident, family learns to find joy. Press and Sun-Bulletin, Greater Binghamton, New York. January 28, 2008. <http://nl.newsbank.com> and search for "eddie holewa".
- 108 Child deaths from helmet use. <http://www.vehicularcyclist.com/kids.html>
- 109 ABC News (Australia). Ambulance staff cleared over toddler's death. 2004-05-07. <http://www.abc.net.au/news/stories/2004/05/07/1103511.htm> accessed 2008-05-01
- 110 <http://www.news.com.au/adelaide/story/0,22606,21510562-5006301,00.htm> Helmet strangles boy, 3. Sam Riches, Police Reporter. The Advertiser, Adelaide, South Australia. April 05, 2007
- 111 Nigel Perry, 1996. Notes on the 3rd International Conference on Injury Prevention and Control. <http://members.tip.net.au/~psvansch/crag/3icpc.htm>
- 112 <http://www.hallieandtravis.com/?p=2477>
- 113 Towner, Dowswell, Burkes, Dickinson & Hayes. Road Safety Research Report No 30. Bicycle Helmets - A review of their effectiveness: A critical review of the literature. Department for Transport, London, November 2002
- 114 Attewell RG, Glase K, McFadden M. *Bicycle helmet efficacy: a meta-analysis.* *Acc Anal Prev* 2001 v33 n3 p345-52. [http://www.infrastructure.gov.au/roads/safety/publications/2000/Bic\\_Crash\\_5.aspx](http://www.infrastructure.gov.au/roads/safety/publications/2000/Bic_Crash_5.aspx)
- 115 Thompson DC, Rivara F, Thompson R. Helmets for preventing head and facial injuries in bicyclists. *Cochrane Database of Systematic Reviews* 1999, Issue 4. Art. No.: CD001855. DOI: 10.1002/14651858.CD001855

- 
- 116 Macpherson A, Spinks A. Bicycle helmet legislation for the uptake of helmet use and prevention of head injuries. *Cochrane Database of Systematic Reviews* 2008, Issue 3. Art. No.: CD005401. DOI: 10.1002/14651858.CD005401.pub3
- 117 Cycling and Children and Young People. A review. Tim Gill. Published by the National Children's Bureau. Registered Charity Number 258825. 8 Wakley Street, London EC1V 7QE. Tel: 020 7843 6000 © National Children's Bureau, December 2005. ISBN 1-904787-62-2 [http://www.cycle-helmets.com/cyclingreport\\_timgill.pdf](http://www.cycle-helmets.com/cyclingreport_timgill.pdf)
- 118 [http://www.bma.org.uk/wa/health\\_promotion\\_ethics/transport/promotingsafecycling.jsp?page=7](http://www.bma.org.uk/wa/health_promotion_ethics/transport/promotingsafecycling.jsp?page=7)



## No clear evidence from countries that have enforced the wearing of helmets

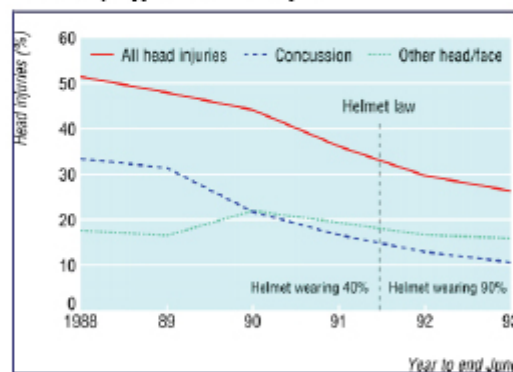
1. [D L Robinson](#), senior statistician ([drobinso@anet.com.au](mailto:drobinso@anet.com.au))<sup>1</sup>

± Author Affiliations

1. University of New England, Armidale, NSW 2351, Australia

• Accepted 9 November 2005

Case-control studies suggest that cyclists who choose to wear helmets have fewer head injuries than non-wearers. Consequently, the BMA recommended that the United Kingdom introduce and enforce bicycle helmet laws.<sup>1</sup> However, regular exercise such as cycling is beneficial to health, and non-helmeted commuter cyclists have lower mortality than non-cyclists.<sup>2</sup> Helmet laws would be counterproductive if they discouraged cycling and increased car use. Wearing helmets may also encourage cyclists to take more risks, or motorists to take less care when they encounter cyclists.<sup>3</sup> Recent epidemiological research highlighted problems adjusting for confounders in observational studies, causing biased, misleading results.<sup>4</sup> Thus the best estimate of the benefits of helmet laws is what actually happens when laws are passed.



View larger version:

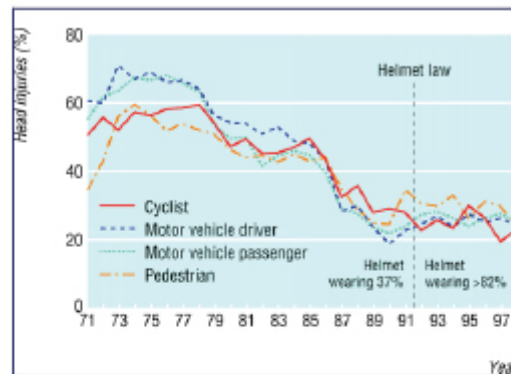
- [In a new window](#)
- [Download as PowerPoint Slide](#)

Fig 1

Head injuries among cyclists admitted to hospitals in South Australia<sup>6</sup>

I reviewed data from all jurisdictions that have introduced legislation and increased use of helmets by at least 40 percentage points within a few months: New Zealand, Nova Scotia (Canada), and the Australian states of Victoria, New South Wales, South Australia, and Western Australia. To avoid confusing reductions in injuries (from safer roads or less cycling) with benefits of helmets, I have focused on percentages of cyclists with head injuries. Head injuries were most commonly classified as admissions to hospital with head wounds, skull or facial fracture, concussion, or other

intracranial injury. The data include 10 504 head injuries, and in most cases were available as percentages of all cyclist injuries. Details of data sources and methods are given on [bmj.com](http://bmj.com)



View larger version:

- [In a new window](#)
- [Download as PowerPoint Slide](#)

Fig 2

Head injuries among cyclists and other road users admitted to hospital in Western Australia<sup>7</sup>

[Next Section](#)

## Effects of improving road safety

Road safety initiatives often yield substantial benefits. For example, random breath testing in New South Wales produced an obvious, sustained reduction in deaths. Another campaign, about the same time as the helmet law, reduced pedestrian fatalities by 34% (see [bmj.com](http://bmj.com)). In Victoria, a campaign against speeding and drink-driving (also coinciding almost exactly with the helmet law) reduced pedestrian deaths by 43%. Road injury costs in Victoria were reduced by an estimated £100m for an outlay of £2.5m.<sup>5</sup>

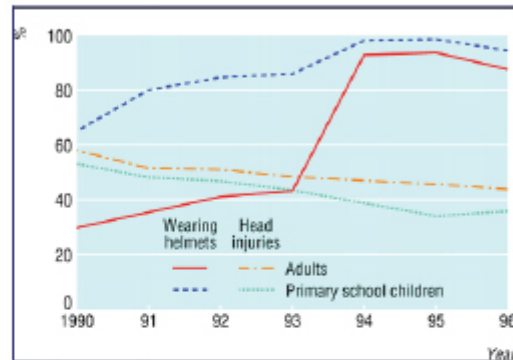
A drop in all road casualties (attributed to speed cameras, introducing a 0.05 blood alcohol limit, and a general economic downturn) also coincided with South Australia's helmet law.<sup>6</sup> The three calendar years after the law was introduced had 33% fewer pedestrian deaths and serious injuries than the three years preceding the law.

[Previous Section](#)[Next Section](#)

## Helmet wearing and head injuries

In contrast to the fall in all road injuries in South Australia coinciding with helmet legislation (see [bmj.com](http://bmj.com)), percentages of cyclists with concussion and other head or face injuries show generally declining trends, especially for concussion, but no clear response when helmet wearing increased substantially ([fig 1](#)). Falls in concussions were also noted for other road users and explained by: "The procedure for patients with a short episode of concussion has changed in that such patients are not now admitted routinely."<sup>6</sup>

In Western Australia, helmet wearing was negligible before 1980, increasing to about 37% just before the law was introduced, when it rose to 82%.<sup>7</sup> As in South Australia, the trend in head injuries among cyclists is similar to that for other road users (fig 2). This trend of reduced injuries seems to be widespread—for example, almost identical trends for cyclists and pedestrians were seen in the United Kingdom<sup>8</sup> and Victoria.<sup>9</sup> Early analyses created considerable confusion by ignoring these trends,<sup>10,11</sup> mistakenly assuming increased helmet wearing was the only possible cause of the fall in head injuries.



View larger version:

- [In a new window](#)
- [Download as PowerPoint Slide](#)

Fig 3

Percentage of cyclists wearing helmets and percentage of head injuries in accidents not involving motor vehicles among primary school children and adults in New Zealand.<sup>10</sup>

In New Zealand, most primary school children were already wearing helmets before the law,<sup>10</sup> but helmet wearing among adults increased from 43% to 92% after the law was enacted.<sup>10</sup> <sup>10</sup> If helmet laws were effective, the percentage of adults with head injuries should have fallen substantially more than the percentage of primary school children, but it did not (fig 3).

In New South Wales, enforcement increased adult use of helmets from 26% in 1990 to 77% and 85% in 1991 and 1992.<sup>9</sup> <sup>9</sup> Here again the rate of decline of head injuries did not change (see [bmj.com](#)). Official analyses of data from Victoria in the three years after legislation came into force also found no alteration in the trend for decreasing injuries.<sup>10</sup> A subsequent analysis of four years' data reported that numbers of head injuries were 40% lower than before the law.<sup>11</sup> This was cited as important evidence for legislation.<sup>1</sup> However, the authors could not tell whether the main cause was increased helmet wearing or reduced cycling because of the law.<sup>11</sup> Non-head injuries fell by almost as much as head injuries, suggesting the main mechanism was reduced cycling, with perhaps some benefit from reduced speeding and drink-driving (see [bmj.com](#)).

In Halifax, Nova Scotia, use of helmets increased from below 40% in 1995 and 1996 to 75% in 1997 and over 80% in 1998 and 1999.<sup>12</sup> There was a non-significant reduction in the percentage of head injuries ( $P = 0.06$ ) that apparently started before the law. A general decreasing trend cannot be excluded because the authors did not consider head injuries among other road users. The numbers of child cyclists with head injury admitted to Nova Scotia's hospitals were 29, 23 and 7 in the three

years before the law was introduced and 13 in the year helmets became compulsory.<sup>w8</sup>

[Previous Section](#)[Next Section](#)

## Numbers of cyclists

All jurisdictions surveyed use of helmets, but many used different sites, observation periods, or had other year-to-year differences that precluded estimating changes in numbers of cyclists. However, in Melbourne, Victoria, comprehensive surveys (at 64 sites chosen as a representative sample of the roads) were designed to assess the amount of cycling.<sup>w1</sup> Comprehensive surveys were also conducted for child cyclists in New South Wales, and automatic counters were installed on the cycle lanes of two key bridges funnelling traffic over the Swan River in Perth, Western Australia.

The surveys in Melbourne found 442 children wore helmets voluntarily before the law.<sup>9 w1</sup> Identical surveys conducted in 1991, after helmets became compulsory, counted 43 more helmet wearers but 649 fewer child cyclists (table).<sup>9 w1</sup> This supports the conclusion that the main effect of legislation was to discourage cycling rather than encourage helmet wearing. In the 1991 survey, 42% fewer child cyclists and 29% fewer adult cyclists were counted.

View this table:

- [In this window](#)
- [In a new window](#)

Number of cyclists counted and wearing helmets from identical surveys before the helmet law and years 1 and 2 of the law at 64 sites in Melbourne, Victoria, and 120 sites in New South Wales

Surveys in New South Wales also showed large declines. Before the law, 1910 children were observed wearing helmets. In the first and second years of legislation, 1019 and 569 more children wore helmets, but 2215 (36%) and 2658 (44%) fewer cyclists were counted.<sup>9</sup>

Automatic counters in Perth averaged 16 326 cycle movements a week in October-December 1991 (before helmet legislation). Movements per week after legislation for the same months were 13 067 in 1992, 12 470 in 1993, and 10 701 in 1994, reductions of 20%, 24%, and 35%.<sup>9</sup> Counts on fine weather Sundays (used to assess recreational use) fell by 38% from 1662 during October-December 1991 to 1026 for the same period in 1992.<sup>w9</sup>

[Previous Section](#)[Next Section](#)

## Analysis of cycling patterns

The Australian surveys are still the only estimates of how enforced helmet laws affect cycle use. The frequently cited example of legislation in Ontario not discouraging cycling is misleading. The non-enforced law was ineffective—by 1999 the percentage of cyclists wearing helmets returned to levels seen before the law.<sup>w10</sup> In Nova Scotia, considerably fewer cyclists were observed after the law was introduced,<sup>w11</sup> but firm conclusions cannot be drawn because surveys conducted before and after the law were not identical.

Cyclists often consider helmets hot, uncomfortable, and inconvenient. The equivalent of 64% of adult cyclists in Western Australia said they would ride more except for the helmet law.<sup>w9</sup> In New South Wales, 51% of schoolchildren owning bikes, who hadn't cycled in the past week, cited helmet restrictions, substantially more than the numbers citing other reasons, including safety (18%) and parents (20%).<sup>w12</sup>

Claims that the Australian data were distorted by a change in the driving age<sup>1</sup> are incorrect. The minimum age for taking the driving test remains unchanged. However, in one state (Victoria) children were allowed to start learning (under continuous supervision of a licenced driver) earlier.

This seems unlikely to have caused much of the 42% fall in child cycling (and 29% in adults) in Melbourne. Driving age did not change in other states, yet, after two years of legislation, cycling by children in New South Wales was 44% lower. A longer term series of identical counts of all cyclists over six years at 25 sites in Sydney found a 48% decrease from 1991 to 1996.<sup>w13</sup> By contrast, cycling in the Sydney metropolitan area increased significantly (by 250%) in the decade before legislation.<sup>w14</sup>

Before helmet laws, cycling was increasing. Australian census data show cycling to work increased by 47%, from 1.1% in 1976 to 1.6% in 1986. This trend continued in states without enforced helmet laws, where the average proportion cycling to work increased in 1991, contrasting with an average decline for other states. By 1996, when all states had enforced laws, only 1.2% cycled to work, with a similar proportion in 2001.

Thus all available long and short term data show cycling is less popular than would have been expected without helmet laws.

[Previous Section](#)[Next Section](#)

## Effect of helmets

Cyclists who choose to wear helmets commit fewer traffic violations,<sup>12</sup> have higher socioeconomic status, and are more likely to wear high visibility clothing and use lights at night.<sup>13</sup> Helmeted children tend to ride with other cyclists in parks, playgrounds, or on bicycle paths rather than on city streets, and (in the United States) be white rather than other races.<sup>14</sup> Helmeted cyclists in collision with motor vehicles had much less serious non-head injuries than non-helmeted cyclists (suggesting lower impact crashes).<sup>15</sup> Unless case-control studies record and fully adjust for all these confounders, their effects may incorrectly be attributed to helmets.

### Summary points

Case-control studies suggest cyclists who choose to wear helmets generally have fewer head injuries than non-wearers

Before and after data show enforced helmet laws discourage cycling but produce no obvious response in percentage of head injuries

This contradiction may be due to risk compensation, incorrect helmet wearing, reduced safety in numbers, or incorrect adjustment for confounders in case-control studies

Governments should focus on factors such as speeding, drink-driving, failure to obey road rules, poor road design, and cycling without lights at night

A widely cited systematic review calculated the effect of helmets on brain injury from three studies of cyclists given emergency treatment, with a total of 347 concussions or other brain injuries (plus many superficial head wounds).<sup>16</sup> The data I present are based on 10 479 head injuries severe enough to appear in hospital admissions databases. The lack of obvious benefit from helmet laws may be because helmets (which prevent head wounds) are not designed for forces often encountered in collisions with motor vehicles or other serious crashes that cause most head injuries requiring hospital admission. Helmets may also encourage cyclists to take more risks, or motorists to take less care when they encounter cyclists, counteracting any benefits.<sup>3</sup> Cyclists compelled to wear helmets may take less trouble to wear them correctly and ensure they fit well, reducing their effectiveness.<sup>w16</sup>

[Previous Section](#)[Next Section](#)

## Safety in numbers

Injuries to cyclists follow a clear "safety in numbers" relation; injury rates per cyclist are lower when more people cycle.<sup>17</sup> Data for cyclists in collisions with motor vehicles (see [bmj.com](http://bmj.com)) show helmet laws increased the risk of death or serious head injury relative to the risk for pedestrians and the amount of cycling. This implies helmet laws are counterproductive.

Collisions with motor vehicles cause nearly all deaths and debilitating head injuries among cyclists.<sup>18</sup> A UK emergency department study found that such collisions caused 58% of head injuries to adult cyclists and 50% of all head injuries to cyclists.<sup>19</sup> The large benefits from the road safety campaigns should be contrasted with the lack of obvious effect on head injuries from helmet laws. Yet helmet laws were far more expensive. All published cost-benefit analyses of injury rates before and after helmet laws show the cost of helmets exceeded any estimated savings in healthcare costs.<sup>7, 20</sup>

[Previous Section](#)[Next Section](#)

## Footnotes

- Details of methods of data analysis, references w1-w18, and further results are on [bmj.com](http://bmj.com)
- Contributors and sources DLR cycles almost every day. She is interested in statistical modelling and the consequences of fitting incorrect or inappropriate models.
- Competing interests None declared.

[Previous Section](#)

## References

1. [1.](#)
  1. BMA Board of Science and Education  
. *Legislation for the compulsory wearing of cycle helmets, 2004.*  
[www.bma.org.uk/ap.nsf/Content/cyclehelmetslegis](http://www.bma.org.uk/ap.nsf/Content/cyclehelmetslegis) (accessed Feb 2005).
2. [2.](#)
  1. Andersen LB,
  2. Schnohr P,
  3. Schroll M,
  4. Hein HO

. All-cause mortality associated with physical activity during leisure time, work, sports, and cycling to work. *Arch Intern Med* 2000;160: 1621–8.  
[\[Abstract/FREE Full text\]](#)
3. [3.](#)
  1. Adams J,
  2. Hillman M

. The risk compensation theory and bicycle helmets. *Inj Prev* 2001;7: 89–91.  
[\[FREE Full text\]](#)
4. [4.](#)
  1. Lawlor DA,
  2. Davey Smith G,
  3. Ebrahim S

- . *The hormone replacement-coronary heart disease conundrum: is this the death of observational epidemiology?* *Int J Epidemiol* 2004;33: 464-7.  
[\[FREE Full text\]](#)
5. [5. ↵](#)
  1. Powles JW,
  2. Gifford S. *Health of nations: lessons from Victoria, Australia*. *BMJ* 1993;306: 125-7.  
[\[Abstract\]](#) [FREE Full text](#)
6. [6. ↵](#)
  1. Marshall J,
  2. White M. *Evaluation of the compulsory helmet wearing legislation for bicyclists in South Australia Report 8/94. Walkerville: South Australian Department of Transport, 1994*.
7. [7. ↵](#)
  1. Hendrie D,
  2. Legge M,
  3. Rosman D,
  4. Kirov C. *An economic evaluation of the mandatory bicycle helmet legislation in Western Australia, 1999*. [www.officeofroadsafety.wa.gov.au/Facts/papers/bicycle\\_helmet\\_legislation.html](http://www.officeofroadsafety.wa.gov.au/Facts/papers/bicycle_helmet_legislation.html) (accessed 2 Mar 2006).
8. [8. ↵](#)
  1. Hewson PJ. *Cycle helmets and road casualties in the UK*. *Traffic Inj Prev* 2005;6: 127-34.  
[\[LinkSolver\]](#)[\[CrossRef\]](#)[\[Medline\]](#)
9. [9. ↵](#)
  1. Robinson DL. *Head injuries and bicycle helmet laws*. *Accid Anal Prev* 1996;28: 463-75.  
[\[LinkSolver\]](#)[\[CrossRef\]](#)[\[Medline\]](#)[\[Web of Science\]](#)
10. [10. ↵](#)
  1. Robinson DL. *Changes in head injury with the New Zealand bicycle helmet law*. *Accid Anal Prev* 2001;33: 687-91.  
[\[LinkSolver\]](#)[\[CrossRef\]](#)[\[Medline\]](#)[\[Web of Science\]](#)
11. [11. ↵](#)
  1. Carr D,
  2. Skalova M,
  3. Cameron M. *Evaluation of the bicycle helmet law in Victoria during its first four years. Melbourne: Monash University Accident Research Centre, 1995*.
12. [12. ↵](#)
  1. Lardelli-Claret P,
  2. de Dios Luna-del-Castillo J,
  3. Jimenez-Moleon JJ,
  4. Garcia-Martin M,
  5. Bueno-Cavanillas A,



6. Galvez-Vargas R.  
. *Risk compensation theory and voluntary helmet use by cyclists in Spain. Inj Prev* 2003;9: 128-32.  
[\[Abstract/FREE Full text\]](#)
13. 13. [↓](#)
  1. McGuire L,
  2. Smith N. *Cycling safety: injury prevention in Oxford cyclists. Inj Prev* 2000;6: 285-7.  
[\[Abstract/FREE Full text\]](#)
14. 14. [↓](#)
  1. DiGuisseppe CG,
  2. Rivara FP,
  3. Koepsell TD. *Bicycle helmet use by children. Evaluation of a community-wide helmet campaign. JAMA* 1989;262: 2256-61.  
[\[Abstract/FREE Full text\]](#)
15. 15. [↓](#)
  1. Spaite DW,
  2. Murphy M,
  3. Criss EA,
  4. Valenzuela TD,
  5. Meislin HW. *A prospective analysis of injury severity among helmeted and non helmeted bicyclists involved in collisions with motor vehicles. J Trauma* 1991;31: 1510-6.  
[\[LinkSolver\]](#)[\[Medline\]](#)[\[Web of Science\]](#)
16. 16. [↓](#)
  1. Thompson D,
  2. Rivara F,
  3. Thompson R. *Helmets for preventing head and facial injuries in bicyclists. Cochrane Database Syst Rev* 2000;2: CD001853.
17. 17. [↓](#)
  1. Jacobsen PL. *Safety in numbers: more walkers and bicyclists, safer walking and bicycling. Inj Prev* 2003;9: 205-9.  
[\[Abstract/FREE Full text\]](#)
18. 18. [↓](#)
  1. Kraus JF,
  2. Fife D,
  3. Conroy C. *Incidence, severity, and outcomes of brain injuries involving bicycles. Am J Public Health* 1987;77: 76-8.  
[\[Abstract/FREE Full text\]](#)
19. 19. [↓](#)
  1. Maimaris C,
  2. Summers CL,
  3. Browning C,



4. Palmer CR  
. *Injury patterns in cyclists attending an accident and emergency department: a comparison of helmet wearers and non-wearers. BMJ* 1994;308: 1537-40.  
[\[Abstract/FREE Full text\]](#)
20. 20. [\[Abstract/FREE Full text\]](#)
1. Taylor M,  
2. Scuffham P  
. *New Zealand bicycle helmet law—do the costs out-weigh the benefits? Inj Prev* 2002;8: 317-320.  
[\[Abstract/FREE Full text\]](#)

## **Dr Simon Davies Submission to the Cyclists (Protective Headgear) Bill**

From: Si Davies [mailto:simon.davies@blueyonder.co.uk]  
Sent: 10 March 2011 15:57  
To: +Comm. Environment Public Email  
Subject: helmet legislation

Dear members of the committee,

I'm very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space. Should this helmet legislation become enacted, myself and my family will not be going the Northern Ireland for a cycling or any other kind of holiday.

I note that there were no cyclist deaths in 2009 or 2010 and no child cycling deaths since 2005. Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit.

I strongly urge you to reject this well-intentioned but fatally flawed legislation. At the very least I would urge you to read and digest the contents of: <http://wrongheaded.org.uk/> which give a much fairer overview of the issues than some sources.

Yours sincerely,

Dr S.R.Davies

## **Sport Northern Ireland**

### **Views on the Proposed Introduction of the Cyclists (Protective Headgear) Bill**

**Issue Date: 08 March 2011**

#### **Contents**

- 1 Introduction
- 2 Background to Sport Northern Ireland
- 3 'Sport Matters – The Northern Ireland Strategy for Sport and Physical Recreation 2009-19'.
4. The Role of Cycling in Increasing Participation
5. The Cyclists (Protective Headgear) Bill
6. Consideration of Available Evidence
7. Issues for Further Consideration
8. Summary

#### **1. Introduction**

1.1 This paper provides Sport Northern Ireland's (SNI) preliminary views on the Cyclists (Protective Headgear) Bill (hereafter "Bill") currently under consultation by the Department of the Environment.

1.2 SNI welcomes the opportunity to comment on the Bill particularly as it may have an impact on participation levels in cycling and some of the high level targets and key steps established within 'Sport Matters: The Northern Ireland Strategy for Sport and Physical Recreation 2009-19'.

1.3 This response is not SNI's policy position on the matter, but a collection of views relating to the proposed Bill, which SNI believe is worthy of further research and debate.

## **2. Background to Sport NI**

2.1 Sport Northern Ireland is a Non-Departmental Public Body (NDPB) of the Department for Culture, Arts and Leisure (DCAL) and is charged with the development of sport in Northern Ireland. DCAL's vision is of: "a confident, creative, informed and vibrant community".

2.2 DCAL intend to realise this vision through the development of policies and resources to: "Protect, nurture and grow our Cultural Capital for today and tomorrow" (DCAL Mission).

2.3 For DCAL, Cultural Capital is manifested in three ways:

- People – the creators and consumers of Cultural Capital, including sportswomen and sportsmen;
- Infrastructure – the physical spaces within which culture is created and enjoyed, including sports grounds; and
- Products and Services – our cultural output, including sporting success.

2.4 Sport Northern Ireland's vision is embedded in DCAL's vision: "A culture of lifelong enjoyment and success in sport which contributes to a peaceful, fair and prosperous society".

2.5 In practice, this means SNI designing and implementing programmes and partnerships that will contribute to the following strategic objectives:

- increased participation in sport and physical activity;
- improved sporting performances; and
- improved efficiency and effectiveness in the administration of sport.

2.6 Sport Northern Ireland's business and the development of sport and physical recreation in Northern Ireland is dependent on an infrastructure of people, organisations and facilities, all of which need to be grown and sustained in the longer term.

## **3. 'Sport Matters – The Northern Ireland Strategy for Sport and Physical Recreation 2009-19'.**

3.1 Sport Matters<sup>[1]</sup> advocates a vision of 'a culture of lifelong enjoyment and success in sport' and the Council of Europe's inclusive definition of 'sport' as the basis for action.

3.2 Sport Matters establishes:

- 26 high level targets - 11 of which will enable population level increases in regular, frequent and sustained participation in sport and physical recreation; and
- a coherent policy framework - the LISPA Framework<sup>[2]</sup> - which reflects the inclusive definition of 'sport'.

3.3 The LISPA (Lifelong Involvement in Sport & Physical Activity) Framework has been endorsed and adopted by sports, education and health agencies throughout the UK and Ireland. SNI believes that the LISPA Framework provides an opportunity for Government in Northern Ireland to agree a policy framework for tackling a range of public health issues that has been endorsed by the UK and Ireland - a solution that reflects the unique.

3.4 The vision and targets proposed within Sport Matters are grounded in a series of key enablers - 'steps to success' in the delivery of the high level targets which will:

- remove and overcome existing barriers to physically active lifestyles;
- empower individuals and communities to assume greater control and responsibility for their actions; and
- result in improved efficiency, effectiveness and sustainability in the use of existing and future resources.

## **4. The Role of Cycling in Increasing Participation**

4.1 Recent surveys have demonstrated that cycling is a popular sporting activity across Northern Ireland[3]

4.2 The reasons and motivators for participating in cycling are wide and varied and include:

- Health and fitness;
- Leisure and tourism;
- Transport;
- Environmental;
- Financial; and
- Competition and elite sport.

4.3 Guidance issued by the National Institute for Health and Clinical Excellence (NICE)[4] puts cycling centre stage in active living, and makes a number of recommendations for encouraging cycling. These recommendations include the re-allocation of road space from car to active travel, restricting motor vehicle access, traffic-calming, safe routes to schools and the provision of a comprehensive network of routes for walking and cycling.

4.4 Over 800 miles of National Cycle Network exist in Northern Ireland, with 106 miles of traffic-free greenways[5]. Young people are significant users of greenways as parents are comfortable with their children walking and cycling free from the dangers of traffic.

4.5 Initiatives to encourage increased cycling such as the Safe Routes to Schools Programme (Sustrans), have demonstrated success. A survey of pupils' travel habits showed a significant drop in the proportion normally driven to school accompanied by substantial increases in those usually walking and cycling to school[6].

4.6 SNI recognises cycling as an important physical activity to increase participation across a range of settings and is currently engaged in a number of projects and programmes, including:

- Advocating Active Travel to schools as one of the eight domains within Activ8[7];
- Investing in Sustrans (Bike It)[8] to encourage more responsible cycling; and

- Investing in Cycling Ulster<sup>[9]</sup> for increasing participation, high performance, talent identification and development.<sup>[10]</sup>

4.7 SNI also promotes the use of helmets through imagery as a means of educating cyclists on the benefits of helmet use.

4.8 Across the LISPA Framework cycling for active travel, cycle to work, recreation, family activity, club, competition has a role to play in increasing the number of physically active people in Northern Ireland.

4.9 This demonstrates that there is significant untapped potential for cycling to contribute to the participation targets established in Sport Matters, and to Sport Northern Ireland's core business of increasing participation. Anything that seeks to undermine or erode that potential, albeit unintentionally, requires careful consideration and debate. On that basis, SNI welcomes the opportunity to engage in exploratory discussions on the subject.

## **5. The Cyclists (Protective Headgear) Bill**

5.1 SNI understands that the Cycle Helmets Bill<sup>[11]</sup> debated by the Assembly proposes a policy objective to reduce death and serious injury amongst cyclists. SNI welcomes the policy objective, but queries the proposed implementation route of 'enforcement'. SNI suggests that three levels of implementation should be explored:

1. Engineering – making roads safer for cycling;
2. Education – making motorists, cyclists and other road users aware of safe practice; and
3. Enforcement.

5.2 The aim of the Bill is to require cyclists of all ages to wear protective headgear when cycling on any public roads or paths, or in parks. This requirement relates to persons of all ages, with parents or guardians held responsible for children under the age of 16. There are no proposed exemptions.

5.3 Enforcement would be the responsibility of the police, through an on-the-spot fine of £50. However, in the case of a first contravention, the fine could be waived where the person issued with the penalty charge notice presents at a police station with a new helmet and receipt for its purchase. This does not take into account the first time offender who may already own a helmet. Education of the offender could be more beneficial than requiring the purchase of an additional helmet.

5.4 Breach of the provisions will not constitute a criminal offence. However, the administrative burden of creating and enforcing a new civil offence could result in resources being diverted from elsewhere, or in time of economic recession – no resources allocated.

5.5 The Bill's Sponsor (Mr Pat Ramsey) stated that 'during the consultation period (Spring 2010), approximately 20 written responses were received, most of which were in favour of the proposal. Some reservations were expressed, particularly by cycling organisations'.<sup>[12]</sup> Questions were also asked during the consultation period about the evidence-base for requiring the use of a helmet and the view expressed that regulation might deter people from using cycles.

5.6 In response to concerns raised, the Sponsor indicated that provisions were included to delay commencement of the key provisions for 3 years. Interim provisions will require a publicity

campaign aimed at promoting awareness of the provisions of the Bill and the benefits of wearing a helmet and encouraging voluntary use of cycle helmets.

5.7 The Sponsor had also considered whether ongoing promotion of the voluntary use of helmets would suffice to reduce brain injury caused by accidents involving cyclists; however it was concluded that there was adequate international evidence of the benefits of wearing a helmet to justify legislation requiring their use.

## **6. Consideration of Available Evidence**

6.1 A review of some of the available evidence suggests that the introduction of mandatory helmet laws is controversial. While some data sources suggest that helmet use greatly reduces head injuries other suggest no benefit.<sup>[13]</sup>

6.2 Legislating to enforce the use of helmets would appear to be counter productive to increasing the number of people cycling, with a number of international surveys reporting a dramatic drop in the number of cyclists on compulsion of helmet use.<sup>[14]</sup> For example, in New Zealand data presented in the Land Transport Safety Authority Cyclist Travel Survey indicated that following the introduction of the law in 1994, public on-road cycling participation in New Zealand fell by 19% between 1989 and 1998<sup>[15]</sup>.

6.3 Auckland cycle chic also reported in January 2010, that compulsory helmet use was making cycle share scheme difficult to implement. It also quotes Tel Aviv, in Israel, where there are moves to repeal their helmet laws for city cycling, to enable the bike-share system to go ahead.<sup>[16]</sup>

6.4 In Australia, the Northern Territory government has repealed compulsory bicycle helmet laws for adults on paths not adjacent to roadways. This was in response to a people's survey on the streets of Darwin which revealed that when asked what effect mandatory helmets had on their cycling behaviour, 22% claimed to have given up cycling because of the helmet legislation and 20% to 30% said they cycled less.<sup>[17]</sup>

6.5 Enforcing cycle helmet use by compulsion has been shown to reduce the number of cyclists and therefore the associated health benefits. For example, research carried out in Sydney (2009) concluded that 'mandatory all-age bicycle helmet laws incur a health cost to Australia of more than half a billion dollars every year'.<sup>[18]</sup>

6.6 SNI is concerned that the potential decreases in the number of cyclists on introduction of the legislation may be counter productive to the wider government agenda to increase the levels of physical activity amongst the population and the number of people engaged in active travel.

6.7 The British Medical Association<sup>[19]</sup> advocates the introduction of compulsory wearing of protective headgear, and promotes voluntary use of helmets. The British Medical Association states that while cycle helmets do not prevent all types of injury or death, they play a significant role in reducing head injuries. They are most effective at low impact speeds (approximately 13 mph or less), such as when a cyclist falls from a cycle without the involvement of other vehicles.<sup>[20]</sup>

6.8 Reports in other medical journals<sup>[21]</sup>, as cited by the UK's National Cyclists' Organisation, have also found no link between changes in helmet wearing rates and cyclists' safety. In some cases, safety appeared to be worse as helmet-wearing increased. Perhaps as cyclists behaviour may be more risky when wearing helmets. SNI strongly advocates for the use of appropriate protective headgear when cycling, but would caution against its mandatory application.

6.9 The polystyrene foam of a conventional cycle helmet is designed to compress on receipt of direct impact force which reduces the force on the skull. Research has demonstrated that high impact crashes exude a large amount of force in a short time period, which is unlikely to prevent serious injury[22]. However, since 2003 and following the deaths of 5 cycling post workers, The Royal Mail requires their cycling postmen and women to wear helmets. This was in response to research commissioned from the Transport Research Laboratory. Although the report was never published, the primary conclusion appears to be 'for most of the accidents which result in more serious head injuries, it is concluded that wearing of a cycle helmet... have the potential for preventing fatal head injury'. It also notes that "A good Cycle Helmet would be expected to prevent fatal head injuries in accidents in which a Cyclist, travelling at speed of up to 15 mph falls from his/her bicycle and impacts against a road surface or kerb"[23].

6.10 Cycling is a comparatively low risk sport, and the risks to cyclists often come from inappropriate driving behaviour by motorists and poor cycling behaviour.[24] An assumption can be made that compelling individuals to wear helmets, classifies cycling as high risk.

6.11 However, the actual risk of everyday cycling can be compared to that of walking and driving[25]. Compulsion through legislation could therefore threaten the public perception of cycling being a healthy activity.

6.12 Voluntary helmet use appears to correlate with education, income and gender, with high education achievers, upper income groups and women being most prominent users of cycle helmets[26]. Anecdotal evidence from Sustrans has also pointed towards children in areas of high social need as those who are most likely not to wear cycle helmets. Surveys have also shown that teenage girls are most likely to stop cycling on legislating for cycle helmet use.[27]

6.13 It has also been suggested that the level of obesity correlates with countries with enforced helmet laws[28], with a study in New Zealand reporting a significant increased in childhood obesity following the introduction of legislation.[29]

## **7. Issues for Further Consideration**

7.1 On completion of this preliminary review, SNI considers that there are a number of issues which are worthy of further consideration.

7.2 There is much more to be gained by cycling than not, and a focus should be on making cycling easier and safer for the population. Legislating for the compulsory use of cycle helmets may be counter productive to the effort to increase participation in cycling.

7.3 In considering the available evidence, a comparison should be made on the number of cycling casualties and fatalities with the number of cyclists, the length of the journey undertaken and the percentage of journeys undertaken by bike. For example, in England the number of children each year who experience serious head injury when cycling is no more than about 500 – out of a population of 6 million children who cycle frequently.[30]

7.4 Research should be conducted into the cost of losing the health benefits of cycling in terms of the increased number of overweight and obese people and associated health conditions such as Coronary Heart Disease, Diabetes, Cancer and Stroke, compared to the cost of treating patients with head injuries through cycling. It has been suggested that the health benefits currently outweigh the risk of injury by 20:1[31]. Consideration should be given to conducting a cost benefit analysis to introducing the legislation, including the administrative cost of enforcing the legislation.

7.5 An assessment of cycling and potential risk factors should be carried out. This should compare cycling in a variety of settings including roads, cycle paths, greenways and traffic free areas, mountain bike trails and cycle routes. Consideration should also be given to a number of risk factors including, the route, speed, and traffic conditions.

7.6 Some evidence suggests that cycling gets safer the more cyclists there are as drivers get used to sharing the roads safely. Consideration should be given to raising awareness among motorists of cycling behaviour coupled with additional information for cyclists who share the roads with motorists.

7.7 A review of the potential impact of the legislation on Section 75 categories should also consider any differential adverse impact.

## **8. Summary**

8.1 SNI's core business objectives are to increase participation in sport and physical recreation and to improve performance in sport. Cycling whether for recreation, active travel or performance sport provides a basis for meeting these objectives.

8.2 SNI is concerned that the introduction of legislation for compulsory use of cycle helmets could be detrimental to the achievement of these objectives through the potential to reduce the number of people choosing cycling as a physical activity.

8.3 The health benefits of cycling are substantial – including weight management, protecting against stroke, and Coronary Heart Disease. The achievement of better health through regular participation could outweigh the risk of not wearing a helmet.

8.4 However, SNI considers that the promotion of safe cycling as highlighted in the Highway Code<sup>[32]</sup> is the best way to improve safety, which includes encouraging more people to cycle. Cycle helmet promotion should be encouraged through education.

8.5 SNI therefore believes that the decision to wear or not to wear a cycle helmet should lie with the individual adult or parent. The decision should be based on making an informed choice and all relevant information and considerations should be provided and be readily available in a format which is easy to understand to enable the decision to be made.

[1] <http://www.sportni.net/about/SportMatters>

[2] <http://www.sportni.net/NR/rdonlyres/9B4CACD6-CCE5-430A-B427-68BE370E2596/0/SportMatters.pdf>

[3] The Northern Ireland Adult Sport and Physical Activity Survey 2009-10

[4] <http://guidance.nice.org.uk/>

[5] <http://www.cycleni.com/national-cycle-network/>

[6] [http://www.sustrans.org.uk/assets/files/Ireland/Rural\\_Safe\\_Routes\\_to\\_Schools\\_Project\\_Review\\_Jan09.pdf](http://www.sustrans.org.uk/assets/files/Ireland/Rural_Safe_Routes_to_Schools_Project_Review_Jan09.pdf)



- [7] <http://www.sportni.net/Media/Add+Articles/Get+Active+and+Eat+Well+With+the+Latest+Activ+8+Campaign>
- [8] <http://www.sustrans.org.uk/what-we-do/bike-it/wheres-bike-it/bike-it-in-belfast>
- [9] <http://www.cyclingulster.com/>
- [10] As the governing body for cycling, Cycling Ulster requires all participants to wear a helmet, but is against compulsion.
- [11] [http://archive.niassembly.gov.uk/legislation/primary/2010/niabill9\\_10\\_efm.htm](http://archive.niassembly.gov.uk/legislation/primary/2010/niabill9_10_efm.htm)
- [12] [http://archive.niassembly.gov.uk/legislation/primary/2010/niabill9\\_10\\_efm.htm](http://archive.niassembly.gov.uk/legislation/primary/2010/niabill9_10_efm.htm)
- [13] <http://www.cyclehelmets.org/1139.html>
- [14] <http://www.cyclehelmets.org/papers/c2022.pdf>
- [15] <http://www.cycle-helmets.com/nz-ltsa-2004.pdf>
- [16] <http://aucklandcyclechic.blogspot.com/2010/01/auckland-bike-share.html>
- [17] [http://www.cycle-helmets.com/helmet\\_statistics.html#bikehire](http://www.cycle-helmets.com/helmet_statistics.html#bikehire)
- [18] <http://www.cycle-helmets.com/macquarie-study.html>
- [19] [http://www.bma.org.uk/health\\_promotion\\_ethics/transport/promotingsafecycling.jsp?page=6](http://www.bma.org.uk/health_promotion_ethics/transport/promotingsafecycling.jsp?page=6)
- [20] British Medical Association (1999) Cycle helmets. London: British Medical Association.
- [21] <http://www.ctc.org.uk/DesktopDefault.aspx?TabID=4689>
- [22] [Link](#)
- [23] <http://www.cyclistsdefencefund.org.uk/cycle-helmets-and-law>
- [24] [http://www.ctc.org.uk/resources/Campaigns/CTC\\_Safety\\_in\\_Numbers.pdf](http://www.ctc.org.uk/resources/Campaigns/CTC_Safety_in_Numbers.pdf)
- [25] <http://www.cyclehelmets.org/papers/c2014.pdf>
- [26] <http://www.cyclehelmets.org/1139.html>
- [27] <http://www.dft.gov.uk/rmd/project.asp?intProjectID=10083>
- [28] <http://www.cycle-helmets.com/>
- [29] [http://www.cycle-helmets.com/hawkes\\_nz\\_study.pdf](http://www.cycle-helmets.com/hawkes_nz_study.pdf)
- [30] <http://www.cyclehelmets.org/1139.html>

[31] <http://www.cyclehelmets.org/1139.html>

[32] [http://www.direct.gov.uk/en/TravelAndTransport/Highwaycode/DG\\_069837](http://www.direct.gov.uk/en/TravelAndTransport/Highwaycode/DG_069837)

## **Emma Robinson Submission to the Cyclists (Protective Headgear) Bill**

From: ROBINSON Emma [mailto:[emma.robinson@sgcib.com](mailto:emma.robinson@sgcib.com)]  
Sent: 10 March 2011 12:29  
To: +Comm. Environment Public Email  
Subject: Please do not make wearing a cycle helmet mandatory.

Dear members of the committee,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

I note that there were no cyclist deaths in 2009 or 2010 and no child cycling deaths since 2005. Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit. I believe that the more cyclists we have on our roads and the more sensible infrastructure we can put in place to support cycling then the safer our roads will be. We should be targeting our efforts at encouraging driver and cyclist education and ensuring all vehicles drive more carefully – not at halting the growth in cycling. We need to ensure there are bike racks and speed limits, that large vehicles are road worthy and driven sensibly, that awareness of cyclists is part of the heavy vehicle driving test and we need to look at enforcing advance cycle stop lanes. We don't need to create an atmosphere where riding a cycle is seen as dangerous.

I strongly urge you to reject this well-intentioned but fatally flawed legislation.

Yours sincerely,

Emma Robinson

Emma Robinson  
Flat 6  
Elthorne court  
2A Elthorne Road  
London  
N19 4AF

**Submission to the Committee for the Environment of  
the Northern Ireland assembly by the Environmental  
Transport Association**

# **Cyclists (Protective Headgear) (Northern Ireland) Bill.**

## **About the ETA**

The Environmental Transport Association is a hybrid organization which provides transport and travel services, for example emergency vehicle breakdown, and also undertakes campaign and charity work to promote the quality of life through the reduction of the impact that travel has on our environment. The ETA was formed in 1990 and has over 37,000 members.

Most of our members are motorists seeking a breakdown service for their car, yet they have strong views on the issue of cycle helmets.

## **Agreement of purpose**

The ETA agrees with the proposer of this bill that one of the tenets of government is that it should increase the health and safety of its people. The ETA also understands that the proposer of this bill clearly wishes to improve the health and safety of the people of Northern Ireland.

## **Disagreement over results**

However, the ETA believes that this proposal is will both lower the health and the safety of the Northern Irish people through unintended consequences.

## **Cycling Increases health**

Government is about balance. In this case the balance is between: the overall health of the population when more people cycle; against, the possible increase in cycling accidents that might occur. And what, if any, measures could be put in place by way of mitigation. After just a few weeks of regular cycling, regardless of age, gender or initial physical fitness, the cyclist will be fitter and enjoy a greater sense of well-being. Regular exercise, such as cycling, halves the chances of suffering from heart disease, the single largest cause of death in Britain, and provides protection from strokes, diabetes and certain types of cancer.<sup>[1]</sup>

## **Cycling is safer than walking**

More people die walking than cycling per mile<sup>[2]</sup>. Death and serious injuries caused by trauma to the head occurs more for car passengers and pedestrians but this proposal is not suggesting occupants of cars, and pedestrians have to wear helmets.

## **Forcing cyclists to wear helmets reduces the number of people cycling**

Studies throughout the world have shown that forcing people to wear helmets against their will reduces the number of number who will cycle and reduces the about of mileage cycled.<sup>[3]</sup>

## **Reducing the number of cyclists makes cycling more dangerous**

Many studies in Britain have shown that once cycling increases to over 10% of traffic cycling gets much safer. This safety in numbers means that motorists become far more aware of cyclists and take the appropriate action. So forcing the use of cycle helmets will reduce cycling, therefore make cycling more dangerous.

## **A better way to make cycling safer**

The ETA has long campaigned for cycle safety and has suggested a range of measures that can be applied to this end. Some of these measures are quick and cheap to implement others require consistent investment over many years. Initiative such as: reducing the residential speed limit to 20mph<sup>[4]</sup>; segregating cyclists and motorists on all inter urban roads; and, increasing cycle training will dramatically increase cycle safety.

## **Visit the Netherlands or Denmark**

We believe that this bill is not evidence based - we understand that evidence can be dry, diffuse and complex to digest. Although theoretical analysis is always useful physical immersion is useful too. We recommend that the committee (if it has not done so already) visits say, Groningen (NL) or Roskilde (DK) to experience for themselves safe cycling (safer than Britain at least) and witness a higher quality of life generally that a pro-cycling policy can achieve.

## **Conclusion**

The ETA, as a motoring body, believes that, however well-intentioned this bill is – it will reduce the overall safety and health of the people of Northern Ireland and their visitors. We recommend that this bill be rejected in its entirety.

[1] Parliamentary Office of Science and Technology, Health Benefits of Physical Activity (October 2001)

[2] Calculated from table NTS0305 of the UK Department for Transport's National Travel Survey 2009 ([www.dft.gov.uk/pgr/statistics/datatablespublications/nts/how-mode/nts0305.xls](http://www.dft.gov.uk/pgr/statistics/datatablespublications/nts/how-mode/nts0305.xls)) and table 6c of its Reported Road Casualties Great Britain 2009 ([www.dft.gov.uk/excel/173025/221412/221549/227755/503336/RCGB09tables1to20.xls](http://www.dft.gov.uk/excel/173025/221412/221549/227755/503336/RCGB09tables1to20.xls)).

[3] Robinson D. Do enforced bicycle helmet laws improve public health? BMJ vol. 332, p722. 2006 (see [www.cycle-helmets.com/robinson-bmj.pdf](http://www.cycle-helmets.com/robinson-bmj.pdf)).

[4] <http://www.eta.co.uk/blog/andrew-davis/2008/06/19/what-street-and-what-road>

## **Environmental Transport Association Submission to the Cyclists (Protective Headgear) Bill**

From: Andrew Davis [mailto:Andrew@eta.co.uk]  
Sent: 11 March 2011 10:30  
To: +Comm. Environment Public Email  
Subject: Cyclists (Protective Headgear) Bill

Dear Madam/Sir

I attach our submission for your committee's consideration.

Yours faithfully

Andrew Davis  
Director

Environmental Transport Association  
68 High Street, WEYBRIDGE, England KT13 8RS

How to get to us

tel: 0845 389 1007  
fax: 0845 389 1015  
email: [andrew.davis@eta.co.uk](mailto:andrew.davis@eta.co.uk)

This email and any files transmitted with it are private and intended solely for the use of the individual or entity to whom they are addressed. If you are not the intended recipient, the email and any files have been transmitted to you in error and any copying, distribution or other use of the information contained in them is strictly prohibited. Nothing in this email message amounts to a contractual or other legal commitment on the part of the ETA unless confirmed by a communication signed by, or on behalf of, the Director.

ETA Services Limited is registered in England, number 3314244, and regulated and authorised by the Financial Services Authority. Registered office as above.

ETA Trust Limited is registered in England, number 4575412, and also registered with the Charity Commission - number 1098625. Registered office as above.

Please consider the environment - think before you print!

**Eric Patterson**

23 Monlough Road West,  
Ballygowan  
BT23 6ND

14th March 2011

DoE Committee,  
N.I Assembly

I am a recreational cyclist. I cycle mainly for enjoyment but also to maintain fitness & health.

When I consider it wise, I wear a helmet. On quiet roads, in warm weather I often do not. I am a responsible person and it is my judgement and my choice.

For the general good, cycling should be encouraged as much as possible. A blanket requirement to wear a helmet at all times is counter-productive. It is a deterrent to cycling and does more harm than good.

In common with other marginally beneficial regulations, it diminishes the importance of individual responsibility. As a result it increases the frequency of risky situations.

Making universal the wearing of helmets, even when risk is slight, will falsely promote the image of a dangerous activity and reduce respect for laws & lawmakers.

Education, promotion of cycle safety and a real commitment to the provision of proper cycle lanes, where needed, would be appropriate at this time. Cycle lanes are often found where it happened to be convenient to provide them, only to end some distance before a potentially dangerous situation is encountered.

I wish to make the following submission

1. (1) Helmets should be encouraged, for over 16s, for cycling on busy roads and for risky situations. There should be no blanket requirement for all cycling on all roads and, especially not 'in any open space'.

(2) In common with all measures to protect young children it is wise to ensure that helmets are worn on busy roads and that, until an age of personal responsibility is reached, that this is enforced. Whether or not 16 is the appropriate age is debatable.

However cycling without a helmet in most 'open spaces' can only help to develop a child's appreciation of risk.

4. Where a constable has reason to believe that a person is cycling unsafely, for whatever reason, they should advise the cyclist on the matter. If it is the constable's opinion that the situation merits a helmet then he/she should duly advise the cyclist of this.

Eric Patterson

## **Fergal O'Brien Submission to the Cyclists (Protective Headgear) Bill**

From: Fergal O'Brien [mailto:fergalosa@gmail.com]

Sent: 14 March 2011 13:04

To: +Comm. Environment Public Email

Subject: RE: Compulsory Helmet Wearing

To whom it may concern

I would like to make my voice heard regarding mandatory helmet wearing in Northern Ireland.

There is an unfortunate perception, widespread among non-cyclists and especially the media, that cycling is not safe. Fear is the main reason people give for not cycling (1). The view of the Dublin Cycling Campaign and other cycling groups is that cycling is safe:

Statistically, the risks associated with cycling are not negligible, but are very low, and similar to those faced by pedestrians and motorists (2). Risks vary significantly depending on circumstance and how risks are measured (3); riding with due care and attention, that is, appropriate risk management, improves safety, as it does for any potentially risky activity, including driving.

Regular cycling is very good exercise and confers a long-term health benefit that far outweighs the risk of cycling (4, 10).

Safety in numbers: the more people who cycle, the safer it becomes (5); this is a prime reason to promote cycling, and to resist measures that discourage it.

1. Helmet law discourages cycling; where applied this has resulted in fewer cyclists (6), hence, because of the 'safety in numbers' effect (see above), the net effect of mandatory helmet wearing has been to actually increase the net risks of cycling.

2. There is also evidence that cyclists wearing helmets are at increased risk, due to two specific factors:

Cyclists wearing helmets take more risks (7,11), perhaps because they feel safer

Motorists treat cyclists with helmets with less care and attention (8)

The Campaign and most other cycling groups prefer to see helmet wearing as a matter of individual choice.

'... a risk-averse society is different from a safe society. In a safe society, people do not climb mountains. Ultimately, a risk-averse society is an unsafe society because people lose the capacity to handle risk sensibly' (9)

Notes-

1. Dave Horton 'Fear of Cycling'

2. Active Transport, Health and Transport Group (UK)

3. Ibid, p. 2-9

4. Ibid, p. 2-23

5. Cyclists Touring Club, UK: 'Safety in Numbers'

6. Transport & Health and Australia

7. 14%

8. Dr. Ian Walker. Walker, I. (2007). Drivers overtaking bicyclists: Objective data on the effects of riding position, helmet use, vehicle type and apparent gender. Accident Analysis and Prevention, 39, 417-425.

9. Active Transport, p. 24

10. In the Republic of Ireland, 61% of adults and 20% of children and teens are overweight or obese and 2,000 adults die prematurely due to obesity-related illness in Ireland each year. These deaths cost the State up to €4 billion per year

11. "Cyclists are less likely to ride cautiously when wearing a helmet owing to their feeling of increased security. In this way, they consume some, if not all, of the benefit that would otherwise accrue from wearing a helmet." [Adams, J & Hillman M. (2001). Brit. Med. J. 322, 1063]

## **Frank Krygowski Submission to the Cyclists (Protective Headgear) Bill**

From: Frank Krygowski [mailto:frkrygow@yahoo.com]  
Sent: 07 March 2011 15:53  
To: +Comm. Environment Public Email  
Subject: Proposed bicycle helmet law

Members of the committee:

I am an American cyclist watching with interest the discussion on requiring cyclists in Northern Ireland to wear helmets. This interests me because my wife and I are planning to visit Northern Ireland with our bicycles, either this year or next. We have previously toured by bicycle in the Republic of Ireland, in England and in Scotland as well as several European countries.

Simply put: If we are required to wear bike helmets we will not visit Northern Ireland.

Bicycling is NOT a dangerous activity. In fact, data makes it clear that it is a very safe activity, and that bicycle helmets have failed in many ways. I will not support the disparagement of cycling by submitting to a helmet law.

- Frank Krygowski  
29 Ohio Ave.  
Poland, Ohio 44514  
USA

## **Gavin Clark Submission to the Cyclists (Protective Headgear) Bill**

From: Clark Gavin (ST) [mailto:GavinClark@tfl.gov.uk]  
Sent: 09 March 2011 14:56  
To: +Comm. Environment Public Email  
Subject: Proposed bill to introduce the compulsory wearing of cycle helmets

Dear members of the committee,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

I note that there were no cyclist deaths in 2009 or 2010 and no child cycling deaths since 2005. Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit.

I strongly urge you to reject this well-intentioned but fatally flawed legislation.



Yours sincerely,

Gavin Clark

## **Geoffrey Ede Submission to the Cyclists (Protective Headgear) Bill**

From: Geoffrey Ede [mailto:geoffreyede@gmail.com]  
Sent: 05 March 2011 20:09  
To: +Comm. Environment Public Email  
Subject: Helmet Legislation

Dear members of the committee,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

I note that there were no cyclist deaths in 2009 or 2010 and no child cycling deaths since 2005. Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit.

I strongly urge you to reject this well-intentioned but fatally flawed legislation.

Yours sincerely,

Mr Geoffrey Ede

## **Gillian Law Submission to the Cyclists (Protective Headgear) Bill**

From: Gillian Law [mailto:gillianalaw@gmail.com]  
Sent: 08 March 2011 10:09  
To: +Comm. Environment Public Email  
Subject: Mandatory cycle helmet laws - please don't

Please, please, don't do this! Not least because if you do, Scotland will be next.

Cycling is a joy, cycling is useful and cycling is fun. More rules just put people off - the more hassle it is, the more likely they are to just get in their car.

I wear a helmet most of the time, just because I might as well, but I utterly oppose any change to make it compulsory.

Thanks for your time

Gillian

## **Hamilton Pruim Submission to the Cyclists (Protective Headgear) Bill**

From: Hamilton Pruim [mailto:hamilton.pruim@uk.ibm.com]  
Sent: 06 March 2011 12:16  
To: +Comm. Environment Public Email  
Subject: Proposed Helmet Legislation

Dear members of the committee,

I would like to register my deep concern over your proposals to make riding a bicycle bareheaded an offence.

While I personally use and advocate the use of a safety helmet while riding, I do not believe that the negative impact to cycling is justified or can be supported by the evidence. The only certainty is that cycling rates will drop, and as a result more people will die earlier through health related issues.

This is a very bad idea, even if driven by altruistic principles and should be stopped.

Hamilton Pruim

Please note that this is my personal view and this mail does not represent any formal communication from my employer.

Global Account Solution Manager - BP  
Mobile: +44(0)7734-325691 Mobex 37276323  
Desk: +44(0)20-7202-5298 (Tie Line 43-5298)  
Internet: hamilton.pruim@uk.ibm.com

Unless stated otherwise above:

IBM United Kingdom Limited - Registered in England and Wales with number 741598.  
Registered office: PO Box 41, North Harbour, Portsmouth, Hampshire PO6 3AU

## **Headway Submission to the Cyclists (Protective Headgear) Bill**

From: Luke Griggs [mailto:comms.manager@headway.org.uk]  
Sent: 07 March 2011 15:39  
To: +Comm. Environment Public Email  
Cc: Johnny Turnbull; Peter McCabe  
Subject: Headway submission

Hi Alex

Further to our conversation on Friday, I have pleasure in attaching a briefing document for consideration by members of the Environment Committee in Thursday's discussion about the Cyclists (Protective Headgear) Bill.

I would be very grateful if you could confirm receipt of this document.

Many thanks,

Luke

<<Headway briefing notes for Environment Committee meeting.docx>>

Luke Griggs  
Communications Manager

London Office  
Nelson Hospital  
Kingston Road  
London  
SW20 8DB

Email: [comms.manager@headway.org.uk](mailto:comms.manager@headway.org.uk)  
Direct line: 020 8545 9644  
Mobile: 07912 668551  
Fax: 020 8545 9649  
[www.headway.org.uk](http://www.headway.org.uk)

This is an email from Headway - the brain injury association. The contents of this email are confidential to the ordinary user of the email address to which it is addressed. No-one else may place any reliance on it, or copy or forward all or any of it in any form.

Headway - the brain injury association is a Registered Charity No 1025852 and a company limited by guarantee Registered in England No. 2346893

## **Cyclists (Protective Headgear) Bill**

### **Headway – the brain injury association’s position**

#### **Introduction**

1. Headway – the brain injury association is a charity that works to improve life after brain injury while campaigning to reduce its prevalence in society. Through its network of groups and branches, it supports people affected by brain injury – survivors, carers and families – from across the UK. The charity has six groups/branches in Northern Ireland.

2. Headway supports the Cyclists (Protective Headgear) Bill requests the Environment Committee supports the concept of making the wearing of helmets compulsory for cyclists in Northern Ireland.

#### **Summary**

3. Headway believes that all cyclists should wear helmets, particularly vulnerable road users such as children who do not possess the same level of competency or experience as adults.

4. The evidence is clear: cycle helmets can save lives and help prevent lifelong disability. This has been proven by numerous peer-reviewed, published scientific studies and is shared by well-

respected professional bodies including the World Health Organisation (WHO), the British Medical Association (BMA), the Association of Paediatric Emergency Medicine (APEM) and doctors and neurosurgeons across the UK.

5. At Headway, we know the devastating effects a brain injury can have and how easy it can be to damage the brain. A number of Headway service users sustained their injuries through cycling accidents and now face spending the rest of their lives wishing they'd chosen to wear a helmet. To those people, statistics are meaningless; of far greater value is the common sense notion that wearing a helmet will help protect one's fragile skull.

6. We believe that cycle helmet legislation in Northern Ireland will save lives and prevent more people sustaining life-long disabilities.

## **The evidence**

7. The most reliable research comes from Cochrane Reviews, which are based on the best available information about healthcare interventions. They explore the evidence for and against the effectiveness and appropriateness of treatments in specific circumstances. A Cochrane review (<http://www2.cochrane.org/reviews/en/ab001855.html>) considering five case-control studies from the UK, Australia and the USA illustrates a large and consistent protective effect from cycle helmets, reducing the risk of head and brain injury by 65 to 88 per cent and injury to the upper and mid face by 65 per cent<sup>[1]</sup>.

8. In November 2009, the Transport Research Laboratory (TRL) conducted a review of all the evidence regarding cycle helmets<sup>[2]</sup>. The report, commissioned by the Department for Transport, concludes that helmets are indeed effective at preventing head and brain injuries.

9. The report states that 'Assuming that they are a good fit and worn correctly, cycle helmets should be effective at reducing the risk of head injury, in particular cranium fracture, scalp injury and intracranial (brain) injury.'

10. It goes on to conclude that 'Cycle helmets would be expected to be particularly effective for children.'

## **Cycle helmet laws in other jurisdictions**

11. Cycle helmet laws have been introduced to a number of jurisdictions across the world. Legislators in Australia, New Zealand, USA, Canada, Iceland and Sweden have all introduced laws. Research demonstrates that these laws have helped to significantly reduce the numbers of cyclists sustaining brain injuries.

12. The following section provides a summary of the current international situation and where available research evidence, details of which are included in appendix 1.

### **a) Jersey**

13. In March 2010, Jersey became the first jurisdiction in the British Isles to approve a proposal to introduce cycle helmet legislation. A law to make it compulsory for cyclists under the age of 18 is currently being drafted by the Minister for Transport.

### **b) Australia**

14. In Australia, bicycle helmets are mandatory for all cyclists in the following states and territories:

New South Wales  
Victoria  
Queensland  
South Australia  
Western Australia  
Tasmania

Northern Territory (children only)

15. Supporting evidence from Australia includes a study by Cameron et al[3], which states that in the year following the introduction of a law requiring all cyclists to wear helmets (1990), reductions ranging from 37% to 51% were recorded in the number of cyclists killed or admitted with head injuries to hospitals in Victoria. This figure is significantly higher than the reductions (21% to 24%) in the number of severely injured cyclists who did not have head injuries.

### **c) New Zealand**

16. Cycle helmet wearing became mandatory for all cyclists in 1994. In the five years after 1994, average annual injury totals were 707 - a reduction of 29%[4].

### **d) Usa**

17. A total of 22 states with a combined population of over 160 million people have passed cycle helmet legislation. All of them are concerned with child cyclists. These are as follows:

Alabama  
California  
Connecticut  
Delaware  
District of Columbia  
Florida  
Georgia  
Hawaii  
Louisiana  
Maine  
Maryland  
Massachusetts  
New Hampshire  
New Jersey  
New Mexico  
New York  
North Carolina  
Oregon  
Pennsylvania  
Rhode Island  
Tennessee  
West Virginia

18. The legislation varies between states with some (e.g. California) requiring cyclists up to the age of 18 years to wear a helmet whilst others, such as Louisiana, set the age as low as 12 years.

19. There is a vast amount of supporting evidence to demonstrate the effectiveness of helmet laws in the USA. According to the Bicycle Helmet Safety Institute ([www.helmets.org](http://www.helmets.org)), New York State reports that since it introduced its helmet laws, the annual rate of cyclists hospitalised from bicycle-related brain injuries has fallen for the covered group from 464 in 1990 to 209 in 1995 – a reduction of 55%. The rate for cyclists not covered for the same years declined much less, from 454 to 382 (16%).

20. New Jersey reported in July of 1997 that after introducing a helmet law for children under 14, the bicycle-related fatalities for that group fell by 60%, from 41 in 1987-1991 to 16 in 1992-1997. For riders aged 14 and over, the figures were 75 and 71 (5%).

## **e) Canada**

21. Like America, Canada has provincial and local cycle helmet laws. The following provinces require all cyclists to wear helmets:

British Columbia  
Nova Scotia  
New Brunswick

22. The following provinces require cyclist under 18 years to wear cycling helmets:

Alberta  
Ontario

23. Evidence from Canada include a study by Wessen et al<sup>[5]</sup>, which examined bicycle-related mortality rates in Ontario, Canada, from 1991 to 2002 among cyclists aged from 1 to 15-years-of-age and 16-years-of-age through to adulthood. The aim was to determine the effect of legislation introduced in 1995 which made it compulsory for children under 18 to wear helmets while cycling.

24. The authors of the study concluded that the bicycle-related mortality rate in children 1 to 15-years-of-age has decreased significantly, while there has been no similar reduction for cyclists 16-years-of-age and over.



the brain injury association

## Headway - the brain injury association A Case Study

### 'My Barbie bike changed my life'

*Sinead King was just six-years-old when she fell off her bike while playing outside of her house. Despite there not being a mark on her, it soon became apparent that the seemingly innocuous bang to her head was far more sinister than it first appeared. Here is her story.*

I was riding a Barbie bike when it happened, which shows just how young I was. Although I don't remember it, I've been told that I fell off and hit my head on the tarmac. I have four older sisters and we had all fallen off bikes and had many scrapes and bruises over the years. But this time, there wasn't a mark on me.

I was helped into the house and was crying. Mum was making the dinner so after she comforted me she told me to lie on the sofa until I felt better.

My sister came and lay with me and after a while she asked me what happened. I said 'nothing' - I couldn't remember. She went out and told Mum who in that split second decided to switch off the dinner and take me into casualty.

I was lucky as we live close to Daisy Hill Hospital, in Camlough, outside Newry. I was fully alert when we arrived but I soon began to fit and be sick. Shortly afterwards, I fell unconscious and was rushed to The Royal Hospital in Belfast. By the time Mum and Dad got there, the surgeons had started to operate.

They discovered I had fractured the bone just above my left ear, which led to a blood clot forming on my brain. My long curls were shaved off as the surgeons operated to save my life.

I was in intensive care in the neurology ward for a week after the operation, with a drain in my head to remove the excess blood. My family were told it would be a long road to recovery. It was similar to the after-effects of a stroke and I had severe weakness down the whole left-hand side of my body for the next couple of years.

Twelve years on I am still receiving physiotherapy. I spent the entire summer of 2008 in plaster and in a wheelchair following an operation to lengthen my Achilles tendons, which had seized as a result of my left-sided weakness.

We all think it will never happen to us; I would never have thought that a tiny bicycle could have such a significant impact on my life.

Young people may think it is uncool to wear a helmet but



there's nothing cool about having no hair and a horse shoe-shaped scar where there were 36 staples in your head. I was unable to walk, talk or do simple things like go to the bathroom on my own.

My family spent countless hours agonising over my condition and how it would continue to affect me for so many years to come.

I don't want other people to go through this, which is why I am so passionate about the work Headway does.

"We all think it will never happen to us; I would never have thought that a tiny bicycle could have such a significant impact on my life."

Sinead King

## Orlaith's family add their support for helmet laws

Pat Ramsey MLA is spearheading the introduction of legislation that will make it illegal for children to cycle without a helmet. And the Donnelly family of Strabane - who know all about the dangers involved in cycling - are fully supportive of the bill. They recently travelled to government buildings to show that support.

Michelle Donnelly's 11 year-old daughter, Orlaith, suffered a fractured skull, bleeding on the brain and a hairline crack in the back of her neck after falling from a bike last August. Her injuries were so serious her family were told by medical staff "if she recovers it's a possibility she will have brain damage."

That stark warning was given

less than an hour after Orlaith fell off her bike. She was not wearing protective headgear. Despite initially showing no ill effects Orlaith became unconscious enroute to hospital. Her mother said: "It was terrible, we were gobsmacked by the whole incident. Orlaith came into the house perfectly normal then within an hour she was unconscious."

The worst part was following the ambulance to Belfast. We didn't know if our daughter was alive or dead. When they wheeled her out into the ambulance to take her to the Royal all her clothes were cut off and her head was strapped up. She didn't look like my daughter at all - her head had changed that much."

Orlaith underwent four hour brain surgery.

"Waiting on the surgery was terrible. We could hear every step in that hospital it was so silent."

The accident occurred at 7pm. It was 5.45am before the surgeon told the family.

"We removed a large clot from her brain and time will tell if she will make a full recovery."

That recovery continues. Orlaith now supports the proposed legislation. Her mother said: "She gets quite snary when she sees someone cycling without a helmet. I would rather have had a £50 fine for her not wearing a helmet rather than go through what we did. Thank God she is almost 100% recovered now. The support we got from Strabane at the time was magnificent, so I'd like to thank them for that."



"I would rather have had a £50 fine rather than go through what we did."

Michelle Donnelly

[1] Thompson D. C., Rivara F. P. & Thompson R. S. (1999), Helmets for preventing head and facial injuries in bicycling. Cochrane database of systematic reviews 1999, Issue 4, CD001855

[2] D Hynd, R Cuerden, S Reid, S Adams (2009), The potential for cycle helmets to prevent injury - A review of the evidence

[3] M Cameron et al, Monash University Accident Research Centre, Report 32, (1992), Evaluation of the Bicycle Helmet Wearing Law in Victoria During its First 12 Months

[4] L J Povey et al Accident Analysis & Prevention Vol 31 No 6, (1999), Cycle Helmet Effectiveness in New Zealand

[5] David E. Wesson, Derek Stephens, Kelvin Lam, Daria Parsons, Laura Spence and Patricia C. Parkin, Pediatrics – The Official Journal of the American Academy of Paediatrics, Trends in Paediatric and Adult Bicycling Deaths Before and After Passage of a Bicycle Helmet Law

## Helen Booth Submission to the Cyclists (Protective Headgear) Bill

From: Helen Booth [mailto:hlbooth@gmail.com]  
Sent: 10 March 2011 17:28  
To: +Comm. Environment Public Email  
Subject: Proposed legislation to force cyclists to wear helmets

Dear members of the committee,

I am very concerned about the proposed legislation that would make it illegal to ride a bicycle in public without wearing a helmet.

I have researched this issue and see that there was not a single cyclist death in Northern Ireland either in 2009 or 2010 and no child cycling deaths since 2005.

Yet our society continues to become fatter and fatter, with thousands dying from preventable disease each year. Getting more people cycling is one way in which obesity can be challenged,



but this legislation would discourage cycling by making it appear far more dangerous than it is (statistically it is safer than walking, yet nobody is trying to force pedestrians to wear helmets) and make it inconvenient by forcing people to carry around a helmet with them, even if they were just popping to the shops.

The other issue is that research from around the world has shown that there is 'safety in numbers' where cycling is concerned ie the more people cycle, the safer it is for those who choose to do so as motorists become more familiar with cyclists. Yet in the only countries where cycle helmets have been made compulsory, the only impact has been a fall in the number of people choosing to cycle. There is no evidence to show that compulsory helmet use has any impact whatsoever on the numbers of cyclists reporting head injuries.

In fact, recent research from a UK academic found that drivers gave less room to those cyclists who chose to wear helmets, perhaps out of a false belief that if they were to hit them the cyclist would somehow be protected. To propagate the myth that cycle helmets offer protection for collision with cars is extremely dangerous. It is also a classic case of victim blaming too, when the onus of care should be on the driver of the more powerful vehicle rather than the cyclist.

Cycle helmets were originally designed for off road use at slow speeds of less than 10-12mph. They were not and are not designed to protect a cyclist from an impact with a car.

Helmet legislation is taking a sledgehammer to crack a nut and is disproportionate to the tiny risks of cycling. The health costs of discouraging cycle use also far outweigh any possible perceived benefit.

I therefore strongly urge you to reject this well-intentioned but fatally flawed legislation.

Yours sincerely,

Helen Booth  
49 Salisbury Road  
London  
E17 9JW

## **Herve Submission to the Cyclists (Protective Headgear) Bill**

From: Herve [mailto:herve.com@gmail.com]  
Sent: 11 March 2011 11:29  
To: +Comm. Environment Public Email  
Subject: proposed bicycle helmet legislation

Dear Committee,

Please don't make the same mistake we have made in Australia by introducing a helmet law. The main result of the law has been to kill casual cycling. Cycling is now dominated by aggressive sports cyclists. Most people are scared of cycling, believing it is too dangerous. Cycling has almost disappeared as a mode of transport.

What was the benefit from that? Nothing! Bicycle safety hasn't improved, it seems to have become worse. refer to links for further information.

<http://www.smh.com.au/news/Health/Pedalling-a-healthier-lifestyle/2005/04/28/1114635664226.html>

<http://www.bhsi.org/veloast.htm>

[Link](#)

It is unlikely Northern Ireland will be any different. The increased risk of accidents from "safety in numbers" and "risk compensation" is unlikely to be compensated by the protection provided by a thin layer of polystyrene.

Please THINK before you make that fateful decision. There is a lot more to helmet legislation than what seems "obvious".

Regards,

Herve.

## **Hugh Barry Submission to the Cyclists (Protective Headgear) Bill**

From: Barry, Hugh [mailto:Hugh.Barry@uk.thalesgroup.com]  
Sent: 08 March 2011 11:23  
To: +Comm. Environment Public Email  
Subject: Opposition to compulsory cycle helmets.

Ref:

The Northern Ireland Assembly are currently considering a Private Members Bill from Pat Ramsay MLA the "Cyclists (Protective Headgear) Bill" to make cycle helmet wearing compulsory for all cyclists in all public places. Currently the Bill is being considered by the Committee for the Environment and written submissions from the public must be with the Committee by 14th March 2011.

I wish to stress my opposition to the above proposed legislation.

I have been cycling for 50 years, most of that time without a helmet, and fortunately have not endured any head injury. However I choose to wear a helmet if cycling in a group, and helmet wearing is generally compulsory in cycling events, which is a good thing. In casual cycling the level of risk is very low in my view (and in my experience) and does not warrant legislation. Compulsion is an infringement of personal choice and may instill an unrealistic sense of danger in the intrinsically very safe and very healthy past-time of cycling. Don't discourage cyclists. It's right that we should be aware of risk, but it's also right that we should make a personal choice as to how we handle the risk.

Instead legislate on making our roads safer and creating safe cycle routes.

Cyclists are already contributing significantly to removing unnecessary motorised traffic from the roads, to easing congestion and pollution. Don't discourage cyclists and potential cyclists by this unnecessary legislation, and by exaggerating the risks.

Regards,

Hugh Barry

## **John Franklin Consultant on Cycling Skills and Safety Submission to the Cyclists (Protective Headgear) Bill**

From: John Franklin [mailto:[john@cyclecraft.co.uk](mailto:john@cyclecraft.co.uk)]  
Sent: 09 March 2011 20:17  
To: +Comm. Environment Public Email  
Subject: Cyclists (Protective Headgear) Bill - submission

Please find attached my submission to the call for evidence, together with a cover letter.

Please present this in full (i.e. not just a summarised format) to the committee.

I would be grateful if you would please acknowledge receipt.

John Franklin

Consultant in Cycling Skills and Safety  
The Berries  
201 Prestbury Road  
Cheltenham  
GL52 3ES  
UK

Tel: +44/0 1242 512881  
E-mail: [john@cyclecraft.co.uk](mailto:john@cyclecraft.co.uk)  
Web: <http://www.cyclecraft.co.uk>

Committee Clerk  
Committee for the Environment  
Room 412 Parliament Buildings  
Ballymiscaw  
Belfast  
BT4 3XX

9th March 2011

My reference E431/657

Dear Sir or Madam,

**Cyclists (Protective Headgear) Bill  
Call for evidence**

Please find attached my submission of evidence to the committee on this Bill.

My qualifications and competence are cited in section 2 of the submission.

I would be pleased to give evidence directly to the committee if this should be thought useful.

Yours sincerely



John Franklin

**John Franklin** BA  
CONSULTANT ON CYCLING  
SKILLS AND SAFETY

**The Berries**  
**201 Prestbury Road**  
**Cheltenham**  
**GL52 3ES**

**☎ 01242 512881**

Fax by arrangement.

E-mail:  
[john@cyclecraft.co.uk](mailto:john@cyclecraft.co.uk)

Internet:  
<http://www.cyclecraft.co.uk>

Author of  
**CYCLECRAFT**  
"The Definitive Guide to  
Cycling Technique"  
pub. The Stationery Office



**John Franklin**

**John Muir Submission to the Cyclists (Protective  
Headgear) Bill**

From: John Muir [<mailto:johnmuir46@yahoo.com>]  
Sent: 05 March 2011 15:21

To: +Comm. Environment Public Email  
Subject: proposed cycle helmet legislation

Dear members of the committee,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

I note that there were no cyclist deaths in 2009 or 2010 and no child cycling deaths since 2005. Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit.

I strongly urge you to reject this well-intentioned but fatally flawed legislation.

Yours sincerely,

John Muir  
05/03/2011

## **John Ratcliffe Submission to the Cyclists (Protective Headgear) Bill**

From: John Ratcliffe [mailto:JRatcliffe@practicon.co.uk]  
Sent: 07 March 2011 12:45  
To: +Comm. Environment Public Email  
Subject: Helmet Bill

Dear members of the committee,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

I note that there were no cyclist deaths in 2009 or 2010 and no child cycling deaths since 2005. Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit.

I strongly urge you to reject this well-intentioned but fatally flawed legislation.

The only reason for this proposed bill is that some MP's must be involved with helmet manufacture and can see MONEY for themselves.

Yours sincerely,

John Ratcliffe

## **John Robson on behalf of Wrongheaded Submission to the Cyclists (Protective Headgear) Bill**

From: John Robson [mailto:john@wrongheaded.org.uk]

Sent: 07 March 2011 09:28

To: +Comm. Environment Public Email

Subject: Cyclists (Protective Headgear) Bill 9/10

Dear members of the committee,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

Although HeadWay etc. are entitled to ignore the wider ramifications of such campaigning/legislation it is surely prudent for the NIA to assess all potential consequences of any piece of legislation.

In this case the evidence suggests that the benefits would be insignificant (there were after all no Northern Ireland cycling deaths in either 2010 or 2009), whereas the unintended consequence will be many fewer cyclists, and therefore many people \*not\* getting this regular exercise. Additionally those cyclists who remain will be at greater risk of injury due to the diminished numbers of cyclists.

There is no justification for claiming that cycling is so dangerous it requires specialist safety gear - if you get on a bike today (without a helmet) then your life expectancy will increase.

Further information (only 5 brief pages, and references) is available at:

<http://www.wrongheaded.org.uk>

I strongly urge you to reject this well-intentioned but fatally flawed legislation.

Yours sincerely,

John

## **John Wood Submission to the Cyclists (Protective Headgear) Bill**

From: John H Wood [mailto:john.h.wood@gmail.com]

Sent: 09 March 2011 22:56

To: +Comm. Environment Public Email

Subject: Helmets for cyclists

Dear Sir,

I am urged to write to you about the proposed legislation to force cyclists to wear helmets in public places.

I am urged to oppose your views. May I say I entirely support the scheme to make cyclists wear helmets.

I am a cyclist and I would not dream of going out without a 'lid'. I feel that enforcement is entirely logical.

John H Wood

Sent from my iPad

**Julian Black**

Julian Black  
2 Balmoral Gardens  
Belfast BT9 6PB

7 March 2011

Environment Minister Edwin Poots  
DOE Private Office  
Clarence Court  
10 - 18 Adelaide Street  
Belfast BT2 8GB

Dear Mr Poots

**Cyclists (Protective Headgear) Bill – letter of opposition**

I refer to the above Private Member's Bill (the "**Bill**"), currently under consideration by the NI Assembly Environment Committee. I understand that the closing date for the receipt of submissions by the public is 14 March.

I am an experienced car driver and cyclist. I have, for many years, driven and cycled in different cities and countries throughout Europe.

While the Bill has clearly been motivated by the desire to improve safety for cyclists, I believe that the proposals are misguided and evidence a failure to understand the nature of cycling and the broader implications at stake.

I therefore wish to register my strong opposition to the Bill.

I am aware that all of the cycling interest groups operating in NI are against the proposal.<sup>1</sup>

Sustrans have expressed their opposition to the Bill on the grounds that,

1. The law would deter people from cycling. With numbers of cyclists already low, a legal requirement to wear a helmet would be an obstacle to getting more people on bikes and the costs to health will greatly exceed the benefits.
2. The law would disproportionately affect people from socially deprived households who have enough obstacles to their travel choices without the cost of a cycle helmet.
3. The law ignores the fact that cycling is a relatively safe activity - the health benefits from cycling far outweigh the dangers. This disproportionate law would make cycling appear dangerous and fails to deal with any of the wider threats to cyclists' safety.
4. The law would undermine the potential for highly cost-effective investment to be made in measures to increase cycling levels.

---

<sup>1</sup> i.e. the Cyclists' Touring Club of NI (CTC), the Northern Ireland Cycling Initiative (NICI) and Sustrans.



5. The law would be unenforceable and require considerable costs at a time of budget constraints. Resources would be better spent tackling the causes of road danger by developing safer and well designed roads and supporting programmes to promote cycling such as modern on road cycle training, especially for school children.

The expressed positions of the CTC and NICI are in broadly similar terms.

I support and endorse these positions. In addition, I would add that research evidence concerning the actual safety benefits of helmet wearing has always provoked controversy, the argument being well made that,

- if a motor vehicle hits a cyclist at more than 20mph (and many if not most collisions with cars occur at speeds far in excess of this), wearing a cycle helmet will have a little or no impact in terms of protecting the cyclist from serious injury or death i.e. wearing a helmet is effectively like providing lifejackets on a passenger airplane.
- motorists and cyclists tend to take more risks, such as driving faster and closer, when a cyclist is wearing a helmet. Such increased risk taking has been attributed to the misplaced perception that a helmet provides security for the cyclist.

For the reasons given, in the interests of all those working to promote cycling and cycle safety in Northern Ireland, I would therefore urge the Minister and the Assembly Committee for the Environment to oppose the Bill.

Yours sincerely



Julian Black

cc    Committee Clerk: Alex McGarel  
      FAO The Chair of the Committee for the Environment  
      Room 245, Parliament Buildings  
      Ballymiscaw  
      Stormont  
      Belfast, BT4 3XX

## **Juliet Kemp Submission to the Cyclists (Protective Headgear) Bill**

From: Juliet Kemp [mailto:juliet@earth.li]  
Sent: 08 March 2011 16:47  
To: +Comm. Environment Public Email  
Subject: Proposed cycle helmet legislation

Dear members of the committee,

I am very concerned about the proposed legislation which would make it illegal to ride a bike without a helmet in Northern Ireland. Whilst not a resident of Northern Ireland, my partner is from Ballymena and we regularly visit and cycle in the area. I would hate to see Northern Ireland suffer the decline in cycling that this legislation would undoubtedly engender.

To suggest that cycle helmets are necessary to cycle safely is simply not borne out by the available evidence. As a qualified cycling instructor, I am very familiar with the (minimal) risks of cycling, and far and away the best way of reducing the risk is simply to encourage more people to cycle, more often.

The evidence from other countries which have helmet-use legislation is

overwhelming: mandatory helmets \*reduce\* cycle participation. Not only does this actually make cycling more dangerous for those who still do ride, it also has significant societal health costs. Encouraging cycle use is a straightforward, easy, and cheap way to improve people's health and therefore decrease preventable disease and the societal costs of that. Compulsory helmet-wearing acts directly against this.

It may also have impacts on the tourist economy. People like me, who regularly visit Northern Ireland with a bike and cycle to tourist attractions and along the beautiful coastal roads, contribute to the local economy. With a mandatory helmet law, I and others like me would simply not do this -- costing Northern Ireland still more.

I strongly urge you to reject this well-intentioned but fatally flawed legislation.

Yours faithfully,

Juliet Kemp

## **Karina Stewart Submission to the Cyclists (Protective Headgear) Bill**

From: Karina Stewart [mailto:karina52@btinternet.com]

Sent: 12 March 2011 20:55

To: +Comm. Environment Public Email

Subject:

Dear members of the committee,

We am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

We note that there were no cyclist deaths in 2009 or 2010 and no child cycling deaths since 2005. Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit.

We strongly urge you to reject this well-intentioned but fatally flawed legislation.

Yours sincerely,

The Stewart Family  
101 Broadmoor Lane  
Weston  
BATH BA1 4LH

## **Ken Henderson submission to the Cyclists (Protective Headgear) Bill**

From: KEN HENDERSON [mailto:skhenderson@btinternet.com]  
Sent: 23 February 2011 16:10  
To: +Comm. Environment Public Email  
Subject: Cycling helmets

I do not think cycling helmets should be made compulsory. I presume the police will have to monitor this. Surely they have enough to do. I have no objection to being "strongly recommended" to wear one but object to it being made statutory. I am sure more people have had their head bumped in a car accident or when slipping on ice while walking than on a bike. Recommend the wearing of helmets surely but do not make it compulsory.

## **Kevin Harrington Submission to the Cyclists (Protective Headgear) Bill**

From: Kevin Harrington [mailto:kevin.harrington@designgroup.uk.com]  
Sent: 05 March 2011 15:36  
To: +Comm. Environment Public Email  
Subject: cyclists (protective headgear) bill

I am considering a cycling holiday in Northern Ireland but would go elsewhere if the wearing of a helmet were to be made mandatory. Many other touring cyclists will undoubtedly do likewise.

## **Linda Cottrell Submission to the Cyclists (Protective Headgear) Bill**

From: Linda Cottrell [mailto:linda@vorpall.co.uk]  
Sent: 05 March 2011 17:22  
To: +Comm. Environment Public Email  
Subject: Proposed cycle helmet legislation

Dear members of the committee,

I am concerned about legislation which makes it an offence to ride a bicycle, even under some circumstances, without a helmet.

Cyclists have a higher life expectancy than non-cyclists. The cost to implement such a measure is a waste of public resources and will actually have the opposite effect of that intended. Evidence

from other countries with helmet laws demonstrates a fall in the numbers participating in cycling when helmet legislation is enacted. The costs to public health of discouraging cycle use far outweigh the perceived benefit.

For those cyclists who cycle because they cannot afford a car, it introduces an additional cost and/or the potential of being branded 'anti-social', even if they are using the bicycle as a mean of transportation in an effort to becoming a contributing member of society.

Programmes to provide helmets at low cost or free seldom see that they are properly fitted, nor take the time to show users how to wear them correctly.

Even if you accept that helmets provide some protection for the cyclist, they must be properly adjusted and correctly worn to take advantage of any benefit.

The money spent for promotion and enforcement of this legislation is better spent on cycle training, cycle-friendly infrastructure, improving driver behaviour and enforcing speed limits. These will do far more to improve the safety of cyclists than forcing them to wear an accessory of dubious benefit.

I strongly urge you to reject this legislation.

Kind regards,

Linda Cottrell

## **Luke Turner Submission on the Cyclists (Protective Headgear) Bill**

From: Luke Turner [mailto:[luke.j.turner@hotmail.com](mailto:luke.j.turner@hotmail.com)]

Sent: 09 March 2011 08:29

To: +Comm. Environment Public Email

Subject: Northern Ireland Helmet Law

Dear members of the committee,

It has come to my attention that the Northern Ireland Assembly is considering introducing a mandatory helmet law (MHL). You would be aware that there are only a few countries with MLHs, Australia being one of them.

As an Australian cyclist, I would strongly urge you to abandon this proposal. The MHL in Australia has been a disaster for Australian cyclists and the wider community. The main effect of helmet laws in Australia has been to reduce the number of people who ride bikes, while it has not significantly decreased the rates of serious injuries and deaths.

Cycling in Australia has come to be seen by the general public as a dangerous sport which requires protective equipment, not an enjoyable and healthy way of getting around, which is what it is.

Even though cycling in Australia is a very safe activity, the rates of injury we have are still far higher than most European and North American countries. We also have some of the lowest rates of cycling of anywhere in the world. I cannot see how a public safety policy with this record could in any way be deemed a success. The proof of the pudding is in the eating, as they say.

I urge you to examine the evidence from Australia and other countries that have MHLs, taking into account all the side effects of the laws. I am confident you will find that it would be a mistake for Northern Ireland to follow Australia down this path.

Yours sincerely,

Luke Turner  
12/36 Vernon Terrace  
Teneriffe QLD 4005  
Australia

## **Marcin Piotrowicz Submission to the Cyclists (Protective Headgear) Bill**

From: M. Vito Piotrowicz [mailto:[bramasoledesign@yahoo.co.uk](mailto:bramasoledesign@yahoo.co.uk)]  
Sent: 14 March 2011 20:32  
To: +Comm. Environment Public Email  
Subject: RE: mandatory helmets for cyclists in Northern Ireland

### **RE: mandatory helmets for cyclists in Northern Ireland**

I was working and living in NI for 2.5 years (2008-2010)

I am concerned with your plans, of which the outcome could be principally - discouraging people from cycling.

Kind regards,

Marcin Piotrowicz

address:  
os.Jagiellonskie 22/5  
61-229 Poznan  
POLAND

here are some relevant points as to the issues arising:

There is an unfortunate perception, widespread among non-cyclists and especially the media, that cycling is not safe. Fear is the main reason people give for not cycling (1). The view of the Dublin Cycling Campaign and other cycling groups is that cycling is safe:

Statistically, the risks associated with cycling are not negligible, but are very low, and similar to those faced by pedestrians and motorists (2). Risks vary significantly depending on circumstance and how risks are measured (3); riding with due care and attention, that is, appropriate risk management, improves safety, as it does for any potentially risky activity, including driving.

Regular cycling is very good exercise and confers a long-term health benefit that far outweighs the risk of cycling (4, 10).

Safety in numbers: the more people who cycle, the safer it becomes (5); this is a prime reason to promote cycling, and to resist measures that discourage it.

1. Helmet law discourages cycling; where applied this has resulted in fewer cyclists (6), hence, because of the 'safety in numbers' effect (see above), the net effect of mandatory helmet wearing has been to actually increase the net risks of cycling.

2. There is also evidence that cyclists wearing helmets are at increased risk, due to two specific factors:

Cyclists wearing helmets take more risks (7,11), perhaps because they feel safer

Motorists treat cyclists with helmets with less care and attention (8)

The Campaign and most other cycling groups prefer to see helmet wearing as a matter of individual choice.

'... a risk-averse society is different from a safe society. In a safe society, people do not climb mountains. Ultimately, a risk-averse society is an unsafe society because people lose the capacity to handle risk sensibly' (9)

Notes-

1. Dave Horton 'Fear of Cycling'

2. Active Transport, Health and Transport Group (UK)

3. Ibid, p. 2-9

4. Ibid, p. 2-23

5. Cyclists Touring Club, UK: 'Safety in Numbers'

6. Transport & Health and Australia

7. 14%

8. Dr. Ian Walker. Walker, I. (2007). Drivers overtaking bicyclists: Objective data on the effects of riding position, helmet use, vehicle type and apparent gender. Accident Analysis and Prevention, 39, 417-425.

9. Active Transport, p. 24

10. In the Republic of Ireland, 61% of adults and 20% of children and teens are overweight or obese and 2,000 adults die prematurely due to obesity-related illness in Ireland each year. These deaths cost the State up to €4 billion per year

11. "Cyclists are less likely to ride cautiously when wearing a helmet owing to their feeling of increased security. In this way, they consume some, if not all, of the benefit that would otherwise accrue from wearing a helmet." [Adams, J & Hillman M. (2001). Brit. Med. J. 322, 1063]

## **Mark Wareham Submission to the Cyclists (Protective Headgear) Bill**

From: Mark Wareham [mailto:mwareham@hogarthdavieslloyd.com]  
Sent: 10 March 2011 10:58  
To: +Comm. Environment Public Email  
Subject: Proposed Cycle Helmet Law

Dear members of the committee,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

I note that there were no cyclist deaths in 2009 or 2010 and no child cycling deaths since 2005. Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit.

I strongly urge you to reject this well-intentioned but fatally flawed legislation.

Yours sincerely,

Mark Wareham

Mark Wareham  
Hogarth Davies Lloyd  
Halton House  
20-23 Holborn  
London  
EC1N 2JD

( +44 (0)20 7404 7440  
É +44 (0)20 7404 7663  
\* mwareham@hogarthdavieslloyd.com  
ü www.hogarthdavieslloyd.com

This email and any attachments have been scanned for viruses, but it is the responsibility of the recipient to conduct their own security measures and no responsibility is accepted by HDL Executive Search LLP for loss or damage arising from the receipt or use of this email. Unless agreed otherwise, any information supplied to you via this email or attachments concerning a candidate is provided subject to our standard terms and conditions with which you are deemed to agree. No responsibility is accepted by HDL Executive Search LLP for personal emails, or emails unconnected with the company's business. HDL Executive Search LLP is a limited liability partnership. Registered Office: Tower Bridge House, St. Katharine's Way, London E1W 1AA, Registered in England No. OC350666. The trading name of HDL Executive Search LLP is 'Hogarth Davies Lloyd'. A list of members is available for inspection at the registered office.

This email message has been delivered safely and archived online by Mimecast.

A true SaaS solution, Mimecast provides the security, continuity and archiving for millions of emails, across thousands of customers every day.

For more information please visit <http://www.mimecast.co.uk>

## **Michael Cooke Submission to the Cyclists (Protective Headgear) Bill**

From: Michael Cooke [mailto:mcooke@cherrybrook.co.uk]  
Sent: 01 March 2011 19:46  
To: +Comm. Environment Public Email  
Subject: Cycle helmet bill

I understand the Assembly Environment Committee is considering the 'Cyclists (Protective Headgear) Bill', tabled by the SDLP MLA, Pat Ramsey. I wish to register with you my concerns about this Bill, and hope you will oppose it.

Cycling is only just starting to achieve an environmentally and healthy profile status. A good start is being made with cycle tracks and cycle highways. Compulsory helmets would deter people from cycling and I for one would make journeys of a few miles by car instead of bike if this was the case. More effort should be concentrated on encouraging cycling more often rather than having threats of a fine.

I am sure you will have had representations from Sustrans and I fully agree with them on this matter.

Yours sincerely,

Michael Cooke  
mcooke@cherrybrook.co.uk  
44 Rathmore Road  
Dunadry  
Co. Antrim BT41 2HG

## **Michael Davis Submission to the Cyclists (Protective Headgear) Bill**

From: Michael Davis [mailto:michael@downwardlymobile.org.uk]  
Sent: 09 March 2011 10:14  
To: +Comm. Environment Public Email  
Subject: Cycling Helmets Legislation

9 Wood End  
Holywood  
Co. Down  
BT18 9PN

9 March 2011

To: Northern Ireland Assembly Environment Committee  
Re: Proposed legislation to make the wearing of cycling helmets compulsory

Dear Committee Members,



I have read the transcript of the Cyclists (Protective Headgear) Bill:

Second Stage on 31 January and I would like to register my opposition to the proposed bill.

I commute by bicycle 14 miles every day and I do wear a helmet. I also tell my children to always wear a helmet when they are cycling on the road. I would be strongly in favour of road safety messages promoting the wearing of cycle helmets. However, an even greater impact on road safety could be achieved by promoting cycle awareness to vehicle drivers.

I believe that this proposed legislation deflects attention from the main risk to cyclists, which is inattentive and careless driving. Twice in the last year I have been knocked off my bike by a careless motorist

-- the last time, I was in a designated cycle lane and a car swerved into the cycle lane to undertake another vehicle.

I believe that legislation about cycle helmets should not be introduced in isolation as a private member's bill. Rather, it should be debated in the context of an integrated cycle strategy. It is unfortunate that the concerns of cyclists are split across three departments: the Department of the Environment are responsible for road safety, the Department of Health are responsible for promoting physical activity and the health benefits of cycling, and the Department of Regional Development are responsible for cycle lanes and the promotion of cycling to reduce traffic congestion. What are the chances that we can have a committee which considers the needs of cyclists across all three departments?

In the current NI budget, investment in cycle lanes has been slashed to a fraction of last year's expenditure. If the executive are genuinely concerned about cycle safety, this decision should be reversed immediately.

Yours sincerely,

Michael Davis, BSc. (Hons), MSc.

## **Neal Mearns Submission to the Cyclists (Protective Headgear) Bill**

From: Neil Mearns [mailto:neil.mearns@sky.com]  
Sent: 08 March 2011 19:20  
To: +Comm. Environment Public Email  
Subject: Objection to cycle helmet compulsion

DOE committee

I write to voice my strong opposition to any proposed cycle helmet compulsion in Northern Ireland.

I began cycle commuting when I travelled daily from Newtownards to Queen's University, almost 20 years ago. Today I still commute daily by bicycle between Newtownards and Belfast. In this time, and through many 10s of thousands of miles cycled, the only circumstances where I have been collided into by cars have been numerous incidents of drivers attempting to overtake as they approach their left turn, then turn left from alongside on my right, and a couple of 'road rage' incidents where drivers have deliberately swerved into me from alongside to push me into

the kerb, or overtaken, cut in and deliberately performed an emergency stop in my path. I gave up reporting such incidents 15 years ago, after lack of interest from the Police meant that making statements was a waste of my time.

The point I'm making is that all incidents in my experience resulted from deliberate, aggressive and confrontational driving from others. For any genuine and meaningful initiative to reduce cycle casualties, these behavioural root causes need to be addressed – driver awareness, education, or road improvements to minimise exposure.

I work in risk management, and if my primary policy for mitigating accidents was to require the likely 'victims' to wear personal protective equipment, without addressing the root causes of accidents, I would not be doing my job properly.

The helmet compulsion proposal would enable motorists, insurers and legislators to put the blame on the injured cyclist who failed to wear a helmet, despite the fact that in most cases it is the motorist who is to blame for accidents. If this paradox is allowed to happen, I, and many other cyclists, will give up cycle commuting, and contribute to road congestion in a car.

Ps I do wear a helmet; it is in order to mount my 'helmet camera', which I use to record 'road rage' incidents. My objection to helmet compulsion is due to its suggestion that cyclists are culpable for injuries caused by the action of inconsiderate and aggressive motorists that I find offensive.

Regards

Neil Mearns

## **Neil Irvine Submission to the Cyclists (Protective Headgear) Bill**

From: Neil & Alethea [mailto:cyclists@internode.on.net]  
Sent: 09 March 2011 01:51  
To: +Comm. Environment Public Email  
Subject: Mandatory bicycle helmet law

Dear Sir or Madam

The mandatory helmet law in Australia has been the biggest deterrent to the use of bicycles for transport in recent history.

It has made no detectable reduction in reducing head injuries to cyclists but reduced the numbers cycling by up to 40% overnight.

The net effect has been to make cycling less safe.

Far more people suffer head injuries in car crashes. If Parliament really thinks helmets are an answer to improving road safety, it should be requiring occupants of motor vehicles to use them. Since that will probably be deemed "impracticable" then it is also impracticable and illogical to force cyclists to wear helmets if they choose not to.

In this day and age, the world needs more cyclists and fewer people driving cars. Forcing cyclists to wear helmets will run directly counter to this need and will be a net cost to the community.

Please do not make the mistake of following the bad Australian example in the laudable aim of making cycling safer. The Dutch approach is far better.

Yours sincerely

Neil Irvine  
Australia

## **Niall Shanahan Submission to the Cyclists (Protective Headgear) Bill**

From: Niall Shanahan [mailto:niallshan@gmail.com]  
Sent: 14 March 2011 17:48  
To: +Comm. Environment Public Email  
Subject: Mandatory Cycle Helmets

To whom it concerns,

With regard to the proposed introduction by the NI Assembly of legislation making cycle helmets mandatory, I would respectfully advise that it is likely to have the effect of reducing the number of cyclists in Northern Ireland.

This would be an unfortunate and unwelcome consequence of legislation designed to make society safer.

Statistically, the risks associated with cycling are not negligible, but are very low, and similar to those faced by pedestrians and motorists. Risks vary significantly depending on circumstance and how risks are measured. Riding with due care and attention, that is, appropriate risk management, improves safety, as it does for any potentially risky activity, including driving.

Regular cycling is very good exercise and confers a long-term health benefit that far outweighs the risk of cycling.

Consider also the benefit of safety in numbers: the more people who cycle, the safer it becomes. This is a prime reason to promote cycling, and to resist measures that discourage it. Helmet law (mandatory helmet wearing) discourages cycling. Where it has been applied it has resulted in fewer cyclists, hence, because of the 'safety in numbers' effect, the net effect of mandatory helmet wearing has been to actually increase the net risks of cycling.

I submit these thoughts for consideration in the process of developing said legislation.

Yours Sincerely

Niall Shanahan  
10 Abercorn terrace  
Inchicore  
Dublin 8  
niallshan@gmail.com

--

niall

# NI Cycling Initiative

25 Marlborough Park Central,  
Belfast,  
BT9 6HN

14th March 2011

## Response to the Call for Evidence on Cyclists (Protective Headgear) Bill

Dear Committee Members,

On behalf of the Northern Ireland Cycling Initiative I wish to record our opposition to the proposed cycle helmet legislation. We have consulted with our members and noone has voiced approval of the proposals.

We are not opposed to cycle helmets. Nor do we disagree with the proposition that a certified helmet, worn correctly, will reduce the risk of serious injury, particularly in cycle only accidents or in falls after glancing blows from passing motor vehicles, as suggested by the TRL report, The potential for cycle helmets to prevent injury - a review of the evidence<sup>[1]</sup>. Most of our steering group, which meet to decide policy, wear helmets most of the time while cycling. However, we wish to retain the right not to wear them when we see fit.

We have two main objections:

1. The proposed law is disproportionate
2. The proposed law would discourage people from cycling

The state has a duty to prevent citizens from directly harming others. It also has a responsibility to prevent people from harming themselves, through support and education, sometimes even through fines and imprisonment. However, in a free society, such enforcement should be for exceptional circumstances.

Legislation for compulsory wearing of motor cycle helmets and car seat belts was introduced despite concerns about loss of liberty. They are now generally accepted as sensible measures, saving lives without undue restrictions on people's daily lives. Does this serve as a useful analogy for cycle helmets?

People face considerable risks in riding motorcycles without helmets, or driving cars without seatbelts, because of the very high speeds that they can attain, much higher than that generally achieved by cyclists. Motorcyclists are also far more likely to be involved in serious accidents than pedestrians or cyclists. Using figures from the Travel Survey for Northern Ireland 2007 - 2009<sup>[2]</sup>, and Reported Injury Road Traffic Collision Statistics 2009<sup>[3]</sup> we estimate that, per mile travelled, walking and cycling has a very similar level of risk, which is about one seventh that of motorcycling.

Mode of Travel	Total Miles by Mode	KSI % by mode	KSI % per mile Ratio	Relative Risk Compared to Walk	Relative Risk Compared to Bicycle
Walk	144	18.7	0.13	N/A	0.93
Bicycle	20	2.8	0.14	1.08	N/A
Motorcycle	14	13.4	0.96	7.37	6.84

However, our main concern is that a helmet law will discourage people from cycling. A number of studies have indicated falls in levels of cycling after the introduction of legislation[4] [5]. Cycling levels – at around 0.7% of all trips in Northern Ireland according to the Travel Surveys – are already very low here. One of the main reasons given by people as to why they don't cycle is that it is just too dangerous. Comments made recently by Mr Billy Armstrong, MLA, are sadly not unusual:

"As for the bicycle: it is a good idea, but a dangerous thing to do on rural roads. You could get killed." [6]

Having a law requiring helmet use will reinforce that opinion, strengthening the impression that riding a bicycle is akin to riding a motorcycle.

Furthermore, even the promotion of cycle helmets, with a heavy emphasis on the serious injuries that could occur should they not be worn, would reinforce the opinion that cycling is too dangerous. Scare tactics may be appropriate for television campaigns aimed at getting drivers and passengers to wear seatbelts; the desire and the need to drive in Northern Ireland is evidently very strong. When it comes to cycling however, the low modal share indicates that the desire and need to cycle is much weaker. We suspect that many people would be put off cycling by a "No Helmet, No Excuse" type promotion. Helmet promotion needs to be part of a wider promotion of safe cycling, where the benefits and the risks are laid out as clearly and simply as possible, encouraging people to cycle and to wear a helmet while doing so.

Australia went down the road of compulsory cycle helmets many years ago. It has broadly the same level of cycling (about 1% modal share[7]) but appears to be a more dangerous place in which to cycle. Melbourne is usually considered one of the better cities in which to cycle in[8], but Garrard estimates[9], using police data, a serious injury rate of 124 per 100 million km. A similar figure for Northern Ireland, using figures from the Travel Survey and PSNI again, indicate a figure of about 54.

	Avg Miles Travelled 2007-09	Avg km Travelled	N.I. Population	Tot km travelled	Avg Cyclist KSI 2007-09	Seriously Injured per 100 million km
Melbourne						124.00
N.Ireland	20.00	32.20	1775000	57155000	30.67	53.66

We believe that Northern Ireland should not follow the Australian example, but instead put what resources it has into preventing accidents from occurring in the first place, by reducing speeds, and improving road conditions and the behaviour of road users.

Regards,

Roy White,

Chair,  
Northern Ireland Cycling Initiative

i [Link](#)

ii [http://www.drdni.gov.uk/tsni\\_indepth\\_report\\_2007-2009.pdf](http://www.drdni.gov.uk/tsni_indepth_report_2007-2009.pdf)

iii [http://www.psnipolice.uk/2009\\_annual\\_report.pdf](http://www.psnipolice.uk/2009_annual_report.pdf)

iv Robinson, D.L. (2006). Do enforced bicycle helmet laws improve public health? No clear evidence from countries that have enforced the wearing of helmets. In: British Medical Journal, vol. 332, nr. 7543, p. 722-725

v [Link](#)

vi [Link](#)

vii [http://www.atcouncil.gov.au/documents/files/Australian\\_National\\_Cycling\\_Strategy\\_2011-2016.pdf](http://www.atcouncil.gov.au/documents/files/Australian_National_Cycling_Strategy_2011-2016.pdf)

viii <http://policy.rutgers.edu/faculty/pucher/PucherGarrardGreaves2010.pdf>

ix <http://www.cycle-helmets.com/cycling-blind-spot.pdf>

[1] [Link](#)

[2] [http://www.drdni.gov.uk/tsni\\_indepth\\_report\\_2007-2009.pdf](http://www.drdni.gov.uk/tsni_indepth_report_2007-2009.pdf)

[3] [http://www.psnipolice.uk/2009\\_annual\\_report.pdf](http://www.psnipolice.uk/2009_annual_report.pdf)

[4] Robinson, D.L. (2006). Do enforced bicycle helmet laws improve public health? No clear evidence from countries that have enforced the wearing of helmets. In: British Medical Journal, vol. 332, nr. 7543, p. 722-725

[5] [http://web.merage.uci.edu/~kittc/Carpenter\\_Stehr\\_Bicycle\\_Helmet\\_Laws\\_JLE\\_Accepted\\_Manuscript\\_03\\_04\\_2010.pdf](http://web.merage.uci.edu/~kittc/Carpenter_Stehr_Bicycle_Helmet_Laws_JLE_Accepted_Manuscript_03_04_2010.pdf)

[6] [http://archive.niassembly.gov.uk/record/committees2010/RegionalDevelopment/110223\\_Accessibility&SustainableTransport.htm](http://archive.niassembly.gov.uk/record/committees2010/RegionalDevelopment/110223_Accessibility&SustainableTransport.htm)

[7] [http://www.atcouncil.gov.au/documents/files/Australian\\_National\\_Cycling\\_Strategy\\_2011-2016.pdf](http://www.atcouncil.gov.au/documents/files/Australian_National_Cycling_Strategy_2011-2016.pdf)

[8] <http://policy.rutgers.edu/faculty/pucher/PucherGarrardGreaves2010.pdf>

[9] <http://www.cycle-helmets.com/cycling-blind-spot.pdf>

## **North Down Borough Council Submission to the Cyclists (Protective Headgear) Bill**

From: Jayne.Taylor@NorthDown.gov.uk [mailto:Jayne.Taylor@NorthDown.gov.uk]  
Sent: 09 March 2011 11:17  
To: Pelan, Dr Kevin  
Cc: +Comm. Environment Public Email  
Subject: Cyclists (Protective Headgear) Bill

Dear Mr Pelan,

Thank you for your letter dated 23rd February 2011 regarding the above matter.

This was discussed by North Down Borough Council at a meeting of its Corporate Committee last night (8th March). Members were of the view that this was a particularly important issue, but given the short timeframe for response, felt they were not in a position to fully comment except to say that there were a number of issues of concern in terms of enforcing and policing such a Bill.

MLA's of North Down Borough Council explained that this would probably not go through the Assembly before it went into recess for the elections and given that information, I have been asked to write to advise that Council would very much wish to be consulted on this issue when the Bill is issued for formal consultation.

In the meantime, I would appreciate you making these comments known at the planned evidence session.

Yours sincerely

Ms Wendy Monson  
Head of HR and Administration

Jayne Taylor  
DPP Manager/Senior Administrative Officer  
Direct Line 91278054  
Ext 8095

Email has been scanned for viruses and unwanted content by the Email Protection Agency

## **Oliver Bock Submission to the Cyclists (Protective Headgear) Bill**

From: mail@oliver-bock.net [mailto:mail@oliver-bock.net]  
Sent: 07 March 2011 22:55  
To: +Comm. Environment Public Email  
Subject: Helmet Law

Oliver Bock  
45 Sunnyside Street  
BT73EX  
Belfast

Dear Sir or Madam,

I am opposed to a compulsory use of cycling helmets. Although I am wearing a helmet myself on my daily cycle to work, I think that the negative effects of such a law outweighs the benefits by far.

- It will deter people from cycling – the more people cycle, the less people drive and the safer cycling will be
- It will send the people who are afraid of cycling the message that it is dangerous
- In a crash scenario there is very little a helmet can do. In fact a study showed that it can increase the risk of spine injuries
- Countries like Netherland, where cycling is part of everyone's day to day life, have not such a law
- Compulsory helmet law would indirectly put the blame on the cyclist in case of an accident
- 90% of the dangerous situations I had in traffic, were caused by regardless driving of cars.
- Cycling rental schemes like the one in Dublin, which are easy to use, would not work with such a law in place.
- A study in England showed that car drivers drive measurably closer past cyclist with helmets than past cyclist without helmets (risk compensation)

Please do not vote for the helmet law. I think it is a step in the wrong direction.

Thank you.

Regards,

Oliver Bock

## **Paul Alexander Submission to the Cyclists (Protective Headgear) Bill**

From: Paul & Elizabeth Alexander [mailto:epa611@sky.com]

Sent: 06 March 2011 20:55

To: +Comm. Environment Public Email

Subject: scrapping of proposed helmet legislation

Dear members of the committee,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

I note that there were no cyclist deaths in 2009 or 2010 and no child cycling deaths since 2005. Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.



Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit.

I strongly urge you to reject this well-intentioned but fatally flawed legislation.

Yours sincerely,

Paul Alexander

## **Paul Megson Submission to the Cyclists (Protective Headgear) Bill**

From: Paul Megson [mailto:paul\_megson@btinternet.com]

Sent: 14 March 2011 13:59

To: +Comm. Environment Public Email

Subject: Fw:

Ladies and Gentlemen

I note that a date has now been set for the committee stage of this bill, on 24 March.

I have written before (below) to urge you all not to pass this bill, and I would urge you again.

The facts have not changed: a comprehensive collection of material is available in support of the proposition that helmet use should remain voluntary, and I have linked to some of this below at the website of the Bicycle Helmet Research Foundation. What moves me to write again is that it is clear that some serious misinformation is being circulated in support of helmets, which I would urge you to treat with extreme caution.

In particular, Pat Armstrong, chair of Headway Foyle, writing to the Belfast Telegraph, came up with a ludicrous assertion that "Last year alone 180,000 people in the UK sustained an acquired brain injury as a result of a car accident or cycling." The on-line comments to his letter of course challenge this nonsense, referring to the official statistics which show that 26,912 people were killed or seriously injured in 2009 [on UK roads]. Indeed Headway's own website could only state that "around 135,000 people are admitted to hospital each year as a consequence of brain injury" [ from all causes].

The fact is that, according to the PSNI, there are only about 30 serious injuries a year to cyclists in the Province. As Mr Poots himself says in the second stage debate, "There were no adult cyclist deaths in 2009 or 2010, and there have been no child cyclist deaths in Northern Ireland since 2005. Data show that the number of road casualties involving cyclists has fallen dramatically over the past decade, despite a concurrent increase in cycling as a mode of transport."

He went on to say of course that "Some of the deaths that have occurred would have occurred in any event, regardless of whether the cyclist was wearing a helmet. A lot of the impact was taken in the lower part of the body and was a result of impact with a heavier vehicle." This is just one of numerous observable facts about head injuries to cyclists or indeed anyone else, such as the fact that pedestrians, and even car occupants, are at greater risk of head injury than cyclists, and that falling down stairs is probably the largest single cause of accidental brain

injuries, suggesting surely that pedestrians, car drivers and passengers, and householders generally should all be required to wear helmets.

Make no mistake: helmet compulsion has in every case where it has been implemented and enforced led to a sharp decline in cycling, which in turn has been a factor in general public health, notably obesity and consequent conditions like heart disease, diabetes and high blood pressure. Please reject this bill.

Yours

Paul Megson

----- Forwarded Message -----

From: Paul Megson <paul\_megson@btinternet.com>  
Sent: Friday, 4 February, 2011 16:54:40

**Subject:**

I note that the Northern Ireland Assembly has recently voted narrowly (by a majority of two votes) in favour of introducing a compulsory helmet law for all cyclists with a penalty of £50 for failure to comply.

The law now moves to a committee stage and presumably to a final reading thereafter. Before you cast your vote in the subsequent vote I would urge you to acquaint yourself with the information available on the website of the Bicycle Helmet Research Foundation. In particular I would urge you to read the material at the following links on their site:

- A briefing for legislators - <http://www.cyclehelmets.org/1128.html>
- A general overview - <http://www.cyclehelmets.org/1139.html>
- The contradictions in different research evidence about helmet use, and the shortcomings of some of the research - <http://www.cyclehelmets.org/1052.html>

In summary: evidence in favour of helmet use as a reducer of head injuries is inconclusive; countries which have enforced helmet use have seen a sharp decline in cycling and increases in health issues such as obesity; risk of head injury, and benefit of helmet wear to reduce such risk, is no greater for cyclists than it is for pedestrians or occupants of motor vehicles so should helmet compulsion not apply to them as well?

## **Peter Teow Submission to the Cyclists (Protective Headgear) Bill**

From: Peter Teow [mailto:peterteow2004@yahoo.com.au]  
Sent: 11 March 2011 13:38  
To: +Comm. Environment Public Email  
Cc: peterteow2004@yahoo.com.au  
Subject: Regarding proposed helmet legislation for Northern Ireland

Dear Northern Ireland Assembly Environment Committee,

Please do not make the extremely serious mistake that Australia has done 20 years ago.

Mandatory Helmet laws for cycling had reduced cycling by 40% when it was introduced and most of these were the younger and casual cyclists - and has really done nothing to reduce the dangers to cyclists.

In fact, it has effectively made Australian cycling more dangerous as less drivers grew up experiencing cycling and are far less tolerant towards cyclists, who now all look like they are geared for war with their helmets on and grim expressions.

Mandatory Helmet Laws are truly an illusion of safety and has masked the lack of effort of the government to make cycling actually safer.

I'll recognise that in certain circumstances - ie sporting cycling, just like F1 and Rally car drivers, helmets can be of some use, but it is not for the general public.

Australia, in their bid 20 years ago to have 'world firsts' in 'policy making' made this rule and cycling in Australia has since never been the same, and safety levels (if that is the objective of the proposal) has not proven to have increased after TWENTY odd years of experimentation!

Please have faith that the people of Northern Ireland can decide for themselves if their mode of cycling requires the use of helmets.

Environmentally, less cyclists will simply mean more single occupant cars on the roads for longer periods of time - and if car drivers look each time they stopped, it is always other cars that hold up traffic, spewing exhaust fumes.

Finally, unprotected sexual activities would have statistically caused more diseases and deaths compared to cycling without helmets - where will you stop? Mandatory Condom Laws, in fact, would make far more sense if Northern Ireland is hell-bent on infringing on your citizens civil rights and judgement.

Yours Sincerely and under the yoke of the failed policy of Mandatory Helmet Law in Australia,

Mr Peter Teow  
36/10 Broughton St  
Canterbury  
NSW 2193  
Australia

## **Philip Benstead Submission to the Cyclists (Protective Headgear) Bill**

From: Philip Benstead [mailto:philipbenstead1@gmail.com]  
Sent: 14 March 2011 23:28  
To: +Comm. Environment Public Email  
Subject: URGENT: proposed legislation making it an offence to ride a bike bareheaded in any open space.

Dear members of the committee,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

I note that there were no cyclist deaths in 2009 or 2010 and no child cycling deaths since 2005. Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit.

I strongly urge you to reject this well-intentioned but fatally flawed legislation.

Yours sincerely,

Philip Benstead BSc (Hons)

### **Cycling 4 ALL says No Bike No Life:**

Philip Benstead BSc (Hons)  
Telephone: 020-7630-0475  
Mobile: 0794-980-1698  
Email: philipbenstead1@gmail.com

CTC London - Secretary – CTC's London Regional Voice  
CTC Accredited Right to Ride Representative: - City of Westminster  
UK's national cyclist organisation

CTC London - Secretary – CTC's London Regional Voice  
CTC Accredited Right to Ride Representative: - City of Westminster  
UK's national cyclist organisation  
CTC: <http://www.ctc.org.uk>

CTC Accredited Cyclist Training Instructor: - T/A Cycling4ALL – providing services and advice across the Greater London area to: Government Agencies, Local Authorities, National Road Safety Organisation, Charities and Individuals. Services include: National Standard Cycling Training for Adults children and Special Educational Needs (SEN), Dr Bike, Cycle Maintenance Classes including working as part Youth Offending i.e. Reparation, Intensive Supervision and Surveillance (ISS) and Triage.

CTC Web: <http://tiny.cc/i78qs>

Youth Officer: - South Westminster Police & Community Consultative Group

19, Greencoat Mansions,  
Greencoat Row,  
Victoria, London,  
SW1P 1PG

## **Philip Morrow Submission to the Cyclists (Protective Headgear) Bill**

From: Phil Morrow [mailto:morrow.phil@googlemail.com]  
Sent: 25 February 2011 20:22  
To: +Comm. Environment Public Email  
Subject: Cycle helmet legislation.

Sir.

As a regular leisure cyclist I would like to take this opportunity to voice my opinion on the current research into cycle helmet usage.

I have followed, on an amateur basis, the research of various countries into cycle helmet usage. At best I found it the research results were contradictory and in some cases indicated the costs of instigating and enforcing such legislation as out of all proportion to benefits.

As a grown man I feel I am more than capable of taking a risk assessment of where and when to where a helmet city - maybe, country ride no way. Too hot and sticky.

I fully endorse all government initiatives to encourage more cycling - health and environmental benefits are terrific - but I treasure the freedom and right to choose for myself. Perhaps the money might be better spent reducing the impact of motor vehicles on the road system? In such a current economic climate, perhaps this is better use of the money.

I wish to state that if such legislation is pursued, I will be involved in active peaceful demonstration against such a law.

Thank you for your time.

Philip Morrow

## **Piers Maffett Submission to the Cyclists (Protective Headgear) Bill**

From: piers maffett [mailto:piersmaffett@hotmail.com]  
Sent: 10 March 2011 22:58  
To: +Comm. Environment Public Email  
Subject: Cycle Helmet Legislation in Northern Ireland

Dear Members of the Committee,

I am writing to you to urge you to consider carefully the plans to introduce compulsory helmet wearing for cyclists.

There is no credible evidence to support the assertion (hopeful presumption is how it seems) that compulsory helmet wearing reduces cycling fatalities, not unless you realise that it might do so by reducing the number of people cycling. As the Bicycle Helmet Research Foundation found in reference to compulsory helmet legislation in Western Australia "The law resulted in the number of head injuries falling by 11% ... cycle use in Western Australia fell by 30%" . But, wait a minute....as Mr Poots, the Environment minister pointed out, "There were no adult cyclist deaths (in Northern Ireland) in 2009 or 2010, and there have been no child cyclist deaths in Northern Ireland since 2005." What is this legislation for?

There is lots of global evidence that helmet compulsion actively discourages cycling at all! Australia, New Zealand, Canada, Israel and Mexico have all tried it, for the best of reasons, one has to presume, and have found that it has caused a profound reduction in the numbers of people cycling. Even in Copenhagen, one of the figurehead cities for cycle usage globally, cycle journeys recorded into the city centre fell by 5% in the year that a concerted campaign was launched to promote helmet usage by proliferating a culture of fear of road accident.

A reduction in cycling, in turn, can be directly linked to a continuation in the proliferation of sedentary behaviour and associated cardio-vascular conditions that blight many of the UKs adult and child population. A little bit concerning in light of the facts that in Northern Ireland 59% of adults and 22% of children are clinically overweight or obese? Regular activity is vital to turning around the spread of obesity and its appalling death toll and burden on the health service. Passing a law compelling people to wear a helmet every time they leap onto a bike is quite likely to make them think twice about it and jump in the car instead. Remember, in the period in which no cycling deaths were recorded in Northern Ireland, 19,000 people died of cancer, cardiovascular or respiratory disease.

If your agenda really is to reduce unnecessary death, are you sure you're targeting the right thing?

Please apply some rationality and common sense... this campaign of compulsion to wear a helmet is utter folly.

Yours faithfully,

Piers Maffett

## **Right to Ride Ltd Submission to the Cyclists (Protective Headgear) Bill**

From: Elaine Hardy [mailto:e.mhardy@btinternet.com]  
Sent: 25 February 2011 12:47  
To: +Comm. Environment Public Email  
Subject: "Cyclists (Protective Headgear) Bill".

Reference your letter informing me of the public notice calling for written evidence on the bill "Cyclists (Protective Headgear) Bill".

My response:

Requirement to wear protective headgear (1)

There is no explanation as to the reason for the bill.

I presume it is for the purpose of Health and Safety and the reduction in costs to insurance companies and to the NHS. However research in countries where this Bill has been enforced does not provide sufficient evidence that mandatory Helmet use for cyclists has had any effect in terms of the reduction of head injuries, what these studies tend to highlight, is that while the use of cycle helmets may reduce the severity of head injuries, it will not prevent the accident itself, which may cause severe injuries or death - due to other injuries to the body. More importantly legislation tends to reduce the number of children and adults who cycle, which defeat the purpose of the legislation.

For example in the State of Victoria, Australia, as a direct consequence of the introduction of mandatory helmets for cyclists, "Bicycle use by children aged 5-17 decreased by 36% from May/June 1990 to May/June 1991. There were further falls to May/June 1992 in Melbourne, with teenage cycling showing by then a 46% decrease from pre-law levels.

3.4% of trips in Melbourne were by bicycle in 1985-6. The latest data available in 2004 shows that this is now 2.0%.

<http://www.cyclehelmets.org/1108.html>

Indeed as the study from Monash University highlights, "the effect of the law was mainly to discourage cycling, rather than prevent head injuries when crashes occurred".

<http://www.cyclehelmets.org/1093.html>

### 3. Penalty charges

With regards to imposing fines and thus using police time and resources to impose these fines, does not the Committee believe that the police in Northern Ireland have far more important matters to consider than imposing fines on 5 year olds' parents or teenager because they do not wear a cycle helmet? This Bill will simply become a further burden on the already overstretched Police Service of Northern Ireland.

### 11. Promotion of protective headgear

The promotion of voluntary use of cycle helmets would have a more positive and lasting effect on present and future cyclists. As the research has demonstrated, legislation will decrease bicycle useage, which will therefore defeat the purpose of promoting cycling as a healthy lifesyle choice.

Dr Elaine Hardy  
Director of Research  
Right To Ride Ltd  
[www.righttoride.co.uk](http://www.righttoride.co.uk)  
[www.righttoride.eu](http://www.righttoride.eu)  
Tel: + 44 28 42757131  
Mob: + 44 7808725830

This e-mail and its attachments, is confidential and is intended for the addressee(s) only. If you are not the intended recipient, disclosure, distribution or any action taken in reliance on it is prohibited and may be unlawful. If received in error please email sender and advise it has been mis routed and then delete from your system.

## **RoadPeace**

supporting crash victims reducing road danger helpline: 0845 4500 355

Shakespeare Business Centre  
245a Coldharbour Lane  
London SW9 8RR  
[info@roadpeace.org](mailto:info@roadpeace.org)  
[www.roadpeace.org](http://www.roadpeace.org)  
Tel: 020 7733 1603

# **Northern Ireland Assembly Committee for the Environment Cyclists (Protective Headgear) Bill Submission of Evidence 11 March 2011**

RoadPeace is opposed to the Cyclists (Protective Headgear) Bill, however well intentioned, and we urge the Committee for the Environment to reject it. RoadPeace is pro-choice and against mandatory helmet wearing legislation for the following reasons;

- The lack of evidence on the effectiveness of helmets
- The negative impact mandatory helmet wearing would have on public health, personal well-being, congestion and the environment
- The need to focus resources and energies on the real risks to cyclists

## **1 Lack of evidence on the effectiveness of helmets**

There is no real-world evidence that helmets have reduced the likelihood or severity of head injuries among whole populations of cyclists. The case for this legislation is far from clear, with the voluminous evidence on cycle helmet effectiveness best described as “contested, ambiguous and inconclusive”<sup>1</sup>. We believe that it is up to those who support mandatory helmets to prove the case; and that this has not been done.

## **2 Negative impact on public health and personal well-being**

Helmet promotion (and especially compulsion) reduces levels of cycling and consequently the public and personal health benefits of cycling. There is a very real risk that people will be put off cycling; either because of the inconvenience of having to wear a helmet for all cycling journeys or because of a perceived increase in risk of cycling as an activity. Less cycling among the population in general also increases risks for those who do cycle (the ‘Safety in Numbers’ effect<sup>2</sup>).

It should be noted that in Northern Ireland, no cyclists were killed in 2009 and 2010. In the same period there were 8,000 deaths from cardiovascular disease, 7,000 deaths from cancer and 4,000 from respiratory disease. The health benefits of cycling outweigh the risks 20 fold.

## **3 The need to focus resources and energies on the real risks to cyclists**

Requiring cyclists to wear helmets is a diversion of resources and energy from the real risks to cyclists. The risk of serious head injury while cycling is small and frequently overstated.

Helmets offer a limited level of protection and are only designed to withstand low speed impacts, which make up a small proportion of cycle casualties.

The real risk to cyclists is other road users, and in urban areas in particular it is large freight vehicles that pose the most danger to cyclists. In 2009 in London, 9 of the 13 cyclists were killed by HGVs. In 2010, 3 cyclists were killed in one month by HGVs. Measures such as reducing lorry danger through introducing compulsory safety features such as proximity sensors would have a much greater impact on safety than mandatory helmet wearing.



Other measures that create safer roads such as a system of stricter liability 3 (the civilized compensation scheme), or proper enforcement of slower speeds and implementation of 20mph in residential areas and on cycle routes, would not only reduce the risk to cyclists, but would benefit other vulnerable road users such as pedestrians as well as the wider community.

## **Background**

RoadPeace Helmet Briefing: [http://www.roadpeace.org/resources/RP\\_Cycle\\_helmet\\_briefing.pdf](http://www.roadpeace.org/resources/RP_Cycle_helmet_briefing.pdf)

Bicycle Helmet Research Foundation: [www.cyclehelmets.org](http://www.cyclehelmets.org)

## **About RoadPeace**

RoadPeace is an independent national charity funded through membership subscriptions and donations. Our members include those who have been bereaved and injured in road crashes as well as those who want a safer road environment. We provide emotional and practical support and advocacy to those affected by road crashes; as well as campaign for justice for road crash victims and for road danger reduction, with a focus on reducing the volume, speed and dominance of motorised traffic and promoting cycling and walking.

The current Chair of RoadPeace Cynthia Barlow's daughter was killed in London in 2000 by a left turning lorry. She was wearing a helmet.

## **What is road danger reduction?**

RoadPeace was founded in 1993 on the principle of road danger reduction. Road danger reduction (RDR) focuses on making the road environment less dangerous by tackling danger at source through reducing the speed, volume and dominance of motorised traffic. It also takes into account the other negative consequences of inappropriate and excessive motor vehicle use such as fear and intimidation, environmental impact and public health issues.

RDR differs from traditional road safety in that it adopts a wider approach that considers not only the quantity of death and injury by crashes, but also the effects of excessive and inappropriate motor vehicle use on the quality of life and the environment. It places a greater duty of care on those that pose the greater threat, i.e. motor vehicle owners and drivers, and argues for danger to be controlled at source.

## **Road Safety Council of Northern Ireland Submission to the Cyclists (Protective Headgear) Bill**

From: Pat Martin [mailto:[pat\\_martin9@hotmail.com](mailto:pat_martin9@hotmail.com)]  
Sent: 25 February 2011 17:39  
To: +Comm. Environment Public Email  
Subject: Cyclists (protective headgear ) Bill

Thank you for your letter re above which arrived today.

I am sorry, but due to Sammy Wilson and Edwin Poots stopping ALL funding to the Road safety Council

and committees, we do not have any office/ support staff to deal with same. In fact we have only 6 remaining committees

out of 18, last year.

As a retired Primary school teacher, with very little computer experience , even though I cannot access

the assembly website, I would still like to express my views.

I taught cycling proficiency for thirty years . I felt then, and still do, that helmets are essential for ALL cyclists.

I saw at first hand many years ago the result of brain damage, to a person not wearing a helmet.

No child in my group would have been allowed to do the cycling proficiency course without a helmet.

Thank you

Pat Martin(Mrs)  
Chair Newtownabbey Road Safety Committee  
Chair of Road Safety Council of N Ireland

## **Rob Hatley Submission to the Cyclists (Protective Headgear) Bill**

From: Hatley, Robert [mailto:robert.hatley@uk.bp.com]  
Sent: 08 March 2011 12:46  
To: +Comm. Environment Public Email  
Subject: Cycle helmet legislation

Dear members of the committee,

The proposed legislation concerning enforced wearing of cycle helmets is counter productive. You should consider the entire nation's health, and evidence from around the world shows that enforcing helmet use reduces cycle use, and thereby removes all the wonderful benefits of having a fit, active and healthy population.

Rather than introducing new legislation, how about enforcing existing traffic laws more assiduously to punish vehicle operators who kill and injure cyclists. This will produce much greater benefits for the nation.

I strongly urge you to reject this well-intentioned but fundamentally flawed legislation.

Yours sincerely,

Rob Hatley

## **Rob Lamb Submission to the Cyclists (Protective Headgear) Bill**

From: Rob Lamb [mailto:rob.lamb@jbaconsulting.co.uk]  
Sent: 14 March 2011 09:16  
To: +Comm. Environment Public Email  
Subject: Cyclists (Protective Headgear) Bill

Whilst I often wear a cycle helmet, given limited public resources I would feel far more secure when cycling (and when driving) if I had confidence that the police were protecting me by controlling the careless, reckless and occasionally malicious car drivers that we all encounter on the roads.

Instead, this ill-founded legislation would result in time and effort being spent criminalising more vulnerable road users whilst inevitably distracting from efforts to police those who may cause harm through their driving.

I strongly oppose this Bill.

## **Ronan Matthews Submission to the Cyclists (Protective Headgear) Bill**

From: ronan matthews [mailto:ronanmatthews@hotmail.com]  
Sent: 04 March 2011 09:07  
To: +Comm. Environment Public Email  
Subject: Cycle Helmet Bill

Dear Sirs,

I have just heard about the potential bill to make it compulsory to wear cycle helmets when cycling in a public place. Coming from a home where we all commute daily on bicycles I can advise that this will have one of two effects on us. Firstly we would ignore any legislation requiring us to wear cycle helmets, as we strongly believe that this is a personal choice, with the result that we may or may not end up in court where we would resist paying a fine as far as practically possible. This would only have negative effects in terms of tying up valuable public resources at a time when effectiveness and efficiencies should be top of the agenda rather than costly, unenforceable legislation that has been proven to have negative effects where attempts at introducing it have been made elsewhere. Secondly, if it became too onerous to resist this ridiculous requirement, we would all stop using our bicycles and return to our cars adding a further burden to the rush hour traffic.

I would strongly urge the assembly not to consider this further as it will only have negative effects on the cycling community. If it is passed I would be interested to learn when a similar bill will be drafted to make it compulsory for any pedestrian crossing a road to wear a helmet. The risks are the same except the number of incidents involving pedestrians and motor vehicles is much higher than with cyclists.

Regards

Dr Ronan Matthews  
4 Meadowbank Place

Belfast  
BT9 7FF

## **Rosie Pelan Submission to the Cyclists (Protective Headgear) Bill**

From: Rosie Pelan [mailto:pelan@btinternet.com]  
Sent: 08 March 2011 12:51  
To: +Comm. Environment Public Email  
Subject: I disagree with being forced to wear helmets on cycles

Please do NOT pass the bill about forcing cyclists to wear helmets. I completely disagree with this proposal for the following reasons:

- 1 it creates a false sense of safety and cyclists often take less care as a result
  - 2 money would be better spent on creating safe passage through traffic for cyclists via cycle paths and on road safety training
  - 3 how are cyclists meant to wear warm head covering (covering their ears) in the harsh Winter weather, with a cumbersome plastic helmet which does not cover the ears, and is not warm?!
  - 4 it would deter people from cycling and disadvantage people from deprived areas
  - 5 it seems yet another way of gaining revenue - a cynical money making exercise.
  - 6 difficult to police
  - 7 cycling with the wind through your hair, in good weather, is one of life's greatest pleasures- do not take that away from us. (yes, I know the motor cycle lobby probably used this argument but please don't confuse motor bikes with bicycles- one is by far faster and more dangerous.)
- I and many other cyclists I know are vehemently opposed to this!

Rosie Pelan  
14 Collinward Gdns  
Glengormley  
Newtownabbey  
BT 36 6DS

## **Ruth Turner Submission to the Cyclists (Protective Headgear) Bill**

From: Ruth Turner [mailto:lindagordinho@gmail.com]  
Sent: 08 March 2011 10:00  
To: +Comm. Environment Public Email  
Subject: Proposed cycle helmet legislation

Ruth Turner  
99 Thornwood Avenue  
Ingleby Barwick

Stockton on Tees  
Tees Valley  
TS17 0RS

I write to express my concern at the proposed introduction of a law obliging cyclists to wear helmets.

I am a keen cyclist, recently knocked off my bike by a car when cycling home from work. I sustained a head injury. I was wearing a helmet. I still feel that the benefits of cycling far outweigh the risks. It is a safe activity, but mandatory helmet laws would present it as unsafe, and far less attractive than it is now. Spend time and money on driver awareness - driver complacency is the real danger to cyclists, not a lack of helmet laws. The prevention of my accident, with a cyclist-aware driver, would have been much better than the (debatable) mitigation of my head injury by my helmet.

If this law is introduced in Northern Ireland, it will pave the way for similar laws in England. Discouraging people from taking up cycling, by making it appear dangerous, like an extreme sport, or stunt riding, will be counterproductive. We already have an inactive population, with the associated problems of obesity, diabetes, and heart disease on the rise. Car use is already at unsustainable levels. We need to increase levels of cycling for the benefit of all of us. I see the heartbreaking consequences of inactive lifestyles every day in my job as a critical care nurse.

Please do not introduce compulsory helmet wearing for cyclists.

Yours most sincerely

Ruth Turner

## **Sam Bidwell Submission to the Cyclists (Protective Headgear) Bill**

From: Sam Bidwell [mailto:sam\_bidwell@hotmail.com]  
Sent: 11 March 2011 19:13  
To: +Comm. Environment Public Email  
Subject: Proposed Cycle helmet legislation

Dear members of the committee,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

I note that there were no cyclist deaths in 2009 or 2010 and no child cycling deaths since 2005. Meanwhile our society becomes ever more obese, and thousands die from preventable disease each year. We cannot encourage cycling and simultaneously say it is so dangerous that we will prosecute people who choose not to wear armour.

Evidence from other countries with helmet laws unanimously demonstrates a large and persistent fall in cycle participation when helmet legislation is enacted. It is disproportionate to the tiny risks of cycling and the health costs of discouraging cycle use far outweigh any imaginable benefit.

I strongly urge you to reject this well-intentioned but fatally flawed legislation.

Yours faithfully,

Sam Bidwell.

## **Simon Adams Submission to the Cyclists (Protective Headgear) Bill**

From: Simon Adams [mailto:simonadams@teamforceuk.com]  
Sent: 12 March 2011 12:44  
To: +Comm. Environment Public Email  
Subject: Cycling Helmet Bill

To Whom It May Concern

Having attended the combined Outdoor and Bicycle show in the London Excel centre earlier this year I got talking to the staff on the NI tourism stand. I was surprised to hear that in NI the rivers allow almost complete access for kayakers, a fact that I was not previously aware of. Being a kayaker this certainly got me thinking about my next adventure holiday as I have previously spent 18 months in NI due to work commitments, but would love to visit for a holiday.

As a kayaker (and a former instructor) I would certainly wear a kayaking helmet where the situation warrants it. I do not need any law to tell me when or where to wear a helmet. Subject knowledge, training, experience, common sense and freedom of choice are the principles I apply to myself and those I have taught in the past in relation to the wearing of helmets when kayaking. Why would I want to wear a helmet when kayaking down a gently meandering river in the lovely countryside of NI? Statistically the risk is negligible in this situation. On the other hand kayaking down a raging rapid would see me definitely wearing a helmet.

As well as being a kayaker I am also cyclist (and a cycling instructor) who regularly commutes 30 miles a day, as well as cycling for pleasure. As with kayaking I wear cycle helmet as and when the situation warrants it. As described above just change a meandering river to a meandering country road etc. Having also previously been a driving instructor (Cars and LGV) I believe rather than wasting valuable time, money and resources on this law the authorities of NI would be better served in providing training for cyclists and indeed all road users to prevent the likelihood of accidents between road users.

Forcing people to wear helmets is not the answer as like many health and safety issues, you should proactively prevent the cause (through awareness and training) rather than reacting to potential accidents by forcing people to wear PPE. The health related benefits of cycling are well documented so why put another barrier in the way of people enjoying cycling and getting fit?

Myself and many of my kayaking and cycling friends would now certainly think twice about visiting NI on holiday, if by law we have to wear a helmet at all times to cycle in what is a lovely country famous for its Ulster Fry and Soda bread!

Kind Regards

Simon Adams  
Managing Director  
Teamforce UK Ltd  
Teamforce Paintball & Activity Centre  
Brynwilach Farm, Llangyfelach Road

Llangyfelach  
Swansea, SA5 7PE  
Tel: 01792 772311  
Mobile: 07761 682977  
Website: [www.teamforceuk.com](http://www.teamforceuk.com)

## **Stephen Gilmore Submission to the Cyclists (Protective Headgear) Bill**

From: Stephen Gilmore [mailto:[stephen.gilmore@btinternet.com](mailto:stephen.gilmore@btinternet.com)]  
Sent: 11 March 2011 20:49  
To: +Comm. Environment Public Email  
Subject: Requirement to wear protective headgear

Dear Sirs

I wish to give evidence on the "Cyclists (Protective Headwear) Bill in my capacity as a profession cycling instructor, actively teaching National Standard cycling in schools in Northern Ireland. I am registered with the Department of Transport and my National Instructor Registration Number is NSIQ510708A.

Before any child I teach mounts any cycle as part of Level 1 of National Standard, we promote the wearing of helmets and teach the correct fitting of a helmet. I find that at least 50% of children presenting with helmets are not wearing these in such a way that would adequately protect them in event of a fall.

I note that the bill does not define the word "wear". Does having a helmet sat on the head with no straps fitting mean that the person is wearing protective headgear? Does a helmet with a loose chin strap which could easily fall off the head pass as "wearing"? Does a helmet which is too large and exposing the forehead, the most vulnerable part of the head pass the definition of "wear"?

The Bill is rather pointless if this definition is not in place.

Regards,

Stephen Gilmore  
41 Drumlough Road  
Hillsborough  
BT26 6PX

## **Stephen Harris Submission to Cyclists (Protective Headgear) Bill**

From: Stephen Harris [mailto:[sdharris@sdhtek.co.uk](mailto:sdharris@sdhtek.co.uk)]  
Sent: 14 March 2011 23:44  
To: +Comm. Environment Public Email  
Subject: Cyclists (Protective Headgear) Bill

### **Negative Effect on Tourism**

I have not yet had the privilege of visiting Northern Ireland for a holiday, but would like to do so. However, should the well-intentioned but misguided law requiring all cyclists to wear helmets come into effect, I will reluctantly consider Northern Ireland as a no-go area. Even on a non-cycling holiday, I would like the option for some leisure cycling. Most cycling is safe and does not require helmets, no more than walking needs a helmet.

Other countries that have introduced compulsory cycle helmets have seen an increase in injuries per 100km cycled: the reduction in injuries has been less than the reduction in cycling (EG Western Australia). This would be another reason to avoid Northern Ireland. I would not want to visit an area that has deliberately enacted a law that is known to discourage cycling, which will therefore make cycling less safe (due to the 'safety in numbers' effect in reverse).

Introducing this law in Northern Ireland while the remainder of the UK allows non-helmeted cycling also sends the signal that Northern Ireland is unsafe for cyclists.

It seems very strange to follow the example of countries that have low levels of cycling, instead of countries with high levels of cycling (eg Holland, Denmark) with regards to cycling legislation.

I know of no countries that have introduced compulsory cycle helmets that have seen a corresponding reduction in head injuries. But they have seen a significant reduction in cycling.

Regards

Stephen Harris  
27 Delius Close  
BASINGSTOKE  
Hampshire  
RG22 4DS  
England

## **Sustrans CTC Submission to the Cyclists (Protective Headgear) Bill**

From: Steven Patterson [mailto:Steven.Patterson@sustrans.org.uk]  
Sent: 07 March 2011 12:02  
To: McCann, Sean  
Subject: Sustrans CTC paper for the 10th march hearing.

Sean

Please find our paper for circulation to the Committee in advance of Thursday meeting

Many thanks

Steven Patterson  
Director for Northern Ireland and the Republic of Ireland

Sustrans, Ground Floor, Premier Business Centres, 20 Adelaide Street, Belfast, BT2 8GD  
Tel: 028 9043 4569 (048 9043 4569 from ROI)  
Fax: 028 9043 4556 (048 9043 4556 from ROI)



Wouldn't life be great if the street outside your front door felt like your own space? Somewhere to chat with your neighbours, kick a ball with the kids, get about by foot and bike? Somewhere to give us all a better quality of life - a quality street. Sign up to our Quality Streets campaign and improve your local environment.

Sustrans makes smarter travel choices possible, desirable and inevitable. We're a leading UK charity enabling people to travel by foot, bike or public transport for more of the journeys we make every day. It's time we all began making smarter travel choices. Make your move and support Sustrans today. [www.sustrans.org.uk](http://www.sustrans.org.uk)

Sustrans Limited. Registered Office - Sustrans, 2 Cathedral Square, College Green, Bristol, BS1 5DD. Registered Charity 326550 (England & Wales), SC039263 (Scotland). Company Limited by Guarantee No: 1797726 Company Registered in England.

## **Cyclists (Protective Headgear) Bill: The Case against Legislation**

### **A submission to the Northern Ireland Assembly Environment Committee Hearing on 10th March 2011 from CTC and Sustrans**

#### **Executive Summary**

This submission to the Environment Committee's consultation on the Cyclists (Protective Headgear) Bill is made by the two leading transport charities in both Northern Ireland and the UK: CTC and Sustrans. In partnership with the Northern Ireland Executive and local councils, Sustrans has worked hard for 15 years to encourage more people to cycle in Northern Ireland. CTC has also played an important role in this regard. As a result of the efforts of this partnership, cycle use has risen across Northern Ireland. For example, at 10 sites in Belfast, cycling levels have risen by 147% in 9 years and, at 31 locations across Northern Ireland, cycle use has risen by 76% in the same period. <sup>[1]</sup>

CTC and Sustrans object in principle to the Cyclists (Protective Headgear) Bill. Not only is there a real risk that the proposed Bill would undo much of the work which has gone into raising cycling levels in Northern Ireland, but a legal requirement to wear a cycle helmet would deter people from cycling and undermine effective ways of increasing the safety of cyclists.

The Bill would be harmful in the following ways:

1. It would deter people from cycling. Where attempted elsewhere, enforcing a legal requirement to wear a helmet has led to a dramatic drop in cycling levels. If this happened in Northern Ireland, it would cause a serious loss of cycling's health, environmental and other benefits.
2. It would be a disproportionate response to the relatively low risks of cycling. Cycling is a relatively safe activity which significantly improves people's health and life expectancy. With so few injuries, the health costs alone of this proposed law would far outweigh any possible benefits.

3. It would be difficult for the police to enforce, requiring considerable costs at a time of tight budget constraints.

4. It would particularly affect people from socially deprived communities, as they are less likely to wear helmets.

5. The substantial costs of helmet promotion and enforcement campaigns would detract from better and more cost-effective ways to achieve more and safer cycling. The available resources would be better spent tackling the causes of road danger by developing safer and well designed roads and supporting programmes to promote cycling such as modern on road cycle training.

There is compelling evidence against legislation that would require the wearing of cycle helmets:

- A sharp fall has been observed in cycle use among young people in the immediate aftermath of the introduction of legislation. In Melbourne Australia the number of child (under 16 years) cyclists was observed to fall by 49%
- There is a greater likelihood of being killed in a mile of walking than a mile of cycling, while 1% of adults who died and 2% of those seriously injured on Northern Ireland's roads were cyclists.
- At one 'middle-class' school in Newtownabbey where Sustrans recently carried out the Bike It programme, 103 of the 106 pupils arrived for the session with cycle helmets. By contrast, at a school in a socially deprived part of west Belfast, just 5 of the 96 participants turned up with helmets.
- A major review of road traffic accident data in the North West of England recently concluded that, if all residential areas in the region were designated as 20 mph zones, there would be a 31% reduction in child fatalities and serious injuries in addition to a 18% reduction in adult and child cyclist fatalities and serious injuries across the region.

We believe that the best measures which the Northern Ireland Executive could take to reduce cyclist-related

injuries and deaths, based on the available evidence, must include:

- Investment in measures that seek to create safe, attractive cycling conditions including the extension of 20 mph speed limits to all residential roads in towns, cities and villages
- Promotion of cycling as a healthy and enjoyable means of transport and recreation, both for the population in general, and for specific groups e.g. school and college pupils, employees, women, health patients, and various disadvantaged or minority groups.
- The introduction of high quality cycle training for all children in P7 to a standard equivalent to that currently available in England, Scotland and Wales.

## **1. Introduction**

1.1 This submission to the Environment Committee's consultation on the Cyclists (Protective Headgear) Bill is made by the two leading transport charities in both Northern Ireland and the UK: CTC and Sustrans.

1.2 While recognising and fully understanding the concerns of the proposer and supporters of the Bill, CTC and Sustrans object in principle to the Bill and, in particular, to Clauses 1-12. There is a real risk that the proposed legislation, including even the 3-year campaign to promote voluntary helmet use before bringing the law into effect (as proposed in clause 12 of the Bill),

could undo much of the work which the Northern Ireland Executive, local councils, Sustrans and other organisations have achieved in increasing levels of cycling in Northern Ireland.

1.3 We appreciate the sincerity of the desire of the Bill's promoters to improve cycle safety. Neither CTC nor Sustrans is "anti-helmet", and we do not take sides on whether or not it is a good idea for individual cyclists to wear them. However there is strong evidence that enforced helmet laws result in a substantial loss of the health and other benefits of cycling, without compensating benefits for cyclists' safety that would justify this. We also believe there are better ways to improve cyclists' safety, and that the Northern Ireland's police service has more important priorities, including a stronger emphasis on traffic policing to improve road safety for everyone.

1.4 We further believe that the Bill could potentially discriminate against members of minority racial and ethnic groups and against those who hold certain religious beliefs. For this reason, if the Bill was to proceed further, we believe it should be referred to an ad hoc assembly committee on equality issues, as provided for under Assembly Standing Orders.

1.5 In this submission, we set out the reasons why cycle use is likely to fall if the legislation is introduced. We further highlight key groups, including socially excluded groups, which we believe will be adversely affected in this regard if the legislation goes ahead.

1.6 We also weigh up the potential health costs and benefits of such a move, and examine whether helmet legislation is a proportionate measure in the light of the actual risk of serious injury or death in a cycle collision.

1.7 Finally, we review the evidence on the causes of cycling injuries, and conclude that cycle safety could be much more effectively improved if high quality cycle training was made available to all children, and investment was made in measures that seek to create safe, attractive cycling conditions, including the 20 mph speed limits on all residential roads in towns, cities and villages. Such measures would also have the added benefit of increasing, rather than reducing, cycling levels.

## **2. Cycle helmet legislation: the impact on cycle use**

### **The benefits of cycling**

Cycling has a wide range of benefits for our own health and that of our streets, neighbourhoods and the environment. The evidence of cycling's health benefits are discussed more fully in section 2. Other benefits of cycling include:

Economic benefits:

- Cycling makes extremely efficient and economical use of road-space. One lane of a typical road can accommodate 2,000 cars per hour – or 14,000 cycles.<sup>1</sup>
- Encouraging cycling also makes workers more productive and reduces the costs of absenteeism, ill health and air pollution. It also frees up pressure to provide valuable urban land as car parking space.
- Cycle hire schemes around the world (where helmets are not supplied with bikes) are proving to be a huge success, including in Dublin and London. Consideration is being given to implementing a scheme for Belfast and compulsory helmet use would prove to be a significant barrier to a successful scheme.

Climate and other environmental benefits:

- A person making the average daily commute of 4 miles each way would save half a tonne of carbon dioxide if they switched from driving to cycling per year.<sup>2</sup>
- If we doubled cycle use by switching from cars, this would reduce Britain's total greenhouse emissions by 0.6 million tonnes, almost as much as switching all London-to-Scotland air travel to rail.<sup>3</sup>
- As zero-emission vehicles, cycles reduce levels of harmful pollutants such as oxides of nitrogen. Cycles also make virtually no noise.

Equality and quality of life benefits:

- Cycling is an option for both transport and leisure for many people who cannot drive, including children, people with disabilities and lower income groups. The disparities in the amount travelled by higher and lower income groups are far lower for cycling than for driving.
- Instead of streets filled with cars, cycle-friendly town centres are far more attractive both for shopping and relaxing. You can park 10 bikes in the space required for one car.

2.2 A doubling of cycle use in Britain would deliver:

- Economic benefits of around £3.5 billion<sup>4</sup>
- A one third reduction in the risks of cycling<sup>5</sup>
- A saving of 0.6 million tonnes of carbon dioxide per year<sup>6</sup>

Reductions in cycle use due to helmet laws

2.3 Evidence from Australia and New Zealand suggests that large numbers of cyclists may be deterred from cycling once helmet legislation comes into effect. In particular, there is specific evidence that helmet legislation has resulted in reductions in the following groups of people:

- Cycle commuters
- Children cycling to school
- Teenage cyclists

2.4 The reductions in cycle commuters and children cycling to school are of particular concern because utility cycle trips, if stopped, are unlikely to be replaced with other forms of exercise and, in a car-dependent society, are likely to be replaced with car journeys. Any such shift would not only contribute to rising levels of obesity, but would also have an economic cost in terms of increased congestion and an environmental cost through increased pollution.

2.5 The evidence also suggests a particularly strong deterrent effect among teenagers. Teenagers are a key target group for efforts aimed at encouraging physical activity; if children can be persuaded to continue cycling as teenagers, the habit may well last into their adult years. Conversely, those deterred from cycling as teenagers are much less likely to pick up the habit again.

2.6 Helmet laws, where enforced, have consistently led to substantial reductions in cycle use<sup>7</sup>.

Reductions in the year following helmet laws include:

- a 36% reduction in New South Wales (29% among adults, 42% among children and as much as 90% among female secondary school pupils in Sydney<sup>8</sup>;
- a 36% reduction among child cyclists in Melbourne (including a markedly steeper reduction of 44% among teenagers<sup>9</sup>);
- a 20% reduction in Perth (continuing to 30-40% below pre-law levels after 3 years<sup>10</sup>) and
- more than a 60% reduction in Nova Scotia<sup>11</sup>.

Helmet laws elsewhere have had similar results<sup>12</sup>.

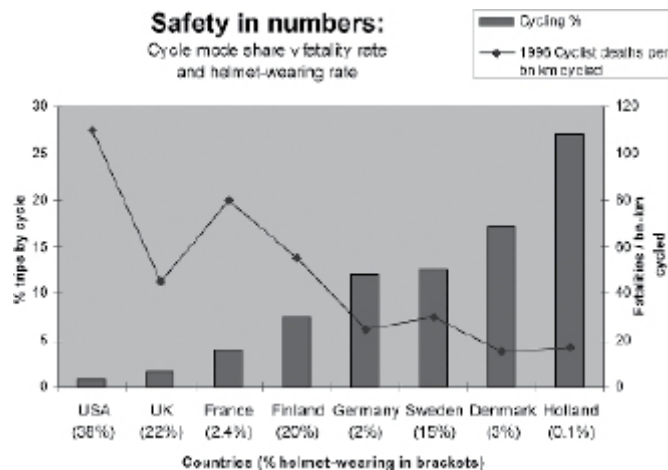
2.7 Some countries or states have seen recoveries of mainly adult recreational cycling. However where helmet law enforcement is maintained, cycle use remains low, particularly among children and/or for day to day journeys (e.g. for school or commuter travel). Cycling trips in New Zealand initially fell by 26% following that country's helmet law in 1994, but continued falling to 51% below their pre-law levels by 2006<sup>13</sup>.

2.8 It is estimated that a total of 136,000 adults and children in New Zealand – nearly 4% of the total population - stopped cycling in the immediate aftermath of the introduction of cycle helmet legislation in 1994.<sup>14</sup> A high proportion of this figure were teenagers (13 – 17 years), who accounted for 47,000 of those who stopped.

2.9 There is also evidence of sharp falls in cycle use among young people in the immediate aftermath of the introduction of legislation in New South Wales and Melbourne in Australia. In New South Wales, the law came into effect in January 1991 for adults and in July 1991 for children. Figures from a major study, involving pre-law and post-law counts at 120 locations, showed that there was a 49% fall in child (under 16 years) cyclists counted at road intersections and a 48% drop in child cyclists counted at school gates between 1991 (pre-law) and 1993. There was also a smaller but still significant 32% fall in recreational areas.<sup>15</sup> Thus, the greatest deterrent effect appears to have related to utility cycle trips made by children.

2.10 In Victoria State, which includes Melbourne, a cycle helmet law was introduced in July 1990. Another major study, involving counts at 64 locations in Melbourne, found that there was a 46% drop in the number of teenage (12 – 17 year old) cyclists in the wake of the implementation of the legislation, despite the fact that their numbers had been rising prior to the introduction of the law.

2.11 It is worth noting that, by contrast, three Western countries with some of the highest rates of cycling have relatively low levels of cycle helmet wearing. In the Netherlands, 27% of all journeys are carried out by bike and less than 1% of cyclists wear helmets. In Denmark, the proportion of journeys made by bike is 18%, and less than 5% of adults wear helmets. In Germany, 10% of trips are carried out by bike, and just 2% of adults wear helmets.<sup>16</sup>



2.12 The more people that cycle, the safer it is for each individual cyclist. As shown in the graph above.

## The effects of helmet promotion campaigns

High cycle use is related to a low cycle injury rate, despite low helmet-wearing rates in countries like Denmark and the Netherlands.

The opposite applies in countries like the UK and USA. Note the similarities with the cycle use and obesity graph shown later.

2.13 There is also evidence that even the voluntary promotion of helmet wearing (as proposed by the promoters of this Bill) may reduce cycle use. Research commissioned by the UK Department for Transport found that, in areas where a helmet campaign was held, "a larger increase in helmet wearing was found than in the areas which had not held such a campaign. However, this increase was found to be strongly linked to a decrease in the numbers of cyclists observed: in those areas where a campaign had been held and the numbers of cyclists had increased, helmet wearing fell" (emphasis in the original)<sup>17</sup>.

2.14 Similarly, a report for the European Conference of Transport Ministers (ECMT) noted that, "From the point of view of restrictiveness, even the official promotion of helmets may have negative consequences for bicycle use, and that to prevent helmets having a negative effect on the use of bicycles, the best approach is to leave the promotion of helmet wear to manufacturers and shopkeepers"<sup>18</sup>.

2.15 There is a risk that the 3-year pre-law helmet promotion campaign proposed in clause 12 of the Bill might serve merely to bring forward the reduction in cycle use to before the law, rather than after it – indeed this may well have happened in the case of Canada's helmet laws. As the next section shows, there could still be very serious negative public health impacts from such a campaign, far greater than any possible benefits.

## 3. Is legislation a proportionate measure?

3.1 For anyone whose life has been affected by a fatal or disabling injury, it is a very understandable reaction to feel that anything that might have prevented the tragedy they have suffered must be self-evidently desirable, and who would therefore strongly welcome a cycle helmet law.

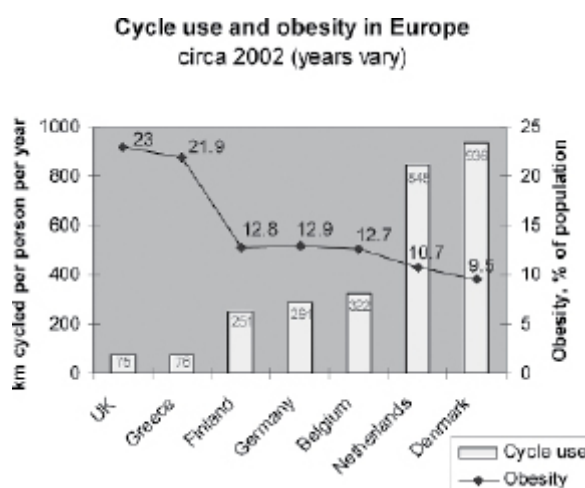
3.2 However, the introduction and implementation of all legislation, not least that pertaining to public health and safety, needs to be done on the basis of the available evidence. That must include an examination of the actual risks of serious head injury or death while cycling, vis-à-vis the health and other benefits lost if large numbers of people give up or are deterred from cycling as a result of any helmet legislation.

## Health benefits of cycling

3.3 Cycling can confer considerable health benefits and can play a major part in counteracting obesity, which is currently increasing at an alarming rate and is a drain on the public purse.

3.4 The health benefits of cycling are substantial<sup>19</sup>. Cycling in mid-adulthood typically gives the fitness of a person 10 years younger<sup>20</sup>, and a life expectancy 2 years above the average<sup>21</sup>. People who do not commute regularly by cycle have a 39% higher mortality rate than those who do<sup>22</sup>. Thanks to these extra life-years, the health benefits of cycling far outweigh the risks involved<sup>23</sup> – by 20:1 according to one estimate<sup>24</sup>.

3.5 It is estimated that physical inactivity costs the UK economy £8.2 billion a year, while obesity represents a further economic cost of around £3.5 billion.<sup>25</sup> In NI the cost to the Executive is estimated at £500m per annum.



Although not demonstrably a causal relationship, international comparisons suggest an apparent link between cycle use and obesity rates

3.6 One third of all children aged 2-10 years in Northern Ireland are overweight or obese, while 38% of 11-15 year olds fall into this category.<sup>26</sup> Obese and overweight children are likely to grow up to become obese and overweight adults, thus placing a considerable strain on the health service.

3.7 Children are spending an increasing amount of time in cars. In England, nearly 40% of 5-10 year olds are driven to school, compared to 22% in the mid-1980s, while just 37% of all men and 25% of women are active at the levels recommended by the Chief Medical Officer of 30 minutes of moderate exercise per day for adults and 60 minutes for children. <sup>27</sup> We are confident that similar levels of car dependency on the school run and of adult inactivity exist in Northern Ireland.

3.8 Physical activity reduces the risk of developing major chronic illnesses, such as coronary heart disease, by up to 50%. The easiest and most acceptable forms of physical activity are those that can be incorporated into our everyday lives – cycling is well-suited for this purpose.<sup>28</sup>

3.9 It has been calculated that new cyclists can reduce their risk of death by up to 22% when they take up cycling.<sup>29</sup> Indeed, a 15-minute bike ride to work five days a week can burn up the equivalent of 11 pounds of fat in a year.<sup>30</sup> A study commissioned by the UK Department for Transport found that, when people who haven't previously exercised start cycling, they move from the least fit one third of the population to the fittest third of the population within just a few months.<sup>31</sup>

## **How safe is cycling?**

3.10 The evidence clearly shows that the risks of serious injury or death from cycle are relatively low. You are in fact more likely to be killed in a mile of walking than a mile of cycling<sup>32</sup>, and young people aged 17-20 are more at risk of death during a mile of car travel than a mile of cycling<sup>33</sup>.

3.11 During the six years to 2009/10 in Northern Ireland:

- 1% of adults who died and 2% of those seriously injured in road accidents were cyclists<sup>34</sup>
- 7% of people under 17 years old who were seriously injured in road accidents were cyclists<sup>35</sup>
- While 4 child cyclists died in road accidents in 2004/5 to 2005/6, none died in a road accident in the four years 2006/7 – 2009/10 inclusive

3.12 One calculation, based on Australian data, concludes that cycling without a helmet carries only slightly more risk of death or serious injury per hour than driving<sup>36</sup>. It has also been estimated that the risk of injury per hour when playing football, squash, basketball soccer is much higher than when cycling<sup>37</sup>. A further study has found that the injury risk per hour is lower for cycling than for gardening<sup>38</sup>.

3.13 Cyclists aren't especially prone to head injuries either. Australian data suggests that the proportion of injuries requiring hospitalisation was about the same for cyclists (27.4%) as for drivers and pedestrians (28.5%)<sup>39</sup>. Despite cycling being the second most common form of physical activity for children<sup>40</sup>, cycling typically accounts for just 7-8% of the head injuries for which children are admitted to English hospitals<sup>41</sup>, and 6.5% for NI hospitals<sup>42</sup>.

## **Helmet legislation: a net health benefit or cost?**

3.14 In determining whether or not cycle helmet legislation is the right way forward for Northern Ireland, it is vital to factor in the health benefits of cycling – and the cost to both the health of individuals and to the health service if cycle use were to fall as a result of the proposed Bill.

3.15 Using the World Health Organisation's "HEAT" (Health Economic Assessment Tool) methodology<sup>43</sup>, CTC has estimated that a UK-wide law would result in 263 extra deaths annually due to increased physical inactivity, and that the net public health disbenefit would be £304-415m, even based on the UK Department for Transport study's estimate of helmet effectiveness (n.b. CTC does not accept this estimate). This excludes the costs to the remaining cyclists of purchasing helmets (we estimate this at around £180m initially, plus replacement costs of around £45m annually).



3.16 Interestingly, this is close to the \$400m (or c£260m) estimate of the disbenefit of a UK helmet law estimated by Australian statistician Professor Piet de Jong<sup>44</sup>. De Jong has developed an algebraic model which can be used to show that helmet laws, and even helmet promotion campaigns, are almost bound to lead to net disbenefits to public health. The slight possibility of a small positive health benefit depends on highly improbably assumptions about a very low reduction in cycle use, a very high level of risk due to cycling relative to its health benefits, and helmets providing very levels of protection against those risks.

## How effective are cycle helmets?

3.17 Based on the information above, it will be apparent that the debate about the effectiveness or otherwise of helmets is almost certainly academic. Nonetheless, the topic continues to be hotly disputed. However the following points are worth noting:

- Helmets are (and can only be) designed to withstand forces equivalent to falling from a stationary riding position<sup>45</sup> – i.e. they are not designed for impacts with motor vehicles, especially not heavy vehicles or those moving at speed.
- One study found that cyclists with helmets have a 14% higher injury risk per mile travelled than non-wearers<sup>46</sup>.
- A systematic review of the evidence from places with helmet laws (e.g. Australia and New Zealand) shows no link between increases in helmet-wearing and improvement in cyclists' safety<sup>47</sup>.
- Similarly, UK evidence shows no detectable link between changes in cycle use and cyclists' safety, either for cyclists in general<sup>48</sup> or for children in particular<sup>49</sup>
- A review of helmet evidence commissioned by the UK Department for Transport noted that "impossible to definitively quantify the effectiveness or otherwise of cycle helmets based on the literature reviewed." <sup>50</sup>

## 4 Enforcement

4.1 To increase helmet-wearing rates, countries have needed to invest heavily in promoting and then enforcing their helmet laws. In Queensland, cyclists were 3 times more likely per mile travelled to receive a penalty for not wearing a helmet than all other road users for all other traffic offences put together<sup>51</sup>.

4.2 Meanwhile in the Australian State of Victoria there were 19,229 Bicycle Offence Penalty Notices and 5,028 Bicycle Offence Reports issued in the first year of the state's helmet law alone. These represented 2.6% of all traffic offence notices, and the risk per km cycled of being cited for a helmet-related offence was higher than for all other traffic offence notices together<sup>51</sup>.

4.3 We reiterate that the risks of cycling are not especially high. To enforce a ban on cycling without helmets will be seen as unfairly targeting a minority group, simply because their healthy and sustainable transport option or leisure activity is perceived as "hazardous" due to the risks imposed on them by drivers. As the next section shows it is people from lower income groups who are least likely to own or to wear helmets, thereby adding to the likelihood that the law will be perceived as unjust and discriminatory.

## 5 Why legislation could exacerbate social exclusion

5.1 There is evidence that the following groups are less likely to wear cycle helmets, and therefore more likely to be deterred from cycling if helmet legislation is introduced:

- Children from socially-deprived areas
- Minority ethnic groups

5.2 In addition, there is evidence that cycle helmets already have a deterrent effect on women which would be exacerbated if this Bill was introduced.

## **Children from socially deprived areas**

5.3 In Northern Ireland, in the course of undertaking schools' Bike It programme, Sustrans has observed a marked difference between helmet-wearing rates at schools in relatively affluent areas and schools in more socially deprived areas. For example, at one relatively affluent school in Newtownabbey where 11 Sustrans recently carried out the Bike It programme, 103 of the 106 pupils arrived for the session with cycle helmets. By contrast, at a school in a socially deprived part of west Belfast, just 5 of the 96 participants turned up with helmets.<sup>52</sup>

5.4 This pattern has also been observed elsewhere. A study carried out among more than 1,000 children, aged 9-10 years, at 28 primary schools in Nottingham found that children who lived in a deprived area were less likely to own a helmet.<sup>53</sup> A study carried out in Quebec found that a four-year helmetwearing campaign was less effective in more socially deprived areas, despite innovations such as discount coupons for the purchase of helmets.<sup>54</sup> The researchers concluded that, for families in these areas, the purchase of a helmet, even at a discounted price, might well have been beyond their budget.

5.5 There is also evidence that cycle helmet legislation has little long-term impact on helmet wearing among children in lower income areas. A large study in Toronto, which examined the impact of cycle helmet legislation, found that children in lower and mid-income areas were consistently less likely to wear helmets than their counterparts in more affluent areas.<sup>55</sup> Six years after the legislation was introduced, helmet-wearing rates had returned to pre-legislation levels in lower and mid-income areas.

## **Minority ethnic groups**

5.6 A major survey of cycle helmet-wearing rates in Great Britain, carried out by the Transport Research Laboratory for the Department for Transport in 2008, found that 'white' cyclists were more likely to wear a helmet than those of other ethnic origins.<sup>56</sup>

5.7 One particular concern which we have is the potential impact of the proposed legislation on migrant workers. Circumstantial evidence suggests that many migrant workers in Northern Ireland use bicycles, particularly to commute to and from work. However, helmet usage among this group appears to be low. Given that not all migrant workers speak or read English fluently, there is clearly a risk that some will be penalised for non-compliance with a law of which they are not aware.

5.8 We further note that, as the Bill stands, there is no provision for any exceptions to be made on the grounds of a person's wish or obligation to wear headwear prescribed by their religion e.g. Sikh turbans.

5.9 On the above grounds, we consider that the Bill would discriminate against members of minority racial and ethnic groups and against those who hold certain religious beliefs. For this reason, if the Bill was to proceed further, we believe it should be referred to an ad hoc assembly Committee on equality issues, as provided for under Assembly Standing Orders.

## **Women**

5.10 In both Northern Ireland and Great Britain, the percentage of women cycling lags well behind mainland Europe. While the proportions of men and women who cycle in mainland Europe are broadly equal, in Great Britain, men are three times as likely to cycle as women.<sup>57</sup> While no similar statistics exist for Northern Ireland, we know that the proportion of male cyclists greatly outweighs female cyclists here.

5.11 It would appear that the perception of cycling as a "dangerous" activity is a deterrent to women – a clear correlation has been found between levels of cycle use in different areas and the proportion of cycle trips which are made by women<sup>58</sup>. Conversely, the way to encourage more women to cycle is to promote it as a safe and stylish activity which can be undertaken in whatever clothes people feel comfortable wearing.

5.12 A survey of 1,099 women, carried out by YouGov for Cycling England, found that more than a quarter (27%) of respondents in the 18-24 year old age group said they were put off cycling by the fact that cycle helmets might mess up their hair.<sup>59</sup> Sustrans has found that concern about 'helmet hair' is frequently mentioned by women and teenage girls as a deterrent factor.

## **6 Tackling the causes of road danger to encourage more and safer cycling**

6.1 We have already noted (in section 2) that cycling gets safer the more cyclists there are – there is consistent evidence showing that cyclists gain from "safety in numbers". Cycling policy must therefore aim to achieve 'more' as well as 'safer' cycling, in order to maximise its health, environmental and other benefits.

6.2 This in turn requires efforts to tackle the fears which deter people from cycling, through measures such as 20mph speed limits, cycle-friendly road and junction design, stronger and better enforced traffic laws, and the provision of quality cycle training for adults and children alike. By contrast, measures such as helmet laws – or even helmet promotional campaigns of the kind advocated by Mr Ramsey's Bill prior to a law coming into force – will merely increase those fears. That would reduce the number of cyclists and perhaps also undermine the "safety in numbers" benefits for those who remain.

### **The extension of 20 mph speed limits**

6.3 CTC and Sustrans would also be fully supportive of extending access to cycle training for adults, particularly in the 16-24 year age bracket where cyclists are also much more likely to be judged responsible for traffic accidents. However, it should be noted that the TRL review also found that, in traffic collisions involving cyclists aged 25 and over, the vehicle driver was more likely to be found responsible.<sup>60</sup>

6.4 A review of 20 mph zones in London found that there was an average reduction in casualties of 42%, compared with an 8% reduction in surrounding areas. Although injuries amongst cyclists reduced at a lower rate than other users (only 17%), this does not take account of the fact that cycling levels increased much more than for other modes<sup>61</sup>.

6.5 Casualty severity in cycle accidents involving both children and adults increases with the speed limit; in other words, the higher the permissible speed limit, the higher the risk of an accident.<sup>62</sup> Indeed, Kim et al. found that the risk of an injury or fatality in a cycle traffic accident increased markedly where the speed limit was more than 20 mph.<sup>63</sup> Moreover, a major review of road traffic accident data in the North West of England recently concluded that, if all

residential areas in the region were designated as 20 mph zones, the following reductions in road traffic casualty figures could have been achieved across the region:

- 31% reduction in child fatalities and serious injuries
- 18% reduction in adult and child cyclist fatalities and serious injuries<sup>64</sup>

6.6 We therefore believe there is a strong argument that the Department for Regional Development should Invest in measures that seek to create safe, attractive cycling conditions including the extension of 20 mph speed limits to all residential roads in towns, cities and villages.

### **"Smarter choices": providing the encouragement, incentives and opportunities to try cycling**

6.7 The value of measures to influence attitudes and awareness – often known as ‘smarter choices’ – has gained considerable recognition in the last few years. Such measures include public awareness campaigns, school and workplace travel plans and individualised travel marketing, as well as cycle training (see below).

6.8 Smarter choices measures can be targeted at specific groups, for instance school or college pupils, employees, women, health patients and various minority or disadvantaged groups. They can be offered an opportunity to try out cycling, with supporting incentives and information, tailored to their needs and interests. For many groups who lack confidence, a chance to try out cycling in a local park or sports stadium is an excellent starting point. For others who are able to cycle but are wary of doing so in busy traffic, cycle training and the promotion of cycling through schools and workplaces can deliver substantial increases in cycle use at a remarkably low cost.

6.9 Other “smarter choices” measures include promotion and advertising campaigns, cycle maps and journey planners, and mass bike rides. “Smarter choices” measures can be combined with physical measures (e.g. cycle access or parking facilities) in the context of green travel plans for schools or colleges, workplaces, or residential areas. For an overview of the topic, see CTC’s Smarter Choices briefing<sup>65</sup>.

6.10 Belfast City Council, SIB and DRD have appointed consultants to examine the feasibility of a public cycle hire facility similar to schemes in London and Dublin. Legislations to mandate the use of cycle helmets may undermine the effectiveness of the scheme.

6.11 A Department for Transport review of ‘smarter choices’ measures found typical benefit-to-cost ratios of around 10:1<sup>66</sup>. A review for the Scottish Government found that ‘travel plans were also among the most cost-effective ways to reduce transport’s carbon emissions<sup>67</sup>.

### **Cycle training**

6.12 One of the most effective alternative uses for the Department of the Environment funding which would otherwise be required for implementing this Bill (including the proposed cycle helmet promotion initiative) would be to invest it in expanding provision for cycle training for children:

- The safety benefits of cycle training are proven<sup>68</sup>
- An IPSOS – MORI survey (2010) showed 87% of parents feel more confident allowing children to cycle on the road and 49% of parents report an increase in frequency of their child cycling following the child completing the Bikeability training course

- The benefits of cycle training for a child will last a lifetime

6.13 At present, the Department of the Environment's Road Safety Branch provides cycle training for approximately 9,000 P7 pupils (aged 10 – 11 years) each year.<sup>69</sup> However, this represents just 40% of all P7 pupils in any given year in Northern Ireland.<sup>70</sup> Moreover, it is not carried out to the same standards as that now commonly available in England, Scotland Wales, relying primarily on playground-based rather than on-road training.

6.14 We believe all primary school pupils in P7 should have access to high quality cycle training on a par with that available in Great Britain.<sup>71</sup>

6.15 Thus, these statistics only serve to underline the need for all children to have access to cycle training at an appropriate age. Indeed, research has shown that cyclists who have received cycle training are three times less likely to be injured in a cycle accident than those who have not.<sup>72</sup>

## 7. Conclusion

7.1 We believe the Environment Committee should recommend that the Assembly reject the Cyclists (Protective Headgear) Bill. The relatively small risks of cycling do not remotely justify banning any age group from cycling without a helmet, while mass helmet use has not in practice been found to noticeably reduce those risks. What is clear is that enforced helmet legislation would suppress cycle use, and that the lost health benefits alone would be a serious net cost to society.

7.2 A recent study showed that there would be a clear net loss to public health alone from a helmet law, even if one assumed that the law would reduce cycle use only marginally, that the resulting loss of cycling's health benefits was not particularly large relative to the risks involved, and that helmets were highly effective at addressing those risks. In fact, none of these assumptions are realistic. At a time of mounting concern over the twin crises of obesity and climate change, the last thing we should be doing is forcing yet more people, especially children, into car-dependent sedentary lifestyles.

7.3 Instead, we hope that the Environment Committee will take this opportunity to recommend that the Department of the Environment and the Department for Regional Development should initiate our recommendations of:

- Investment in measures that seek to create safe, attractive cycling conditions including the extension of 20 mph speed limits to all residential roads in towns, cities and villages
- Promotion of cycling as a healthy and enjoyable means of transport and recreation, both for the population in general, and for specific groups e.g. school and college pupils, employees, women, health patients, and various disadvantaged or minority groups.
- Specifically we advocate the introduction of high quality cycle training for all children in P7 to a standard equivalent to that currently available in England, Scotland and Wales. A review on the Roads Safety Officer Service including options for future delivery of cycle training is due for completion in April 2011.

7.4 We are confident that these measures will have a tangible positive impact on the numbers of cyclists involved in road traffic accidents, and in the levels of death and serious injury related to such accidents. Moreover, both these measures will instill confidence in cyclists and potential cyclists, and are likely to lead to higher levels of cycling. By contrast, the proposed legislation could well lead to a significant reduction in the cycling levels.

## About us:

Sustrans is the charity that's enabling people to travel by foot, bike or public transport for more of the journeys we make every day. Our work makes it possible for people to choose healthier, cleaner and cheaper journeys, with better places and spaces to move through and live in.

Sustrans Northern Ireland  
Ground Floor,  
Premier Business Centres,  
20 Adelaide Street,  
Belfast,  
BT2 8GD  
Tel: 028 9043 4569 (048 9043 4569 from ROI)  
Belfast@sustrans.org.uk  
www.sustrans.org.uk

CTC, UK's the national cyclists' organisation, was founded in 1878 and has 67,000 members throughout the UK, including 500 in Northern Ireland. CTC works to promote cycling by raising public and political awareness of its health, social and environmental benefits, and by working with all communities to help realise those benefits.

## CTC

Parklands,  
Railton Rd,  
Guildford,  
Surrey  
GU2 9JX  
Tel : 0844 736 8450  
cycling@ctc.org.uk  
www.ctc.org.uk

## References

1 Botma H & Papendrecht H. Traffic operation of bicycle traffic. TU-Delft, 1991 (see <http://pubsindex.trb.org/view.aspx?id=365588>).

2 Calculated on the basis of 170 gm/km for an average car, around 200 trips per year.

3 Committee on Climate Change. Building a low carbon economy – the UK's contribution to tackling climate change. CCC, 2008 (see [www.theccc.org.uk/reports/building-a-low-carbon-economy](http://www.theccc.org.uk/reports/building-a-low-carbon-economy)).

4 Calculated using methodology in SQW. Valuing the benefits of cycling. 2007 (see [www.dft.gov.uk/cyclingengland/site/wpcontent/uploads/2008/08/valuing-the-benefits-of-cycling-full.pdf](http://www.dft.gov.uk/cyclingengland/site/wpcontent/uploads/2008/08/valuing-the-benefits-of-cycling-full.pdf)).

5 PL Jacobsen, Safety in numbers: more walkers and bicyclists, safer walking and bicycling. Injury Prevention. 2003. vol 9, pp 205-9 - <http://injuryprevention.bmj.com/cgi/content/abstract/9/3/205>.

6 Committee on Climate Change. Building a low carbon economy. 2008. p. 291

7 Robinson D. Do enforced bicycle helmet laws improve public health? BMJ vol. 332, p722. 2006 (see [www.cycle-helmets.com/robinsonbmj.pdf](http://www.cycle-helmets.com/robinsonbmj.pdf)).

8 Smith N & Milthorpe M. An Observational Survey of Law Compliance and Helmet Wearing by Bicyclists in New South Wales - 1993 (4th survey). 1993 NSW Roads & Traffic Authority ISBN0-7305-9110-7.

9 Finch C et al. Bicycle use and helmet wearing rates in Melbourne, 1987 to 1992: the influence of the helmet wearing law. Monash University, Accident Research Centre report no. 45, 1993, pp. 35, 36, 43 (see [www.monash.edu.au/muarc/reports/muarc045.pdf](http://www.monash.edu.au/muarc/reports/muarc045.pdf)).

10 Electronic count data from Main Roads Western Australia, reproduced at [www.cycle-helmets.com/bicycle\\_numbers.html](http://www.cycle-helmets.com/bicycle_numbers.html). See also [www.cyclehelmets.org/1113.html](http://www.cyclehelmets.org/1113.html).

11 LeBlanc et al. Effect of legislation on the use of bicycle helmets. Canadian Medical Association Journal, vol. 166 no.5, pp592-5, 2002 (see [www.cmaj.ca/cgi/content/full/166/5/592](http://www.cmaj.ca/cgi/content/full/166/5/592)). See also online comment from M Wardlaw: [www.cmaj.ca/cgi/eletters/166/5/592#38](http://www.cmaj.ca/cgi/eletters/166/5/592#38).

12 See [www.cyclehelmets.org/1122.html](http://www.cyclehelmets.org/1122.html) and [www.cyclehelmets.org/1194.html](http://www.cyclehelmets.org/1194.html).

13 Land Transport New Zealand. Sustainable and safe land transport, 2007 (see [www.cycle-helmets.com/nz-ltsa-2006.pdf](http://www.cycle-helmets.com/nz-ltsa-2006.pdf)). See also Land Transport Safety Authority data summarised at [www.cycle-helmets.com/zealand\\_helmets.html](http://www.cycle-helmets.com/zealand_helmets.html).

14 Taylor, M and Scuffham, P. 'New Zealand Bicycle Helmet Law – Do the Costs Outweigh the Benefits?' in Injury Prevention 2002;8:317–320, Table 2. Available at: <http://injury prevention.bmj.com/content/8/4/317.full> In the 1996 New Zealand census, the total population was 3,681,546.

15 Smith, F. C. and Milthorpe, N. W. 'An observational survey of law compliance and helmet wearing by bicyclists in New South Wales', 1993, Roads Traffic Authority, cited by Robinson, D. 'Head Injuries and Bicycle Helmet Laws' in Accident Analysis and Prevention, Vol. 28, No. 4, pp. 463-475, 1996. Available at: <http://www.cycle-helmets.com/robinson-head-injuries.pdf>

16 Pucher, John and Buehler, Ralph 'Making Cycling Irresistible: Lessons from the Netherlands, Denmark and Germany' in Transport Reviews, 2008, Vol. 28, No. 4, pp. 495 – 528. Available at: <http://policy.rutgers.edu/faculty/pucher/irresistible.pdf>

17 Bryan-Brown K & Taylor S. Cycle helmet wearing in 1996. TRL, Report 286 (see [here](#)).

18 European Conference of Transport Ministers. "National policies to promote cycling." ECMT, 2004 (see [here](#)).

19 Cavill N & Davis A. Cycling & health: what's the evidence. Cycling England, 2007 (see [www.cyclingengland.co.uk/viewer.php?fd=240](http://www.cyclingengland.co.uk/viewer.php?fd=240)).

20 Tuxworth W et al. Health, fitness, physical activity and morbidity of middle aged male factory workers. British Journal of Industrial Medicine vol 43. pp 733-753, 1986.

21 Paffenbarger R et al. Physical activity, all-cause mortality and longevity of college alumni. New England Journal of Medicine, vol. 314(10) pp 605-613, 1986 (for abstract see <http://content.nejm.org/cgi/content/abstract/314/10/605>).

- 22 Andersen L et al. All-cause mortality associated with physical activity during leisure time, work, sports and cycling to work. Archives of Internal Medicine, 160: 1621-1628, 2000 (see [www.md.huji.ac.il/courses/ebm/pdf/br4.pdf](http://www.md.huji.ac.il/courses/ebm/pdf/br4.pdf)).
- 23 British Medical Association. Cycling: towards health and safety. Oxford University Press, 1992.
- 24 Hillman M. Cycling and the promotion of health. Policy Studies vol. 14 pp49-58, 1993.
- 25 DCMS (2002) Game Plan (London: DCMS), cited in SQW (2007) Valuing the Benefits of Cycling (London: Cycling England), p. 15
- 26 NISRA Northern Ireland Health and Social Wellbeing Survey 2005/06. Topline Results – Childhood Obesity, p.2. Available at: [http://www.csu.nisra.gov.uk/HWB\\_Child\\_Obesity.pdf](http://www.csu.nisra.gov.uk/HWB_Child_Obesity.pdf)
- 27 SQW (2007) Valuing the Benefits of Cycling (London: Cycling England), p. 15 SQW, op. cit., p. 15.
- 28 Chief Medical Officer (2004) At least five a week, cited in SQW, op. cit., p. 13.
- 29 This calculation was made by Dr Harry Rutter, Specialist Registrar in Public Health Medicine. See Rutter, H (2000) A policy report on the health benefits of increased cycling in Oxfordshire. Available at: <http://www.modalshift.org/reports/tandh/discussion.htm>
- 30 Information on Bupa [website](#)
- 31 Fentem, P.H. (1994) 'ABC of sports medicine. Benefits of exercise in health and disease' in British Medical Journal, No. 308., pp. 1291-5, cited on Bupa website (see link in footnote 14).
- 32 Calculated from table NTS0305 of the UK Department for Transport's National Travel Survey 2009 ([www.dft.gov.uk/pgr/statistics/datatablespublications/nts/how-mode/nts0305.xls](http://www.dft.gov.uk/pgr/statistics/datatablespublications/nts/how-mode/nts0305.xls)) and table 6c of its Reported Road Casualties Great Britain 2009 ([www.dft.gov.uk/excel/173025/221412/221549/227755/503336/RCGB09tables1to20.xls](http://www.dft.gov.uk/excel/173025/221412/221549/227755/503336/RCGB09tables1to20.xls)).
- 33 CTC calculation from NTS0601 of DfT National Travel Survey 2009 and casualty data from Road Casualties Online.
- 34 Figures provided by PSNI Central Statistics Unit. They relate to those aged 17 or over. 7 cyclists out of a total of 655 were killed, and 123 cyclists out of a total of 5,684 were seriously injured in road traffic accidents in the six years 2004/5 to 2009/10 inclusive.
- 35 Figures provided by PSNI Central Statistics Unit
- 36 Robinson D. op. cit, p. 471.
- 37 Roberts I et al. Pedalling health – health benefits of a modal transport shift. South Australia, 1996, p. vii. Available at: [http://safety.fhwa.dot.gov/ped\\_bike/docs/cyhealth.pdf](http://safety.fhwa.dot.gov/ped_bike/docs/cyhealth.pdf)
- 38 Parkkari J et al. Active living and injury risk. International Journal of Sports Medicine, vol. 25 no. 3, pp209-216, 2004 (see [www.ncbi.nlm.nih.gov/pubmed/15088246](http://www.ncbi.nlm.nih.gov/pubmed/15088246)).
- 39 Berry J & Harrison J. Serious injury due to land transport accidents, Australia 2003-4. Australian Institute of Health and Welfare, Flinders Uni., Adelaide, 2007 ([www.nisu.flinders.edu.au/pubs/reports/2007/injcat107.php](http://www.nisu.flinders.edu.au/pubs/reports/2007/injcat107.php)).



40 Sport England. Young people and sport in England: trends in participation 1994-2002. Sport England 2003 (see [here](#)).

41 Franklin JA & Chapman G. Quantifying the risk of head injury to child cyclists in England: an analysis of hospital admissions data. Bicycle Helmet Research Foundation 2005 (see [www.cyclehelmets.org/1148.html](http://www.cyclehelmets.org/1148.html)).

42 Data on child hospital admissions supplied by the NI Department of Health, Social Services and Public Safety.

43 See [here](#).

44 De Jong P. The health benefit of bicycle helmet laws. Social Sciences Research Network, 2009 (since replaced by ref. Error! Bookmark not defined.).

45 Glanville H & Harrison N. Cycle helmets. British Medical Association, 1999.

46 Erke A & Elvik R. Making Vision Zero real: preventing pedestrian accidents and making them less severe. TØI (Institute for Transport Economics) report 889/2007. Oslo, 2007 (see [www.toi.no/article19378-29.html](http://www.toi.no/article19378-29.html)).

47 Robinson D. No clear evidence from countries that have enforced the wearing of helmets. [www.bmj.com/content/332/7543/722.2.full](http://www.bmj.com/content/332/7543/722.2.full).

48 Hewson P. Cycle helmets and road casualties in the UK. Traffic Injury Prevention, vol. 6 no. 2 pp127-134, 2005 (see [here](#)).

49 Hewson P. Investigating population level trends in head injuries amongst child cyclists in the UK. Accident Analysis & Prevention vol. 37 no. 5 pp807-815, 2005 (see <http://dx.doi.org/10.1016/j.aap.2005.03.020>).

50 Hynd D et al. The potential for cycle helmets to prevent injury - a review of the evidence. TRL research report PPR 446, 2009 (see [here](#)).

51 King M & Fraine G. Bicycle helmet legislation and enforcement in Queensland 1991-3: Effects on helmet wearing and crashes. Road User Behaviour Section, Queensland Transport, June 1993.

52 It should be noted that neither school had a policy of insisting that pupils wear helmets when cycling.

53 Kendrick, D and Royal, S 'Inequalities in cycle helmet use: cross sectional survey in schools in deprived areas of Nottingham' in Archives of Disease in Childhood, October 2003, Vol. 88, No. 10, pp. 876-880. Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1719320/pdf/v088p00876.pdf>

54 Farley, Céline, Haddad, Slim, and Brown, Bruce 'The Effects of a 4-Year Program Promoting Bicycle Helmet Use Among Children in Quebec' in American Journal of Public Health, 1995, Vol. 85, pp. 46-51.

55 Macpherson, A. K. et al. 'Economic disparity in bicycle helmet use by children six years after the introduction of legislation' in Injury Prevention, 2006, Vol. 12, pp. 231-235. Available at: <http://injuryprevention.bmj.com/content/12/4/231.full.pdf>

56 Transport Research Laboratory (2009) Cycle Helmet Wearing in 2008 Department for Transport TRL Report PPR420. Summary of results at:  
<http://www.dft.gov.uk/pgr/roadsafety/research/rsrr/theme1/PPR420.pdf>

57 Great Britain figures from Department for Transport National Travel Survey, 2005.

58 Ghg London Analytics Research Journal 2005 <http://www.londonanalytics.info/research-journal/LARJ001s.pdf>

59 For further details of the research, see [here](#)

60 op. cit., p. 33.

61 Grundy et al. Effect of 20 mph traffic speed zones on road injuries in London, 1986-2006: controlled interrupted time series analysis. British Medical Journal vol. 339 p4469, 2009 (see [www.bmj.com/content/339/bmj.b4469.full](http://www.bmj.com/content/339/bmj.b4469.full)).

62 op. cit., Fig. 5-1, p. 18.

63 Kim et al. 'Bicyclist injury severities in bicycle-motor vehicle accidents' in Accident Prevention and Analysis, 2007, Vol. 39, No. 2, pp. 238-251. Available at:  
<http://www.ncbi.nlm.nih.gov/pubmed/17005154>

64 Deacon, Lynn, Perkins, Clare and Bellis, Mark (2011) Road Traffic Collisions and Casualties in the North West of England (Liverpool: Centre for Public Health, Liverpool John Moores University), pp. 89 – 90. Available [here](#)

65 Smarter Choices. CTC, 2010 (see [www.ctc.org.uk/resources/Campaigns/10\\_Smarter-Choices\\_brf.pdf](http://www.ctc.org.uk/resources/Campaigns/10_Smarter-Choices_brf.pdf)).

66 Cairns S et al. Smarter Choices – Changing the Way We Travel'. Department for Transport 2004 (see [here](#)).

67 Atkins/University of Aberdeen. Mitigating Transport's Climate Change Impact in Scotland: Assessment of Policy Options. Scottish Government Social Research. 2009 (see [www.scotland.gov.uk/Resource/Doc/282791/0085548.pdf](http://www.scotland.gov.uk/Resource/Doc/282791/0085548.pdf)).

68 Royal Society for the Prevention of Accidents. The effectiveness of cycle training. RoSPA, 2001 (see [www.rospace.com/roadsafety/info/cyclist\\_training\\_effectiveness.pdf](http://www.rospace.com/roadsafety/info/cyclist_training_effectiveness.pdf)).

69 Figure provided by the Department of the Environment.

70 According to the Department of Education, there are approximately 22,300 pupils in P7 in the current academic year (2010/11).

71 This recommendation is designed to fit in with current practice. Research has shown that cycle training is more effective with 9 and 10 year olds than with 8 year olds. See Transport and Research Laboratory (1979) Comparison of On-road and Off-road Cycle Training for Children TRL Laboratory Report 902, 1979. Cited in Royal Society for the Prevention of Accidents (ROSPA) (2000) The Effectiveness of Cycle Training, p.4. Available at:  
[http://www.rospace.com/roadsafety/info/cyclist\\_training\\_effectiveness.pdf](http://www.rospace.com/roadsafety/info/cyclist_training_effectiveness.pdf)

72 Transport Research Laboratory. Pedal Cycle Accidents – A Hospital-based Study, TRL Research Report 220, 1989. Cited in ROSPA, op. cit. The cited study examined 772 cycle accidents involving cyclist admissions at John Radcliffe Hospital, Oxfordshire.

[1] Annual Cycle Usage Report 2009 DRD Roads Service

## **Analysis of Petition Responses to Proposed Cyclists (Protective Headgear) Bill**

**14th March 2011 from CTC and Sustrans**

### **Analysis of petition responses**

Sustrans and CTC encouraged the public to engage with the DOE Committee during the public consultation process of the Cyclists (Protective Headgear) Bill which was advertised 22nd February 2011. As part of that process we established an on-line petition for those people opposed to the Bill. This petition site required people to give their full name and address so we could avoid multiple responses and verify authenticity if needed.

This petition went live on Tuesday 1st March and was hosted on [www.surveymonkey.com/s/cyclehelmetbill](http://www.surveymonkey.com/s/cyclehelmetbill).

Within less than two weeks (by 14th March) there were an impressive 2,891 signatories (with 260 from NI) and 1161 comments offered. This number will rise. We summarise a selection of the 1161 comments below and can provide those interested with all comments. We have not altered these comments in anyway and there are some spelling mistakes. These are direct copy of quotes from the web site.

#### **1. It's a deterrent –**

"If I am visiting relatives a mile or so down the country road, I do not want or need to wear a helmet. If law I either will not visit or take the car. I can manage my own risk"

"I am opposed to this bill as it causes an unnecessary obstacle when wanting to get out on your bike. It would put me off cycling as a means of transport. I believe that cyclists that are in greater need of helmets such as competitive road cyclists or mountain bikers know this and wear helmets. Helmets can be an inconvenience to a commuter as it needs more storage space at their destination....."

"My children have decided that should a helmet law come into effect they will no longer cycle to school (they use a cycle path for 99% of the journey). I would then be driving them to school so more cars on the road and more pollution for the environment."

"I am an experienced, competitive cyclist and would never train without a helmet, however a short journey to the local shops I would not wear a helmet. I believe it would discourage myself and others from similar short journeys....."

"Cycling has been in my blood all my life, I haven't raced for years due to ill health, but taking it up again for leisure/ fun purpose with friends. If this Helmet bill was passed, i would not be going out on my bike, would really put me off."

"I am a transport planner whose work includes persuading people to switch from car to cycle. This proposal if passed would make this harder to achieve, because of the "scary" image of cycling which compulsory helmets portray. By all means use them for off-road mountain biking if you wish, but for everyday utility cycling their use should be a matter of personal choice."

"..... I do not like wearing a helmet when making small trips locally to buy food or simply to get to somewhere without using the car. This law, if it were to come in, would encourage more people to abandon cycling and use the car....."

"an helmet ban will automatically xclude millions of shiks.it is against there religeos beliefs to wear helmets even on motor cycles."

"Don't do it! You'll put people off cycling. People can make their own decisions about these things"

## **2. It will deter tourism – (a huge number on this issue – including a travel journalist) people adamant they will not come if law goes through.**

"Myself and my family are planning to come to Northern Ireland next year for the centenary of the maiden voyage of RMS Titanic. We would be cycling round the province. If helmet wearing is compulsory we will not come, we will take our money elsewhere, where we are able to make our own grown up decision when to wear our helments and when not to"

"I am planning a cycling holiday in Northern Ireland but would most definitely go elsewhere if the wearing of a helmet were to be made mandatory"

"It would deter non-cycle-helmet-wearing cycle tourists from visiting, especially in the border areas"

"I have cycle-toured in Northern Ireland several times, and written about it in my capacity as a travel writer. I would certainly not cycle-tour in Northern Ireland again if this bill were passed, nor recommend it as a destination."

"If helmets become a legal requirement in NI I will never again tour on my bike in your country."

"If the law passes then our cycling holidays in Ulster are at an end."

## **3. Disproportionate - Cycling is relatively low risk**

"My daughter has a severe acquired head injury which will mean she is disabled for the rest of her life - she got the injury in the commonest of places - a car"

"Should be your own personal choice. I fractured my skull many years ago and a Helmet would not have saved me at all. As hit on chin."

"Hospitals are NOT full of cyclists with head injuries. What they ARE full of is overweight people suffering from diabetes and other consequences of lack of exercise. Be clear what this proposed law means: it will MAKE CYCLING ILLEGAL unless you are wearing a helmet. Few things could be worse for the nation's health than deterring people from cycling through such misguided legislation."

"I am a survivor of a severe head injury, inflicted by a car that knocked me from my bicycle. Since then, I have taken a keen interest in road safety and am very disappointed that Headway, who I would love to support, are engaged in such a backwards and harmful bill that I can only oppose."

"I have been cycling since I could walk (I am now 67). I have fallen off innumerable times, often on purpose as a juvenile stunt, and I have NEVER come down on my head. I do not deny that on rare occasions wearing a helmet would have saved some cyclists from head injury, but why legislate for such rare events, when such legislation would be to the detriment of the majority, and reduce the incentive to cycle. Many MLA's claim to be cycle friendly and seek to encourage cycling - or so they say. Now is the time to back up the words with actions. This is ridiculous, and difficult to enforce legislation"

"I have been cycling for 45 years both commuting and touring in which time I have fallen many times but I have never sustained an injury which a cycle helmet could have prevented. I believe compulsory helmet wearing will discourage cycling which will ultimately restrict individual freedom and contribute to future increased healthcare costs and pollution."

"I am an Australian who left my country after the helmet legislation was introduced there. The then-new law discouraged cycling on a huge scale. It also sent a signal to the public that cycling was a foolhardy and dangerous activity, and only people who disregarded their wellbeing and those who care for them would undertake such an activity. Please do not introduce this law here! John Isles, formerly of Sydney, Australia."

#### **4. Enforcement issues**

"more money grabbing at the common man painted up to make it look good for either political gain or more money in fines and sales, nothing more nothing less it's hard enough to get people into cycling or any form of exercise without making it worse...."

"I know numerous experienced, safety-conscious cyclists, who are aware of the foregoing, and other evidence against the advocacy of helmet wearing, and have not been brain-washed by those who campaign with much mis information, into trusting such unreliable evidence in favour of helmet wearing. Many state that they would refuse to obey mandation !"

#### **5. Socially deprived communities will suffer – and other low income groups**

"I am a pensioner and the cost of helmets is toooooo much !!!!!!!!!!!!!!!!!!!!!!!"

#### **6. Alternatives where money better spent**

"The onus should be on the drivers to adapt their driving to the weakest and most vulnerable road user, not on the weakest and most vulnerable road user to protect themselves against aggressive, fast and dangerous driving."

"In favour of a well designed and promoted campaign to encourage people to wear helmets and to educate young people."

"Perhaps focusing on poor driving would be better. Compulsory cycling as part of the driving test ?"

## **7. Other without category but notable –**

"I feel that the word encourage should be emphasised strongly rather than enforcement. If children can be encouraged to wear helmets through parental leadership then the process will be carried on into adulthood and the need for any legislation will become ineffective. I also feel that the cycling charities/bodies should be more pro active in pushing this message. One final suggestion would be that when buying a bike a helmet should be a mandatory purchase."

"I bought a £120.00 helmet and in the enclosed documentation it said that the helmet was not guaranteed to protect you, therefore, what good is a helmet"

"As a citizen of the UK I want to be able to move freely within my own country, unimpeded by different regulations in different areas.....I have just returned from Australia where helmet-wearing is compulsory. What do Aussies do? They cram any old helmet on their heads, irrespective of fit, so as to avoid penalty, but in doing so place themselves in great danger. Landing head-first on an undersized helmet would probably be far worse than on no helmet at all"

## **T Price Submission to the Cyclists (Protective Headgear) Bill**

From: asphaltic@gmail.com [mailto:asphaltic@gmail.com]

Sent: 11 March 2011 23:41

To: +Comm. Environment Public Email

Subject: proposed bill to introduce compulsory cycle helmet wearing in Northern Ireland

Sirs,

As a resident of east Belfast and a cyclist as my main vehicle I would appreciate your views on this proposal and the timetable of events associated with its potential implementation.

I would appreciate if my views were taken into account when you make any representation on behalf of your constituents. As a procedural point I have found out that these proposals date back to August of last year, although they have only just come to my notice. There has been little publicity or thought to inform the general cycling public who would be affected by these proposals.

I am totally opposed to compulsion on numerous grounds.

1. Foremost infringement of personal choice and individual responsibility to oneself and one's children
2. No hard evidence that helmets reduce any injury other than minor bumps. They are ineffective against high impact i.e. motor vehicle injuries. They can in fact cause serious types of injury i.e rotational. TRL evidence should be carefully considered as no compulsion.
3. Disincentive to introducing people to and maintenance of cycling, evidence collected from countries that have compulsion (Canada, New Zealand & Australia.) Where health benefits (reduce obesity & heart disease) outweigh injury risk.
4. Many cycling organisations such as CTC, and Sustrans oppose compulsion.

5 . Personally invasive and a practical and personal inconvenience

6. Recommendation by the Highway Code,(rule 59) is sufficient, rather than the compulsion proposed by those who in the main are not cyclists.

7. Address effort, education and enforcement to motorised road users to take account of cyclists as legitimate, although vulnerable, road users rather than waste these resources on unproven,unnecessary and unwarranted sticking plaster helmet legislation .

Yours

T. Price  
18 Kirkliston Drive  
Belfast  
BT55NX

## **Tim Beadle Submission to the Cyclists (Protective Headgear) Bill**

From: Tim Beadle [mailto:tim.beadle@gmail.com]  
Sent: 11 March 2011 14:59  
To: +Comm. Environment Public Email  
Subject: Cycle Helmet Legislation

To whom it may concern,

I am a cyclist in England but am concerned that, in an attempt to satisfy the concerns of a small section of the medical community (i.e.

head trauma specialists), the proposed Cycle Helmet Legislation in Northern Ireland will merely reinforce the incorrect view that cycling is a dangerous activity. If this legislation becomes law in Northern Ireland, those interested parties elsewhere in the UK may redouble their efforts to introduce similar legislation.

Evidence shows that wherever cycle helmets have been made mandatory (Australia, New Zealand, parts of North America), the only reliable effect is that fewer people choose to cycle.

This has negative knock-on effects for the ex-cyclists (less active travel leading to more obesity) and other people (in trying to travel in a "protected" way - e.g. by car - they make the road environment more hazardous for those cyclists and pedestrians that remain).

Walking and driving carry higher risk of head injury than cycling - will you mandate helmets for these activities?

Please consider the bigger picture of the real need to promote cycling as a normal, everyday method of transport rather than focus on a small aspect of the relatively low risk of cycling. This bill is no way to make cyclists safer in the long term.

Best regards,

Tim Beadle

--

Tim Beadle

[www.timandkathy.co.uk/journal/](http://www.timandkathy.co.uk/journal/)  
[twitter.com/t1mmyb](https://twitter.com/t1mmyb)  
[flickr.com/photos/t1mmyb](https://www.flickr.com/photos/t1mmyb)

## **Todd Edelman – A member of the OPENbike Team Submission to the Cyclist (Protective Headgear) Bill**

From: Todd Edelman [mailto:[edelman@greenidea.eu](mailto:edelman@greenidea.eu)]  
Sent: 08 March 2011 03:41  
To: +Comm. Environment Public Email  
Subject: re: Cyclists (Protective Headgear) Bill

Hello,

I am a USA-citizen currently working in Berlin. I am 44.

I work as a professional in urban cycling, focusing on design and communications. In late 2009 my team won one of two first prizes in the Copenhagen Bike Share Design Competition. A presentation of mine related to helmets (and lighting) was selected for Velo-city 2010 in Seville, Spain.

In 1990 whilst riding my bicycle in San Francisco, I was hit by a car and was flung through the air. I hurt my knee and arm badly, and my bike was destroyed. I also hit my head. I was wearing a helmet.

I have no idea if the helmet helped me. I only know that I was wearing one.

Cycling is inherently safe. In the late afternoon in the summer I was riding through a crossroads, with the green. A driver ran through the red and hit me. The driver's aggressive mistake was partly facilitated by the very dangerous design of the crossroads. It was those two factors which resulted in the collision. I did nothing wrong.

I would never say that the helmet saved my life. What I do say is that driver (and road design) almost killed me. I have not hit my head whilst riding since that incident and I stopped wearing a helmet in about 2005.

The argument against mandatory helmets for anyone of any age is nearly airtight. Any remaining issues should be resolved by the fact that a helmet is a personal choice for an adult cyclist or a child they are responsible for. If someone wants to wear a helmet that is great! But it should not be mandatory and if recommended by a government body the cyclist or parent of a cyclist should receive full and objective information.

A mandatory law would result in not only less cycling, but a large number of cyclists who would wear helmets that fit poorly. Helmets are not tested in conditions to simulate typical bike vs. motor vehicle crashes but their labelling does not communicate this.



The way to make roads safer for cyclists is to promote it as much as possible with interesting soft measures and to make cyclists feel safe with a combination of slower roads, infrastructure and effective enforcement focusing on speeding and otherwise dangerous driving.

I urge the Assembly Environment Committee to scrap this proposed legislation.

Kind regards and thanks for your hard work!

--

Todd Edelman  
Green Idea Factory,  
a member of the OPENbike team

Mobile: ++49(0)162 814 4081

edelman@greenidea.eu  
www.greenidea.eu  
todd@openbike.se  
www.openbike.se

Skype: toddedelman

Urbanstr. 45  
10967 Berlin  
Germany

\*\*\*

OPENbike - Share the Perfect Fit!

## **Tom Butcher Submission to the Cyclists (Protective Headgear) Bill**

From: Tom Butcher [mailto:tom.e.butcher@ntlworld.com]  
Sent: 11 March 2011 20:45  
To: +Comm. Environment Public Email  
Subject: helmet law

Dear members of the committee,

I am very concerned about the proposed legislation making it an offence to ride a bike bareheaded in any open space.

It would quite likely mean I wouldn't visit Northern Ireland again as most of my holidays take the form of cycle touring and I don't wear a helmet.

That would be a shame as I have enjoyed my visits in the past.

I don't know if you are aware but there is good evidence that compulsory helmet laws reduce the levels of cycling. Given the huge numbers of deaths associated with lack of exercise I'm sure

that any (unproven) safety benefits from helmet wearing will outweighed many many times over from the increased obesity and lack of exercise that a decrease in cycling would lead to.

Furthermore it has been shown that cycling is safer where many people cycle - the Netherlands or Belgium are examples of that. If a helmet law reduces cycling then you make cycling more dangerous for those who do not abandon their bikes. Again the helmet law would be counter productive.

Finally isn't society already over regulated ? Do we really want to reduce freedoms even further. This is nanny statism taken to the extreme and I hope it will be rejected .

Tom Butcher  
Derby  
5 DE1 3EU

## **Tony Collins Submission to the Cyclists (Protective Headgear) Bill**

From: Tony Collins [mailto:tony@collinet.plus.com]  
Sent: 06 March 2011 00:20  
To: +Comm. Environment Public Email  
Subject: Cycle helmet laws

Just to let you know I am strongly opposed to helmet compulsion, and think you should seriously consider rejecting it when you meet to consider the law in the near future

As a keen cyclist, I recognise that some people want to wear a helmet. I also know that many others, some or all of the time, do not. Helmet compulsion will reduce cycling rates which will make the roads more dangerous for those that continue. (It is known that increasing cyclist numbers improve safety)

Further - it will also result in worsening health for those who stop cycling as a result. Lack of fitness/Obesity and related diseases will increase. The net loss of health will far out weigh any reduction in head injuries (even if they do reduce - the statistical case for which is weak)

I will be visiting northern Ireland this summer, and bringing my cycle.

Together with 15 of my family, we will be making a significant contribution to the tourist industry. If helmets are mandated in future, it is unlikely we will repeat the visit.

Best regards

Tony Collins

## **Transport and Health Study Group Submission to the Cyclists (Protective Headgear) Bill**

From: Stansfield Debra (5F7) Stockport PCT [mailto:Debra.Stansfield@stockport-pct.nhs.uk]  
Sent: 14 March 2011 08:51  
To: +Comm. Environment Public Email  
Cc: Malcolm Wardlaw; Watkins Stephen (5F7) Stockport PCT

Subject: Submission to NI Assembly Environment Committee from the Transport & Health Study Group

To the Chair of the Environment Committee of the Northern Ireland Assembly.

10th March 2011

Dear Sir,

I enclose herewith evidence from the Transport & Health Study Group on the Cyclists' (Protective Headgear) Bill. The attached word document is our main submission and I also attach some PDF's which represent supporting material if the committee would find this helpful.

We would be willing to give oral evidence if requested.

As the principal public health organisation in the transport field, we strongly advise against legislation to make the wearing of cycle helmets compulsory, as it will cause reduced cycling levels and therefore increased deaths from heart disease, diabetes, osteoporosis and a range of other conditions, thereby doing more harm than good. We would in any case point out that – as we demonstrate in our evidence –the actual risks of cycling are too low rationally to justify such legislation in any age group.

Yours sincerely,

(Dr) STEPHEN J. WATKINS  
BSc, MB,ChB, MSc, FFPH, FFRSH, MILT  
Chair, Transport & Health Study Group

Debbie Stansfield  
PA to Dr Stephen Watkins, Director of Public Health  
NHS Stockport  
2nd floor, Regent House  
Heaton Lane  
Stockport SK4 1BS  
Email: [debra.stansfield@nhsstockport.nhs.uk](mailto:debra.stansfield@nhsstockport.nhs.uk)  
0161 426 5098  
[www.nhsstockport.nhs.uk](http://www.nhsstockport.nhs.uk)

This email and any attachments are confidential. They may contain privileged information and are intended for the named addressee(s) only. They must not be distributed without our consent.

If you are not the intended recipient, please notify us immediately and do not disclose, distribute or retain this email or any part of it. Unless expressly stated, opinions in this email are those of the individual sender and not of NHS Stockport. You must take full responsibility for virus checking this email and any attachments.

Please note that the content of this email or any of its attachments may contain data that falls within the scope of the Data Protection Act 1998 ("the Act"). You must ensure that any handling or processing of such data by you is fully compliant within the terms and provisions of the Act.

# **Submission of evidence to the Northern Ireland Assembly Committee for the Environment regarding the Cyclists' (Protective Headgear) Bill**

## **From the Transport & Health Study Group**

### **Summary**

We would like to make clear our strong opposition in principle to Schedule 1 and Schedule 12 of the proposed bill, for the following reasons:

1. The risks of cycling do not justify compulsory helmet use. Our research finds that cyclists in the UK face risks within the range experienced by pedestrians and drivers. The misconception of cycling being a relatively risky mode of travel is not evidence-based. Previous risk comparisons did not compare like with like – ignoring the effects of age, sex, type of road, and the way data are classified. If there are additional risks in cycling in some age groups, they are in the order of everyday risks, like driving on an all purpose road rather than a motorway, and they are more than outweighed for the individual by the health benefits, and for society by the lower risk to third parties. The risk in a lifetime - of cycling one hour per day for 50 years – is 1 chance in 140 of fatality, about the average for EU car drivers. Young people face higher risks driving than cycling – and when driving they impose greater risks on society. Riding a motorbike is more than 10 times more dangerous than cycling.

2. Wearing a helmet is no more sensible for cycling than for walking, driving or other everyday activities. It would be incoherent to pass a law compelling helmets for cyclists, when drivers do not wear helmets and are not expected to, despite young drivers being more at risk. There is as great a case for wearing helmets when driving, walking or playing football and more of a case for wearing them when playing rugby.

### **3. Cycling should seem normal**

Helmet use is highest where cycling levels are lowest. Minority status exacerbates fears amongst cyclists and non-cyclists to a degree not justified by risk assessment. There is substantial experience that cyclists' safety improves as cycling levels increase. Many people are put off cycling by the perception of it as unsafe – a perception not likely to be reduced by compelling helmet wearing, something otherwise only required on building sites and motor bikes. The solution is to make cycling a familiar, everyday activity. This would save many lives. The health benefits of sedentary people starting to cycle are actually greater than stopping cigarette smoking. This health benefit is 10-20 times greater than direct risk in cycling – and drivers also face risk, without the health benefits.

4. Enforced helmet laws suppress cycling levels and harm public health (i.e. kill people). Where cycle helmet laws have been enforced, large reductions in cycling have occurred. Countries with low levels of cycling have the highest obesity rates and the worst safety records for cyclists. Note that helmet laws are often not enforced, so reductions in cycling have been temporary. These cases are erroneously taken by some as evidence that helmet laws do not always reduce cycling levels but all enforced cycle helmet legislation anywhere in the world has caused a reduction in cycling and therefore has caused death.

5. The protective effects of helmets are too small to justify compulsory use. Concerning the protective benefits of cycle helmets, there has long been a contradiction. Early research

suggested a large protective effect, but when helmet use became commonplace, or was enforced, (serious) head injury prevention was not noticeable. That is, declines in head injuries were due to declines in cycling, rather than cycling getting safer. The most recent literature review by the UK Department for Transport acknowledged this, and concluded that it was not possible to estimate the effectiveness of helmets from medical evidence. Our own analysis identifies serious errors in published research, including the Cochrane review, and also notes the failure of helmet legislation to prevent serious head injuries. Indeed in some jurisdictions, cycle helmet laws have reduced lower limb injuries as much as they have reduced head injuries – clear evidence that what they are doing is reducing cycling, not making it less risky. The reason for this is unclear but there are a number of plausible explanations. It may be that

cycle helmets increase the risk of rotational injury by making the head bigger, it may be that they lead cyclists to take more risks because they feel safer or it may be that they lead motorists to perceive cyclists as more protected and therefore allow them less space (there is one study suggesting the last of these explanations, but it would be wrong to read too much into one study).

## **Evidence**

### **1. What is the Transport and Health Study Group?**

The Transport and Health Study Group (THSG) is an independent society of public health and transport specialists committed to promoting a healthy transport system. It was founded in the late 1980's. The Chair is Dr Steve Watkins, Director of Public Health for Stockport, and the Vice-Chairs are Professor Linda Jones, School of Health & Social Welfare, Open University and Dr Jennifer Mindell, Clinical Senior Lecturer, Dept of Epidemiology and Public Health, UCL (University College London).

The THSG published an original book called *Health on the Move* in 1991. This work pioneered analysis of the links between transport policies and health outcomes. Since then, a great deal has been learned about the many different ways in which transport policy affects the health of individuals and the community. For example, the benefits of physical activity through 'active transport' (walking and cycling) is now well-recognised, not least because the harm done by lack of exercise is now so apparent. Increasing rates of obesity and other chronic health problems make clear the consequences of the over-motorised society.

The new book, *Health on the Move 2*, is more than a twenty-year update: it provides a vision of a healthier and safer transport network for all. It concludes that cycling can make a substantial contribution to public health, through achieving higher levels of physical exercise across the population. A cycling revival would also be expected to contribute to road safety. However, there are serious issues with public perception, most notably, the incorrect belief that cycling is unduly hazardous.

We have attached the relevant parts of *HotM2* as an appendix (Section 1 (introduction and list of contents), Chapters 2, 4, 7 & 14). The following sections summarise the evidence in each topic and refer to the appropriate sections in *HotM2*.

### **2. Evidence for the low risks of cycling**

We make a thorough investigation of risk in walking, cycling and driving in *HotM2* Section 7.2.

The traditional view that cycling is relatively risky probably derives from gut instinct as much as anything. Previous studies have noted the risk per KM travelled is 12 times higher for cyclists

than drivers. However, in recent years, it has been noted that the risk per KM of walking is higher than for cycling, yet walking is not widely regarded as a risky mode of travel.

We found that only one thorough risk assessment had ever been completed – an unpublished Transport Research Laboratory working paper called Risk in Cycling, dating from 1988. This formed the basis of our approach, as it examined risk by age group and by sex, and it calculated risk by unit distance, by hour and by year. We obtained more up to date data from the Department for Transport, broken down by age group. In addition, we sought such data as were available from other countries. We aimed to make like-for-like comparisons as much as was possible given the data limitations.

The data provided several important findings that are not widely appreciated in the debate on cycling.

Firstly, the risks of UK cycling are within the range of risks found in driving; that is, some age groups are more at risk driving, and some are more at risk cycling. This is clear evidence the risk in cycling is seriously misperceived by society.

Secondly, from an overall road safety viewpoint, more cycling by young people would reduce road deaths. This is because the Under-21's face generally higher risks when driving than when cycling, and when driving they are a serious risk to society. Helmet legislation is known to deter teenagers from cycling more than any other age group. On this point alone, we would oppose the bill in question.

Thirdly, the difference in risk between cycling in the UK and other countries is much less than commonly thought. For instance, the risk differential between cycling in the UK and the Netherlands, is less than the risk differential between driving in France and in the UK. Indeed, French drivers face higher long terms risks than UK cyclists do. Again, this supports our conclusion that perceptions of risk are exaggerated where cycling levels are low.

It may be a rational decision for a cyclist to wear a helmet, dependent on how risk averse the cyclist feels, just as it would be for a driver, a football player or a rugby player. There is however a real danger in singling cyclists out in a way which reinforces the misperception that cycling is unsafe.

### **3. Evidence for the "safety in numbers" effect – the best way to make cycling safer**

For fuller discussion and all citations, please refer to HotM2 section 7.3.

It has been noted that in the years after 1973, cycling increased in the UK, while cyclist deaths fell. Similarly, in the 20 years from 1977, cycling in the Netherlands increased by 45% while deaths fell by 40% and risks per cyclist fell by 60%. Analysis by Jacobsen of a number of studies demonstrated a power law rule: when cycling doubles, the number of fatalities increases by about 40%. A similar study in English counties found a similar but lesser effect, with doubling of cycling leading to a 60% increase in deaths.

However, in practice, rises in cycling have actually been accompanied not only by a fall in death rates but also a fall in the absolute number of deaths. This is probably because the wider improvements, which probably contribute to an increase in cycling, also reduce the risk of collisions.

A number of cities have been studied, with similar findings that increases in cycling (and in walking) are accompanied by reductions in both road deaths and serious injuries.<sup>16</sup> From 1970 to 2006 total cycling trips increased by 70% in Copenhagen; serious injuries fell by 60% between 1995 and 2006. In Portland, Oregon, all traffic crash deaths fell from 46 to 28 per year in the 10 years to 2007, whilst the modal share of commuting to work by bicycle increased about four-fold to 6%. In Berlin, the modal share of cycling trips doubled to 10%, but serious injuries fell by 38% between 1990 and 2007.

Evidently the "safety in numbers" effect underscores that any competent programme must have multiple increases in cycle use central to its agenda. It does not therefore enhance cycle safety to include in the programme measures which, intentionally or not, reduce cycling.

## **4. Evidence for the health benefits of cycling**

Fuller treatment, and all relevant references, to support this section are found in Chapter 2 and Chapter 14 of HotM2. In particular, please refer to:

- 2.2.1 The Obesity Epidemic
- 2.2.2 Physical activity and health
- 2.2.3 Health benefits of active travel
- 2.3.2 Benefits of active travel to society and to individuals
- 14.2.1 The need to increase activity levels.

Physically active men and women (including cyclists) have the explosive muscle power of those 10 years younger. Indeed, 55-year-old cyclists had the aerobic fitness of people of the same sex 30 years younger. Among regular cyclists, 20 years of life are gained through the benefits of activity for each year of life lost through injury. Bicycle commuters have a lower death rate than non-cyclists. On average, cyclists live longer.

Cycling is a vital element in active travel, as it is the only mode that can match the flexibility, and almost the speed, of the car for trips of less than 5 miles. This is why a major recommendation of HotM2 is the implementation of cycle-friendly networks, to provide safe-feeling local cycle routes for new cyclists.

In contrast, lack of physical exercise is one of the ten leading causes of death in developed countries. It is associated with increased risks of type II diabetes, obesity, cardiovascular diseases, certain cancers, depression, osteoporosis and anxiety. The risk of developing major chronic diseases is almost halved in physically active adults. The World Health Organisation estimated that physical inactivity is responsible for 22-23% of coronary heart disease, 16-17% of colon cancers, 15% of diabetes, 12-13% of strokes, and 11% of breast cancers.

Recommendations for adults are to undertake at least 30 minutes of moderate intensity activity at least five times a week; this activity can be accrued in bouts of at least 10 minutes. Children aged five to 16 years should be at least moderately active for at least 60 minutes every day.

Population level measures to increase physical activity such as cycling for daily travel can reduce obesity, with subsequent falls in cardiovascular disease and diabetes. Commuting by car is associated with obesity compared with active travel modes and use of public transport. Countries with the highest levels of active transportation have the lowest obesity rates. Over half the variation between American states in rates of diabetes is accounted for by differences in the rates of active commuting.

Cycling is good exercise and confers multiple health benefits. Men who walk or cycle to work have a lower rate of death from ischaemic heart disease than men who commute by car. Cycling to school or work is as effective as a training programme and can fulfil the recommendations for physical activity (eg cycling two three-mile journeys daily). Cycling for travel results in the same health benefits as sports or other exercise.

Even when air pollution exposure and other hazards are considered, the benefits of cycling outweigh the risks.

Encouraging the shift from driving to cycling reduces the number of cars that cause air pollution and injuries. Increasing the number of cyclists reduces the injury risk for all of them, through the "Safety in numbers" effect. It also reduces the injury risk to pedestrians.

Any measure that deters cycling, or just might deter cycling, is therefore a bad idea and should not be implemented.

It is easy to understand the emotional reaction of those who see a cyclist whose injuries might have been reduced by a helmet and respond by saying "something must be done". But we need a similar reaction to very heart attack, every case of kidney failure or blindness or loss of limbs occasioned by diabetes, every hip fracture from osteoporosis. We need to say "these are the diseases of physical inactivity – something must be done". This bill unfortunately is a measure which moves in the wrong direction on this major public health issue.

## **5. Evidence for the deterrent effects of enforced helmet laws on cycle use**

For fuller discussion and full citation list, please see Section 7.4 of HotM2.

Reasonable data on cycle use is gathered in some countries as part of personal transport surveys. In the UK, long term cycle data are available via the National Travel Survey, on-road traffic counts, the National Census, and household telephone surveys. However, cycling is not normally measured by itself.

In Australia, several surveys of cycling did take place before and after the introduction of helmet legislation in the early 1990's. Of these, only two are satisfactory in terms of consistency of measurement, and only one (of children in New South Wales) is comprehensive, although not long-term. This showed 37% reduction in child cyclists in the first year, and 45% reduction in the second year, of the helmet law.

Long-term trends are more telling, if the data are available. National Census data from Australia show that commuting to work by bike had been generally increasing in Australia in the 15 years prior to legislation, but declined permanently after legislation was enforced:

% commuting to work by bike in Australia:

1976	1.11%
1981	1.56%
1986	1.68%
1991	1.56%
1996	1.24%
2001	1.21%
2006	1.24%



Note: helmet laws came into force in different states during 1990-1992

The deterrence of cycling to work is particularly disturbing. Experience shows that respectable levels of cycling are only ever achieved where people use bikes in their daily routine of commuting, shopping and so on. It is this kind of informal cycling that is most affected by helmet legislation.

In recent years, anecdotal evidence, and commentary in published research, report that the Australian helmet laws are not as rigorously enforced as they once were. Hospital admission data from South Western Sydney Regional Trauma Registry<sup>[1]</sup>, for instance, show that only 50% of cyclists were wearing a helmet at the time of injury – this despite the obvious motive of casualties to lie about non-use of a helmet. No doubt this explains reports of some recovery in cycling in the last five years or so. In addition, the helmet law was partially repealed in Northern Territories in 2004.

The case of New Zealand provides a more dramatic instance of the impact of enforced legislation, as revealed by the Household Travel Survey<sup>[2]</sup>. Enforcement began in January 1994. The Household Survey makes clear there was once a thriving culture of children cycling, with 19% of older children cycling to school in 1989. By 2008, this had dropped to just 5%, a reduction of almost three-quarters. In contrast, the percentage of older children walking to school did not change during 1989-2008. Cycling to work also dropped by half over the years, from 4% to 2%. Overall, cycling levels fell 55%. The travel survey only began in 1989, which is later than the commencement of intense helmet promotion, thus the full possible extent of deterrence cannot be known. It could be argued these changes would have happened anyway, but this is hard to accept. Cycling levels in other industrialized countries (those without helmet laws) have not fallen anything like as much in the same period.

Helmet laws have been introduced in many other states, provinces and countries, mostly only for children, but data on levels of enforcement, helmet wearing rates and cycle use are limited, if available at all. Few laws are enforced with any vigour. As a matter of ethics, we would argue that it is wrong to mislead the public about the risks of a healthy, benign, inherently cheap form of travel, especially in an era with rising levels of obesity and its health consequences.

Taking the best evidence overall, we do not doubt that enforced helmet legislation has permanently suppressed cycling levels, especially by children, and by all ages in the vital “daily trips” type utility cycling.

## **6. Selective use of evidence in some published research regarding suppression of cycle use by enforced helmet legislation.**

For fuller discussion and full citation list, please see Section 7.4 of HotM2.

Several papers have been published that refute the deterrent effect of enforced legislation on cycle use. All these papers come from Canada. In each case, close inspection shows that the conclusions are at best dubious, and conflict with other data from Canada.

In Ontario, Canada, the effect of helmet promotion and legislation for children was monitored by a long-term programme in York, a town near Toronto. The results of this study were published under the conclusion that legislation had not reduced cycling by children. This prompted the British Medical Association to alter its policy in 2005, from opposition to support of legislation. However, later papers by the same research team revealed that the Ontario law was not enforced. Helmet use briefly increased, then returned to pre-law levels. This had not been mentioned in the original paper. Additionally, helmet use was already high for several years

before the law. Limited data released by the team strongly suggest that declines in cycling had occurred during pre-law promotion. The team has never released data on cycle use in the early years of helmet promotion, that is, 1990-1992, although it is known these data were collected. A further data gap is that the population of Under-18's in York increased during the survey period, but this was not accounted for in the per-child cycle use calculations. This means that there were in fact significant declines in cycling per child. The current presentation is thus incomplete.

More recently, a paper appeared concluding that helmet laws in other provinces of Canada had not deterred cycling. This was only based on telephone surveys, and thus was not actually an especially robust methodology. The conclusion appears presumptuous. Charts in the paper show large reductions in trips by child cyclists in the years following the laws: Alberta (-50%) and Prince Edward Island (-30%). In Canada, children under 16 cannot be charged and thus child helmet laws would not be formally enforceable. It should be noted that another study in Alberta, based on counting cyclists at selected points, also found evidence of a 50% reduction in child cyclists between 2000 (pre-law) and 2004 (post-law)[\[3\]](#).

## **7. Evidence for the limited protective benefit of cycle helmets**

The debate on cycle helmet use and effectiveness has been ongoing for at least twenty-five years. In HotM2 we present a summary of the main topics within the debate, and review the range of evidence. This summary is thoroughly referenced and is found in Section 7.4.

As has been noted, cycle helmet use and promotion began in countries with the lowest levels of cycle use and the lowest recognition of cycling, principally the United States, Canada and Australia. That is, cycle helmets were a social response in a relatively estranged group, rather than a rational response based on risk assessment. Early helmet users were typically sporting cyclists, long-distance tourists and some dedicated commuters. Middle class children took up helmet use far more than children from lower social groups. In short, helmet users have always been self-selected. This seriously confounded the early helmet research. It is now well-established that education and social class have a substantial effect on helmet use. Higher incomes and level of educational attainment are associated with helmet use, and they are also associated with low risk of head injury. Those who choose not to use helmets tend to be drawn from social groups that are in any case over-represented in severe and fatal casualty statistics.

The effect of social class on risk to children is especially marked. A UK study found that children of parents who had never worked or were long term unemployed were 27 times more at risk of death as cyclists than children of managerial class. This kind of extreme disparity explains why those working in emergency medicine observe large differences in severity of injury between those with and without helmets at the time of injury. This large effect would be seen even with paper helmets.

After helmet laws were enforced in Australia and New Zealand, follow-up studies strained to find any evidence of reduced head injuries on relation to non-head injuries. When viewed fairly, none of these studies showed material improvement after large increases in helmet use following legislation. We have studied a number of papers that have claimed improvements did occur, but in every case, the effect was due to general road safety improvements, as evidenced by improved safety for pedestrians. For instance, when helmet laws were introduced in Australia, pedestrian safety actually improved more than cyclist safety did.

The only injuries that have been noted to decline with helmet use are scalp wounds. These are unpleasant, and often require stitching to stop bleeding, but they are not grave injuries.

For many years the disparities between hospital-based research and follow-up studies was the topic of bitter dispute. In recent years, however, there has been a slow recognition that the results of the Cochrane Review were clearly exaggerated. Our own analysis tends to confirm this; for instance, the main Cochrane Review papers apparently show that helmets are much more effective to prevent death than a scalp wound. This is completely implausible. It can only be explained if those not using helmets were simply in more serious crashes than helmeted cyclists. This is the real reason for the large result reported. The most recent (2009) research review by the Department for Transport could not reach any conclusion on the effectiveness of helmets. The authors could only report that cycle helmets "should be expected" to be effective.

Very recently, a new study<sup>[4]</sup> from Norway, by a respected researcher not previously involved in the helmet debate, has provided important new insights. This work uses recent techniques to account for publication bias and time-trends bias. Publication bias is the tendency of disappointing or "the wrong" results not to be published at all. Time-trends bias is the tendency of early strong results to fade over time. Both such biases apply to cycle helmet research. The study concludes that the most recent research, when properly analysed, shows no net protective effect from cycle helmets. A reduction in head injuries is matched by an increase in neck and facial injuries. It would be reckless to assume the neck injuries were less serious than the head injuries; many of the prevented head injuries would have been scalp wounds, as previously noted.

The main conclusion from all this is that the trend in live research is towards a slow acceptance that the effectiveness of helmets is far less than was once thought. There may be no net benefit. It is disappointing that the Cochrane Review is still cited by some as being reliable.

A number of other issues must be born in mind in addition to the limited effectiveness of helmets. It is increasingly recognized that the use of "obvious" protective equipment like helmets has an effect on risk-taking behavior. This is known as "risk compensation". The extent of risk compensation in the use of cycle helmets is not clear. It is the most likely candidate for the failure of mass helmet use to improve safety, and no doubt also explains the large amount of anecdotal helmet evidence. One disturbing study also found that drivers passed closer and faster to cyclists that were helmeted.

It is of concern to us that messages from apparently reputable sources, including the BMA unfortunately, persist in assuring the public of very high levels of protection from helmet use, when the evidence shows this is not the case. The recent helmet review by the Department for Transport is a case in point. While the authors acknowledged they could find no grounds in the medical evidence for reaching a conclusion on the protective benefits of helmets, the summary still contains a claim about helmets preventing 10-16% of deaths. It must be stressed that this is not a real scientific result. It derives from an exercise in which life-saving potential was simply assumed (see pp35-37 of the report itself). This was not made clear in the summary. We have seen this misleading assertion repeated elsewhere, both by the BMA and by NICE.

As a noted researcher has warned:

"Don't over-predict benefits. Many injury prevention measures promise more benefit than they deliver, due to bad science, political pressures, or failure to consider risk compensation or system effects. While calm and realistic benefit estimates are difficult to produce, unduly optimistic predictions will hamper injury prevention efforts in the long run".

## **8. THSG Recommendations**

We recommend the rejection of this Bill. Instead there should be a process of active promotion of cycling, which will itself make cycling safer as well as improving road safety generally and improving health. Hazards to cyclists should be reduced as part of general road safety measures.

If this bill is considered further after the election, we would be very interested to give further evidence in person as to what should be done to promote cycling.

[1] Sydney South West Area Health Service. Trauma 10-year Report 1995-2004.  
<http://www.sswahs.nsw.gov.au/liverpool/trauma/pdf/Trauma.pdf>

[2] New Zealand Department for Transport. How New Zealanders travel – Trends in New Zealand household travel 1989-2008. June 2009.

[3] See commentary by Bicycle Helmet Research Foundation at:  
<http://www.cyclehelmets.org/1176.html>

[4] Elvik R. Publication bias and time-trend bias in meta-analysis of bicycle helmet efficacy; a re-analysis of Attwell, Glaze, McFadden, 2001. Accident Analysis & Prevention 2011;43(3):1245-51

## **Trevor Parsons Submission to the Cyclists (Protective Headgear) Bill**

From: Trevor Parsons [mailto:trevor@trevorparsons.com]  
Sent: 14 March 2011 16:06  
To: +Comm. Environment Public Email  
Subject: cyclists protective headgear bill

I am writing to you regarding the "Cyclists (Protective Headgear) Bill".

I have visited the province by cycle several times over the past few years, and have enjoyed a care-free experience each time.

I was looking forward to touring in the region again soon, but if the Assembly passes a law requiring people to wear crash helmets when cycling -- a move which I regard as wholly regressive and unnecessary -- this will dissuade me from taking my holidays in Northern Ireland and make me more likely to travel to a jurisdiction which does not make such a requirement instead.

I would urge Assembly members to oppose this Bill and to work instead on encouraging more cycling and reducing road danger at source.

Yours faithfully,

Trevor Parsons

134D Kingsland Road  
London  
E2 8DY

## **Trevor Williams Submission to the Cyclists (Protective Headgear) Bill**

From: TrevWchadderton@aol.com [mailto:TrevWchadderton@aol.com]  
Sent: 10 March 2011 17:03  
To: +Comm. Environment Public Email  
Cc: trevwchadderton@aol.com  
Subject: Cyclists (Protective Headgear ) Bill

Dear Sir,

I am a lifelong cyclist and I am concerned about cycling safety. I bought a cycle helmet several years ago after I was struck by a car at a mini roundabout where I had right of way and I also 'eyeballed' the driver before continuing onto the roundabout. He looked at me, but didn't 'see' me. My bare head struck the windscreen which broke on impact - the windscreen not my head - I was propelled by the impact several yards in front of the car and landed heavily on the road surface. Apart from scrapes cuts and bruises, and broken glass in my hair, I had no further injury, my bicycle was wrecked. I was traumatised for several months afterwards and decided to buy a good quality (expensive) cycle helmet. Imagine my surprise and disappointment when I read the manufacturers disclaimer which stated that 'this cycle helmet is not designed to prevent injury in the event of a collision with a motor vehicle'. This begs the question what are they designed for? I will be very interested to see what the proposed Bill will recommend as being suitable protective headgear. Perhaps the type worn by motorcyclists?

Just for the record there are more head injuries suffered by pedestrians and motorcar passengers than there are head injuries to cyclists. Will the Bill be amended to include these higher risk groups?

I am genuinely concerned and await the outcome with interest and not a little trepidation. Will the cycle helmet manufacturers lobby succeed in reducing the number of cyclists? Rather than their stated aim of reducing the number of injuries. There are great, proven benefits to health and the environment for the individual and society in the promotion of cycling. Compulsory wearing of cycle helmets as in parts of Australia for instance have had the opposite effect to that intended. I hope this Bill is carefully considered.

sincerely

Trevor Williams

## **Vincent McCorry**

NI Assembly Environment Committee  
Parliament Buildings  
Stormont Estate  
Ballymiscaw  
Vincent McCorry  
70 Olympia Drive  
Belfast  
BT12 6NH

Dear Chair,

I wish to voice my objection to the proposed legislation to compel cyclists to wear helmets,

as a cyclist myself I do generally wear a helmet. I however feel the introduction of the roposed legislation is unsound. The research surrounding helmet usage and injury is mixed and even

suggests that the de-humanisation of cyclists in the eyes of the car drivers though the use of helmet wearing causes an increase in accidents, all be it with lesser consequences.

I feel the proposed legislation will disproportionately impacts those less well off in society whom a bicycle is an essential form of transport, and with the imposition of a financial bar of ~£40 required for a helmet, is not an insignificant cost compared to the price of a bike, and can only serve to discourage new cyclists from taking to the road.

There are a myriad of non-punative tools to increase the safety of the cycling community, including expansion of the cycle lane system, 20mph speed limits in residential areas, education of road users, advance cycle stop lines, and a ban on the construction of new non-mandatory cycle lanes which may be utilised by the DOE that may produce a better result than this legislation.

I believe that the views of the cycling community as expressed through Sustrans, NICI, the CTC and other cycling groups should be fully utilised when developing the future strategy for cycling in N. Ireland, and would hope that this legislation is never implemented.

Yours Sincerely

Vincent McCorry

## **William Methven Submission to the Cyclists (Protective Headgear) Bill**

From: william methven [mailto:william.methven@gmail.com]  
Sent: 02 March 2011 11:05  
To: +Comm. Environment Public Email  
Subject: The Cyclists (Protective Headgear) Bill

Dear DOE Committee

I don't agree with this legislation you are proposing on cycle helmets.

1 What evidence is there that it is needed?

2 It will act as a discouragement to those wanting to cycle - especially women.

3 Are you combining this intervention with increased measures to encourage higher levels of cycling in NI or are you content simply to discourage cycling with this measure?

4 Its such a shame that the assembly's only major initiative on cycling is to discourage it through the imposed wearing of helmets. No wonder so few people cycle & our obesity levels are increasing.

5 Your money & time would be better spent on:-

a) a media campaign to raise the public's awareness around cycling safety encouraging the wearing of hi-vis vests for example & targeting car drivers to have greater consideration of cyclists.

b) proper on road cycle training for all ages inc. adults

5 This is just a further example of the "nanny state".

Please don't take this very negative step.

William Methven

## **Wrongheaded Submission to the Cyclists (Protective Headgear) Bill**

From: Dave McCraw [mailto:press@wrongheaded.org.uk]

Sent: 10 March 2011 09:21

To: +Comm. Environment Public Email

Subject: Cyclists (Protective Headgear) Bill - Submission

Dear members of the committee,

On behalf of every citizen of Northern Ireland, Wrongheaded urges you to take a critical and evidence-led approach to your consideration of the proposed Cyclists (Protective Headgear) Bill.

Wrongheaded is a public health campaign group which enjoys a broad base of support from cyclists and non-cyclists alike. We are extremely concerned that this well-meaning but flawed law will have exactly the opposite effect on public health than is intended - saving some cyclist injuries perhaps, but at enormous cost to our society.

While we note that the DfT recently estimated that helmets would be effective in only a very low (10-15%) proportion of fatal incidents, it must be understood that our stance on this issue is in no way based on any opinion on the effectiveness of helmets to guard against injury, and we believe that you will come to the same conclusion.

We know that no adults were killed cycling in 2009 or 2010 and that there have been no child cycling deaths since 2005. In the same time period many thousands of people in Northern Ireland have died of diseases linked with a sedentary lifestyle.

Of course, some people have fallen from their bicycles and some of those have received serious injuries - around 30 a year according to published figures. But at the same time, hundreds of thousands of people in Northern Ireland are suffering from sedentary diseases, many in the most gruesome way. Cycling can hardly be said to be a significant cause of injury or death in light of these facts.

We know that exercise has a strong protective effect against many diseases - cardiovascular, stroke, many cancers, diabetes, the list goes on. Cycling is safe (as safe as being a pedestrian, even when the cyclist is bareheaded), and with the clear majority of all car journeys being under 5 miles - an easily cycled distance - there is an enormous potential benefit for public health in encouraging people to take to two wheels.

Unfortunately Northern Ireland is in danger of throwing the baby out with the bathwater by passing legislation that, evidence from around the world shows, will have a serious impact on levels of transport and utility cycling, the very thing we should be most encouraging.

We are sure you will hear of statistics and studies from both sides of the argument during your deliberations. We urge you to ask the hard questions about overall cycle use and the implications for public health in general. It is attractive to think that we can save lives at no cost simply by

compelling cyclists to wear a cycle helmet, but this is just not the case. The numbers don't add up.

In correspondence with Headway, we have previously been given references of studies which are purported to show no impact on cyclist levels when a helmet law is passed. Expert opinion suggests there are grave concerns about these - we will trust that the committee take an appropriately informed view. For example, a quoted study into cycle helmets from Canada (Ontario) showed there was no reduction in child cycling. However, according to the Toronto police, that law was never enforced. It is hardly surprising, then, that it had little effect either on helmet use or cycle participation!

We trust that common sense will prevail, and the Cyclists (Protective Headgear) Bill will fail.

Sincerely,

Wrongheaded - the campaign against mandatory helmet legislation

## **Appendix 4**

### **List of witnesses who gave Evidence to the Committee**

Pat Ramsey, MLA

Orlaith Donnelly

Michelle Donnelly

Peter McCabe, Chief Executive Headway NI

Johnny Turnbull, Regional Co-ordinator Headway NI

Steven Patterson, Director of Sustrans NI/ROI

Roger Geffen, Policy Manager CTC

Derek Armstrong, Owner Bike Dock Cycles

Darren Boyle, Manager of the DA - Young Fathers Project

## **Appendix 5**

### **Research Papers**

#### **Introduction**

The following paper will look at arguments for and against mandatory legislation for the wearing of cycle helmets. Looking at the findings from a range of research conducted internationally, and



viewing the opinions of a number of organisations from the UK and NI, there does not appear to be a clear cut argument for or against the introduction of such legislation.

At the core of the debate is the opinion on one side that helmets are effective and thus should be worn, and that compulsory use through legislation is the best method of achieving use. The counter argument is that helmets are not that effective, compulsory use is an unnecessary imposition upon cyclists, and the focus upon cycle injuries deters people from seeing the positive aspects of cycling such as improved health through exercise. Both sides claim support from research and use rhetoric to buttress their arguments.

The paper considers the views from a number of countries that have mandatory legislation in place, both nationally and at state level. The views are based on some of the impacts the legislation has in terms of health and participation. The opinions of organisations from the UK and NI are largely impacted by the above points, plus the issue of enforcement.

## **International Jurisdictions**

### **US**

The US has a total of 22 State laws (including the District of Columbia as a "state") and at least 201 local laws making the wearing of bicycle helmets mandatory. Some date back to as early as 1987 such as California where helmets were made compulsory for passengers under 5 years old. Bidwell Park in California was the first place to apply mandatory legislation to all ages in 1991. Only 13 states in America have no state or local helmet laws at all.

The most recent introduction of legislation is in the state of Mississippi, where Hernando brought in legislation in 2010, covering those under 17 years of age. Not only does the legislation cover bicycles, it also includes non-bicycle wheeled vehicles such as in-line skates, roller skates, skateboarders, non-motorized scooters. [\[1\]](#)

### **Evaluations**

Consumer Product Safety Commission staffer Greg Rodgers published a study in 2002 concluding that the presence of a State law increases helmet use by 18.4%[\[2\]](#). According to Rodgers, New York State reported that since it introduced its first helmet law in 1989 for passengers under 5, and its second in 1994 for riders under 14, the annual rate of cyclists hospitalised from bicycle-related traumatic brain injuries fell for the under 14 group from 464 in 1990 to 209 in 1995. The rate for cyclists 14 and over, for the same years, declined less rapidly, from 454 to 382. There is no way to determine exactly what proportion of the improvement was due to helmet laws, since there is no data on improvements to bicycle facility safety, rider education or total miles ridden in those years. Another factor to be considered is helmet promotion campaigns such as 'Safe Kids' and others were active in the state. Rodgers is of the opinion that it is likely that increased helmet use, prompted by passage of the first law in 1989 and the promotion campaigns in New York communities, played a role in the reduction of injuries.

In Rodgers report New Jersey reported in July of 1997 that since it introduced a helmet law for kids under 14, the number of bicycle-related fatalities for that group fell by 60 per cent, from 41 in 1987-1991 to 16 in 1992-1997. For riders aged 14 and over the figures were 75 and 71. The School Board of Sommers Point, NJ added a helmet rule and boosted helmet use by those who ride to school from 6 per cent up to more than 70 per cent. Their attorney thought that failure to require helmets could leave the School District liable in the event of an injury.

Duval County, Florida, reported an increase in helmet use by all ages from 19 per cent in 1996 to 47 per cent in 1997 after the Florida law was passed. Bicycle deaths fell from 5 to 1, and injuries from 325 to 105. Hillsborough County, Florida, also reports an increase in helmet use and a decline in injuries after passage of the same law. However a report in Injury Prevention (2003) highlighted that although there were complementary educational and outreach activities in the county to support helmet use, it appears that the greatest increase in use occurred after the passage of the helmet law. Consequently the report recommended that educational efforts continue to sustain helmet use rates and decreases in injuries.<sup>[3]</sup>

A study completed in North Carolina using actual field observation before (1999) and after (2002) when their law covering children under 16 was passed, showed a small increase in adult helmet use but no increase for children covered by the law. Overall on-street helmet use went from 18% to 24%, with larger gains among mountain bikers. The study concluded that:

"statistical analyses indicate that the law failed to generate a differential increase in helmet use by children ages zero to 15 years who are mandated to wear helmets, compared with those ages 16 and above and not covered by the law. Although the difference in helmet use between surveys (1999 pre-law and 2002 post-law) was significant, it is clear that the helmet requirement has had little effect on increasing helmet use by children thus far."<sup>[4]</sup>

A statistical analysis by the University of California - Irvine Department of Education<sup>[5]</sup> concludes that state laws adopted over the past two decades that require youths to wear helmets when riding a bicycle reduced youth bicycling fatalities by about 19 %, increased helmet use by 20-34 %, and (unintentionally) reduced bicycling by 4-5%. Several possibilities are listed for why helmet laws may lead to reduced cycling:

- While the direct monetary costs of helmets (usually \$10 to \$40) are likely to discourage some youths, there tend to be associated social costs (the study highlighted that youths do not like wearing helmets due to their image being "uncool") Costs are likely to be magnified if there are significant peer effects.
- Youths might place too little weight on the expected gain from the prevention of injury or death relative to the costs of wearing helmets today.
- There are several reasonably close alternatives to bicycling (such as skateboarding and in-line skating) that are not regulated in the same way with respect to mandated. <sup>[6]</sup>
- The Bicycle Helmet Safety Institute (BHSI) supports carefully drawn mandatory helmet laws covering all age groups because it:
- Believes they raise awareness that helmets save lives, in the same way that seatbelt laws and smoke detector requirements were used to inform the public that those safety devices were necessary.;
- Believes that many riders and parents do not know that they need a helmet, and the laws educate as much as they force compliance;
- Believes that most riders regard helmets as a fashion item rather than as a safety appliance, and like any other fashion this one may wane;
- supports efforts to improve the safety of the cycling environment to reduce the need for helmets, which should always be regarded as the primary injury prevention measure for reducing all injuries to cyclists;
- Does not believe that wearing a helmet causes riders to take additional risks;
- Believes that promoting helmets will not detract from the effort to improve road safety, and is of the opinion that the legislation has stimulated the most widespread and best-supported campaigns for better road safety for cyclists that the country has ever had;

- Is aware that safer cycling requires more riders on the streets, but does not believe that helmets discourage cycling in the US; and
- Believes that bicycles on a public road are vehicles, therefore, requiring a bicycle helmet is as reasonable as requiring a helmet on a motorcycle rider or requiring seatbelt usage in cars. However, BHSI would support provisions for medical exemptions based on a doctor's certification or religious requirements for headgear.

However, despite the above support for mandatory helmet legislation, BHSI makes the following final statement: "We have always been a lot more enthusiastic about promoting voluntary use of helmets than promoting laws.... Helmet laws can be useful, but given the problems with enforcing them they will probably not work well in most places until more riders have accepted the need for wearing a helmet. So we favour a stronger push for voluntary usage than for passing new helmet laws"[7]

## Canada

A study published in Pediatrics in 2002[8] found that in Canada the bicycle-related head injury rate declined significantly (45% reduction) in provinces where legislation had been adopted compared with provinces and territories that did not adopt legislation (27% reduction).

A 2010 Canadian study in Injury Prevention showed that bicycle usage remained constant after helmet laws were adopted in two provinces, and that helmet use was increased more by all-ages laws than those applying only to children. The main conclusion drawn from the study is that Canadian youth and adults are significantly more likely to wear helmets as the comprehensiveness of helmet legislation increases, and that helmet legislation is not associated with the changes in ridership.[9]

British Columbia's 1996 all-ages law was very successful in increasing helmet use, according to an evaluation project for this law conducted by the University of North Carolina[10]. It showed substantial increases in helmet use after the law was passed.

A research project in Toronto, before and after their law came into effect, showed that:

"although the number of child cyclists per hour was significantly different in different years, these differences could not be attributed to legislation. In 1996, the year after legislation came into effect, average cycling levels were higher (6.84 cyclists per hour) than in 1995, the year before legislation (4.33 cyclists per hour)...Conclusion: Contrary to the findings in Australia, the introduction of helmet legislation did not have a significant negative impact on child cycling in this community." [11]

## Australia

In Australia, bicycle helmets are mandatory in all states and territories, it and New Zealand are the only places to have national helmet legislation. Compliance is high but varies by area, with some cities over 90% and rural areas much lower. In the State of Victoria cyclists' head injuries declined 41%. There were 36% fewer child riders on the road, immediately after the legislation passed, but perhaps more adult riders. Changes in ridership may or may not have been related to the passage of the laws, and the road culture in Australia is unique to that country. (No similar effects have ever been documented in the US.) Injury reduction was below expectations, but still spectacular. Hospital data from Western Australia showed that the number of intracranial injuries was cut in half with increased helmet use, while head injuries were less serious, and hospital stays shorter.

A paper presented at the International Bicycle Conference in Freemantle, Australia 1996 stated that while cycle helmets may help to reduce the risk of head injury, the benefits associated with fewer head injuries may be outweighed by the loss of health and social benefits attributed to a reduction in cycling participation. With this in mind, the study reviewed available statistics on head injuries and cycling participation before and after helmet laws were passed in Australia. The study found that in relation to the effects of the law on cycling activity, Table 1 from the study shows that the increase in numbers wearing helmets was only about half the decrease in cyclists counted. Another survey was carried out a year later, under similar good weather conditions; even fewer cyclists were counted. [\[12\]](#)

In relation to the effects on head and other injuries:

- Non-head injury admissions were approximately twice those for head injuries, both before and after the law.
- There was a reduction in both head and non-head injury admissions, which the study links to a general decline in cycling activity.
- Despite a substantial increase in helmet wearing from 31% of cyclists to 75%, the change to both head injury and non-head injury admissions seems to be relatively unchanged.[\[13\]](#)

## **Revise of Australian legislation**

A study produced by two academics from Sydney University in 2010 has requested for a trial to be conducted to consider the implications if the law was to be repealed. Dr Rissel from the University's school of public health and a colleague from the Health Promotion Service, Sydney South West Area Health Service, argue that the decline in head injuries amongst cyclists, since the law was introduced in 1991, is due to other factors such as greater road safety, particularly in terms of initiatives introducing random breath testing. [\[14\]](#)

Dr Rissel recommended a trial repeal period in one city for a few years to see if it results in greater numbers of head injuries. He argues that a repeal of the legislation would encourage more people to cycle, resulting in benefits to public health. He also maintains that the more cyclists on the roads, the safer it would be for bike riders; a point made by the UK national cyclists' organisation CTC through its Safety In Numbers campaign last year which claims that:

- Drivers would be more aware of cyclists;
- Drivers are more likely to be cyclists themselves; and
- Greater political will to improve cycling conditions[\[15\]](#)

As part of the research, Dr Rissel compared the ratio of head injuries to arm injuries found in cyclists admitted to hospital between 1988 and 2008, and found that most of the decline in the rate of head injuries had occurred prior to helmets being made compulsory.

He added that after helmets were made compulsory, he and his colleague discovered "a continued but declining reduction in the ratio of head injuries to arm injuries [and] ... it is likely that factors other than the mandatory helmet legislation reduced head injuries".

The study also stated the decline in the number of people cycling following the introduction of the ban as a further reason why it should be overturned: "We saw a drop in ridership when the legislation was introduced of about 30 per cent and this actually makes it less safe for the rest of the cyclists, because there's this safety in numbers phenomenon."

On the other side of the argument is the chief executive of the cycling lobby group Bike New South Wales, Omar Khalifa who is against the calls to overturn the legislation. He believes that while some people may be put off cycling due to helmets, the reduction in cycling activity has been offset by the number of people saved from serious injury, even though the statistics do not show this up. [16]

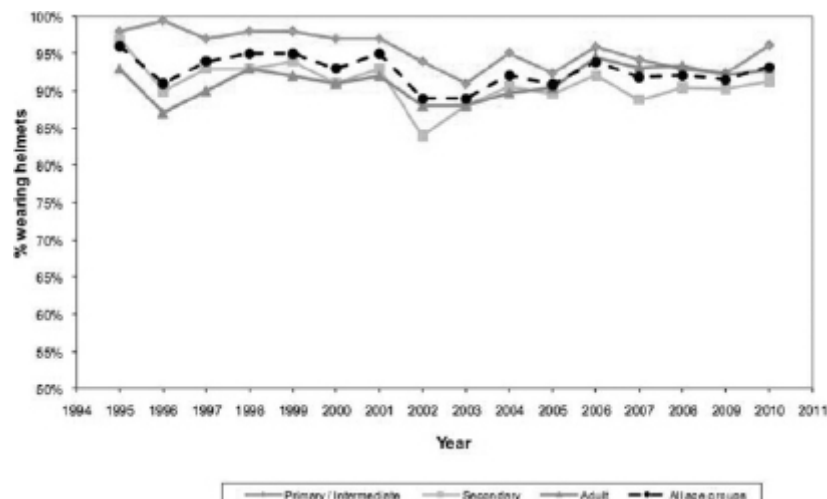
Contradicting Rissels claims, Dr Michael Dinh of Sydney's Royal Prince Alfred Hospital conducted research that he claims supports keeping the country's compulsory helmet laws. According to a report in the Herald Sun newspaper[17], in a letter to the Medical Journal of Australia summarising his findings, Dr Dinh said that between 2008 and June 2010, 287 cyclists had been admitted to the hospital's trauma department.

Of those 287, 241 had been wearing a cycle helmet at the time of the accident, while 46 had not. The research found that 13% of the injured cyclists not wearing a helmet had suffered serious head injuries, compared to 3% of those who had been wearing one.

## New Zealand

The New Zealand helmet law came into effect from 1st January 1994. It applies to bicycle riders of all ages, but not to the riders of other types of cycle (unicycles, tricycles, quadricycles, etc). According to the Bicycle Helmet Research Foundation the NZ Government stated that the aim was to protect bicyclists from themselves, not from motor vehicle impacts. The fine for not wearing a helmet is NZD 55. However, if contested in court and found guilty, the fine can rise to NZD 500 with court costs of up to NZD 130 extra.[18]

The latest study conducted by the Ministry for Transport (2010) shows that helmet wearing rates for all ages groups have climbed back up to 93% in 2010 (see the following graph)[19]



A study conducted in 2007 shows that although cyclists' injuries and hospital admission increased in the years thereafter the legislation was enforced, head injuries declined (see the following table) [20]

**Table 1:**  
**Mean bicycle injuries in children during 1982-86 and 1998-2005 study periods[21]**

Period	Total	Admitted	Fractures	Head Inj.	Admit HI	Deaths
1982-86	83 (597)	13 (94)	16 (115)	34 (245)	10 (72)	0.8
1998-2005	121 (890)	17 (128)	32 (234)	32 (238)	6 (47)	0

However, according to the Cycle Helmet Research Foundation, Scuffham claimed that the reduction in head injury to cyclists over its first 3 years was similar to the reduction in cycle use.<sup>[22]</sup>

According to the Ministry of Transport in 2007, cycle helmets reduce risk of brain injury by up to 88% and the risk of facial injury by up to 65% for cyclists of all ages. However, the report also notes that about three-quarters of all cycling deaths were caused by head injuries, even though helmets were worn by 94% across all age groups. <sup>[23]</sup>

## Effect on cycle use and hire schemes

According to the Cycle Helmet Research Foundation, the New Zealand Household Travel Survey shows that cycling decreased by approx 22% between 1993 and 1997.<sup>[24]</sup>

In 2006/7 Land Transport NZ said that cycling had declined from 3.6% to 1.8% of traffic over an unspecified period. Cycle trips had fallen by 39% overall, but by 50% for young people aged 5 to 20 years.<sup>[25]</sup>

A hire scheme operated in Auckland from 2007 to 2010 run by NextBikes. Helmets were provided with the bikes by the operator. Over the 3 years, the number of registered users had grown to only 2,500 and there were about 50 hirings per day. The Cycle Helmet Research foundation compares this with 40,000 users and up to 6,000 hirings per day (within 1 year) in Dublin, which had a similar population and hire scheme but no helmet law.<sup>[26]</sup> The Auckland scheme closed as it had no public subsidy and could no longer meet its costs.<sup>[27]</sup>

## Enforcement

According to the Cycle Helmet Research Foundation, enforcement varies by region and the view of individual police officers. In some areas enforcement is rare while in others bicyclists report being stopped regularly. On average, each year at the start of the school year or university year, a 'blitz' campaign is launched. Scale of convictions is unknown. In one case a judge refused to fine a bicyclist riding without a helmet on the grounds that it was too minor an offence to justify the court's time.<sup>[28]</sup>

## Georgia(USA) as an example:

One of the main concerns expressed across all jurisdictions is the issue of effective enforcement. According to a Review by Cochrane Collaboration (2009), a study conducted in Georgia clearly demonstrates the importance of police enforcement. Prior to the enforcement programme, the existing helmet legislation had a negligible effect on actual helmet use with no children observed using a bicycle helmet despite the pre-existing law. The programme instructed police to impound the bicycle of non-helmeted child cyclists. Difficulties in measuring the effectiveness of the programme came about due to concurrent helmet give-away scheme to promote helmet use. <sup>[29]</sup>

## Request for Repeal of the law

The Cycling Advocates Network (CAN) states "There is evidence that mandatory cycle helmet wearing legislation is not working as intended and should be reviewed. Priority needs to be given to other safety issues such as motorist behaviour and roading improvements....To clarify, CAN's position is not to call for optional wearing of helmets, but to review the wider effects to date of helmet-wearing legislation; the distinction is important. For example, it is entirely possible to be both supportive of the benefits of helmet wearing, whilst not supporting helmet-wearing legislation." [\[30\]](#) CAN is concerned that New Zealand's stringent law discourages casual cycling.

## European bodies

In April of 2003 the Union Cycliste Internationale (UCI) announced that it intended to make helmet use compulsory in the professional races it sanctions [\[31\]](#). The ruling followed several well-publicised deaths, including that of Kazakh rider Andrei Kivilev. Kivilev died of a head injury without a helmet during the Paris-Nice race in 2003 [\[32\]](#). Since the ruling a number of professional riders have stated that their helmets have saved their lives during falls throughout their careers. For example, Jens Voigt from Germany stated that his helmet saved his life during a horrific fall during the 2009 Tour de France.

Professional bodies elsewhere such as the Swiss Council for Accident Prevention, have shown support for compulsory legislation for helmets, stating that they bring health benefits in terms of reduced injuries and deaths. [\[33\]](#)

The Dutch Institute for Road Safety Research (SWOV) finds contradictory evidence but on balance concludes "that a bicycle helmet is an effective means of protecting cyclists against head and brain injury". [\[34\]](#) However the Dutch Government does not support compulsion or promotion of mandatory legislation, and is of the following views:

1. Promoting the use of bicycle helmets runs counter to present government policies that are aimed at the primary prevention of crashes (as opposed to secondary prevention) and at stimulating the use of the bicycle as a general health measure .
2. Attempts to promote bicycle helmets should not have the negative effect of incorrectly linking cycling and danger. Nor should the promotion of helmets result in a decrease in bicycle use.

Because of these considerations, a mandatory law for bicycle helmet use has not been thought an acceptable or appropriate safety measure in the Netherlands. [\[35\]](#)

## The UK

In the UK individuals are not currently legally required to wear a cycle helmet, except in Jersey, where the wearing of helmets was made law for under 18's in 2010 [\[36\]](#). However, there still remains much controversy on whether cycle helmet wearing should be compulsory. A great deal of the controversy relates to whether cycle helmets reduce injuries, if so what type of injuries they reduce and further whether cycle helmet legislation discourages cycling. A further concern expressed is in relation to the effective enforcement of the legislation. According to CTC, in relation to mandatory helmet laws, "the evidence currently available is complex and full of contradictions, providing at least as much support for those who are sceptical as for those who swear by them" (for more information on their view, see the CTC section below).

## For Compulsory Legislation:

## **TRL**

The UK's Transport Research Laboratory has published a paper on the effectiveness of helmets, commissioned by the Department for Transport. Understanding that there has been much debate in the literature and elsewhere regarding cycle helmets and their potential to prevent injury, the report focuses on understanding whether cycle helmets reduce the frequency and severity of injury in the event of a collision. It does not include detailed consideration of whether wearing (or not wearing) a helmet influences the likelihood of being involved in an accident, either through behaviour changes in the rider or in other road users. The project concludes that in the event of an on-road accident, cycle helmets would be expected to be effective in a range of real-world accident conditions, particularly the most common accidents that do not involve a collision with another vehicle and are often believed to consist of simple falls or tumbles over the handlebars<sup>[37]</sup>

## **BMA**

In November 2004, The British Medical Association announced that it was changing its stance on cycle helmets. BMA previously believed that helmet-wearing should be encouraged but should not be enforced by law, as this could reduce cycle use, undermining its wider health and other benefits. Its old position was a recommendation of the 1999 report Cycle Helmets that they "strongly advise the wearing of cycle helmets."

Information provided from BMA stated that their change of view followed a number of BMA members calling for a revision of this position, in particular A+E consultants who in their opinion witness first-hand the impact of not wearing a cycle helmet, the BMA's Board of Science recommended to the BMA Board of Professional Activities (BdPA) that the BMA change its position and call for compulsory legislation for the wearing of cycle helmets amongst children and adults. The new position was approved by the BdPA in October 2004. The motion to this effect was debated at the July 2005 Annual Representatives Meeting (ARM) and passed to become formal BMA policy as part of its policy to improve safe cycling. The BMA, as a part of its policy to improve safe cycling, now supports compulsory wearing of cycle helmets when cycling for children and adults. The Association wants to see an increase in voluntary use prior to the introduction of cycle helmet legislation and supports initiatives that increase such use.

The reason for BMA's support of compulsory legislation is due to two main factors:

### **1. Rationale**

Cycle helmets aim to reduce the risk of serious injury caused by impacts to the head. Injuries to the head generally take two forms; skull fractures and brain injuries. While skull fractures can heal, injuries to the brain, unlike those to the rest of the body, generally do not and may sometimes have long-term consequences. Though not always visible and sometimes seemingly minor, brain injury is complex. It can cause physical, cognitive, social and vocational changes that affect an individual for a variable time period. In many cases recovery becomes a lifelong process of adjustments and accommodation for the individual and those caring for them. Depending on the extent and the location of the injury, impairments caused by a brain injury can vary widely. Among the most common impairments are difficulties with memory, mood and concentration. Others include significant deficits in organisational and reasoning skills, learning, cognitive and executive functions.

### **2. Function**



Cycle helmets perform three functions. Firstly they reduce the deceleration of the skull and hence the brain by managing impacts. This is achieved by crushing the soft material contained within a helmet. Secondly a helmet acts by spreading the area of an impact. As it is impacted, the expanded polystyrene shell of the helmet dissipates the energy over a rapidly increasing area like a cone. This prevents forces from being localized to one concentrated small area. Finally a helmet plays a vital role by preventing direct contact between the skull and the impacting object.[\[38\]](#)

However, in response to the BMA's change of view, the Transport and Health Study Group (THSG) who does not support legislation compelling the use of helmets, claim that the Public Health Committee of the BMA protested against BMA's turnaround to support the legislation. Their concern is that there is overwhelming evidence showing that enforced laws suppress cycling. Due to this disagreement within the BMA, the THSG is of the opinion that the BMA then changed its stance to conditional support for the law, once voluntary helmet wearing levels were high. The THSG is convinced the BMA was wrong to abandon opposition to the helmet legislation, and that it recognise there is a dilemma with the introduction of mandatory legislation.[\[39\]](#)

## Against Compulsory Legislation

### CTC

The view of CTC (the UK's national cyclist's organisation)[\[40\]](#) in relation to the compulsory wearing of cycling helmets is that:

- There is no clear or conclusive evidence to support the view that compulsory helmet-wearing would either advance the cause of cycling, or necessarily improve cyclists' safety on the roads.
- Cycling is by no means an exceptionally dangerous pursuit and it's certainly no more risky than lots of other routine activities. For instance, you are more likely to be killed in a mile of walking than in a mile of cycling.
- Cycling is much more likely to do you good than harm, because it's such a healthy thing to do. In other words, the benefits of cycling far outweigh the risks.
- Forcing everyone to wear a helmet may well put some people off cycling altogether. Studies from Australia and New Zealand show that compulsion leads to a drop in cycling levels, meaning that fewer people gain from the exercise[\[41\]](#).
- They don't want to discourage people from cycling, not just because it's healthy, but also because there is clear evidence that the more people who cycle, the safer it gets for each individual cyclist.[\[42\]](#)

CTC's view is based on the following evidence from their publication in 2006[\[43\]](#):

Wearing a cycle helmet may increase your risk of a collision, because drivers leave less of a gap when overtaking cyclists with helmets than those without, according to recent research By Dr Ian Walker. Dr Ian Walker, a researcher in traffic psychology at the University of Bath, carried out experiments to measure how much space vehicles left when overtaking him. He found that, on average, drivers passed 8.5 cm (3 1/3 inches) closer when he was wearing a helmet than when he rode bare-headed. His findings are to be published in Accident Analysis and Prevention magazine. [\[44\]](#)

Dr Walker's research comes on the back of a spate of recent evidence which casts doubts on the claimed benefits of cycle helmets, including a few papers published in peer-reviewed medical journals:

- A recent edition of the BMA's publication in the British Medical Journal included a paper by Australian-based statistician Dorothy Robinson, arguing that there is no evidence from countries that have enforced the wearing of cycle helmets that there has been any benefit to public health. Robinson reviewed data before and after helmet legislation in Australia, New Zealand and Canada and believes helmet laws discourage cycling and produce no obvious response in the number of head injuries. She says: "This contradiction may be due to risk compensation, incorrect helmet wearing, reduced safety in numbers (injury rates per cyclist are lower when more people cycle), or bias in case control studies." She suggests that helmet laws are counterproductive and that governments should instead focus on measures that lead to clear drops in casualties, such as campaigns against speeding, drink-driving, and failure to obey road rules. "Helmet laws would be counter-productive if they discouraged cycling and increased car use....Wearing helmets may also encourage cyclists to take more risks, or motorists to take less care when they encounter cyclists."
- An article in Injury Prevention magazine by Paul Hewson finds no detectable relationship between helmet-rates and on-road cycle safety in Great Britain. A second article, also by Hewson (this one published in Accident Analysis and Prevention journal), reaches the same conclusion for child cyclists. Hewson emphasises that this doesn't necessarily mean that helmets are ineffective; an alternative explanation is that there might be some benefits for particular groups and/or for particular types of cycling, and he points out that his own data cover on-road cycling only. However, he also argues that road safety professionals have no grounds for being involved in helmet promotion, given the lack of detectable benefits for on-road cyclists.
- Finally, a report on children's cycling from the National Children's Bureau includes a very useful appendix surveying the literature on helmets. It states, "Those of us who cycle should be under no illusion that helmets offer reliable protection in crash situations where our lives may be in danger. Neither should we believe that widespread adoption of helmet wearing would see many fewer cyclists killed or permanently disabled. The evidence so far suggests otherwise." Coming from a children's charity, this is an important finding.

This evidence backs up the findings of a report from the SWOV Institute of Road Safety Research, The Netherlands in 2001, Promotion of mobility and safety of vulnerable road users (final report of the European research project PROMISING), which says:

"From the point of view of restrictiveness, even the official promotion of helmets may have negative consequences for bicycle use. If the importance of wearing a helmet is stressed, the implied message is that cycling is extraordinarily dangerous. [...] To prevent helmets having a negative effect on the use of bicycles, the best approach is to leave the promotion to the manufacturers and shopkeepers."[\[45\]](#)

## **The Debate Around Health Effects.**

### **Arguments for the negative impacts on health due to compulsory legislation include:**

- That the number of people dying annually of heart disease due to physical inactivity (c42,000[\[46\]](#)), and from obesity (c30,000[\[47\]](#)) both massively outweigh those who die

while cycling (c130[48]), let alone those whose deaths result from head injuries which a helmet might have prevented, even on the most optimistic assumptions about their effectiveness (n.b. motor vehicles are involved in around 90% of cyclists' fatal and serious injuries[49], whereas helmets are only designed for impact speeds equivalent to falling from a stationary riding position[50]

- That those who cycle into middle adulthood can have a level of fitness equivalent to being 10 years younger[51] and a life-expectancy 2 years above the average;[52]
- That, thanks to these extra life-years, the health benefits of cycling far outweigh the risks[53] – by a factor of 20:1 according to one calculation;[54]
- A study in Copenhagen found that compared with those who cycled regularly to work, people who did not do so had a 39% higher mortality rate, regardless of any other cycling or other physical activity undertaken by those in each group.[55]

### **Argument for the positive effects of compulsory legislation include:**

The World Health Organisation promotes the use of helmets as a strategy for preventing head injuries caused by bicycle crashes or falls[56]. Use of cycling helmets is supported by numerous groups in the United States, including the American Medical Association and the American National Safety Council[57]. Public Health Law Research reports that there is enough evidence to establish that bicycle helmet laws are an effective public health intervention aimed at reducing head-related morbidity and mortality[58].

According to the Public Health Law research two groups of researchers have systematically reviewed studies evaluating the impact of bicycle helmet laws. Macpherson and Spinks reviewed five studies that measure the effectiveness of bicycle helmet laws as a public health intervention aimed at reducing head injuries.[59] Of the five studies, two measured the effect of such laws on the rate of helmet use and two measured the impact of the laws on bicycle related head injuries; the fifth study measured both outcomes. Based on statistically significant increases in helmet use and decreases in bicycle-related head injuries, the authors conclude bicycle helmet laws are an effective public health intervention. Karkhaneh et al. reviewed a broader sample of twelve studies assessing the effectiveness of bicycle helmet laws in increasing helmet use. Across the twelve studies, seven found increases of helmet use that were greater than 30%, four found increases between 10% and 30% and one found an increase of 5%. According to the authors, the studies collectively support the effectiveness of bicycle helmet laws.[60]

## **NI**

The following section presents the position of a number of organisations throughout NI on the introduction of compulsory legislation in NI. These organisations were contacted and provided the following responses:

### **Cycling Ulster**

Cycling Ulster is the provincial federation of Cycling Ireland; the world recognised body for the control of cycling in Ireland. Their response is as follows:-

“While Cycling Ulster fully supports the promotion of the use of helmets we are totally opposed to the current proposed legislation which would make the use of helmets mandatory. There are a number of well founded reasons why we have come to this decision:

- It is recognised that the introduction of such a law would have a serious impact on the number of people cycling thereby Northern Ireland would lose out considerably on all the health benefits, eco issues etc which cycling promotes.
- We also believe the law would be virtually impossible to police properly...will every PSNI officer be trained on the correct sizing and fitting of helmets which is vital if helmets are to be effective? Which helmets are going to be recognised as "safe"?

We would reiterate that Cycling Ulster as the controlling body for cycling in NI is totally opposed to the proposed legislation and would much rather see resources targeted at education on safe cycling."

The response made reference to the following discussion for further information:  
<http://phoenixcycling.proboards.com/index.cgi?board=general&action=display&thread=2493>

## **Travelwise NI**

Travelwise NI being an initiative within DRD, promotes sustainable modes of travel including walking, cycling, public transport and car sharing. They responded that as the Department is responsible for promotion of sustainable and active travel, it is keen to increase the number of people choosing to cycle as an alternative to use of private car. The Department will continue to promote safe cycling and advocate voluntary wearing of cycle helmets. The Active Travel Forum established last year by the Department, is bringing forward recommendations for an Active Travel Strategy to increase walking and cycling – road safety will be a key consideration of the draft Strategy. It is hoped to publish a draft Active Travel Strategy by the end of 2011.

## **Sustrans**

The main reasons Sustrans strongly objects to the Bill are:

1. Making cycle helmets compulsory will reduce cycling levels as evidenced from places where compulsion has been enacted. Less cycling will result in greater health risks from obesity and other diseases as well as reducing people's travel choices.
2. Legislation has to be proportional and enforceable. The compulsory wearing of cycle helmets would be unenforceable and does not address the problem to which it is seeking to address. We do not think policing this Law should be a priority for the PSNI and the Justice Department. There are more important things the PSNI should be doing.
3. There are better ways to improve cycle safety. Resources would be more effectively spent tackling the causes of road danger, such as reducing traffic speeds to 20mph in residential areas. Developing safer and well designed roads that seek to share road space between pedestrians, cyclists and motor vehicles should be a priority together with supporting programmes to promote cycling such as cycle training.

Sustrans stated that they are preparing a briefing paper that will develop these issues and contain references.

In a response from Belfast City Cycle, they have said they support the views of Sustrans.

## **Sport NI**

SNI understands that the Cycle Helmets Bill<sup>[61]</sup> debated by the Assembly proposes a policy objective to reduce death and serious injury amongst cyclists. SNI welcomes the policy objective, but queries the proposed implementation route of 'enforcement'. SNI suggests that three levels of implementation should be explored:

1. Engineering – making roads safer for cycling;
2. Education – making motorists, cyclists and other road users aware of safe practice; and
3. Enforcement.

The aim of the Bill is to require cyclists of all ages to wear protective headgear when cycling on any public roads or paths, or in parks. This requirement relates to persons of all ages, with parents or guardians held responsible for children under the age of 16. There are no proposed exemptions.

Enforcement would be the responsibility of the police, through an on-the-spot fine of £50. However, in the case of a first contravention, the fine could be waived where the person issued with the penalty charge notice presents at a police station with a new helmet and receipt for its purchase. This does not take into account the first time offender who may already own a helmet. Education of the offender could be more beneficial than requiring the purchase of an additional helmet.

Breach of the provisions will not constitute a criminal offence. However, the administrative burden of creating and enforcing a new civil offence could result in resources being diverted from elsewhere, or in time of economic recession – no resources allocated.

The Bill's Sponsor (Mr Pat Ramsey) stated that 'during the consultation period (Spring 2010), approximately 20 written responses were received, most of which were in favour of the proposal. Some reservations were expressed, particularly by cycling organisations'.<sup>[62]</sup> Questions were also asked during the consultation period about the evidence-base for requiring the use of a helmet and the view expressed that regulation might deter people from using cycles.

In response to concerns raised, the Sponsor indicated that provisions were included to delay commencement of the key provisions for 3 years. Interim provisions will require a publicity campaign aimed at promoting awareness of the provisions of the Bill and the benefits of wearing a helmet and encouraging voluntary use of cycle helmets.

The Sponsor had also considered whether ongoing promotion of the voluntary use of helmets would suffice to reduce brain injury caused by accidents involving cyclists; however it was concluded that there was adequate international evidence of the benefits of wearing a helmet to justify legislation requiring their use.<sup>[63]</sup>

[1] Bicycle Helmet Safety Institute (USA) <http://www.bhsi.org/manddate.htm>

[2] G.B Rodgers 'Effects of State helmet laws on bicycle helmet use by children and adolescents' in Injury Prevention 2002;vol 8; issue 1, pp 42-46. See: [http://www.bhsi.org/briefs.htm#rodgers\\_state\\_laws](http://www.bhsi.org/briefs.htm#rodgers_state_laws)

[3] K.D Liller, L Nearn et al 'Children's bicycle helmet use and injuries in Hillsborough County, Florida before and after helmet legislation in Injury Prevention 2003 vol9, issue2,pp 177

[4] W. Hunter, L. Thomas etc (University of North Carolina), 'Helmet use in North Carolina Following a state wide bicycle wearing law' (2002)  
<http://www.hsrb.unc.edu/pdf/2002/FinalReport.pdf>

[5] CS. Carpenter and M. Stehr, 'Intended and Unintended Effects of Youth Bicycle Helmet Laws' May 2009 [http://www.gse.uci.edu/docs/Carpenter\\_Stehr\\_Bicycle\\_Manuscript\\_50409.pdf](http://www.gse.uci.edu/docs/Carpenter_Stehr_Bicycle_Manuscript_50409.pdf)

[6] *ibid*

[7] See BHSI website for more detail on their view <http://www.bhsi.org/>

[8] AK. Macpherson, TM. To, C. Macarthur etc 'Impact of Mandatory Legislation on Bicycle-Related Head Injuries in Children: A Population Based Study' in *Pediatrics* Vol.110 No. 5, November 2002, pp60.

[9] J.Dennis, B.Potter etc 'The Effects of provincial bicycle helmet legislation on helmet use and bicycle ridership in Canada' in *Injury Prevention* 2010, vol 16, issue 4, pp291-224.

[10] University of North Carolina Evaluation Project  
[http://www.hsrb.unc.edu/pdf/2000/bc\\_rpt.pdf](http://www.hsrb.unc.edu/pdf/2000/bc_rpt.pdf)

[11] Ak. Macpherson, PC. Parkin, TM. To, 'Mandatory helmet legislation and children's exposure to cycling' in *Injury Prevention* 2001, Vol7, issue 3, pp 228-230

[12] Bicycle Federation of Australia 'Cycle Helmet Laws: Facts Figures and Consequences' 1996  
<http://www.cyclehelmets.org/papers/c2024.pdf>

[13] *ibid*

[14] A Voukelatos and C Rissel, "The effects of bicycle helmet legislation on cycling-related injury: The ratio of head to arm injuries over time" in *The Journal of the Australasian College of Road Safety* August 2010, Vol 21 No 3, pp50. <http://www.acrs.org.au/srcfiles/ACRSVol21-3-WebLR.pdf>

[15] For more information on the Safety in Numbers Campaign see  
<http://www.ctc.org.uk/desktopdefault.aspx?tabid=5225>

[16] Article Sydney Morning Herald "[Call to repeal law on bicycle helmets](#)" (16/10/2010)

[17] Herald Sun (15/11/2010) [Safety Proof on bicycle helmets](#)

[18] Bicycle Helmet Research Foundation- web page on New Zealand  
<http://www.cyclehelmets.org/1008.html>

[19] Ministry of Transport (NZ) Cycle Helmet Survey 2010  
<http://www.transport.govt.nz/research/CycleHelmetSurveys2010/>

[20] Moyes SA. Changing pattern of child bicycle injury in the Bay of Plenty, New Zealand. *J Paediatr Child Health* 2007;42(6):468-8. For more information see  
[http://www.whohelmets.org/headlines/09\\_fall\\_6.htm](http://www.whohelmets.org/headlines/09_fall_6.htm)

[21] *ibid*

- [22] Scuffham P, Alsop J, Cryer C, Langley JD. Head injuries to bicycles and the New Zealand bicycle helmet law. *Accident Analysis & Prevention*, 2000;32,p565-573.
- [23] NZ Crash cyclist factsheet July 07, Ministry of Transport
- [24] Bicycle Helmet Research Foundation- web page on New Zealand  
<http://www.cyclehelmets.org/1008.html>
- [25] Hammond L. Pedestrian and cyclist safety in New Zealand. Land Transport NZ.
- [26] Bicycle Helmet Research Foundation- web page on New Zealand  
<http://www.cyclehelmets.org/1008.html>. For more information on the effects of helmet legislation on bike hire schemes see <http://www.cycle-helmets.com/bike-hire-schemes.html>. For more information on the Dublin bike hire scheme visit the Dublin City Council page: [link](#)
- [27] Stricken bike scheme up for national award. *New Zealand Herald*, 15 November 2010
- [28] Bicycle Helmet Research Foundation- web page on New Zealand  
<http://www.cyclehelmets.org/1008.html>
- [29] Cochrane Review (2009) [Bicycle helmet legislation for the uptake of helmet use and prevention of head injuries](#)
- [30] CAN's position on helmet legislation <http://can.org.nz/helmets>
- [31] [Link](#)
- [32] [http://news.bbc.co.uk/sport1/hi/other\\_sports/cycling/2842707.stm](http://news.bbc.co.uk/sport1/hi/other_sports/cycling/2842707.stm)
- [33] Bfu (Swiss Council for Accident Prevention)  
<http://www.bfu.ch/English/Forschung/Forschungsergebnisse/pdfResults/r41e.pdf>
- [34] SWOV Factsheet "Cyclists" [http://www.swov.nl/rapport/Factsheets/UK/FS\\_Cyclists.pdf](http://www.swov.nl/rapport/Factsheets/UK/FS_Cyclists.pdf)
- [35] [Helmets: a road safety manual for decision-makers and practitioners](#). Geneva, World Health Organization, 2006. (Box 1.3 pp17)
- [36] While votes rejected the compulsory wearing of helmets for all ages, including adults, votes ruled in favour of a law for under 18 year olds in 2010  
<http://news.bbc.co.uk/1/hi/world/europe/jersey/8559668.stm>
- [37] For a summary of the report findings by the Department for Transport see [here](#)
- [38] For more information on this, see the Word doc of the BMA's Briefing Note on Cycling Legislation attached with this paper.
- [39] The Health and Transport Group  
[http://www.healthandtransportgroup.co.uk/research/Ch\\_2\\_Active\\_transport\\_Cycling.pdf](http://www.healthandtransportgroup.co.uk/research/Ch_2_Active_transport_Cycling.pdf)
- [40] CTC state that they always work in the best interests of all cyclists. If they felt that making helmet wearing compulsory would be better for cyclists and for cycling, then they would support the move.

- [41] For more information see <http://www.ctc.org.uk/DesktopDefault.aspx?TabID=4641>
- [42] CFC'S position (2009)  
<http://www.ctc.org.uk/DesktopModules/Articles/ArticlesView.aspx?TabID=0&ItemID=168&mid=13641>
- [43] CTC Press Release (2006)  
[http://www.ctc.org.uk/resources/Press\\_Archive/New\\_Helmet\\_Study\\_dangers.doc](http://www.ctc.org.uk/resources/Press_Archive/New_Helmet_Study_dangers.doc)
- [44] For more information and commentary on his findings, see [CTC Press release](#)
- [45] SWOV 2001 Promotion of Mobility and Safety of Vulnerable Road Users  
<http://www.swov.nl/rapport/d-2001-03.pdf>
- [46] Britton A McPherson K. Monitoring the progress of the 2010 target for coronary heart disease mortality: estimated consequences on CHD incidence and mortality from changing prevalence of risk factors. A report for the Chief Medical Officer. National Heart Forum, 2001.
- [47] National Audit Office. Tackling obesity in England Stationary Office, 2001.
- [48] Department for Transport.Road Casualties Great Britain 2004, Table 5c. DfT, 2005.
- [49] Department for Transport.Road Casualties Great Britain 2004, Table 23. DfT, 2005.
- [50] Glanville H and Harrison N. Cycle helmets. British Medical Association, 1999.
- [51] Tuxworth W et al. Health, fitness, physical activity and morbidity of middle aged male factory workers British Journal of Industrial Medicine vol 43. pp 733-753, 1986.
- [52] Paffenbarger R et al. Physical activity, all-cause mortality and longevity of college alumni. New England Journal of Medicine, vol. 314(10) pp 605-613, 1986
- [53] British Medical Association. Cycling: towards health and safety. Oxford University Press, 1992.
- [54] Hillman M, Cycling and the promotion of health. PTRC 20th Summer Annual Meeting, Proceedings of Seminar B, pp 25-36, 1992.
- [55] Andersen L et al, All-cause mortality associated with physical activity during leisure time, work, sports and cycling to work. Archives of Internal Medicine, 160: 1621-1628, 2000
- [56] <http://www.whohelmets.org/bhrc.htm> [accessed 04/03/2011)
- [57]  
[http://www.nsc.org/safetyhealth/Pages/how\\_can\\_i\\_find\\_the\\_right\\_type\\_of\\_bicycle\\_helmet.aspx](http://www.nsc.org/safetyhealth/Pages/how_can_i_find_the_right_type_of_bicycle_helmet.aspx)
- [58] [Link](#)
- [59] Macpherson A, Spinks A. Bicycle Helmet legislation for the uptake of helmet use and prevention of head injuries. Evidence-Based Child Health: A Cochrane Review Journal. 2008;3:16-32.



[60] Karkhaneh M, Kalenga J-C, Hager BE, Rowe BH. Effectiveness of bicycle helmet legislation to increase helmet use: a systematic review. Injury Prevention. 2006;12(2):76-82.

[61] [http://archive.niassembly.gov.uk/legislation/primary/2010/niabill9\\_10\\_efm.htm](http://archive.niassembly.gov.uk/legislation/primary/2010/niabill9_10_efm.htm)

[62] [http://archive.niassembly.gov.uk/legislation/primary/2010/niabill9\\_10\\_efm.htm](http://archive.niassembly.gov.uk/legislation/primary/2010/niabill9_10_efm.htm)

[63] To see the full SNI response see the word document attached to this paper.



Research and Library Service  
Briefing Paper

---

Paper 000/00 9TH March 2011 NIAR 000-00

Suzie Cave

The Debate around  
Cycle Helmet Laws –Internationally and in NI