

The Safety and Comfort of Vulnerable Road User Journeys, Steve Proctor, TMS Consultancy

Building Road Safety Capacity



**INFRASTRUKTURA
I ŚRODOWISKO**
NARODOWA STRATEGIA SPÓJNOŚCI



Generalna Dyrekcja
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Who is the Vulnerable Road User?

- Pedestrians, especially the elderly and children
- Cyclists
- Equestrians
- People with disabilities
 - Sight impairment
 - Wheelchair users
 - Hearing impairment
- Motorcyclists?
- Elderly drivers?



What does the legislation say?

- European Convention on Human Rights 1950
 - Article 2: the right to life
 - Article 14: anti-discrimination
 - National laws eg UK Human Rights Act 1998
- European Treaty 1999
 - Article 13: appropriate action to combat discrimination based ondisability....
- EC Directive against Discrimination (inc disability) 2000
 - Requires “reasonable accommodation” to meet the needs of disabled people
 - National laws eg UK DDA 2005 and Equality Act 2010



What does the legislation say?

- EC Directive on Road Infrastructure Safety Management 2008/96/EC
 - “Regular inspections are an essential tool for preventing possible dangers for all road users, including vulnerable users”

There will be a legal requirement throughout all Member States to undertake inspections on the TERN (from December 2013)



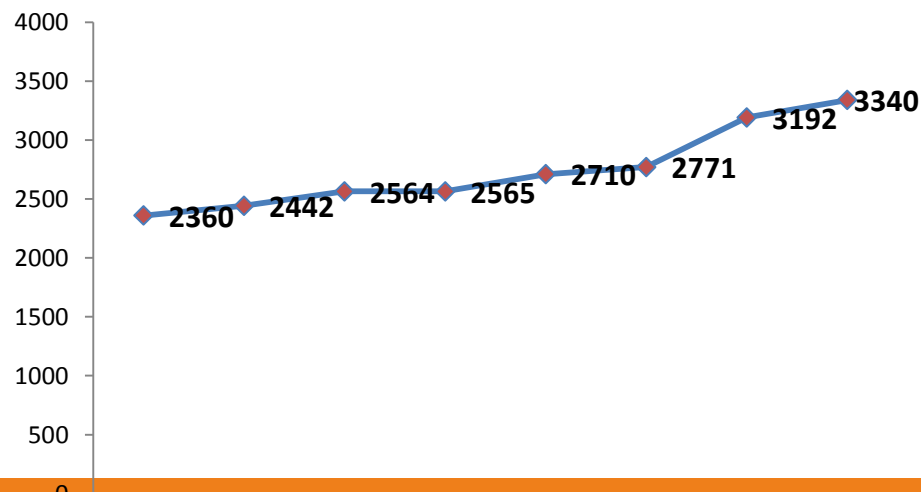
What about local standards (UK and Ireland)?

- UK DMRB HD 42/05: Non Motorised User (NMU) Audits
 - Encourage the design team to take all reasonable opportunities to improve the service offered to NMUs
 - Prevent conditions for NMUs being worsened
- UK DMRB HD 19/03: Road Safety Audits
 - “Particular attention should be paid to the (safety) needs of vulnerable road users”
- Ireland DMRB HD 19/12: Road Safety Audits
 - “the auditor has to be able to imagine what it would be like to walk and cycle the scheme”
- Manual for Streets (Eng), Designing Streets (Scotland), DMURS (Ireland): 2007-13
 - “Re-examining the function of streets within our urban areas, where vehicular traffic is most likely to interact with pedestrians and cyclists” (DMURS)



Who gets hurt in collisions (UK 2012)?

- Total road casualties reduced by 4% compared to 2011
 - But.....
- 420 pedestrian deaths: 5,559 serious pedestrian injuries (up 2%): 25,218 casualties in total
- 118 pedal cycle deaths (up 10%): 3,222 serious pedal cycle injuries (up 4%, 8th year in a row that the number of KSI cycle casualties has increased)



Who gets hurt in collisions (UK 2012)?

– And...

- TAS Partnership study 2013 for UK Guide Dogs Charity found that quiet hybrid and electric cars were involved in 25% more collisions compared to the rest of the vehicle population



What about the health benefits of walking and cycling?

- Hillman, 1992: life years gained through health benefit compared to those lost through injury – **20:1**
- de Hartog, 2010: life years gained by switching from car commute to cycling compared to injury losses – **35:1***
- Woodcock, 2009: health gains vs collision losses from x2 walking and x8 cycling – **15:1** (inc pollution)
- Rabl, 2011: health benefits from switching car commute to cycling vs collision dis-benefits - **24:1**, (19:1 if pollution inc)
- Rojas-Rueda, 2011: overall health benefits of Barcelona's bike hire scheme compared to injury risk – **77:1** (inc pollution)



Safety Plus – more than simply collision reduction and safety audit

- **Safety:** a situation in which vulnerable users are injured in collisions OR the threat of motor traffic puts vulnerable users at considerable risk when in conflict with motor traffic OR vulnerable users are at a risk to their personal security
- **Comfort:** a situation in which vulnerable users would not be comfortable due to (for example) the width/ nature of the travel surface or overhanging branches
- **Convenience:** a situation in which vulnerable users may find the route inconvenient in relation to their origins and destinations
- **Continuity:** a situation in which there is a break in the route, such that vulnerable users can not continue their journey without proceeding into live traffic
- **Connectivity:** a situation in which the route does not connect with appropriate adjacent routes
- **Coherence:** a situation in which it is difficult for vulnerable road users to understand the route, where it does not form part of a coherent strategic plan for the area



VRU journeys – enablement AND encouragement

- Enablement
 - Providing infrastructure to help existing users make journeys safely and reasonably directly
- Encouragement
 - Providing infrastructure, information, and publicity to promote safe, attractive and convenient VRU journeys that lead to an increase in non-motorised travel

