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To: CDC and Road Safety

From: Adrian Davis

Date: 14/01/13

Subject: Essential Evidence on a page: No. 1: **Safety in Numbers**

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1. The hypothesis of 'safety in numbers' has been stated a number of times over recent decades. Indeed, Prof Ruben Smeed applied the idea of safety in numbers in 1949 to the number of motor vehicles in a country, drawing a conclusion that the more motor vehicles the *lower the risk per vehicle occupant*.<sup>1</sup>
2. Safety in numbers as applied to walking and or cycling has been discussed for at least 30 years. For example, in 1978, Mike Hudson wrote  

“the fact that cyclists ‘rights are more respected in towns where cycling is prevalent suggests that an increase in the number of cyclists on all roads would condition car drivers to expect and allow for them”.<sup>1</sup>
3. More recently, Jacobsen provided evidence for the hypothesis arising from analysis of national data from 14 European countries on walking and cycling as well as data for 47 towns in Denmark, and 68 towns in California.<sup>2</sup> Analysis of all data sets provided evidence arising from which the author concluded that:
  - there is a relationship between motor vehicle collisions with pedestrians and or cyclists and numbers of pedestrians and or cyclists. For example, in a community where walking doubles it can be expected that there will be a 32% increase in pedestrian injuries, where cycling doubles it can be expected that there will be a 34% increase in cyclist injuries
  - motorists appear to adjust their behaviour in the presence of people walking and cycling which largely controls the likelihood of collisions
  - In result, the relationship between pedestrian or cyclists exposure and casualties is not linear, that is, there is safety in numbers for these mode users
4. Jacobsen’s paper is *particularly* important both because of his conclusions and also because it highlights the paucity of attention to this potentially substantial contribution to the achievement of key road transport policy objectives.
5. Safety in numbers is taken as a de facto in other European countries where risk per unit of exposure is lower with higher levels of walking and cycling.
6. A paper copy of *this week’s paper* will be on my desk for those wanting more detail.

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<sup>1</sup> Mike Hudson, 1978 *The Bicycle Planning Book*, London: Open Books/Friends of the Earth.

<sup>2</sup> Jacobsen, P. 2003 Safety in numbers: more walkers and bicyclists, safer walking and bicycling, *Injury Prevention*, 9: 205-209.