

Essential Evidence on a page: No. 15 Vision Zero

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Top line: Lowering speed limits in urban areas in Sweden has reduced injuries to cyclists and pedestrians by 50 percent.

Motor traffic speed is a key determinant of crashes and injury severity. Reducing road traffic speed is consequently a global challenge given. 1.4 million people die each year in traffic crashes, making it the ninth most common cause of death.¹ Moreover, every 1mph reduction in average speed brings 5% fewer crashes, and hence less road deaths and injured. Thus, even marginal reductions in speed can result in major road safety gains.

In a number of European countries national governments have sought to re-balance competing political demands, such as between economic prosperity, environment and safety. Until recently, crashes and fatalities were seen as a necessary evil to be accepted in the interests of personal mobility. Sweden's Vision Zero policy² is seen as a world leader and emulated by countries from Norway to Australia. An important aspect is to demonstrate that safety is a precondition for good mobility, and that stronger action needs to be taken to reduce deaths and injuries arising from transport activity. Greater account needs to be taken of the fundamental vulnerability of the human body. There is a consequent need to reduce the potential for collisions at speeds which threaten to inflict violent injuries on the body. The approach reflects the knowledge that a pedestrian struck by a vehicle at 20mph or less will most likely receive only a minor injury, but struck by a vehicle at 30mph or above will most likely be seriously injured, and very possibly killed.^{3 4}

Vision Zero has an operational strategy:

- Gradually aligning vehicle speed to the inherent safety of the system (eg reviewing speed limits on all classes of roads, central barriers on high 110 km/h roads and 30km/h in towns)
- Improving vehicles to address driver behaviour issues (eg automatic breaking systems if cars get too close; and alcohol sensors)
- Stimulating the community to use the system in a safer way

The transport system will always create a substantial number of crashes, but it is possible to limit the effect on the human body by reducing speeds to a level which will almost eliminate fatalities and prevent most serious injuries. Vision Zero requires that the needs of vulnerable road users determine the safety demands on the system. For example, on streets where pedestrians and cyclists cannot be effectively separated from cars, the speed of the cars must be reduced to below 30kph in order almost to guarantee that no one is killed or seriously injured in a crash. Calculations show that investments in a safer road environment can reduce the number of fatalities by 80-90% per year.

¹ According to WHO, road deaths and are estimated to rank sixth most common cause of death by 2020.

² Carlsson, G. 1998 Vision Zero in perspective of global generalisation, paper to 8th *La Prevention Routiere Internationale, World Congress*, Lisbon: Portugal.

³ Ashton, S., Mackay G, 1979 Some characteristics of the population who suffer trauma as pedestrians when hit by a car and some resulting implications, 4th *IRCOBI International Conference*, Gothenburg.

⁴ Kallberg, V. 1999 *Implications of Vision Zero for speed management*, Espoo: VTT Communities and Infrastructure.