

Vision Zero and the New Paradigm for Road Safety - emphasizing critical lessons for infrastructure design

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Vision Zero: a Safe Traffic Concept

History

- On October 9, 1997 the Road Traffic Safety Bill founded on "Vision Zero" was passed by a large majority in the Swedish Parliament. This represents an entirely new way of thinking with respect to road traffic safety.

Goal

- The long term goal is that no-one shall be killed or seriously injured within the Swedish road transport system.

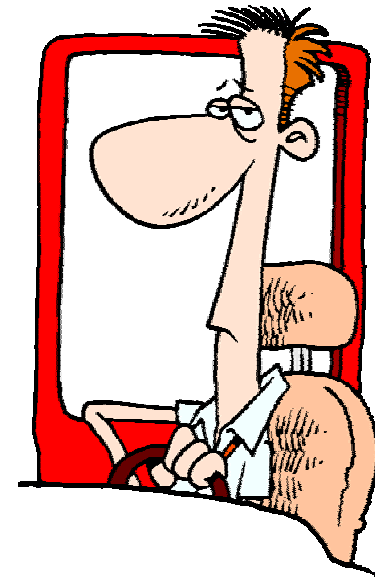
Safety Philosophy

”Any well functioning man-machine system brings the failing human into the loop”.

”Blaming the victim approach is a catastrophe to prevention”.

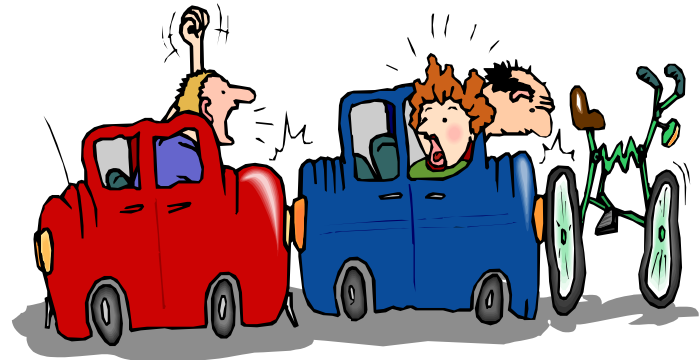
“Rule of Science”

“We shall only use the best possible methods and base our action on the failing human”

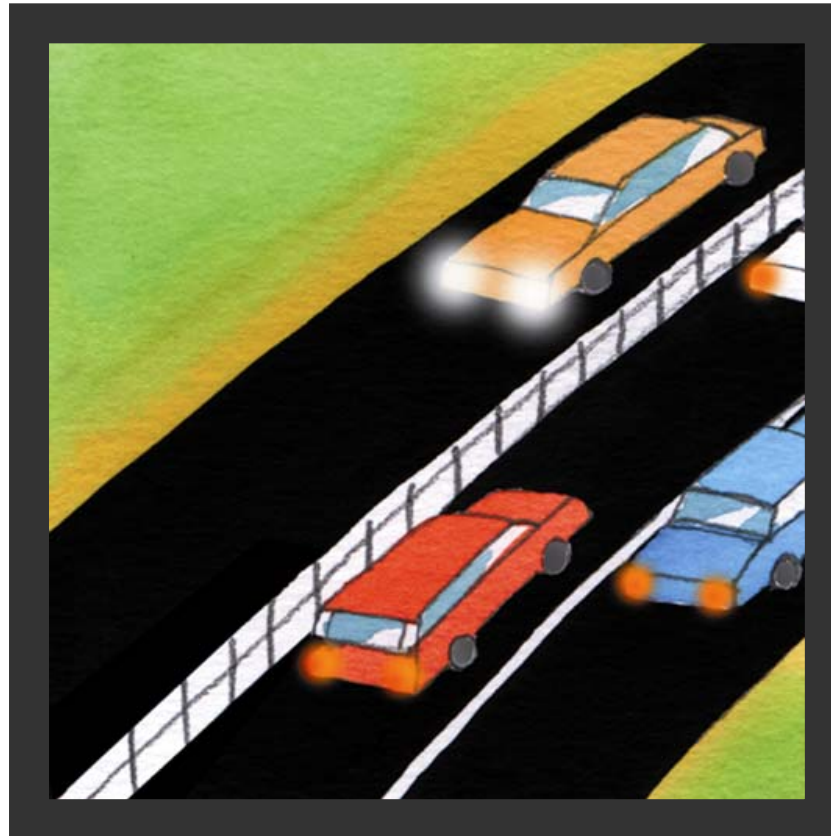


“Rule of Science” - cont.

“The biomechanical tolerance of the human is the limiting factor for the road transport system”



CENTRE GUARD RAILS



On existing 13m wide roads

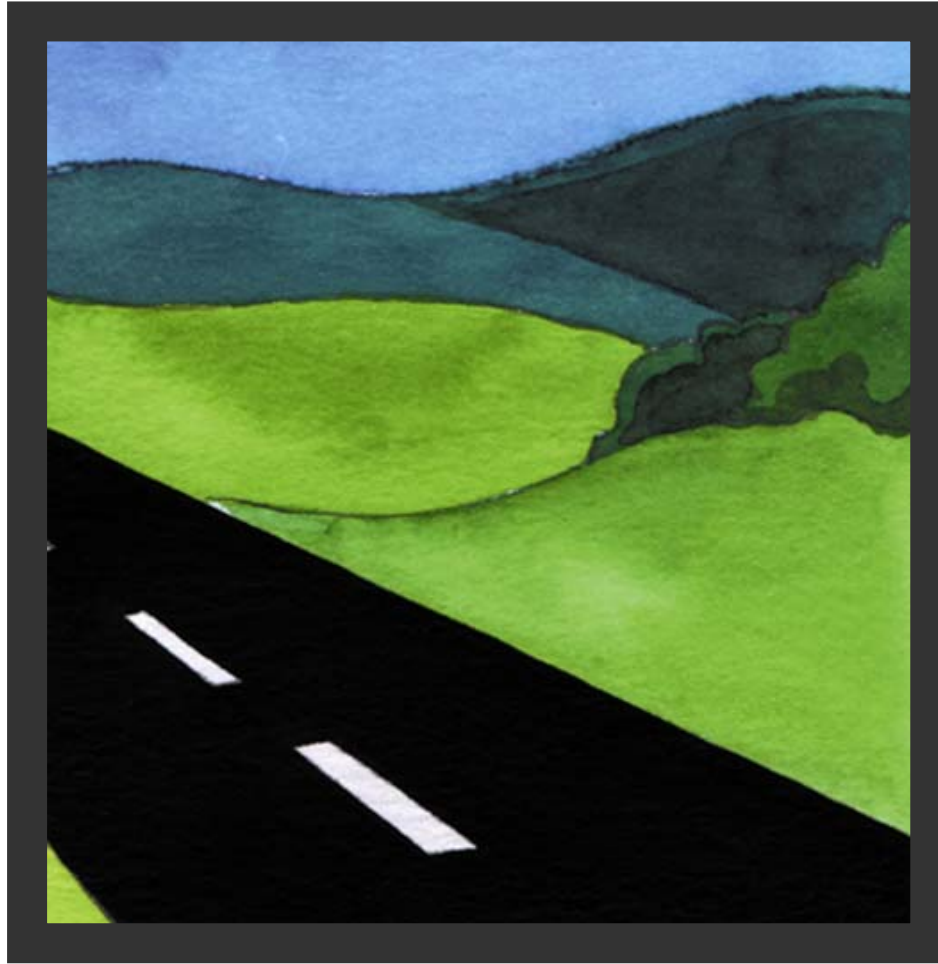




Results of mid barrier programme

- From 22% of the traffic flow in 1998 to 38% in 2007
- On the 38% of the traffic flow 35 fatalities, on the 62% 280 fatalities - factor 5
- 10-20 times more cost effective than earlier, in fact a marginal decrease of the cost of saving lives.

SAFE ROAD AREAS



Design for people leaving the road



Results of improved side areas

- Euro - RAP shows a 50% reduction of serious and fatal injuries for 4-star side areas than 2-star areas
- Treatment with barriers is highly cost effective

ROUNDBABOUTS



Intersection with problems
Focus on crashes results in signals
Focus on injuries results in roundabouts



Results of roundabouts

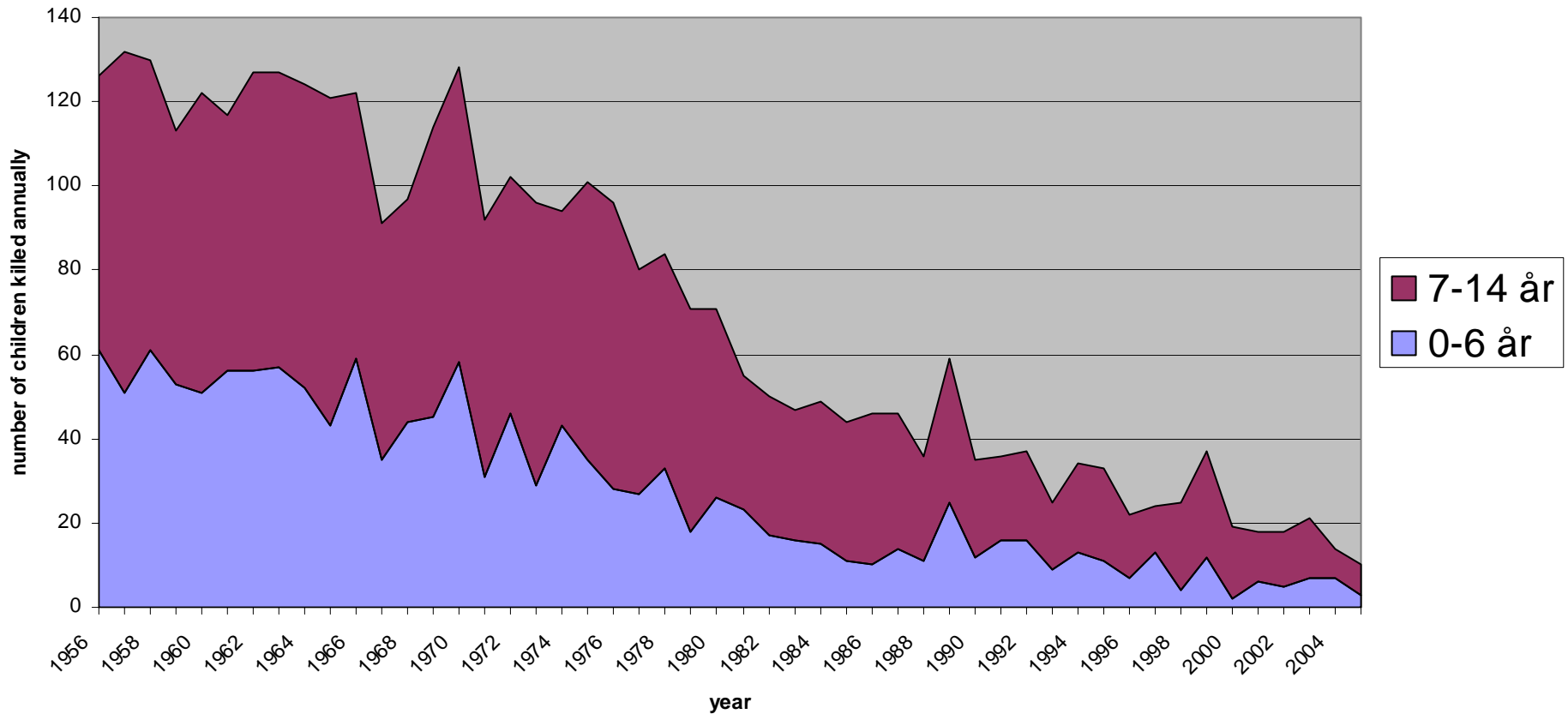
- 80-90% reduction of fatal injuries compared to traditional intersections
- Generally well accepted by citizens







Children killed in traffic in Sweden 1956-2005



Summary

- Vision Zero has radically changed system design, especially infrastructure design
- New infrastructure design is dramatically cheaper, effective and easy to implement
- A safety policy without an infrastructure component is likely to failure!