



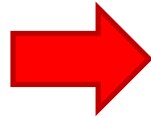
TRAFIKVERKET
SWEDISH TRANSPORT ADMINISTRATION

Countermeasures based on Vision Zero principles

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Many names

- “Vision Zero”
- “Towards Zero”
- “Sustainable Safety”
- “Safe System”



Similar policies that fundamentally do not accept death and serious injuries as an acceptable product of mobility

Vision Zero is a concept

Vision Zero

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Commit to the figure zero and do more of
the same

What Vision Zero is

“First and foremost Vision Zero should be seen as a vision based on an ethical foundation, creating and supporting a totally new perspective, a paradigm shift, on the road safety problem and the approach to solve it”

Vision Zero – fundamental principles (I)

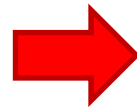
- A shared responsibility exists amongst those who design, build, manage and use roads and vehicles and provide post-crash care to prevent crashes resulting in serious injury and death

Shared responsibility

1. The designers of the system are always ultimately responsible for the design, operation and use of the road transport system and thereby responsible for the level of safety within the entire system.
2. Road users are responsible for following the rules for the safe use of the road transport system decided by the system designers.
3. If road users fail to obey these rules due to lack of knowledge, acceptance or ability, or if injuries occur, the system designers are required to take necessary further steps to counteract people being killed or seriously injured.

Vision Zero - fundamental principles (II)

- People make mistakes that can lead to road crashes
- The human body has a limited physical ability to tolerate crash forces before harm occurs



The design of the road transport system should guide the road user to an as safe behaviour as possible but still mitigate the consequences of common human errors since they still will occur

Guardrails



2+1 roads



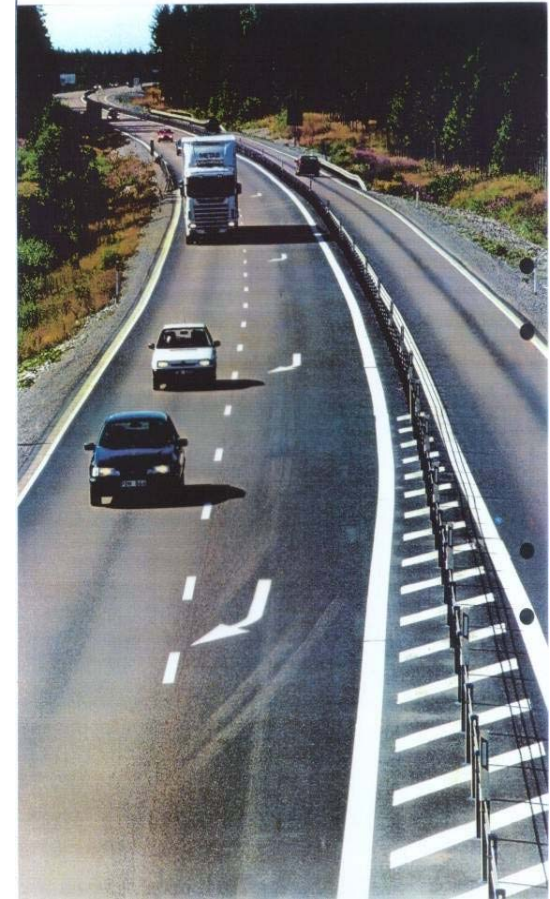
Measures

- Separation with wire rope barriers
- Clearance of roadside areas
- Intersections and accesses
 - Parallel roads
- Improved road surface
- Maintenance standard increased
- Sometimes bike paths



Safety effects

- Fatalities decreased by 77%
- Fatalities and seriously injured decreased by 51% (110 km/h) and 63% (90 km/h)
- Safety level (FSI-rate) for 2+1 roads is about the same as for motorways
- Median barrier crashes rather frequent
- Speed: +2km/h on 90 km/h, unchanged on 110 km/h
- Capacity approximately 15% less



Narrow 2+1 roads

- Started 2009
- 9 m rural roads broadened (2+1)
- Share of passing lanes 15–30% compared to 40% for 13 m roads.
- Speed limit raised from 90 to 100 km/h
- Similar safety effects as for “original” 2+1



Status in Sweden today

- 76% of vehicle mileage on roads with 90 km/h or higher is on roads with median barriers
- 30% of the total length of roads with 90 km/h or higher has median barriers
- 5% of the road network in Sweden has median barriers

Vision Zero – fundamental principles (III)

All parts of the system must be strengthened to multiply their effect, and if one part fails, road users are still protected



Speed limits and speed management, driver assistance systems, injury mitigating properties of the vehicles, regulations etc. must be combined in an optimised way

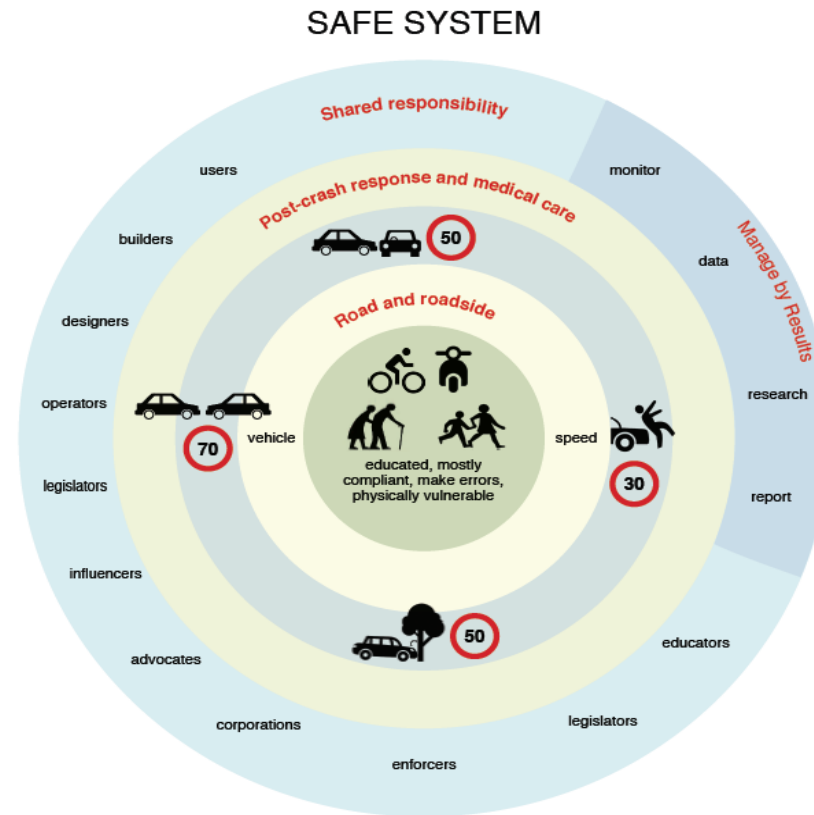
Pedestrian crossings



Seat belt reminders



Systems approach



Thank you for your attention!

