



Mr. Rob Eenink

SWOV, Netherlands

# **Road Safety strategy in the Netherlands: the role of infrastructure**

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Road Safety Strategy in India – Action Plan  
3-5 October 2011 at Pragati Maidan, New Delhi**

## Contents

- SWOV, institute for road safety research
- Dutch approach to road safety
- Infrastructural improvements
- Does it work?
- Road safety strategy, for India?

# History

## 12 July 1962: Foundation of the S.W.O.V.V. by:

- Ministry of Transport
- Royal Dutch Touring Club ANWB
- Dutch Association of Automobile Insurers
- Netherlands Bicycle and Automobile Industry RAI



## First articles of association S.W.O.V.V.:

*'The Foundation wishes to use scientific research for making a contribution to road safety improvement'*

# SWOV's mission statement

*Research for the benefit of road safety*



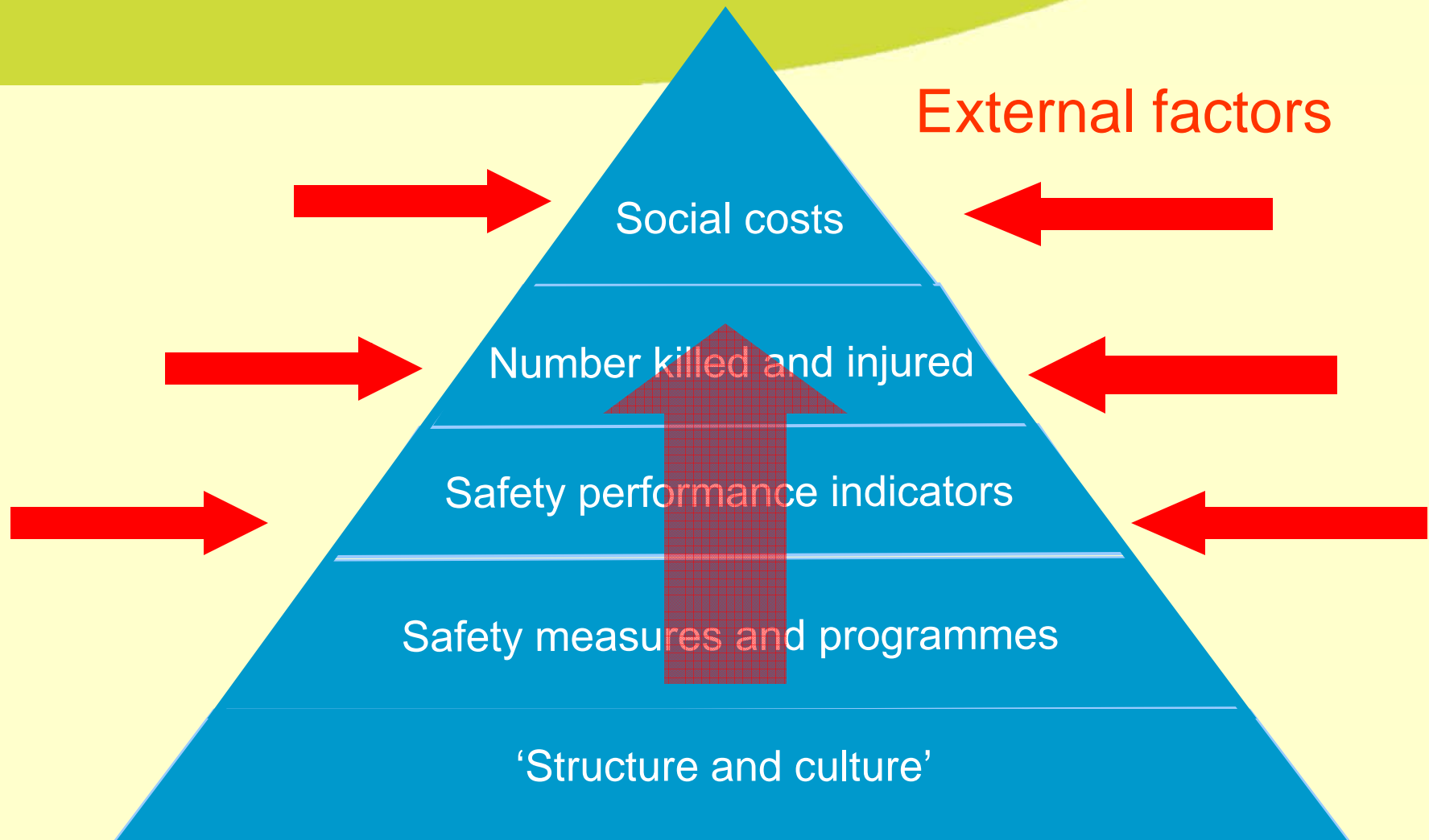
- We make a contribution to road safety improvements with knowledge from scientific research.
- We are independent as regards content; our knowledge is public knowledge.
- We wish to do high-quality research and to disseminate our knowledge.
- We cooperate with other knowledge institutes and universities, both in the Netherlands and internationally.
- Our target groups consist of 'road safety professionals'.
- The knowledge requirements of our target groups direct our activities.

## Target groups

*Two-way communication with our environment*

- National and regional decision makers
- Professionals within national, regional and local governments
- Advisory bodies and interest groups
- National and international fellow researchers
- Educational and knowledge institutes
- Press

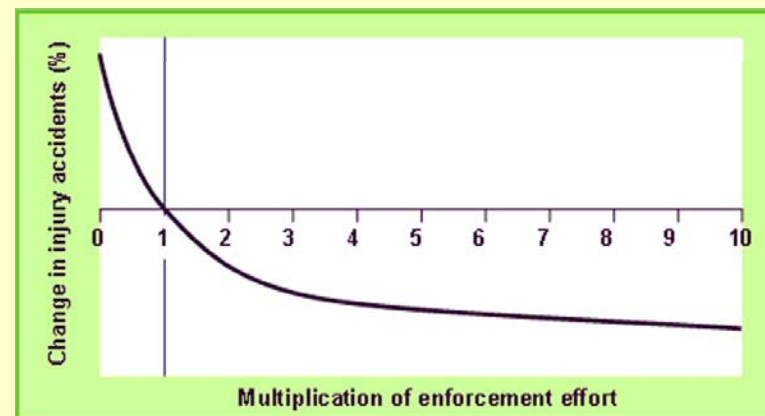
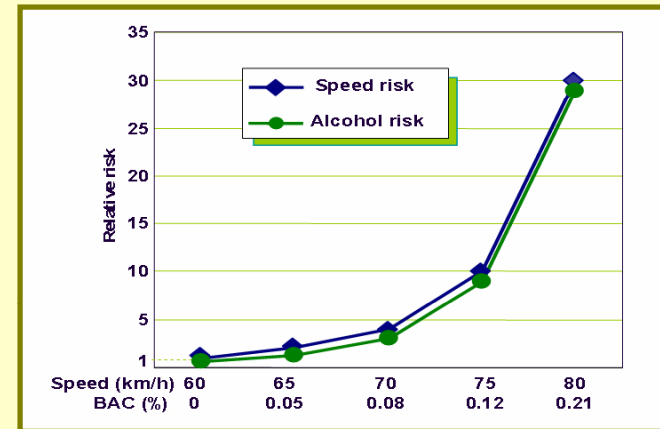
**Dutch approach: SUNflower target hierarchy**



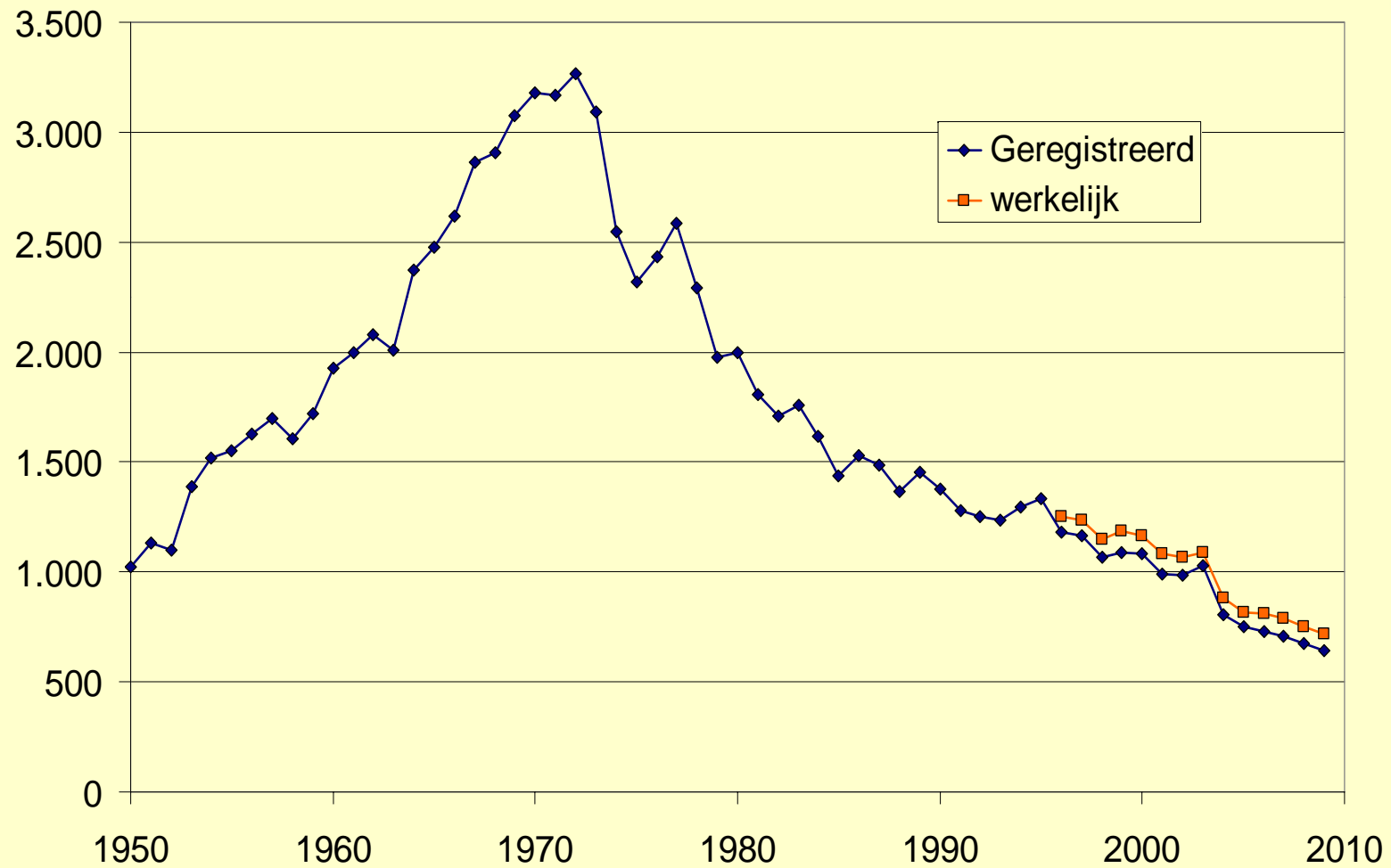
## Road safety data + knowledge

Knowledge about relationships between different layers of the pyramid

- Safety Performance Indicator (SPI) and safety outcome
- Policy performance and SPI
- Policy performance and safety outcome



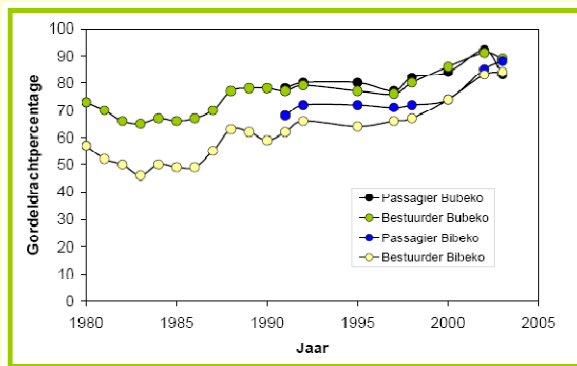
# Dutch approach: Fatalities since 1950



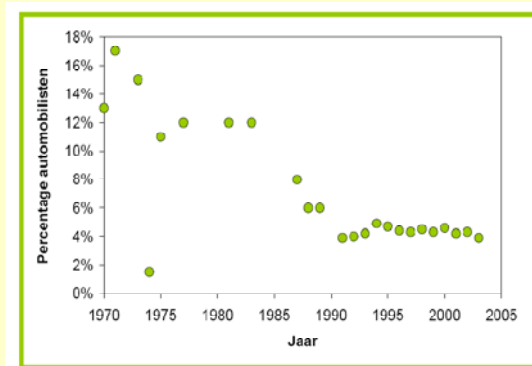
## Progress in the Netherlands: seat belt wearing, drinking and driving, 30 km-zones

- On safety performance indicators (SPI's), e.g.

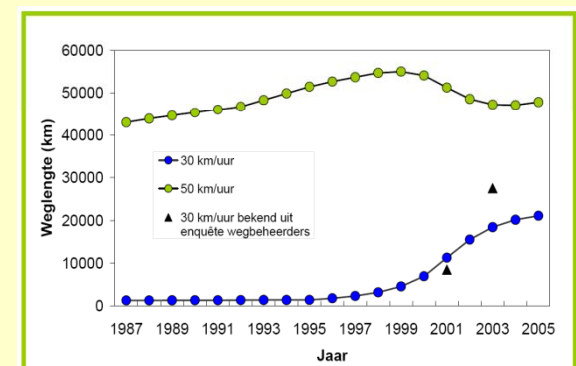
*Seat belts*



*Drink driving*



*Speed management*



## Dutch approach: sustainable safety

infrastructure

### Sustainable safety principles

**Functionality** of roads

**Homogeneity** of masses and/or speed and direction

**Predictability** of road course and road user behavior by a recognizable road design

**State awareness** by the road user

**Forgivingness** of the environment and of road users

## Dutch approach: sustainable safety

- Start-up Programme Sustainable Safety (1998-2002)
  - Covenant signed by all tiers of government
  - Contains 24 measures and actions.
  - Subsidy of € 110 million of central government, matched by road authorities
- After the start-up programme
  - Decentralisation of policy making:
    - National level, general agreements considering traffic safety.
    - Actual realization of plans takes place on a local level, under control of regional governments.
  - Ideas of Sustainable Safety are still incorporated in national and regional road safety policy, although less prominent then during start-up programme.

## Infrastructure: categories

Access road urban area 30 km/h



## Infrastructure: categories

### Distributor road urban area 50 km/h



## Infrastructure: categories

Access road rural area 60 km/h



## Infrastructure: categories

Distributor road rural area 80 km/h



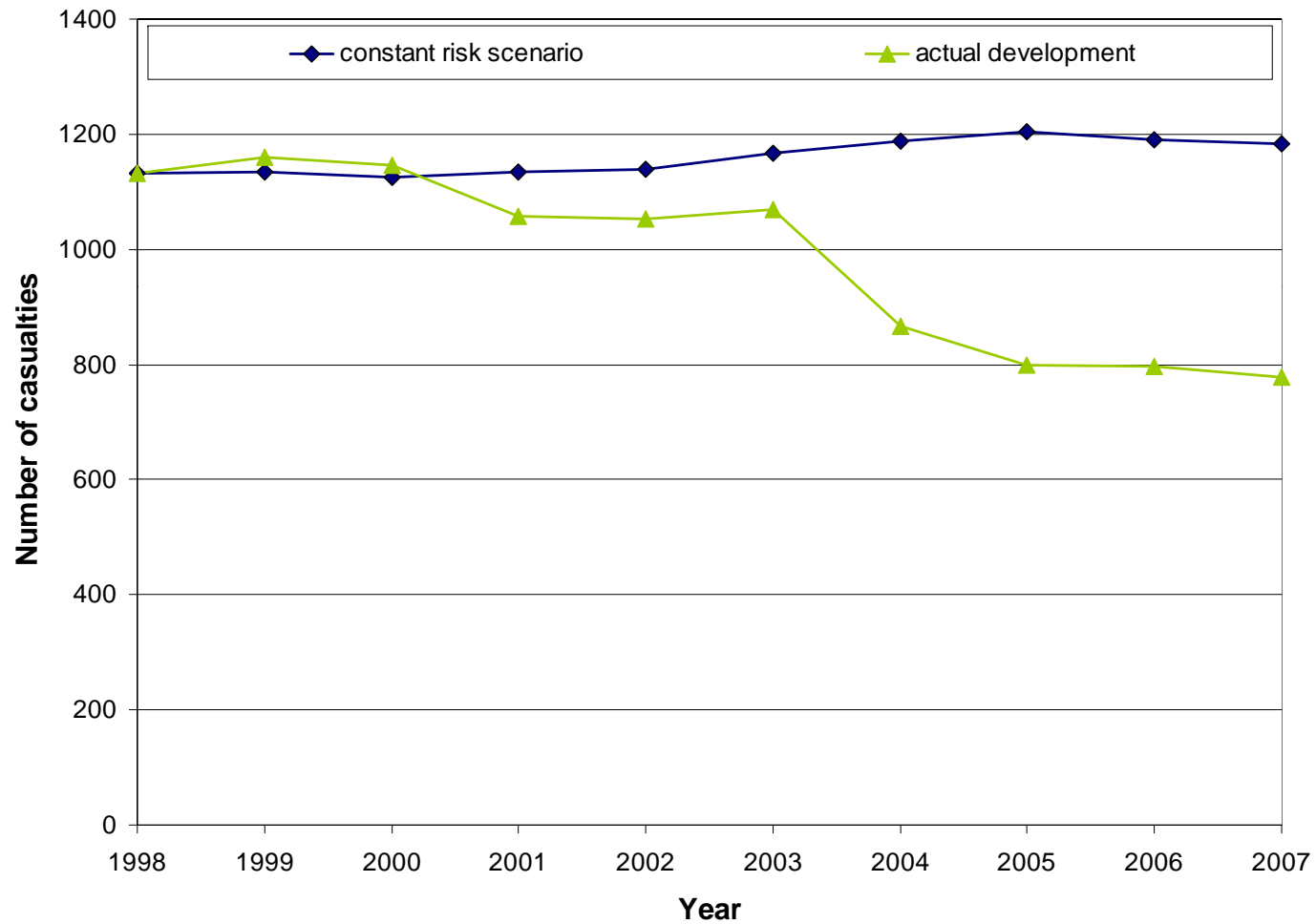
## Infrastructural measures

Road category	% of road length
30km/h access road	72% speed slowed down at intersections and/or road sections
50km/h distributor road	59% separate bicycle path
60km/h rural access road	45% speed slowed down at intersections and/or road sections
80km/h distributor road	10% dual carriageway, few roads with obstacle free zones and/or hard shoulders

## Effects of all measures together

- Comparison between actual number of casualties and number of casualties that were expected 'without measures'
- Two base-line scenario's:
  - Continuation of existing policy: continuation of development in risks for different transport modes
  - No additional investments in traffic safety: risks for different transport modes stay on the same level
- Cost-benefit analysis: monetary value of prevented casualties and seriously injured compared to cost of additional investments in traffic safety

## Effects of all measures together



## Does it work? Effects of measures

Measure/road user behaviour	Casualties prevented in 2007
30km/h roads	51 – 77
60km/h roads	60
Other infrastructural measures	+++
Increased seat-belt use	55
Decrease in alcohol offenders	65
Other behavioural changes	+
ESC	10
Airbags	32
Other improvements in vehicle safety(EuroNCAP)	+++

## Conclusions

- A lot of measures were implemented in the period 1998-2007
- Measures had a positive effect on traffic safety
  - Individual measures prevented casualties
  - Decrease in risk was stronger than period before
  - All measures together prevented 300-400 casualties in 2007
  - The actual number in 2007 was therefore 791 instead of 1200-1300!
- The implementation of Sustainable Safety is a success!

## Road safety strategy, for India?

- State-of-affairs:
  - Data (police, hospital, exposure, SPI's)
  - Analysis (high risk groups, behaviour, roads, vehicles, ...)
- Vision:
  - Needed? ( agreement, support, inspiration, ...)
  - Safe Systems approach (Sustainable Safety/Vision Zero)
  - Safe speeds (30/50/70-80) and categorisation
- Stakeholders:
  - Initiative: national level
  - Road authorities, road user groups, industry, police ...
- Action plan: targets
- Do, check, act: monitoring, research