



# Road Safety in The Netherlands

## Context, Strategy, Challenges

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# SWOV.nl

## Institute for Road Safety Research



Prevent crash

Limit crash impact

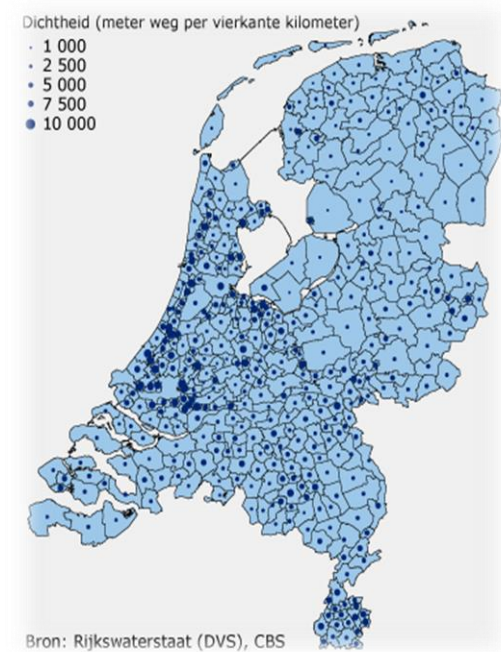


### SWOV mission today:

- Contribute to road safety improvements with knowledge from high-quality scientific research
- Independent research institute
- SWOV cooperates with other research institutes and universities, both in the Netherlands and internationally
- Target groups consist of 'road safety professionals' and road safety stakeholders

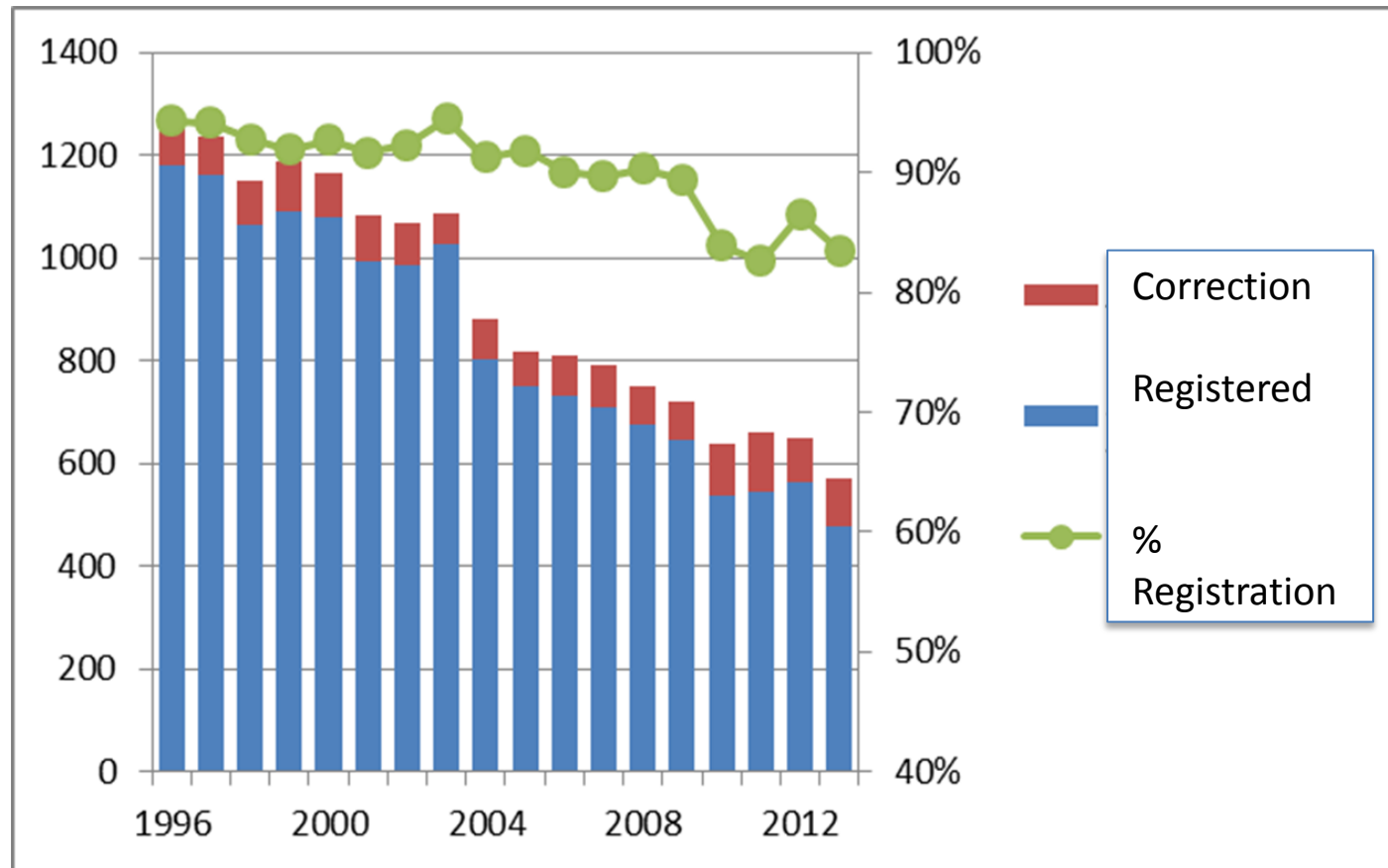


# The Netherlands: A 'decentralised unitary state'



- Divided and shared responsibilities
- State and provinces: coordinating powers

# Traffic fatalities 1996 - 2013



# Vision on road safety and on road safety research



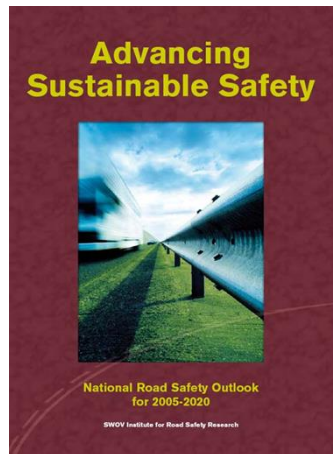
- **Ethical**
  - Human and economical reasons
  - A proactive approach: 'prevention is better than cure'
- **An integral approach**
  - Integrate infrastructure, man and vehicle into one safe system
  - Encompasses the entire system: all roads, all road users, all means of transportation
  - Align with other policy areas: spatial planning, health policy, sustainability, societal values and norms

**SWOV: "Prevent crashes, reduce injury, save lives"**

# Sustainable Road Safety



1992



## Objectives:

- Prevention of serious crashes by eliminating conditions/circumstances where serious crashes *can* occur
- Reduction/elimination of probability of serious injury when a crash occurs



Report downloadable from  
[www.sustainablestafety.nl](http://www.sustainablestafety.nl)

# Sustainable Road Safety: Leading Principles



## *Original:*

- Mono-functionality of roads: access, 'unlocking' (opening up) or transit
- Homogeneity of mass and/or speed and direction
- Predictability of road course and road user behaviour

## *Since 2005:*

- Physical and social forgivingness
- Context and capability Awareness



# Predictable roads and traffic behaviour as basis for safe traffic

- Preventing errors by:
  - Recognizable situations: consistency in road design
  - Predictable road course: continuity in road design
- Anticipated result:
  - More routine traffic behaviour: fewer errors
  - More predictable behaviour of other road users



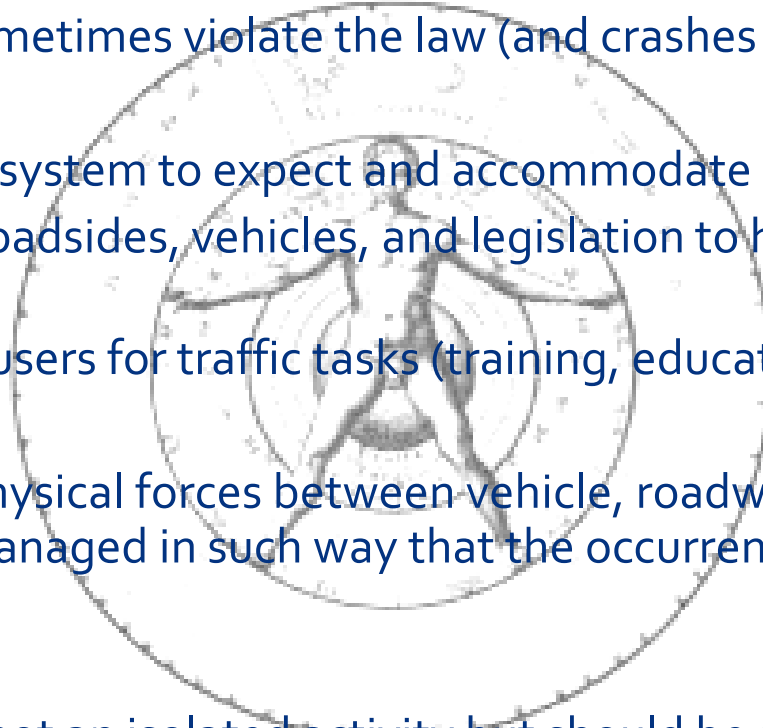
# Safe speeds, credible speeds

- Accelerators:
  - Open road environment
  - Wide road
  - Straight road stretches
  - High quality road surface
- Decelerators:
  - Dense road environment
  - Narrow roads
  - Short road stretches
  - Physical speed reducers
  - Low quality road surface



# Man is the measure of all things...

- Forgiving roads and infrastructure: it is inevitable that road users make mistakes and sometimes violate the law (and crashes occur)
- Design the road system to expect and accommodate *human error*:
  - tailor roads, roadsides, vehicles, and legislation to human characteristics
  - prepare road users for traffic tasks (training, education)
- In a crash, the physical forces between vehicle, roadway, and the human body must be managed in such way that the occurrence of serious injury is minimized
- Enforcement is not an isolated activity but should be an integral part of the system



# Sustainable safety in NL: an assessment

- Many measures implemented:
  - 41,000 km of 30 km/h road and over 33,000 km of 60 km/h road constructed (= ca 50% of total length)
  - Regional traffic enforcement teams
  - Education for specified target groups
- Estimated 1,600-1,700 fatalities saved 1998-2007
  - About 33% fewer than expected without these measures
- Cost beneficial: BC ratio = 3.6 : 1

# Transferability of knowledge: high

- Fundamentals are true all over the world
  - Human being is fallible/vulnerable and makes errors
  - Risk increasing factors
  - Road transport system is inherently unsafe
- Evidence based interventions
  - Monitoring & Evaluation
  - Knowledge transfer, capacity building & partnerships

# The Netherlands: relatively safe, improvements needed



- Urgency:
  - 570 lives lost, > 19.000 seriously injured
  - Economical costs exceed 12 billion euro per year
  - Investing in *preventable crashes*: evidence based policy & cost beneficial investments
  - Safety Performance Indicators
- Road safety targets for 2020: difficult
- Results in the past are no guarantee for the future

# Challenges anno 2015



- Infrastructure: budget restraints
- Ageing population
- Distraction by smartphones
- Cyclists' vulnerability
- Slow mopeds
- Government priorities





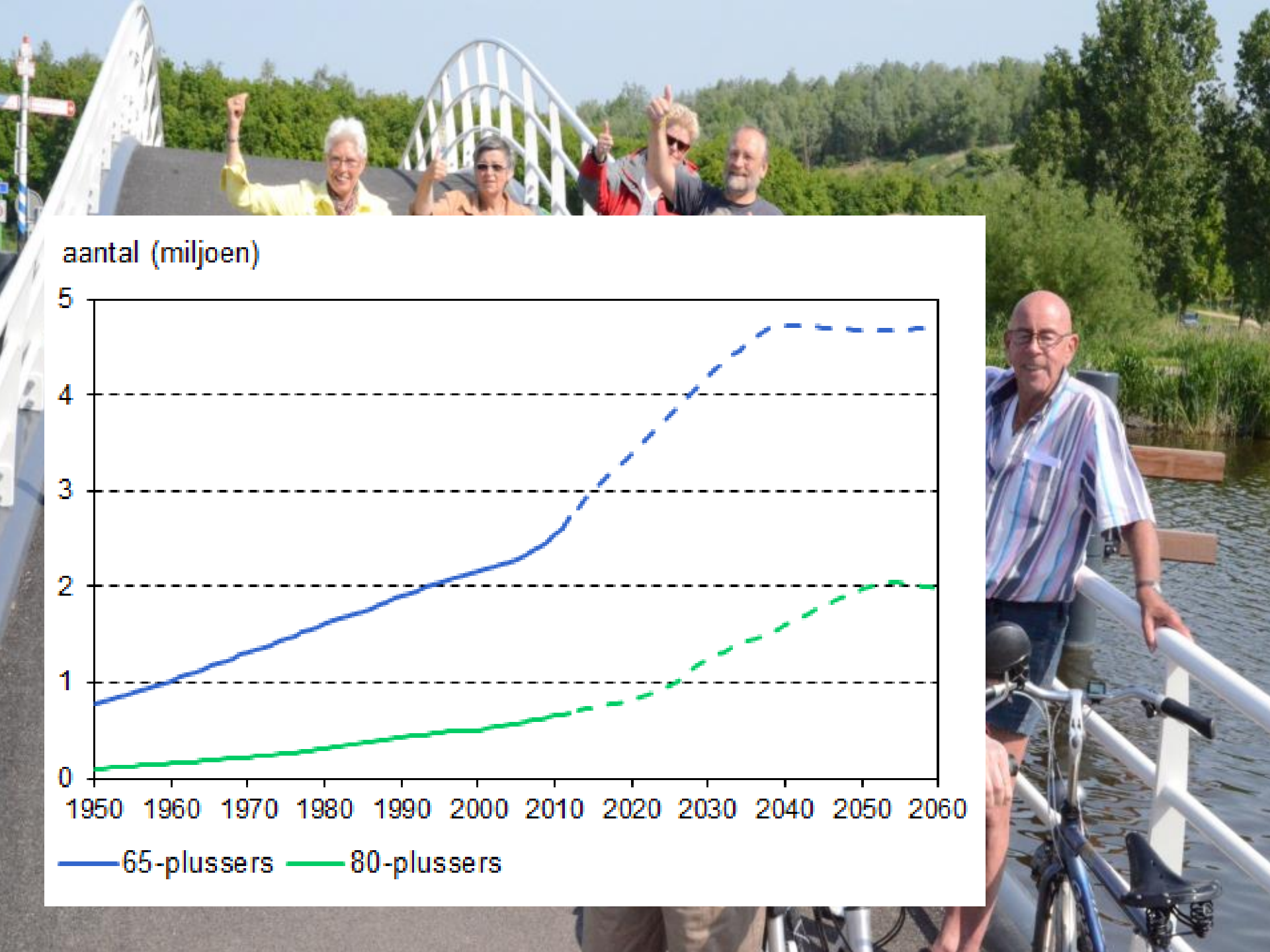




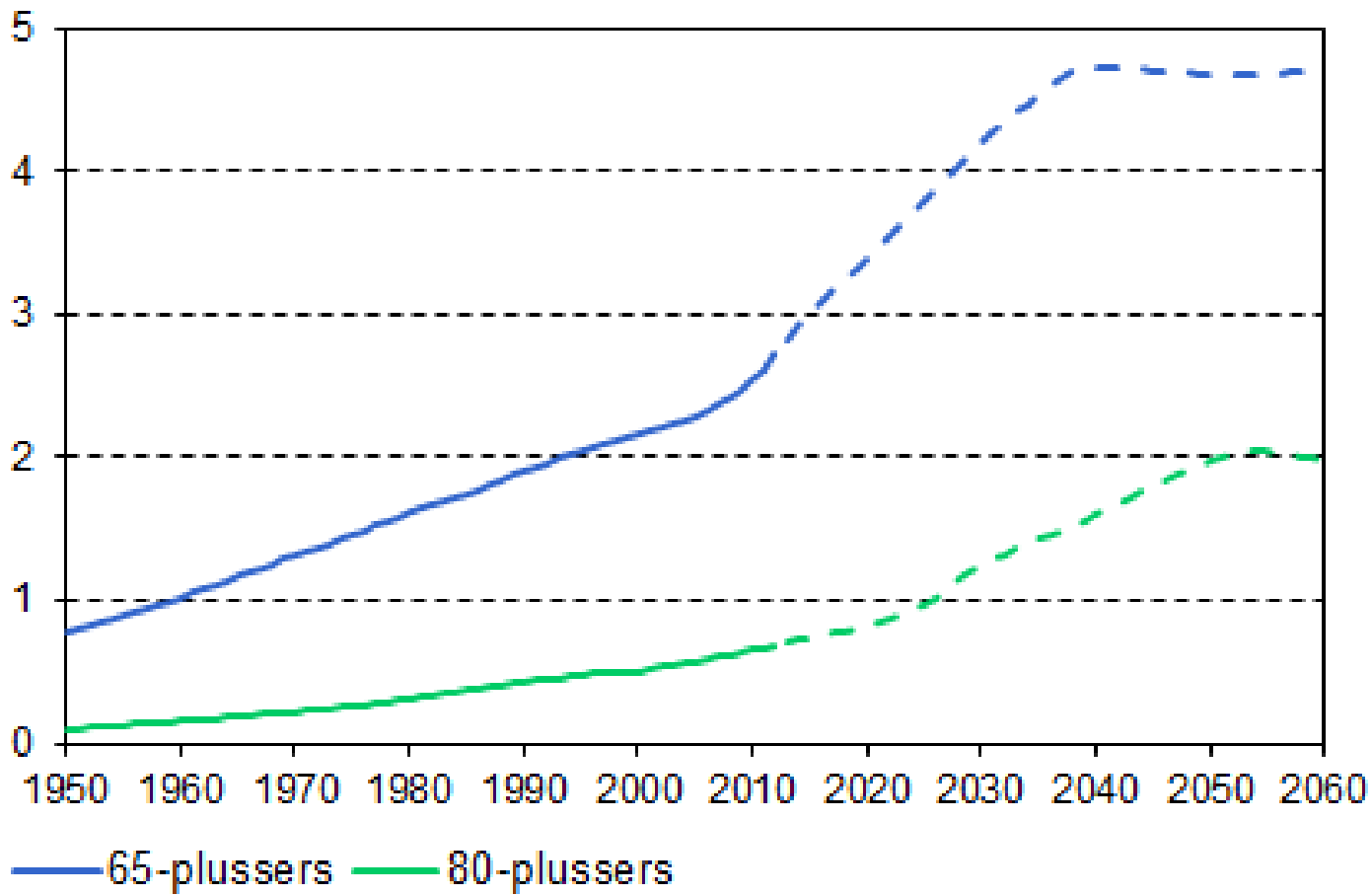
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aantal (miljoen)



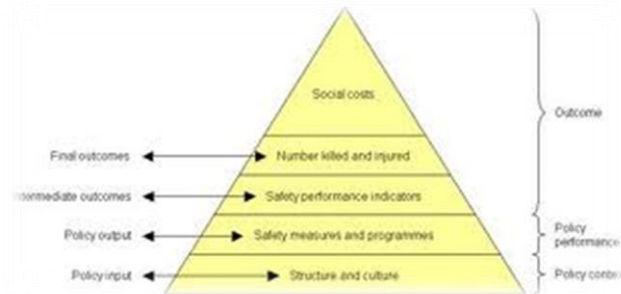




# Safety Performance Indicators: Fuel for benchmarking and a proactive approach

SPIs:

- not only crashes, deaths, and injuries
- indicators representing core issues: alcohol and drugs; speed; protective systems; daytime running lights; vehicles (passive safety); roads, and trauma management
- Objective: meaningful indicators that have a solid theoretical basis and can be applied



# Success factors of road safety in the Netherlands

- High political interest (Parliament) and society participation
- Key stakeholders act together: Transport and Justice Ministries, provinces, municipalities, police forces, interest groups
- Sustainable Road Safety
- Road safety targets (SPIs) + targeted programs
- Facing new challenges

SWOV offers support:

[www.swov.nl](http://www.swov.nl)



# Road Safety in The Netherlands

## Thank you!

[WWW.SWOV.NL](http://WWW.SWOV.NL)

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