



Novice drivers – is it possible to make them safer?

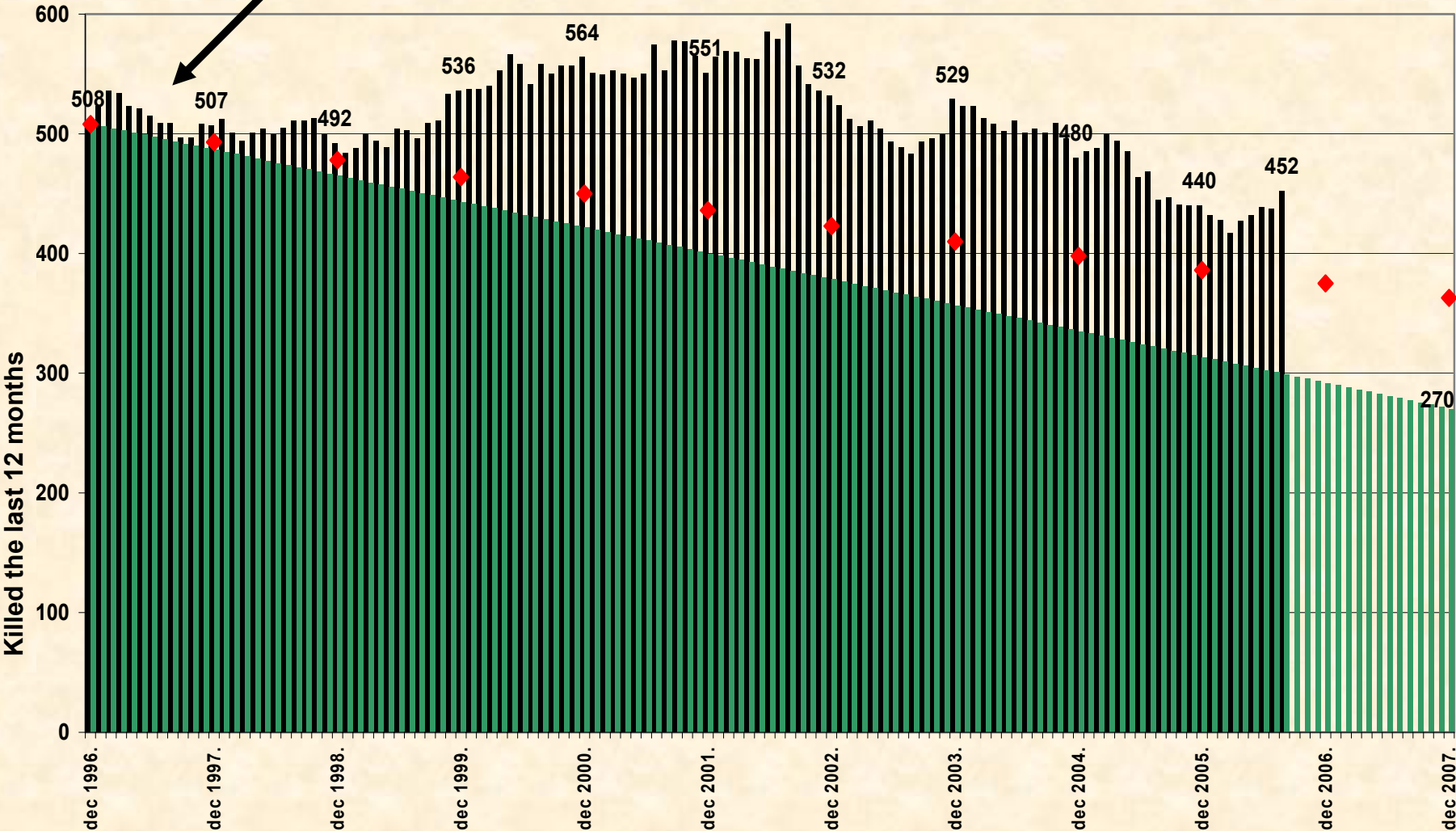
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National Road Safety Society
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Swedish Vision Zero

- Definition:
 - Traffic crashes should, in the long run not cause death or serious injuries
- Three fundamentals:
 - Ethical positioning regarding human life
 - Shared responsibility
 - Safety philosophy taking human mistakes into account
- Part time goal:
 - 270 killed 2007

Killed road users Dec 1996 – Dec 2007

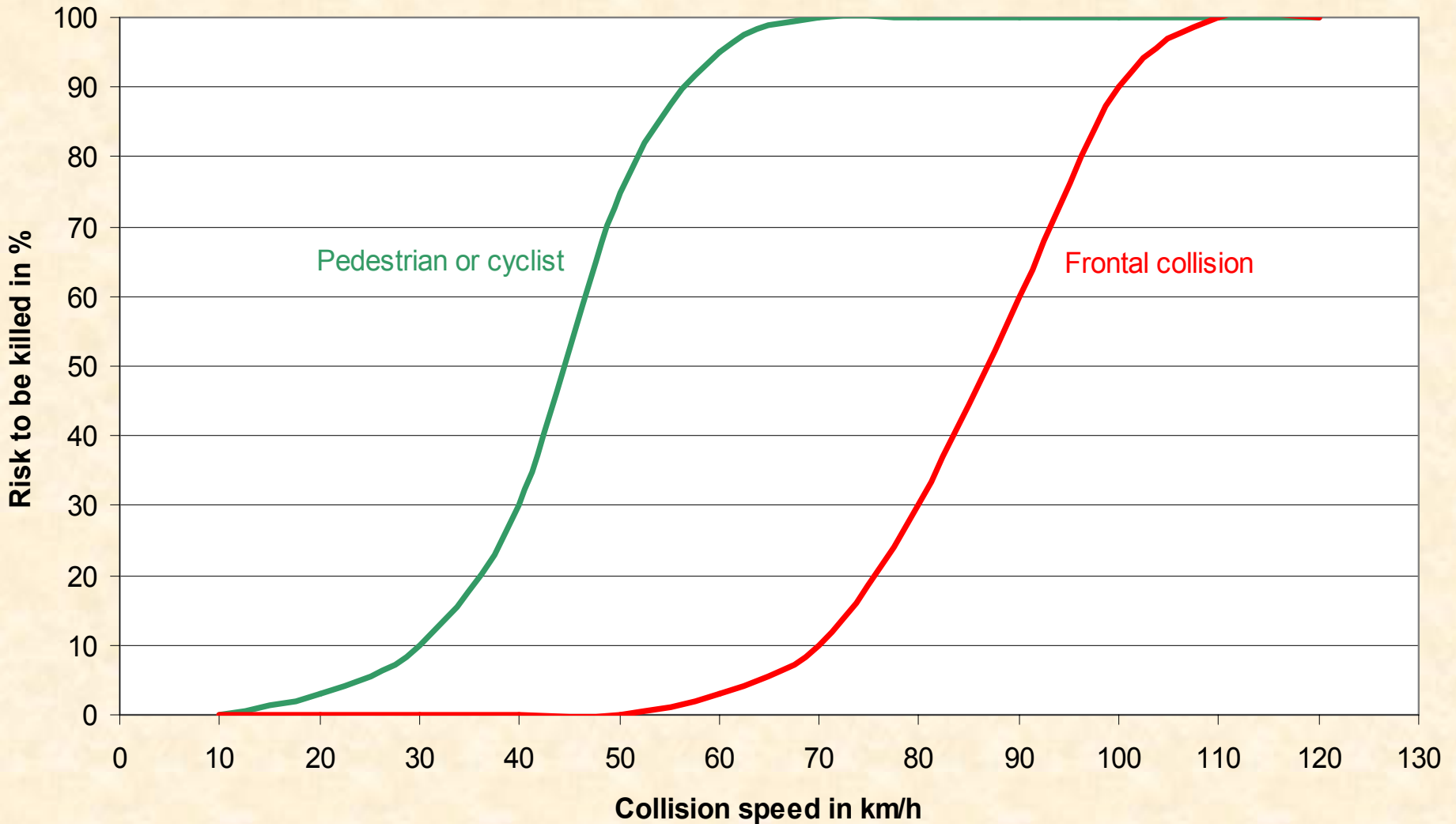
Vision Zero
decision



System designers' responsibility

- Physical road environment
- Speed limits
- Car design
- Road safety policies in companies

Approximative risk to be killed in 2 different crash types and collision speed





Take it
easy



**Example: 30-zones:
From 2500 till 4400
km 2005 -
increasing**





Example:

**2+1 lanes separation with
wire fences (meeting-free)**

50-70% reduction of fatalities

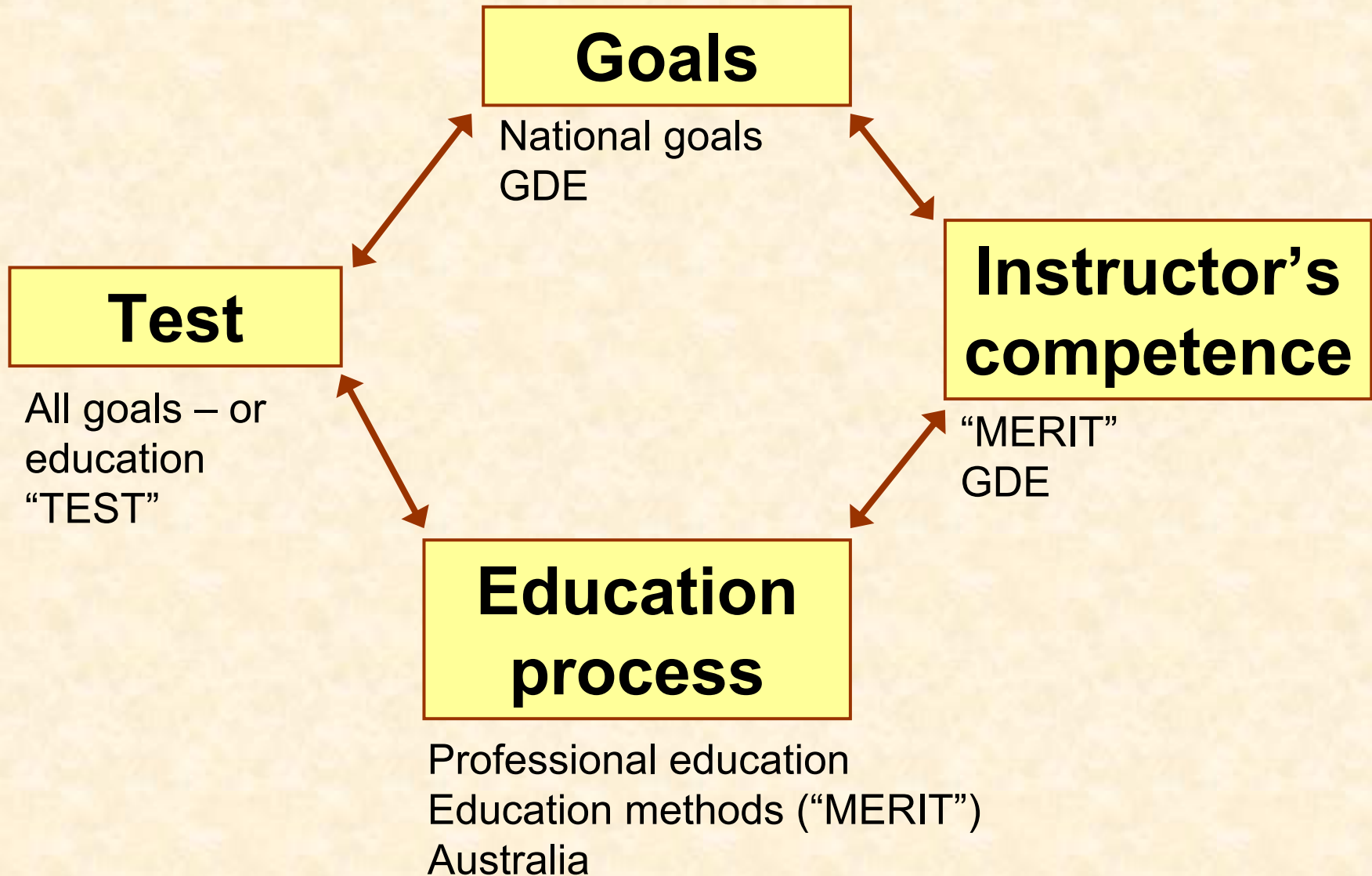
Road users' responsibility

- Need to get inside the brain of road users
- Knowledge-attitude-insight-understanding-acceptance-motivation
- Road safety education in schools
- Driver education
- Information campaigns
- Combination of different approaches

Measures for young drivers

- **"Measures for all"** (ATK, Surveillance, 2+1 roads, Alcolock, ISA, ESP, Belt reminders, Information and campaigns...)
- **Driver education** (GDE-based)
- **Road safety ed. in schools** (2 aims)
- **Driver education in schools** (?????????)
- **Leisure time organisations** (Safety policy)

Cornerstones of education



GDE matrix

(Goals for Driver Education)

(Hatakka, Keskinen, Glad, Gregersen, Hernetkoski, 2002)

	Knowledge and skill	Risk increasing aspects	Self assessment
Goals for life and skills for living	Lifestyle, age, group, culture, social position etc, vs driving behaviour	Sensation seeking Risk acceptance Group norms Peer pressure	Introspective competence Own preconditions Impulse control
Goals and context of driving	Modal choice Choice of time Role of motives Route planning	Alcohol, fatigue Low friction Rush hours Young passengers	Own motives influencing choices Self-critical thinking
Driving in traffic	Traffic rules Co-operation Hazard perception Automatization	Disobeying rules Close-following Low friction Vulnerable r.u.	Calibration of driving skills Own driving style
Vehicle control	Car functioning Protection systems Vehicle control Physical laws	No seatbelts Breakdown of vehicle systems Worn-out tyres	Calibration of car-control skills

Dangerous driving behaviour

- **Lack of basic car control skills is a small problem**
- **Lack of driving experience and routine is a big problem**
- **Lack of knowledge about what is allowed and what is forbidden is a small problem**
- **Lack of insight about hazards and consequences of dangerous behaviour in traffic is a big problem**
- **Drivers' decisions, based on other psychological and social aspects than traffic, is a big problem**

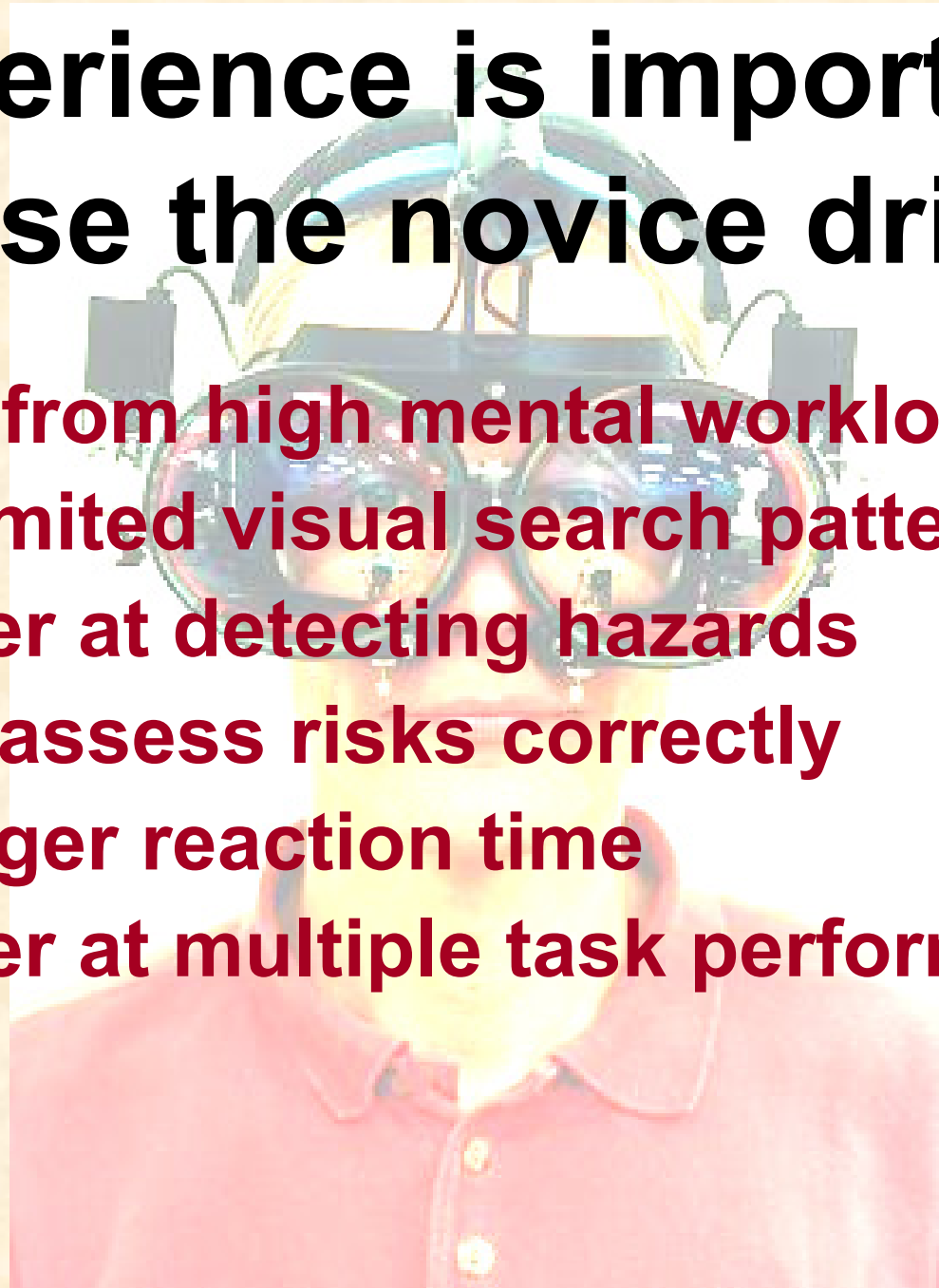
Safe driving behaviour

Everyone must be guaranteed a driver education that, in addition to basic vehicle control skills and knowledge of traffic rules provides:

- Experience through much practice under safe circumstances
- Understanding of what is safe and what is dangerous
- Insight about own motives, behaviour and abilities
- Ability to make right decisions about when, where and how to drive
- Motivation to drive with large safety margins

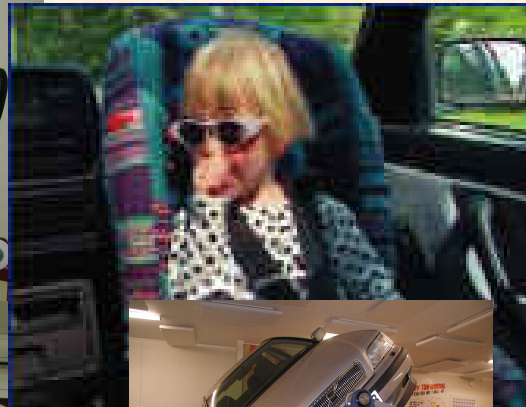
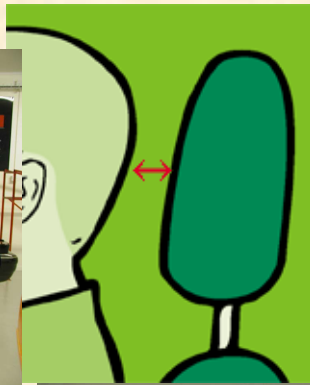
Experience is important because the novice driver...

- suffers from high mental workload**
- has a limited visual search pattern**
- is poorer at detecting hazards**
- cannot assess risks correctly**
- has longer reaction time**
- is poorer at multiple task performance**

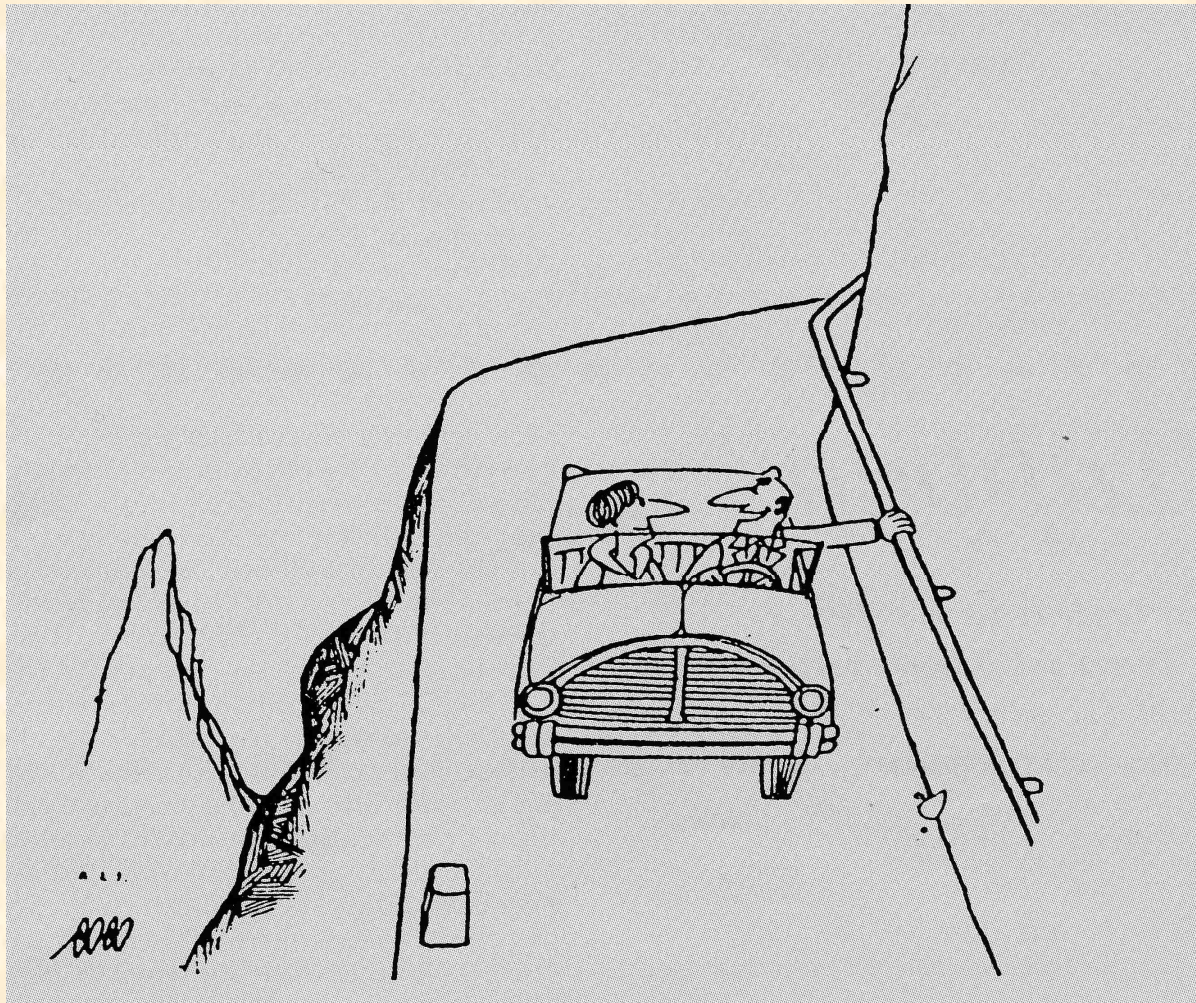


Safety hall content:

- Belt convincer
- Crash weight scale
- Dummy head
- Airbag
- Roll over simulator
- Child seats
- Sitting posture
- Neck rest sledge
- Crashed car, moose
- Look-through car
- ABS-brakes
- Tyre corner
- Instruction manual
- Video films
- Etc....



Large safety margins (?)



Recommendations driver ed.

- Include school for *general* approaches
- GDE matrix, more focus upper and right
- Harmonised components (“cornerstones”)
- Improved instructors’ education
- Development of the test
- More use of coaching, group discussions and other student centered techniques
- Staged education (2nd phase, GLS...)
- Professional education for insight and skills
- Accompanied driving for experience

Latest news in driver education, Sweden

- **National GDE goals**
- **New tests adjusted to national goals**
- **Introductory education for learner and supervisor**
- **Risk education 1 (alcohol, drugs, iredness)**
- **Risk education 2 (speed, belt, low friction)**
- **New education for driver instructors**

Swedish licensing system

16 years

18 years

Professional or private training (free choice)

↑
Permission to practice

Obligatory
Risk 1: ~3h
Risk 2: ~3h

↓
Theory test (65/52)

↑
Approval of lay instructor
Age: 24 years

Demands
L-sign

↓
Driving test (45m)

Licence: 5 years

↓
Licensing
(2 years prob)

↑
Intro course: (~3h)
Safe practice
Effective education
Risk introduction