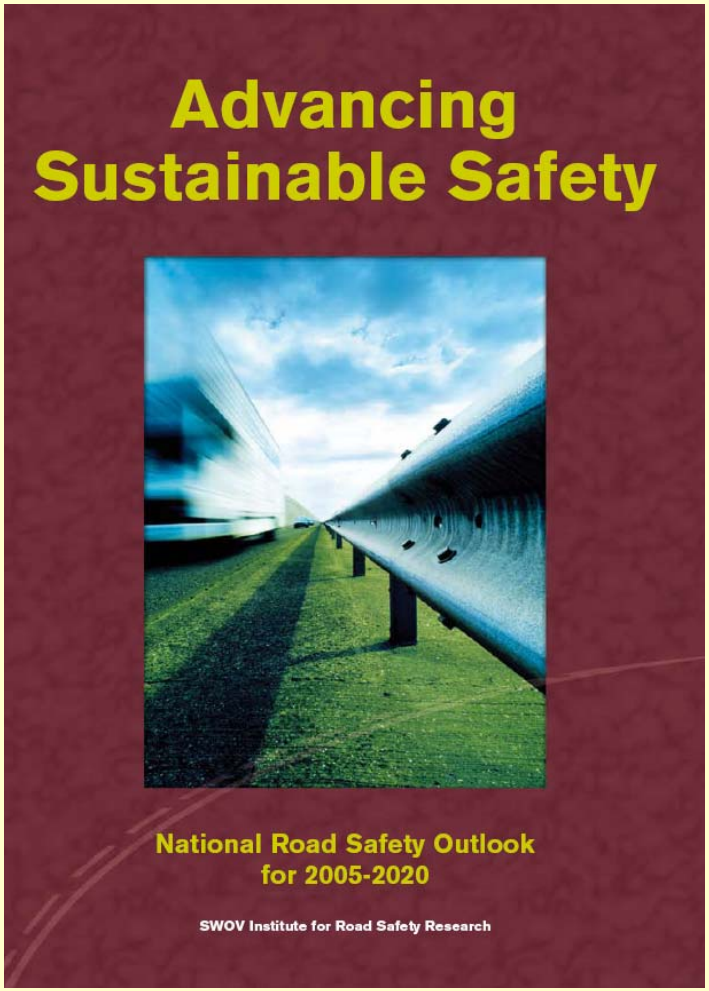

Human behaviour seen from the inside

Divera Twisk

Sustainable Safety principles
Functionality of roads
Homogeneity of masses and/of speed and direction en richting
Recognizability of the road design and predictability of road course and road user behaviour
State awareness of the road user
Forgivingness of the surroundings and between road users

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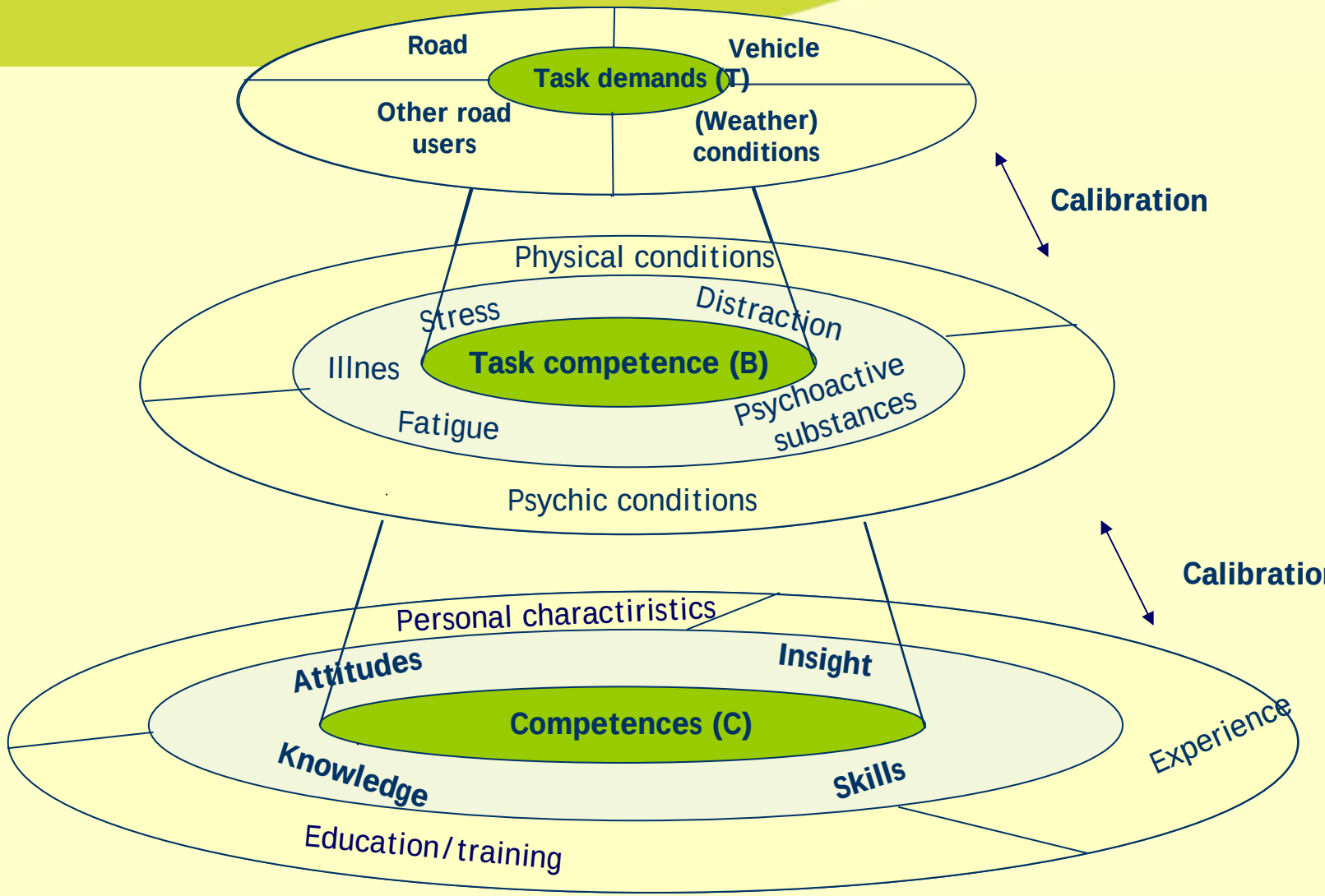
Road
Vehicle
Task demands (T)
Other road users
(Weather) conditions
Calibration
Physical conditions
Stress
Distraction
Illnes
Task competence (B)
Fatigue
Psychoactive substances
Psychic conditions
Calibration
Personal charactiristics
Attitudes
Insight
Competences (C)
Knowledge
Skills
Experience
Education/training

Find the balance: state awareness

Foregivingness

- Not only one's own task competence: take others into account
  - Give each other room
  - Allow for:
    - Limitations (children, elderly)
    - Novices

Preconditions in Sustainable Safety

- Deal with people who are different in:
  - competences (elderly, novices)
  - Situational conditions (alcohol, fatigue)
- Estimate own task competence well (state awareness)
- *Want to* as well as *be able to*

Lifelong learning

- Continuous learning through:
  - daily experiences
  - others'examples
- Learning takes time
- Attention for lifelong learning is correct
- 'Formal' education only a small part

Implications

- Protect novices:
  - Mobilize those who can be an influence
  - Ensure a safe learning enviroment
  - Graduated access to traffic
- Ensure ‘safe’ exemplary behaviour:
  - Provide information, education and training
  - Give supervision
- Provide formal education:
  - Inform and train those who can be an influence
  - Develop methods of state awareness
  - Concentrate on relations and background which are not directly visible

Relation between state awareness and rules

- State awareness (What *can* I do?):

  Identify own limitations and task competence and then act accordingly

- Traffic rules (What am I *allowed* to do?):

  Formal boundary between acceptable and unacceptable behaviour

Why people intentionally break rules

- Habit
- Purpose of rules is not convincing
- Personal advantage larger than collective disadvantage
- Relation with safety not clear

Speed

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Problem

- Large scale speed offending (as much as 50%)
- Large acceptance (no sorry, no shame)

Measures

- Tune road design and speed limit
- Education/information: speed – crash risk
- Enforcement (zero-tolerance): it works
- ITC in due time for:
  - Speed limiting
  - Dynamic speed limits

Alcohol and drugs

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Features

- High risks (alcohol + drug)
- Low social acceptance
- Problem lies with the ‘serious offender’

Measures

- Supervision of heavy users and users of combined substances
- Alcolock for repeat offenders

Speeding less serious than alcohol?

- Did you know that the risk of an injury crash in a built up area ……
  - At 5 km/h too fast is the same as a BAC of 0,5‰?
  - And 20 km/h too fast is the same as a BAC of 2,0‰?

Risk of injury crash: speed and alcohol

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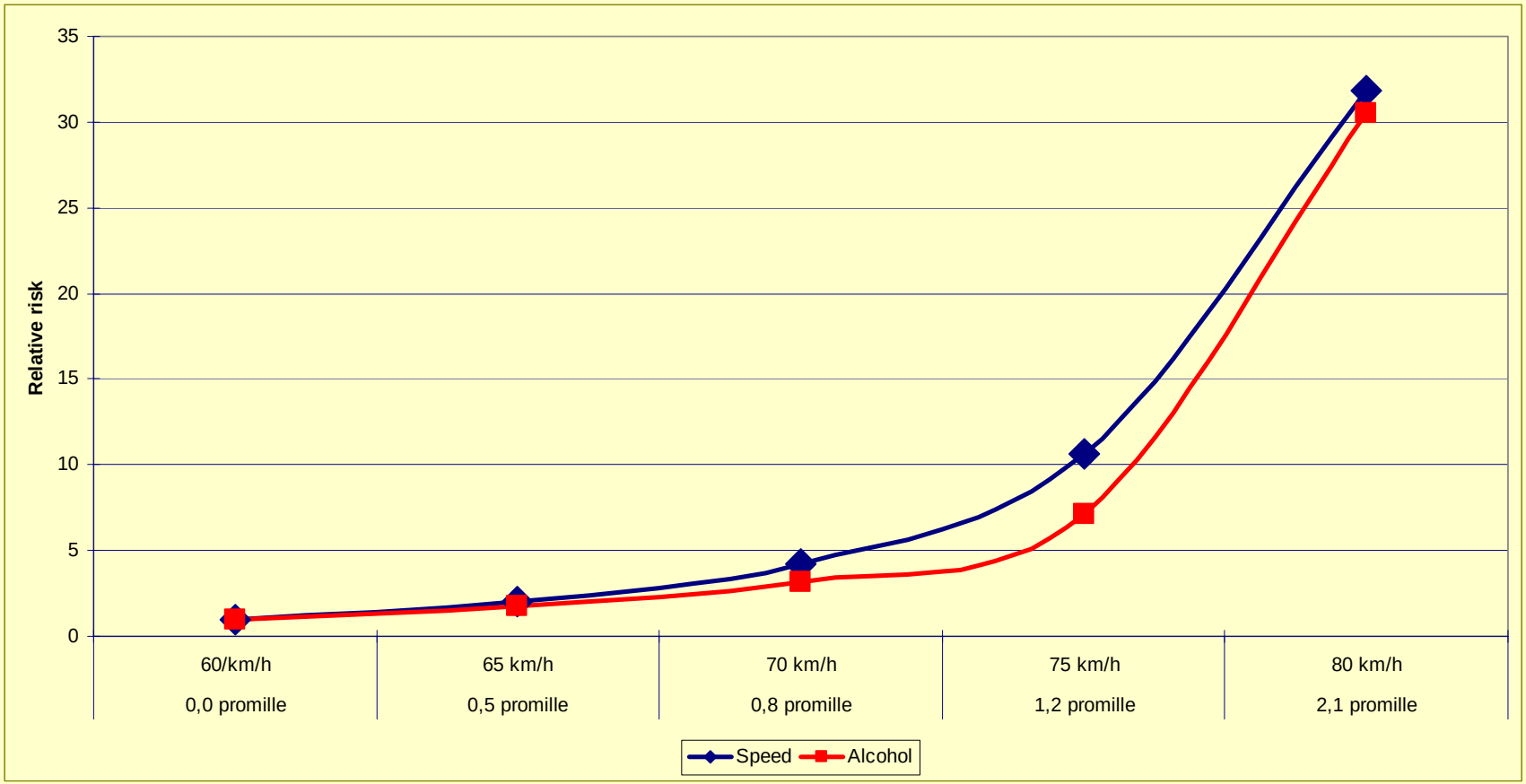

Look into the future with ITS

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ITS

- **Supervises protective measures: smart key**
- **Cheks on deliberate offences: black box (problem groups first)**
- **Makes drink driving impossible (recidivists first)**
- **Supports driving task for impaired road users**

Summary

- Safety by means of own estimate of task competence
- Learning from daily experiences
- Education in itself is insufficient
- Protection through safe learning enviroment
- Not only teachers and trainers: important role for others
- Enforcement: consistent and effective
- In future: ITS possibilities