

# The Max Eighty Idea

Death at the end of traffic jams  
and the vision zero



Co-Keynote with Amazon

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# The Accident - The trigger for the founding of our prevention organization

**Quote:** „The rear wreck is so deformed that it is impossible to tell how many people are in the vehicle.

The tank of the front articulated lorry ruptures and 10,000 litres of liquid waste in the form of pig's blood floods the road. The rescue organisations have to wade around in the viscous blood to get an overview. The musty, ferrous odour of the blood overlays the horrific scenario and causes quite a few people to retch.

After agonising minutes of uncertainty, the rescuers hear a gasp from the rear of the wrecked vehicle. The Karlsruhe firefighters handle the spreader carefully and expose the vehicle cabin.

When the emergency doctor looks into the back seat from the passenger side, he looks into the wide-open, shock-dilated eyes of the girl Helena. She is fully conscious and asks him quietly in a pleading voice:

ARE THEY ALL DEAD?“



# Nonsense, something like that doesn't happen to me!???

- A 59-year-old Polish driver hits with his articulated truck the end of a traffic jam without braking
- Two passenger cars were literally crushed between two articulated lorries. The rear one crushed to less than half its length

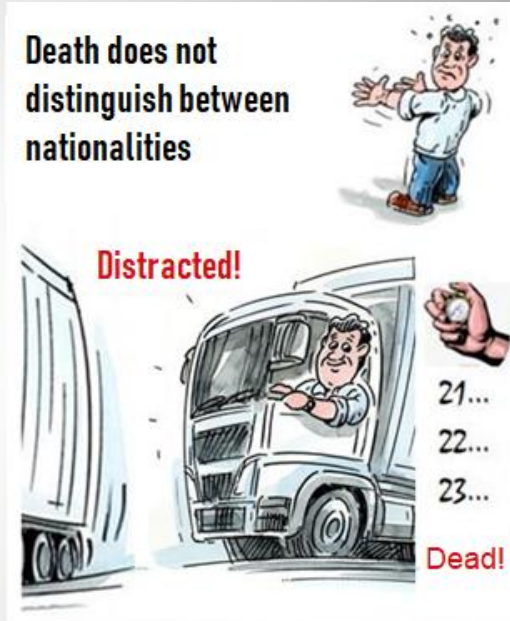


4 people died, 15-year-old Helena survived seriously injured

German A5 motorway near Walldorf intersection (12.02.2018)

# Seven years of monitoring show: Death at the end of a traffic jam is not inevitable.

- Death comes with a run-up and the force of 40 tonnes.
- It's not too little distance. That leads to moderate to severe injuries for the truck driver but endangers the lives of car occupants.
- It is distraction and microsleap! These are the main causes of death for professional drivers.



Root cause analysis

The fatal 3 seconds

# What have we learnt?

**Where?** Transit routes before permanent road works

**When?** At rush hours

**How?** Unbroken, with run-up

**Why?** Distraction by social media mostly by smartphone and stress- or disease-related microsleep

- Multi-lane motorway
- Traffic already jammed with lorries on the right-hand lane
- Unhindered traffic flow on other lanes lulls the driver into a false sense of security

**Accident clusters**

**Greatest moment of danger**

# Redevelopment country Germany \*

40.000 motorway bridges\*  
>50% from the 70s and older  
3,786 bridges longer than 50 metres  
382 with school grade 'not sufficient',  
44 with a condition grade of 'insufficient'

Result: permanent road works for years  
Traffic jams and accident hazards remain

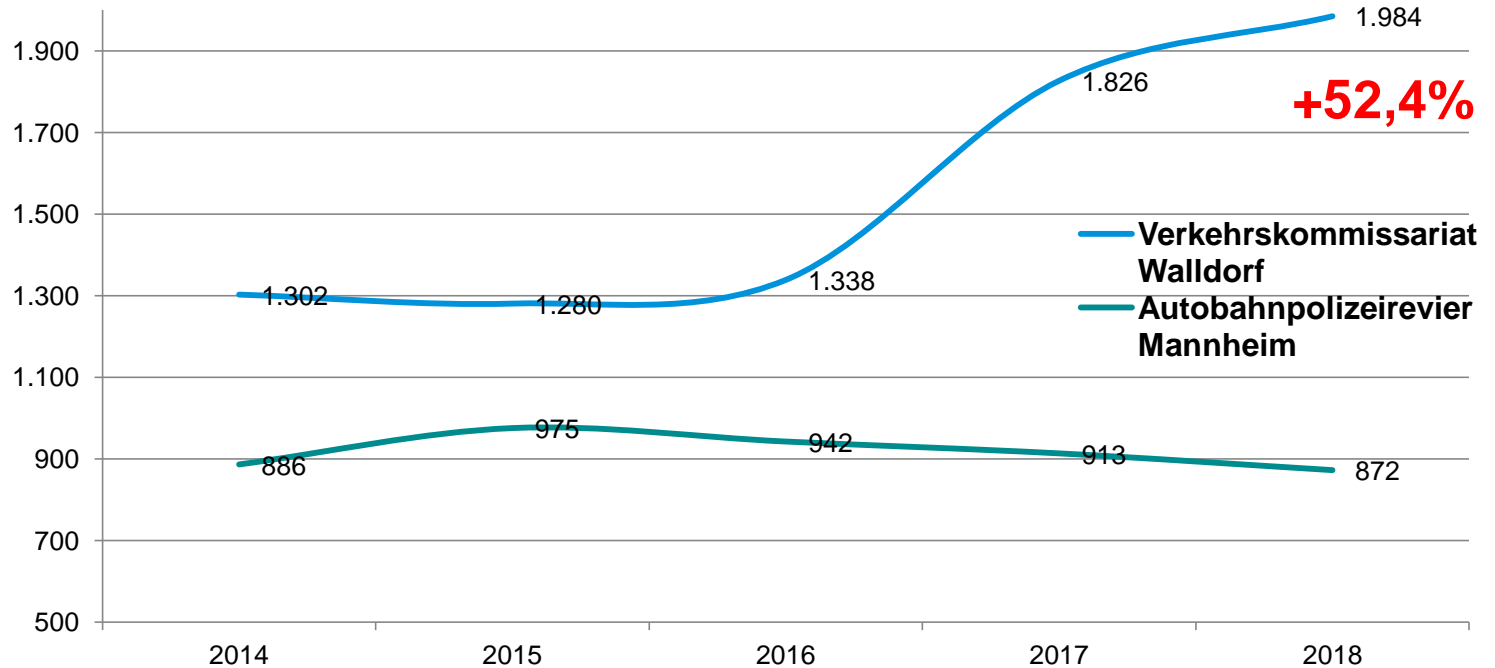
\*BASt – Condition ratings of the bridges

[https://www.bast.de/DE/Statistik/Bruecken/Brueckenstatistik.pdf%3F\\_blob%3DpublicationFile%3D7](https://www.bast.de/DE/Statistik/Bruecken/Brueckenstatistik.pdf%3F_blob%3DpublicationFile%3D7)

(Status 9/2021)



# Traffic accident development vs. permanent roadworks - motorways in the area of Mannheim police headquarters -





# Improvements in accident prevention

- There are promising developments in the field of assistance systems.
- Artificial intelligence-based systems have the potential to be a game changer.
- Finally, the gap in the 5G network along the German motorways is being closed with an additional 400 transmission masts to enable real-time warnings.
- But all this will only have an impact in the next decade.
- The current proliferation of old and new systems is leading to a glaring lack of knowledge and application among drivers.
- However, the only person who can currently safely avoid an accident is **the driver!**



# Proactive hazard radar



You have 40 tonnes  
of responsibility!

- No driver deliberately hits the end of a traffic jam!
- But the job of a driver is an anachronism.
- The monotony of column driving cries out for distraction.
- But even three seconds of distraction can be fatal!
- Therefore, identify and change dangerous routines!
- Eliminate causes of stress-related sleep disorders!

# Identified Corporate failures

- Too tight timing of the unloading time windows
- Analogue and therefore inflexible ramp management
- Equipment of the drivers' cabins (noise, heat)
- Loading/unloading obligations despite clear regulations
- Inadequate or missing quality of stay at the loading/unloading location by missing social sustainability

Technical Stressors

Physical Stressors

## Hence the Max Eighty idea:

- We need to educate and train drivers to recognise accident hazards through intensive but simple education and training.
- We need to persuade transport companies to enter into a voluntary commitment with their drivers:
- Follow the 10 Max Eighty rules
- Reduce stress factors
- Drive with foresight and consideration on routes where there is a risk of congestion
- Accept the Max-Eighty-Safety-Register



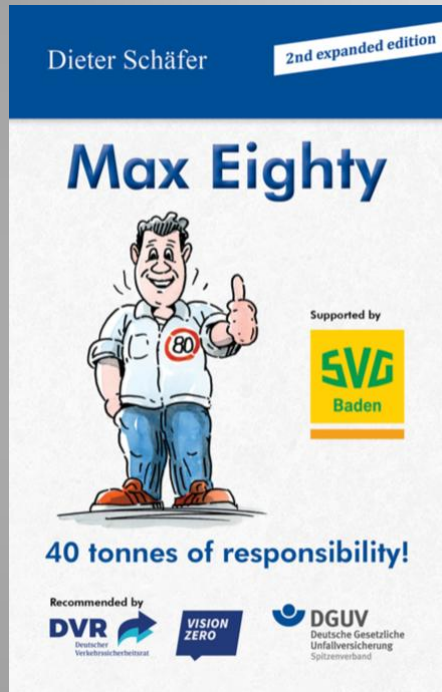
# Recommendations for the transport industry

## The Max Eighty Safety Register



1. Familiarity and knowledge of the assistants through training.
2. Obligation to use adaptive cruise control (ACC) outside built-up areas
3. Use of navigation apps suitable for HGVs
4. Appointments and time slots with socially acceptable time buffers
5. Commitment to the 10 Max Eighty rules

# Reference book on accident prevention



- At present, the only book available on the subject is 'Max Eighty – 40 Tons of Responsibility!' It has been published as an e-book in English and is to be translated into other languages in the future.
- Driver reviews:
  - written in simple terms,
  - easy to understand,
  - very informative
- ISBN:
  - 978-3-86476-684-8 (EPUB)
  - 978-3-86476-685-5 (PDF)





- And yes!
- Our goal is to initiate a broad, international movement.
- Any questions?