ASECAP DAYS

MADRID 2016

44TH ASECAP STUDY & INFORMATION DAYS 2016

The Path Towards an Integrated And Sustainable Mobility in Europe

Intercontinental Hotel
23-25 May 2016

www.asecapdays.com

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MADRID 2016

“SAFETY FIRST! Best practice along the A22”

According to the WHO road accidents cause about 1.14 million deaths a year and are the leading cause of fatalities amongst young people aged between 15 and 29.

The number of **injuries** and **disabilities** resulting from **accidents** varies between **20 and 50 million per year**.

This is a **devastating human tragedy.** The **health, judicial, social, economic** and **moral** consequences are, however, also **relevant**.

THE ACCIDENT

THE HUMAN FACTOR

Human error is the prevailing reason for these devastating events. Malfunctions of the vehicle may occur, and there may be adverse environmental conditions (such as light, rain, snow and fog). But **the human factor** accounts for **93%** of accident cases.

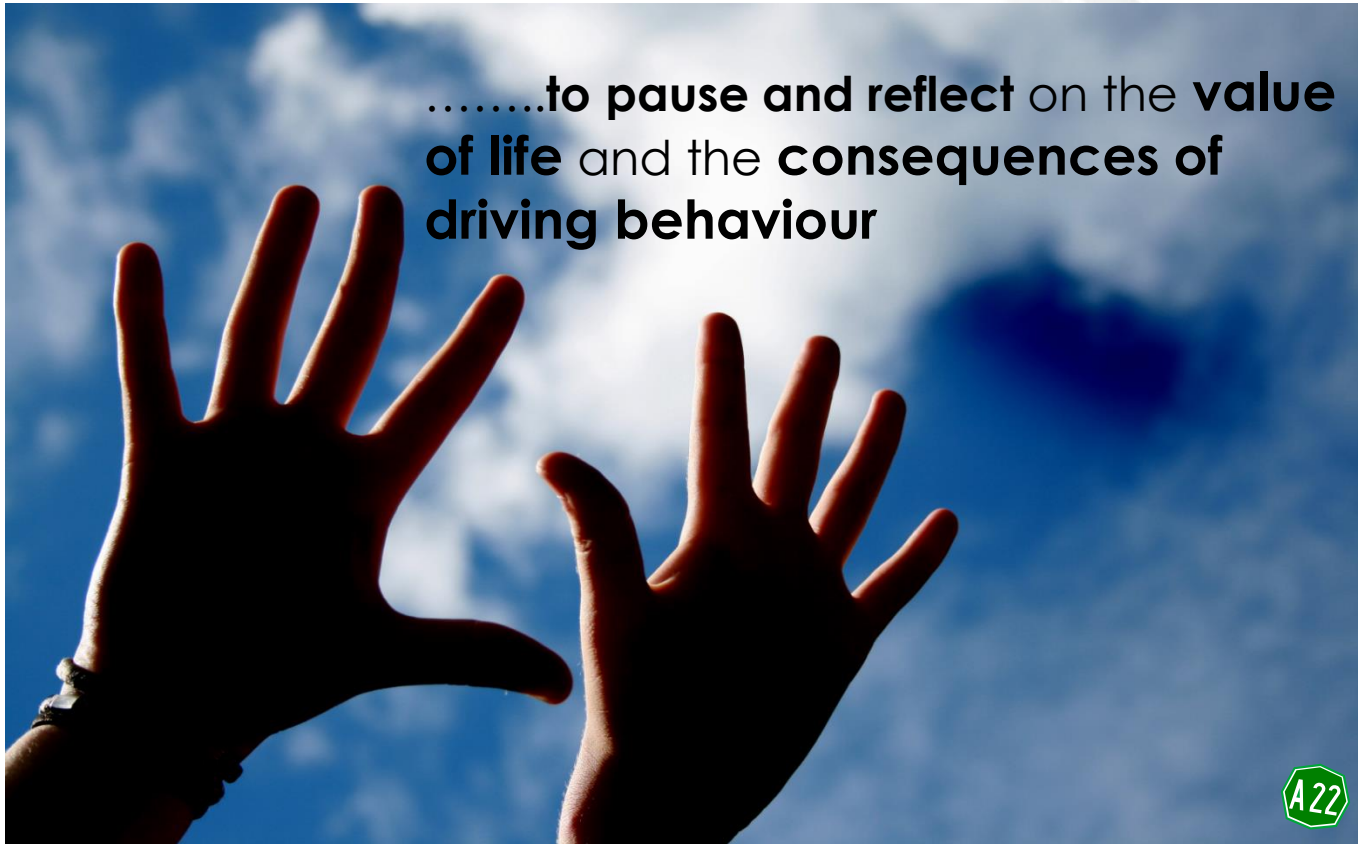
THE ACCIDENT

KEYWORDS – prevention and awareness

Prevention and information programmes to foster awareness of the risks posed by inappropriate behaviour on the road and to develop preventive coordinated and feasible action

EDUCATION

Information and traffic education campaigns



ACCIDENTS ON MOTORWAYS- THE FIGURES

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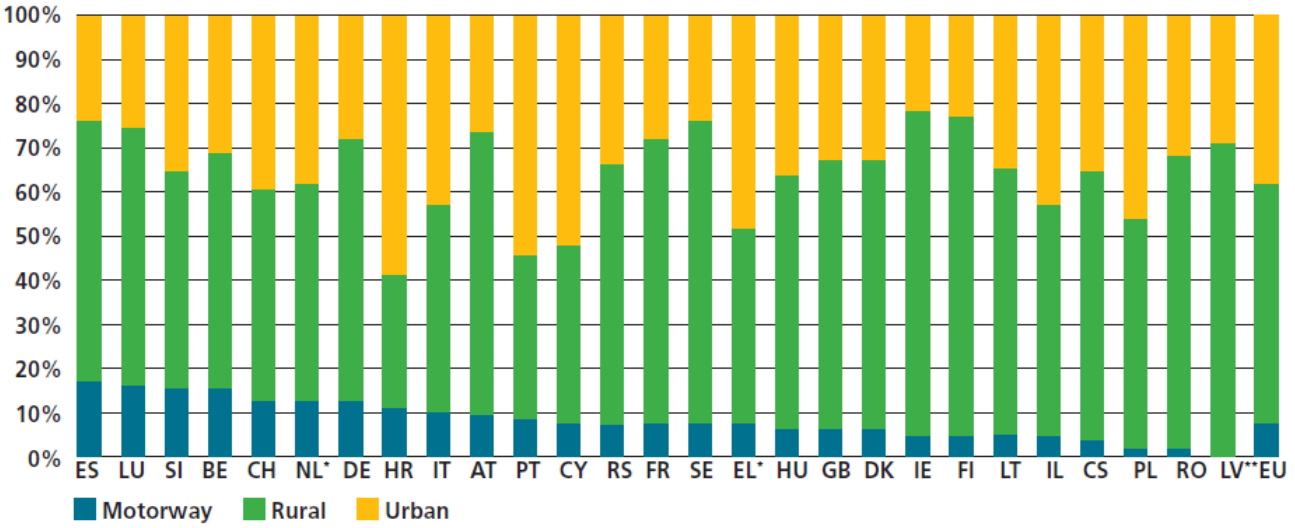
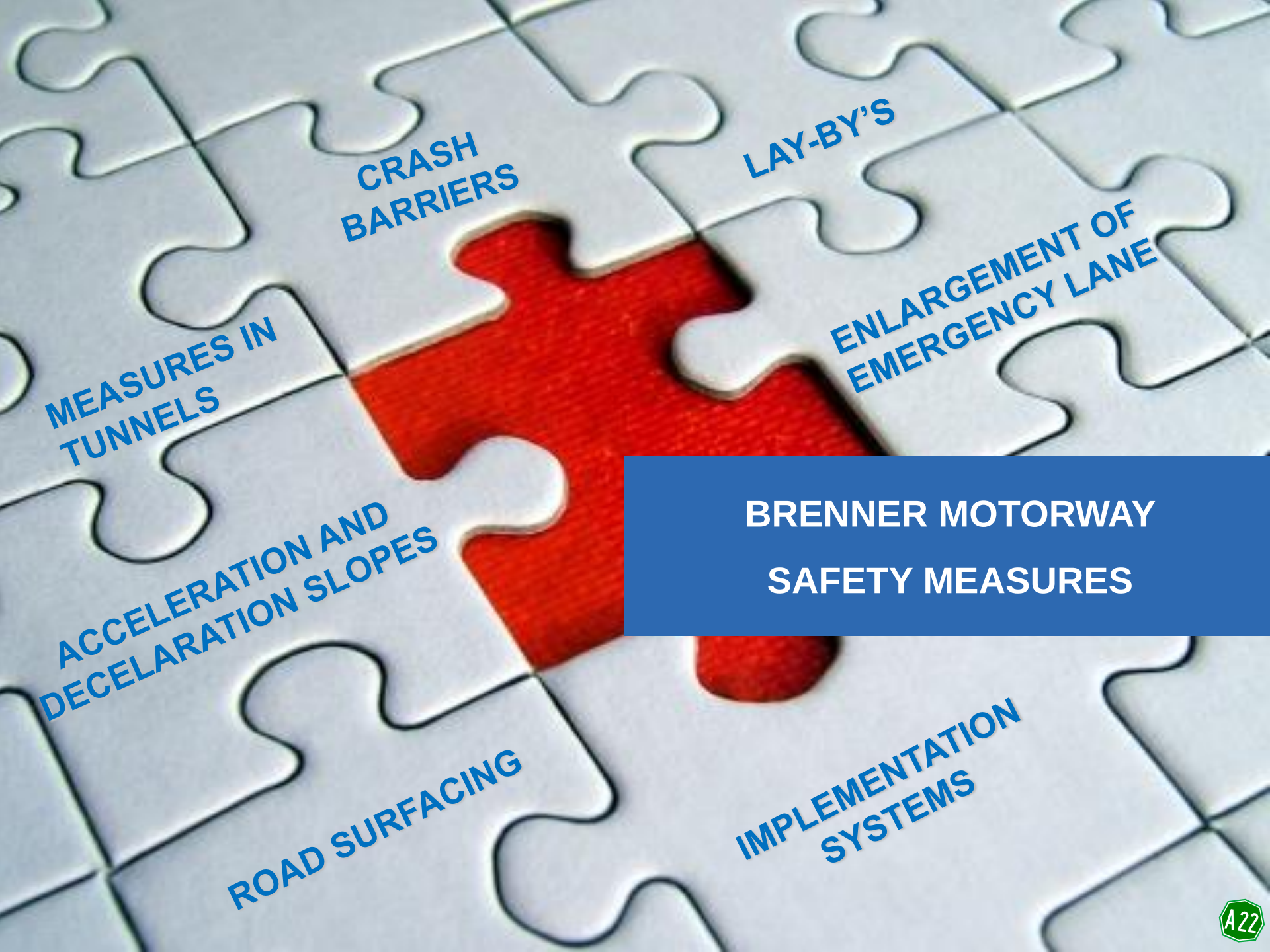
- Motorways are the safest form of road.
- Nevertheless, in **2013** about **1,900 people died** in road accidents on European motorways. This number represents about **7%** of all road deaths.
- Nearly **27,500** were killed on European motorways in the decade **from 2004 to 2013**.
- However, great progress has been achieved. Between **2004 and 2013,** there was a **49% reduction** in **road fatalities.** At the same time, the extension of the motorway network has increased by 25%.

Percentage share of the total number of road deaths by road type (motorways, rural roads, urban roads) in the latest 3 years (2011-2013).
*2010-2012. **There are no motorways in LV. EE, MT, SK, NO are excluded due to insufficient data.




CRASH BARRIERS
LAY-BY'S
ENLARGEMENT OF EMERGENCY LANE
MEASURES IN TUNNELS
ACCELERATION AND DECELARATION SLOPES
ROAD SURFACING
IMPLEMENTATION SYSTEMS
BRENNER MOTORWAY
SAFETY MEASURES

ROAD SURFACING

DFAS: Special Draining Soundproof conglomerate

Bridges, viaducts and retraction ramps (piste di svincolo) in **Antiskid tipo SMA** (SplittMastix Asphalt)

- Greater grip
- Best characteristics in terms of surface drainage

Quality markers of the road surface

High index values roughness IA1 and regularity IA2

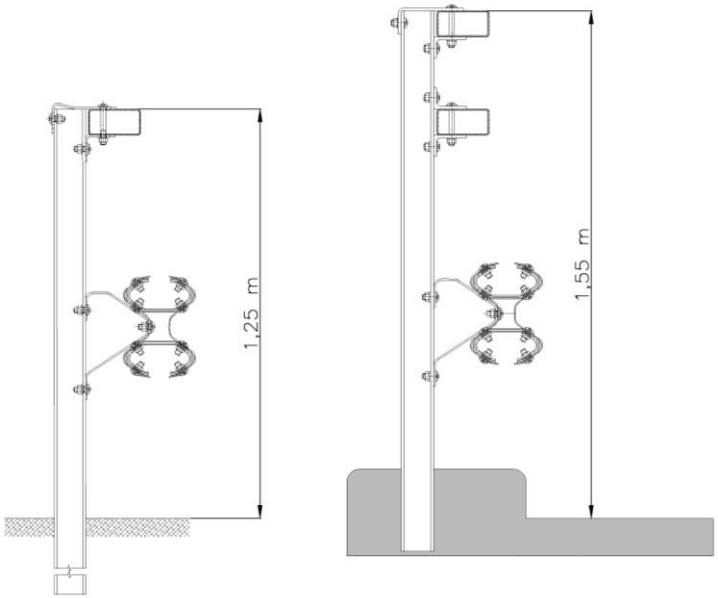
Accident Index IS

ANNO	I_{A1}	I_{A2}	$I_{PAV}=0.6*I_{A1}+0.4*I_{A2}$	IS	$Q=I_{PAV}*0.6+I_S*0.4$
2005	90.78	82.48	87.46	98.3	91.80
2006	91.93	84.06	88.78	98.3	92.59
2007	93.76	85.27	90.36	100	94.22
2008	78.90	86.86	82.08	100	89.25
2009	93.62	87.62	91.22	100	94.73
2010	94.10	89.14	92.12	100	95.27
2011	91.68	88.54	90.42	100	94.25
2012	91.51	95.01	92.91	100	95.75
2013	88.94	95.06	91.39	100	94.83
2014	93.86	90.17	92.38	100	95.43
2015	**90,34**	**90,44**	**90,38**	**100**	**94,23**

CRASH BARRIERS

- Created and patented at European level by A22
- Subjected to crash tests (EN 1317)
- Since the nineties, experimental design of safety barriers in passivating steel type Corten S355J0WP

CLICK ON THE PICTURE TO WATCH THE VIDEO



BRENNER MOTORWAY – ACCIDENT DATA

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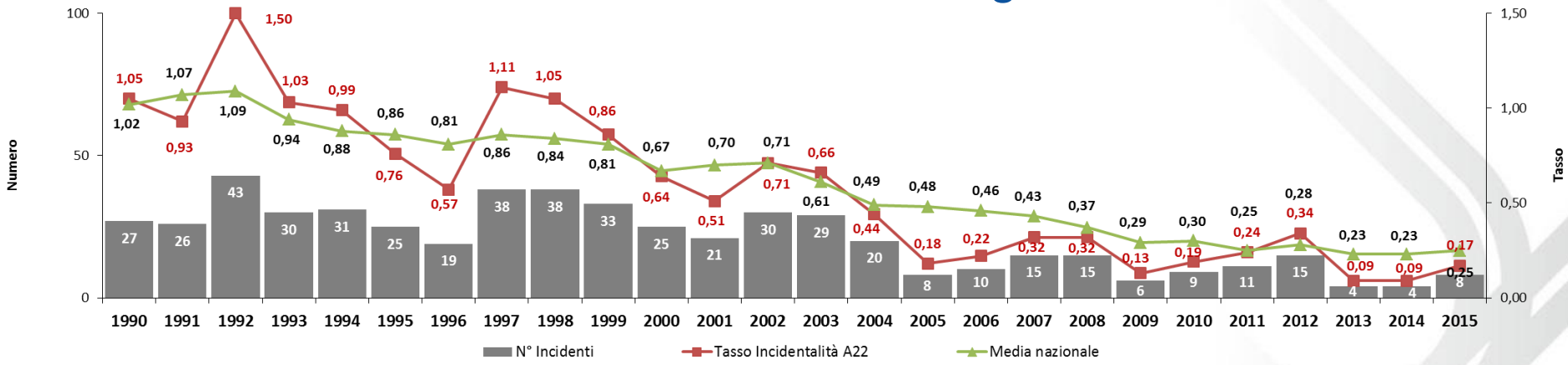
Comparing the accident rate on the Brenner motorway (1990 – 2015) with the national average



A22 total accident rate (2015): **18.99** with 876 accidents compared to the national value of **29**

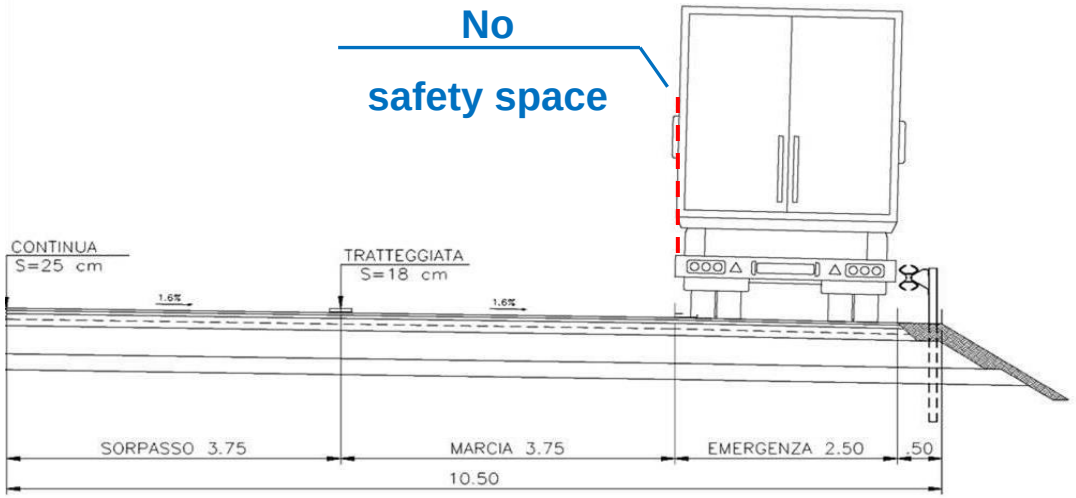
WIDENING OF THE EMERGENCY LANE

SECTION WITHOUT WIDENING

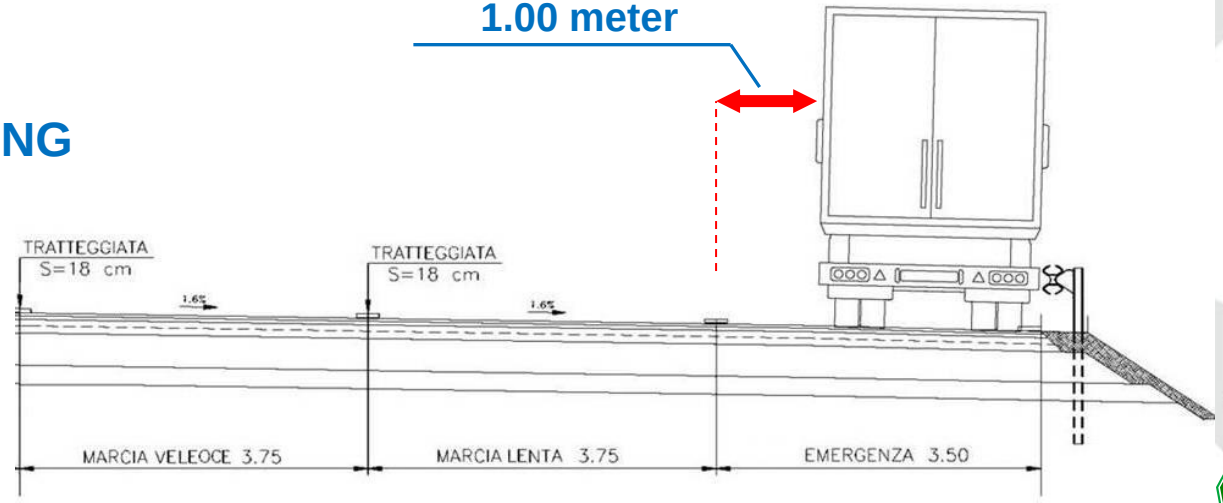
Accident Index

Emergency lane 2.5m

Emergency lane 3.5m



SECTION WITH WIDENING

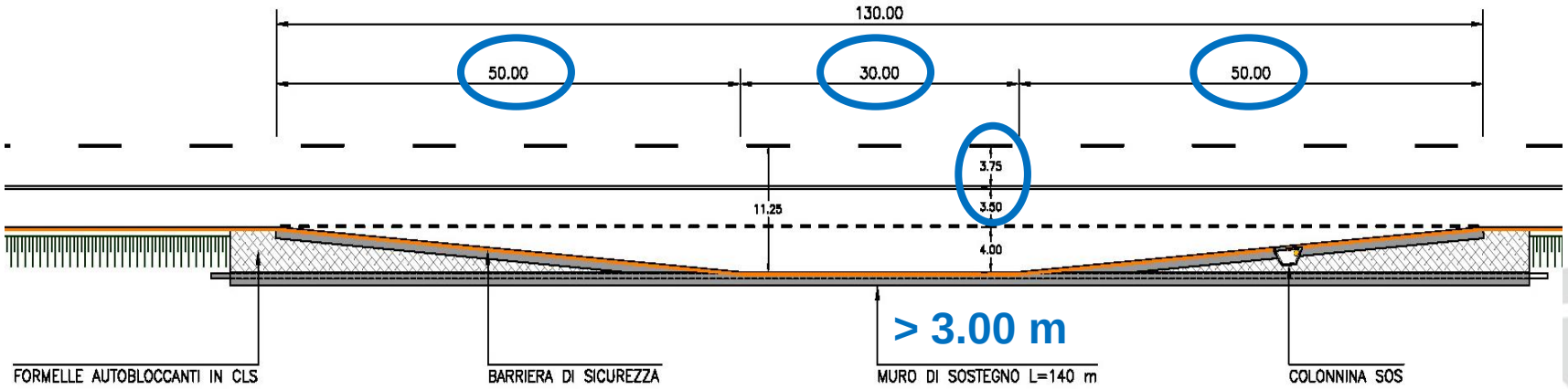


ACCELERATION AND DECELARATION RAMPS

- Total actions already taken place on **39 ramps**, planned interventions on a further **33 ramps** (third lane) and on **15** in the remaining section to complete the entire stretch
- Increasing ramp width to **4.50 m**
- **Increasing lengths**
- **Safety barriers H3 o H4b** will be installed

EMERGENCY LAY-BYS

At present there are **384 lay-bys**. The plan is for **769**.



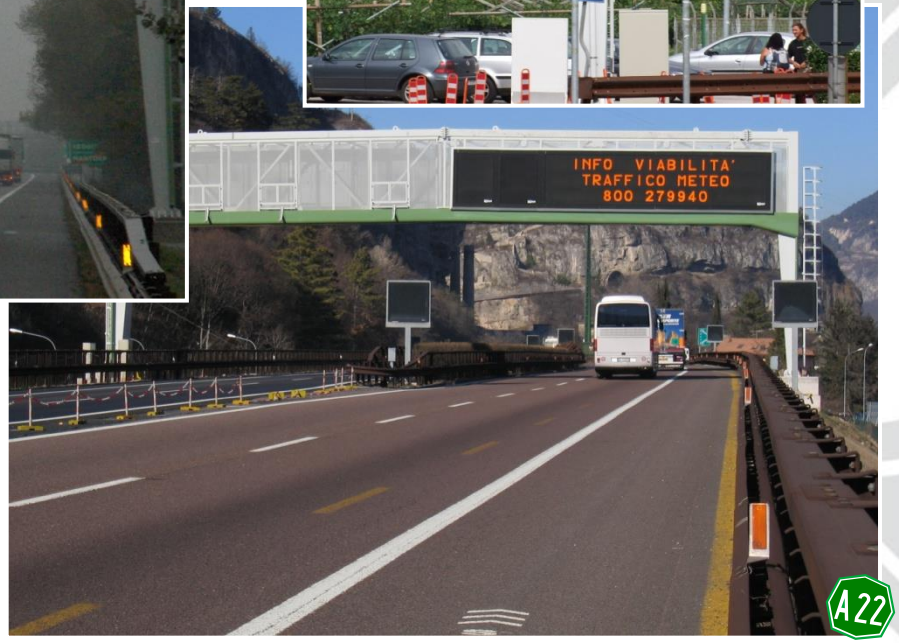
FOG WARNING SYSTEM

Affi-Modena stretch (105.6 km)

- The system comprises LED guide lights and sensors to detect Levels of fog. If visibility is restricted, the relevant section of the system is automatically activated.
- The lights may burn continuously. flash or form a light trail in accordance with the speed limit stipulated.
- The system is connected with the User Service Centre (C.A.U.) and divided into 23 independent modules.
- Each section is fitted with its own light sensor and fog sensor (33 in total).

USER INFORMATION

Variable Message Signs for the flexible and variable management of user information

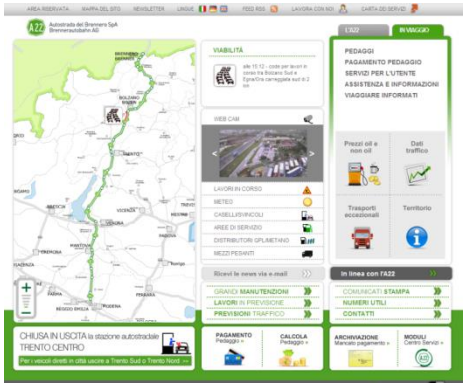


- **26** next to toll booths
- **110** in transit

USER INFORMATION

Website
www.autobrennero.it

Traffic forecasts, webcam, bans, weather forecasts



Vademecum A22

Information service (free), wireless technology based project

WAPsite – www.a22.it

Real time information about road conditions, service areas, assistance request

UPDATES

A22 «APPS»

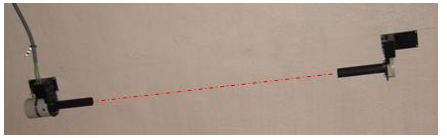
Televideo

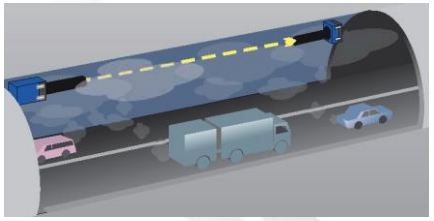
National Televideo RAI
Local Televideo RAI TRE

Inforadio:

Information updates (every 30 minutes) - local radio stations

SAFETY IN TUNNELS



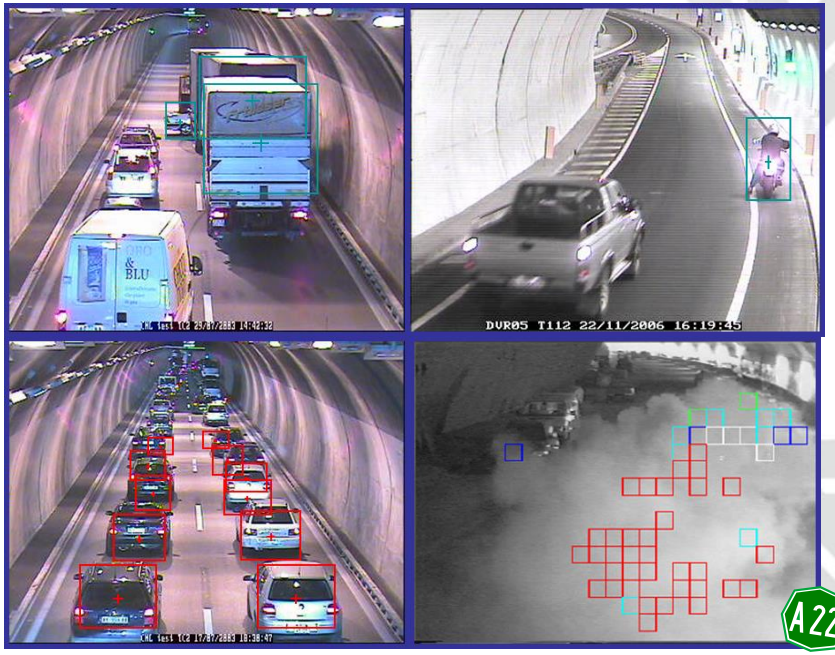


VIDEO SURVEILLANCE

Total video coverage

AID (Automatic Incident Detection) system

- Digital image processing
- Distributed architecture and virtual sensors
- Automatic traffic monitoring
- Anomalous and accident situation recognition
- Generation of alarms and CCTV commutation
- Event recording (with pre-trigger function)

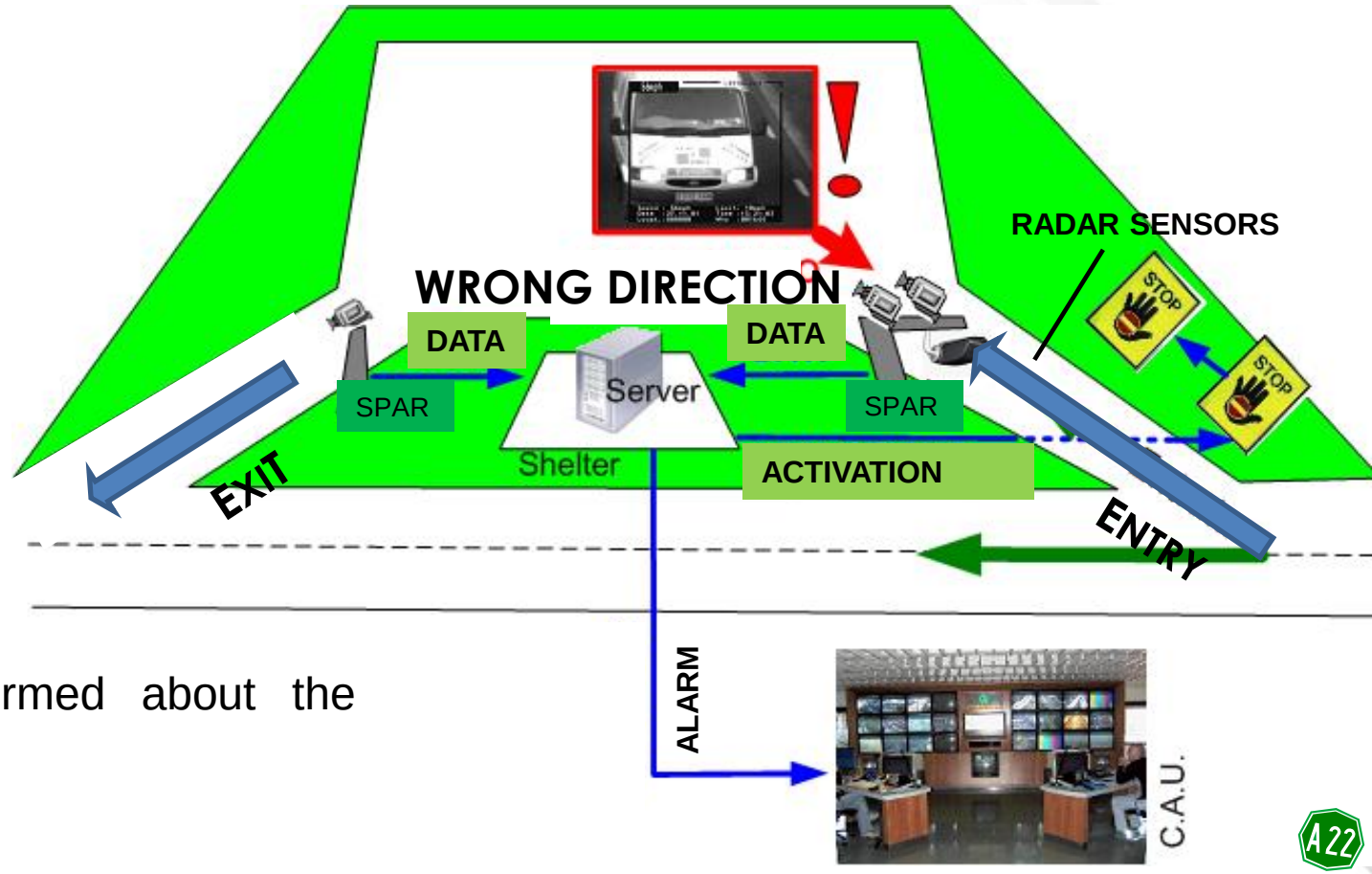


FIRE DETECTION SYSTEM

Non-stop monitoring, linear detection with heat sensitiveoptic fibre, alarm threshold definition, heat profile with programmable spatial resolution

ACTION TARGETING USERS/DRIVERS MONITORING AND DETECTION OF DRIVING THE WRONG WAY

Violations are communicated to drivers via optical and acoustic signals.



The **C.A.U.** is informed about the danger situation.

HGV PARKING AREA – CONTROL STATION

- The Brenner motorway has taken several initiatives to enhance the security of HGV drivers via the strengthening and upgrading of parking areas. There are currently 900 total stalls for heavy vehicles (310 in service areas and 590 in dedicated areas).

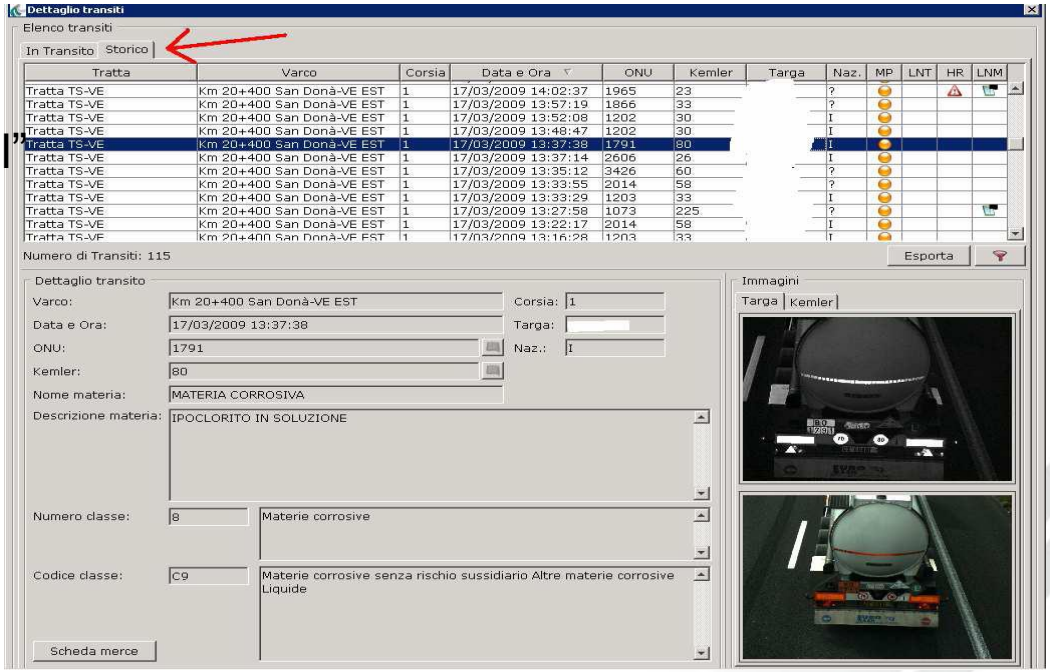
- The plan is to build a control station for heavy vehicles close to the Brenner barrier with the aim of improving operative checking systems and thus supporting the Traffic Police.

MONITORING HAZARDOUS GOODS

HISTORIC TRANSIT DATA

As regards both recent and “historical” transits, each record provides the following info.

- **Origin** (point of entrance section. traffic lane, date and time of info acquisition)
- **Hazard identification** (Onu – code. Kemler - code)
- **Vehicle info** (number plate, nationality)



- This allows the display of the number of vehicles carrying hazardous goods and interception at any “entrance section” on the motorway.

MOTORWAY AUXILIARY STAFF

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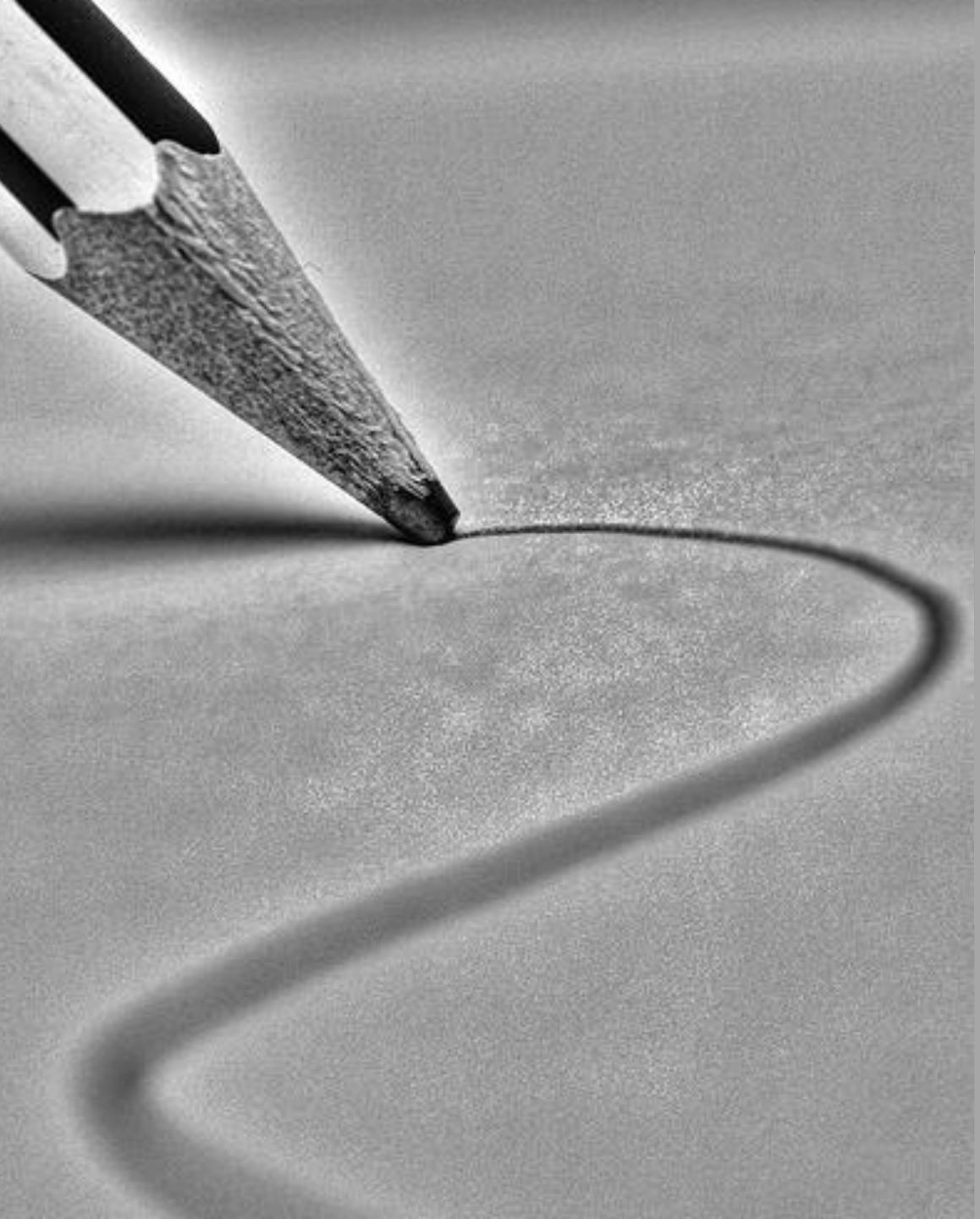
TRAFFIC ASSISTANTS ON THE A22 STRETCH

	2015	2000
TRAFFIC ASSISTANTS	84	33
VEHICLES	40	24
INTERVENTIONS	13.627	8.845
DAILY AVERAGE	37	34
KM COVERED	3.165.342	2.256.032
PATROLLING HOURS	65.436	42.936
AVERAGE INTERVENTION TIME	7'25''	10'00''

USER ASSISTANCE CENTER

The UAC is connected by optical fibre, radio and TLC cables to 180 CCTV cameras, 394 SOS points and 23 weather stations receiving real-time data on traffic, weather, visibility and SOS calls. Active 24/7/365 with multilingual personnel

The **VIDEO WALL** allows constant real time monitoring of mobility and traffic.



TOWARDS A FUTURE WITH FEWER ACCIDENTS

WHITE PAPER ON TRANSPORT

ASECAP DAYS
MADRID 2016

European Commission

- ROADMAP TO A SINGLE EUROPEAN TRANSPORT AREA TOWARDS A COMPETITIVE AND RESOURCE-EFFICIENT TRANSPORT SYSTEM

1.4. Acting on transport safety – saving thousands of lives

By 2050, the objective is to move close to **zero fatalities** in road transport. In line with this goal, the EU aims to halve road casualties by 2020 and ensure that the EU is a world leader in safety and security of transport in all modes of transport.

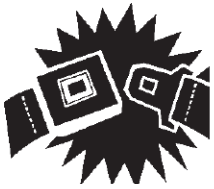
TOWARDS A FUTURE WITH FEWER ACCIDENTS – POSSIBLE MEASURES

ALCOHOL AND DRUGS

Recent studies estimate that alcohol and drugs have a decisive role in more than 21% of fatal motorway accidents.

FATIGUE

Accidents caused by fatigue have the greatest statistical incidence on highways according to type of road and travel frequency and length.



USE OF SAFETY BELTS

Almost 60% those who die in motorway accidents are not wearing a seat belt.

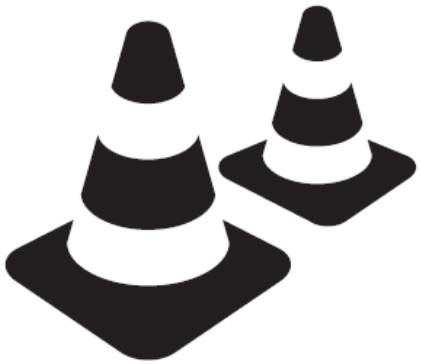
The risk of being involved in an accident because of speed is often largely underestimated.

POSSIBLE MEASURES

- ❑ **Continue awareness-raising campaigns against alcohol and drugs and promote the use of seat belts**
- ❑ **Intensify checks on drivers and pass tougher laws**
- ❑ **Make secured parking areas available for drivers**

Intensify checks on rest hours required for drivers

WORKSITE ORGANISATION



Research conducted within the European project “Arrows” shows that construction sites have a much higher risk of accident than an equivalent motorway without worksites.

POSSIBLE MEASURES

• A work method which combines:

- **scheduling of works**
- **work organisation**
- **occupational safety**

As early as in the initial work planning stages, this is a valid solution for reducing inconvenience and risks for motorway users and workers.

Better worksite organisation also calls for the scheduling of a shared type of emergency management, first aid, firefighting and worker evacuation operations at the **Safety and Coordination Plan** drafting stage.

Safety isn't just a slogan, it's a way of life.
~Author unknown

THANK YOU FOR YOUR ATTENTION

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