Stakeholder conference as part of the Evaluation Study
on the Road Infrastructure Safety Management (Directive 2008/96/EC)
Brussels, 13 June, 2014

Current and future challenges of the Directive 2008/96/EC

- Vulnerable Road Users
- Intelligent Transport Systems
- Measurement of Safety Performance of the Roads

George Yannis, Associate Professor
National Technical University of Athens

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Challenges for Vulnerable Road Users in relationship with the Directive

George Yannis, Associate Professor
National Technical University of Athens

Basic Facts on Vulnerable Road Users Safety

- **Vulnerable road users** (VRU) are commonly understood as non-motorised road users (cyclists and pedestrians), and Powered Two-Wheelers (PTWs).

- VRUs represented approximately 43% of all road victims in 2012 in the EU. PTWs accounted for only 2% of road users, but for approximately 15% of road fatalities, often involving young people.

- Age groups that have the highest percentage of pedestrian fatalities are children younger than 10 years of age and adults aged 65 years or older.

- PTWs, pedestrians and cyclists interact with traffic of high speed and mass. They suffer the most severe consequences in collisions with other road users because they cannot protect themselves against the speed and mass of the other party.

Vulnerable Road Users and the Road Infrastructure

Road Infrastructure Measures that can be taken to reduce the future number of crashes involving pedestrians and cyclists, and/or to decrease the severity of resulting injuries, relate to:

- Separation of motorised traffic from non-motorised traffic,
- Area-wide speed reduction,
- Provision of walking and cycling networks,
- Proper design of pedestrian and cyclist facilities,
- Technical standards developed to meet the needs of VRUs,
- Application of ITS tools to improve read safety for VRUs.

Directive Provisions for Vulnerable Road Users

- The Directive addresses Vulnerable Road Users only **generally**, as a part of the procedure of:
  - Road Safety Impact Assessments,
  - Road Safety Audits and Inspections, and
  - Network Safety Rankings.

- **No specific instructions** are provided in the Directive on how vulnerable road users shall be taken into consideration.

- The Directive applies **compulsorily only to the TEN-T** that mainly comprises motorways and expressways, where cyclists and pedestrians are not entitled to transit, therefore the benefits for these groups of VRUs are limited. PWTs are therefore the most affected VRU group.

- The Directive can play a role by establishing a practice where technical standards for design, construction and maintenance are developed to meet the needs of vulnerable road users in general.

Vulnerable Road Users - Open Questions

- Does the Directive take adequately into account all road users? Which road users are not sufficiently addressed? Why?
- How could the safety of vulnerable road users be improved? Technical standards are one tool, but what other instruments are there?
- Which standards could be further developed to improve road safety for VRUs on road infrastructures falling under the scope of the Directive?
- Which ITS tools could be developed to improve road safety for VRUs on road infrastructures falling under the scope of the Directive?

Vulnerable Road Users - Concluding Remarks

General Remark

1. There is need to introduce procedures dedicated for VRUS, **customised for the different VRUs and for the different types of roads** (e.g. dedicated auditors and expertise)

Data - Performance - Knowledge

2. Collect **data** dedicated for VRUS
3. Evaluation of **safety performance** (for the different VRUs and for the different types of roads)
4. Develop **knowledge** dedicated to VRUs, exploiting existing knowledge (tools, manuals, research results, best practice)

Specific Topics

5. Appropriate road design **standards** in relation to VRUS, introduce minimum standards
6. **Manage speed** - self explaining roads - forgiving roads also for VRUs
7. **ITS** dedicated to VRUs

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Role of Intelligent Transport Systems in the Directive

George Yannis, Associate Professor
National Technical University of Athens

Intelligent Transport Systems and Road Infrastructure

- **Intelligent Transport Systems** or ‘ITS’ means systems in which information and communication technologies are applied in the field of road transport, including infrastructure, vehicles and users, and in traffic management and mobility management, as well as for interfaces with other modes of transport, in order to make safer, more coordinated and ‘smarter’ use of transport networks.

- ITS to enhance road infrastructure safety can include:
  - Traffic events detection,
  - Traffic data collection,
  - Accident data collection,
  - Accident prevention,
  - Real time provision of traffic weather or events information,
  - Information on the current condition of road infrastructure, etc.

Intelligent Transport Systems and the EU Initiatives

- No specific instructions are provided in **Directive 2008/96/EC** on how to deploy ITS across the EU. ITS mentioned as part of the procedure for Network Safety Rankings.

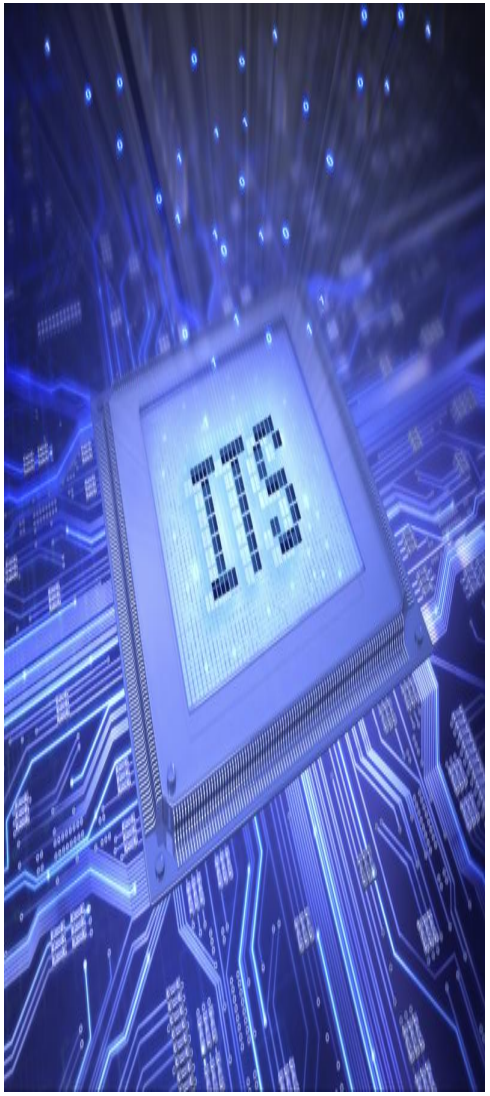
- **ITS Directive** (Directive 2010/40/EU): provides the framework for the development of specifications to address the compatibility, interoperability and continuity of ITS solutions across the EU.

- Commission Delegated EU Regulations recently adopted:
  - **885/2013**: specifications on the provision of information services for safe and secure truck parking
  - **886/2013**: specifications on minimum universal road safety information.
  - **305/2013** specifications on EU-wide eCall

Directive Provisions for Intelligent Transport Systems

- Four **Priority Areas** in the ITS Directive (Article 2):
  I. Optimal use of road, traffic and travel data,
  II. Continuity of traffic and freight management ITS services,
  III. **ITS road safety and security applications,**
  IV. **Linking the vehicle with the transport infrastructure.**

- Six **Priority Actions** in the ITS Directive (Article 3):
  (a) the provision of EU-wide multimodal travel information services;
  (b) the provision of EU-wide real-time traffic information services;
  (c) data and procedures for the provision, where possible, of road safety related minimum universal traffic information free of charge to users;
  (d) the harmonized provision for an interoperable EU-wide eCall;
  (e) the provision of information services for safe and secure parking places for trucks and commercial vehicles;
  (f) the provision of reservation services for safe and secure parking places for trucks and commercial vehicles.



Intelligent Transport Systems - Open Questions

- Should ITS be further considered in the road infrastructure safety management?
- How could ITS play a stronger role in facilitating road infrastructure safety management?
- Which kind of ITS Systems shall be further developed in relation with Directive 2008/96/EC?
- Could ITS be applied to road safety audits and inspections?
- Is there a need for further legislation in this area? Are the existing technical standards sufficient?

Intelligent Transport Systems - Concluding Remarks

General Remark

1. ITS (especially V2I connectivity) is innovation and it is the future, but **legislative steps should be cautious** and always in parallel to the ITS deployment and the related Directives
   - More demonstration projects and more ITS deployment are needed

ITS applications

2. ITS as **applications supporting safer traffic**
   - information to the driver (infrastructure, traffic, weather conditions)
   - enforcement (e.g. section control)
   - e-cal applications
3. ITS as a **tool supporting road infrastructure safety Management**
   - for audits and inspection
   - accident investigation (car recorders)
   - collection of necessary data
   - auditors should include ITS solutions in their proposals

Specific Topics

4. ITS **harmonisation** and standards are needed and a process should be set
5. **Data protection** should be respected in all processes.
6. Infrastructure related ITS should also be audited and **evaluated.**

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Measurement of Safety Performance of the Roads in the Directive 2008/96/EC

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National Technical University of Athens

The Need for Measuring Safety Performance of Roads

Measuring the safety performance of road infrastructure is necessary to:

- **Set casualty reduction targets** on the basis of a road safety management process.
- Support public authorities in their decision-making process for **funding allocation**, either for investments in new roads or for maintenance or upgrading of existing roads.
- Support public authorities in the commitment to a certain **minimum safety level** for roads in operation.
- **Justify** operating **road safety measures**, such as speed limits, traffic bans.
- Assess the **progress** of road safety measures implementation.
- Assess the **effectiveness** of implemented road safety measures.

Indicators for Measuring Safety Performance of Roads

Measurement of the safety performance of road infrastructure may be developed in the following ways:

- Definition of key **performance indicators** targeted to certain road users:
  - Accident based indicators: number of accidents, number of fatalities, accidents per veh.Km, fatalities per veh.Km, etc.
  - Speed Data: Average Speed, Operational Speed etc.

- Application of a **risk assessment method** to predict the likelihood of an accident in a given time and place.

Directive Provisions for Measuring Safety Performance

- The Directive **does not contain any specific provision** on measuring the safety level of a road.

- The Directive provides a framework to ensure that safety is adequately addressed during the road lifecycle (through Road Safety Impact Assessments, Road Safety Audits and Network Safety Ranking and Management).

<u>Road Safety Data Collection</u>

- The Directive provides minimum requirements regarding accident information to be included in **accident reports** in the TEN-T roads.

- The Directive requests that Member States calculate the **average social cost of a fatal accident and of a severe accident** occurring in their territory, and update them at least every five years.

Measuring Roads' Safety Performance - Open Questions

- Are the provisions within the current Directive, namely road safety audits and the black spot analyses, sufficient? Is there a need for a European methodology to measure the safety performance of the TEN-T?
- What could be the added value of the measurement of the safety performance of road compared to the four management instruments already included within the Directive?
- What data, procedures and ITS tools are needed for an efficient and reliable measurement of safety performance?
- What are the pros and cons of conditional funding?
- Should conditionality on EU funding be established more widely? Can it be reproduced at a national level?

Measuring Roads' Safety Performance - Concluding Remarks

General Remark

1. There is a **clear need for more detail** in measuring safety performance of roads, as major support tool of the management procedures of the Directive, but also to support accountability of Authorities.

Data

2. **More data** (accident, exposure, performance indicators) should be collected, with sufficient frequency, possibly including cost of measures and accidents for cost-benefit/effectiveness analyses
3. **Common data collection methods** should introduced
4. **Compulsory measuring** safety performance of roads by the Authorities
5. **Access to data** should be facilitated and harmonised

Specific Topics

6. Needs for data are numerous but they should **fit to the available budgets**
7. There is need for a **balanced mixture of conditional funding**

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