



In collaboration with FIA European Bureau & AMSS

**Road Safety In Europe**

**INFRA 42610**

*Brussels, 12-13 October 2010*

**An Observatory for Road Safety**  
**A framework for the efficiency assessment**  
**of road safety measures**



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# The need for the efficiency assessment of road safety measures

*Road Safety  
is a typical field*

*with high risk of  
important investments  
not bringing results*



# The efficiency assessment of road safety measures requires specialised analysis

*If you can not measure it,  
you can not improve it*

*Lord Kelvin*



- Measuring the implementation of measures
- Measuring road safety performances
- Linking measures with road safety performances
- Establishing good practices and setting priorities

# Fundamental questions for road safety measures assessment

- Which are the barriers for standardised efficiency assessment ?
- Which is the potential for the measures efficiency assessment today?
- How useful are the best, good and bad practices?
- How important is the role of international cooperation and of a Road Safety Observatory?



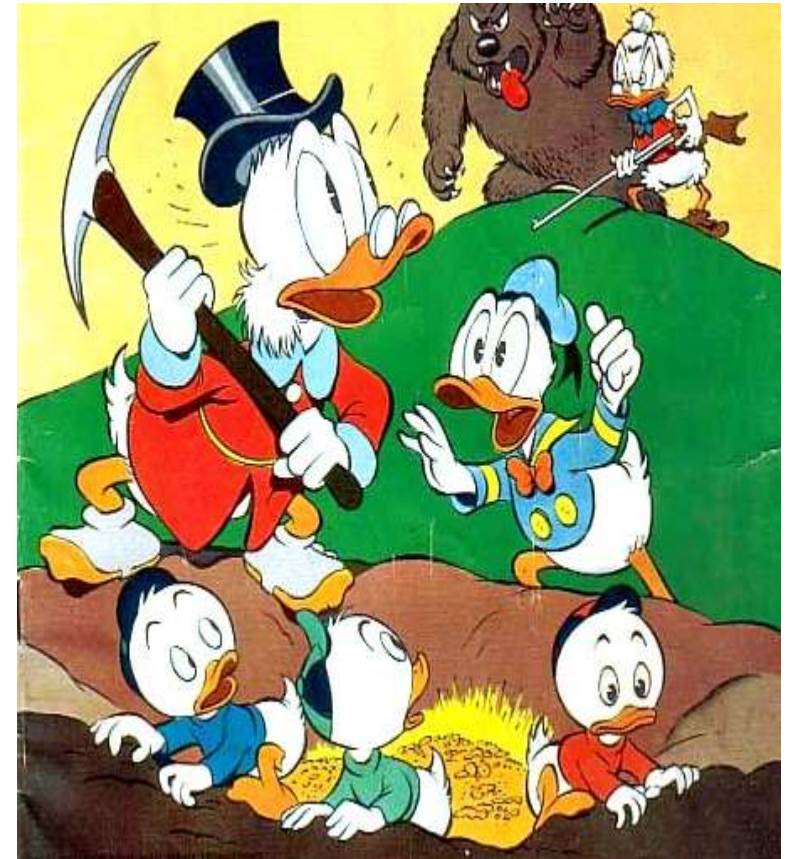
# Technical barriers for road safety measures assessment

- difficulties in isolating the safety effect of a specific measure;
- difficulties in aggregating information/data due to high diversification of the measures;
- difficulties in comparing information/data among countries:
  - differences in road traffic environments,
  - differences in the actual investment costs among the countries,
  - differences in methodologies of safety effect calculation.



# Political barriers for road safety measures assessment

- Authorities and other stakeholders may fear that ex-post evaluation of measures may prove that important road safety investments had little or limited impact.
- Comparisons of measures effectiveness between different regions and between different countries may reveal high discrepancies not only in the unit cost of the measures but also in the implementation effort.



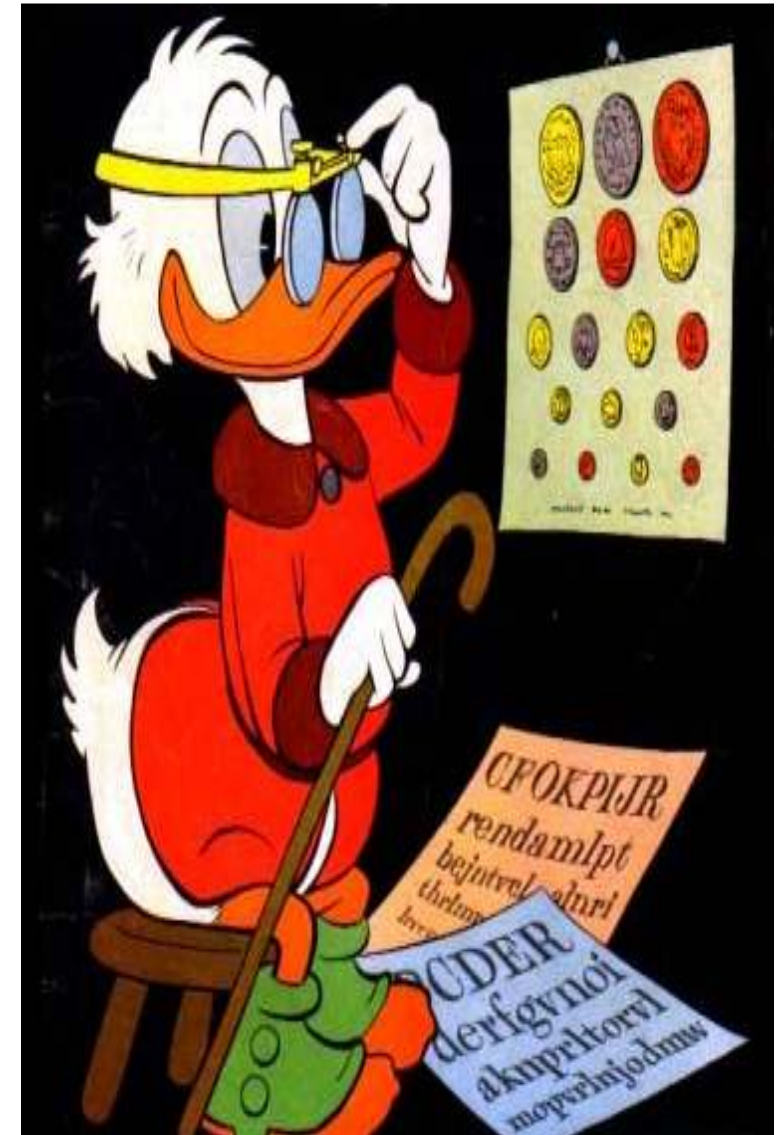
# Barriers for international cooperation for road safety measures assessment

Transferability is not easy:

- not all successful measures are suitable for all different road traffic environments,
- it is very much possible that the same interventions may lead to significantly different results in two different traffic environments.

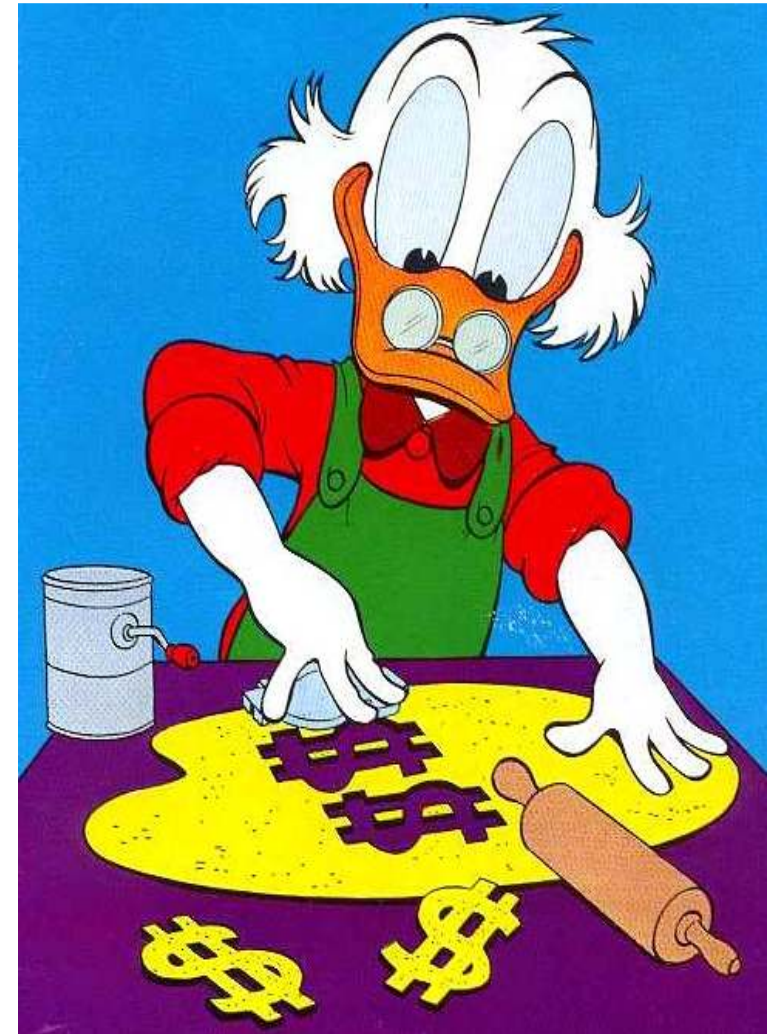
The scientists' competition and quest for the "excellent" methodology, together with the inherent difficulties of measures efficiency assessment, puts in question any initiative.

Sometimes measures assessment invited by the authorities tend to use faster and less rigorous methodologies, favouring prevailing opinions and decisions already taken, creating thus a wide variety of non-converging efficiency results.



## A great potential for road safety measures assessment

- Road safety issues are put higher in the political agenda.
- More Authorities are interested for the efficiency assessment of their measures
- More Authorities are interested to learn from other Authorities experiences.
- More data are available at national and international level.
- More and more assessment results are available.
- Quite a few assessment methodologies are becoming "mature".





# A great potential for road safety measures assessment

## 1. PROMISING, 2001 (CBA)

Cost-benefit analysis of measures for vulnerable road users

## 2. ROSEBUD, 2006 (CBA/CEA)

Road Safety and Environmental Benefit-Cost and Cost-Effectiveness Analysis for Use in Decision-Making

## 3. SUPREME, 2007 (CBA)

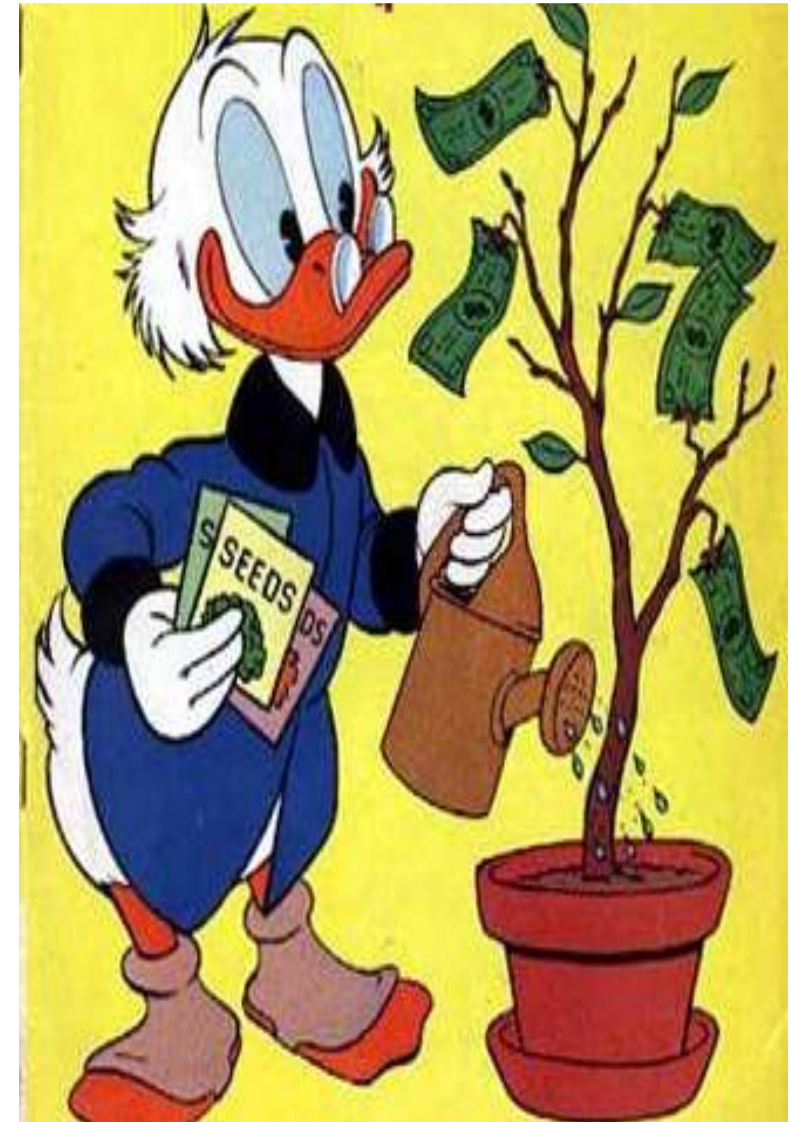
Handbook for measures at the Country level and Handbook for measures at the European level

## 4. CEDR, 2008 (CBA)

Best Practice on Cost Effective Road Safety Infrastructure Investments

### **Key publications:**

- R.Elvik, T.Vaa - The Handbook of Road Safety Measures
- PIARC - Road Safety Manual,
- AASHTO - Highway Safety Manual



# Best, good and bad practice for road safety measures assessment

Lower implementation costs  
and higher efficiency are targeted.

Low efficiency specially when accompanied  
with high cost should be avoided.

Special techniques  
should be implemented to make  
assessment results transferable.

Several good practices may be proved  
more useful than one best practice.

Bad practice is useful to know,  
in order to avoid it.



## Need for international cooperation

- International cooperation may alleviate current barriers of road safety measures efficiency assessment.
- Exchange of knowledge may be proved very beneficial for the identification of the:
  - appropriate assessment methodologies,
  - necessary safety and measures data,
  - typical efficiency assessment results.
- Less performing countries can benefit more as they can exploit mature processes and results.



# The European Road Safety Observatory (ERSO)

- Developed within SafetyNet research project (2004-2008).
- The knowledge section contains webtexts on priority road safety issues with special mention on related countermeasures and their efficiency.
- ERSO is further enhanced with input from the Dakota research project (2010-2012).
- A special section is under development containing information for more than 600 measures implemented during the last 15 years in the EU countries.



[www.erso.eu](http://www.erso.eu)



# Measures for the road user behaviour

Speeding

Alcohol

Seat belt, Child restraints

Helmet

Cell phone

Licensing

Physical examination of drivers

Pedestrian / Cyclists

Young and elderly drivers

Education and training

Campaigns

Enforcement



# Measures for the road infrastructure

## Motorways:

- Development of motorways
- Interchanges

## Rural roads:

- Horizontal Curvature treatment
- Cross-section treatment
- Roadside treatment
- Traffic Control and Operational Elements
- E-Safety systems
- Road surface treatment
- Lighting treatment
- Rail / road crossings treatment

## Junctions:

- Roundabouts
- Junctions layout
- Traffic control at junctions

## Urban areas:

- Urban traffic calming schemes
- Bypasses
- Improvement of land use rules



# Measures for the vehicle

- Vehicle active and passive safety equipment
- Safety equipment for motorcycles
- Advanced driver assistance systems
- Special safety equipment for trucks



# Measures for road safety management

Targeted strategies

Legislation

Road safety audits

Road safety inspection

Road safety assessment

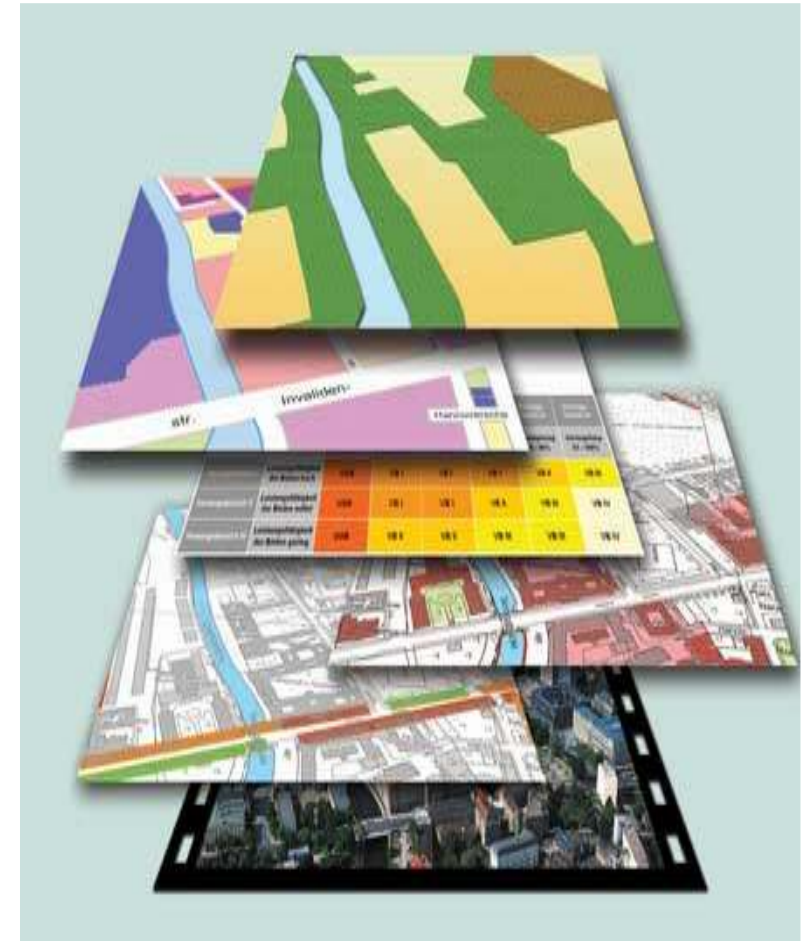
Management of hazardous locations

Road safety impact assessment

Data Analysis

Trauma management

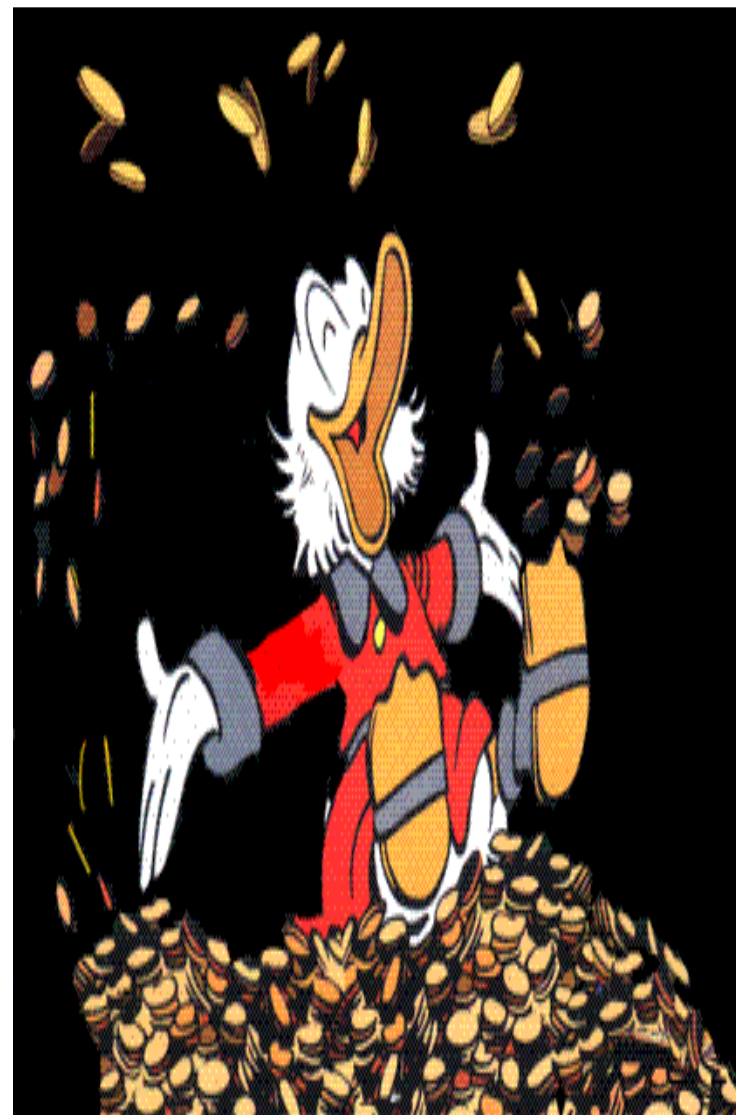
Post impact care





## Conclusion

- Efficiency assessment of road safety measures is an important tool assisting decision makers choices at local, regional and national level.
- The social and economic benefits from a rigorous application of measures efficiency assessment can be very high.
- International cooperation and the Road Safety Observatory can play a decisive role not only for the exchange of knowledge between all stakeholders but also for stimulating the systematic use of efficiency assessment.



# Open Issues

- More data of a higher quality, should be systematically collected, especially those related to risk exposure, performance indicators and measures implementation cost.
- Standard assessment methodologies should be developed and agreed at international level.
- Measures efficiency assessment should be gradually introduced as a compulsory procedure for all Authorities managing road safety budgets.
- Non Governmental Organisation have a major role to play for the promotion of measures efficiency assessment.





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