

International Healthy Cities Conference "Health and the City: Urban living in the 21st Century" Athens, 22 October 2014

Traffic safety in urban mobility policy

George Yannis, Associate Professor www.nrso.ntua.gr/geyannis

Eleonora Papadimitriou, PhD www.nrso.ntua.gr/nopapadi

National Technical University of Athens

Urban road safety - Open questions

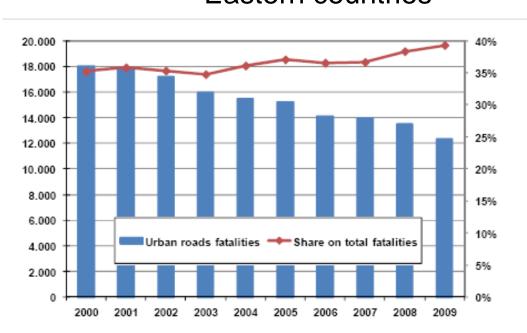
- Which are the urban road safety problems of this decade?
- Are they the same across Europe?
- How critical are data and evidence based decision making?
- Can European Road Safety Policy Orientations be applied to the urban road safety?
- How to integrate road safety into urban mobility plans?
- Can road safety compete environmental, energy and mobility concerns?
- Are Citizens and Authorities ready for the necessary choices?
- Which are the future challenges of urban road safety?

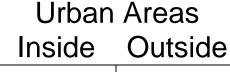


Different urban road safety progress in different countries

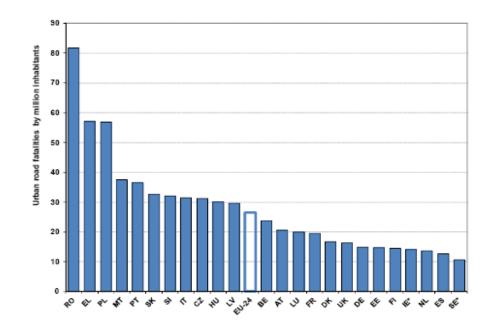
Road Fatalities change 2001-2010 (source: CARE)

North-Western countries
Southern countries
Eastern countries





-48,4%	-50,0%
-47,7%	-42,4%
-22,6%	-24,3%



Different urban road safety progress in different countries

Road Fatalities 2010 (source: CARE)

Power Two Wheelers

North-Western countries
Southern countries
Eastern countries

Urban	Total	%
848	3.776	22%
1.091	3.399	32%
434	4.183	10%

Cyclists

North-Western countries
Southern countries
Eastern countries

Inside	Total	%
472	3.776	13%
203	3.399	6%
400	4.183	10%

Pedestrians

North-Western countries
Southern countries
Eastern countries

Urban	Total	%
1.249	3.776	33%
1.066	3.399	31%
1.888	4.183	45%



Current Urban Road Safety Problems

- More road fatalities outside urban areas, more injuries inside urban areas.
- More PTWs in the North-Western EU countries and more cyclists in the Southern EU countries result in:
 - Power-two wheelers' safety problems migrating at North and West
 - Cyclists' safety problems of the North migrating at the South
- Recession had a direct impact to road fatalities decrease, but what will happen when recession will be over?



Road safety is ideal for spending money for nothing

- 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.
- 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.



The need for evidence based decision making

- Positive and negative aspects of each solution in the short and long term should be demonstrated allowing all road safety actors (society, decision makers) to realize the positive and negative consequences of their choices.
- On that purpose there is a clear need for publicly available high quality and impartial data and knowledge, with focus on the effectiveness assessment of road safety alternative solutions.
- The identification of the suitable measures for specific road safety problems is a key challenge, possible only through the application of scientific and impartial methodologies
- The social and economic benefits from a rigorous application of measures efficiency assessment can be very high.

www.erso.eu





ready to use, on main road safety subjects

primary source.

<u>Projects</u>: an extensive list of EU-funded projects with the links to the projects websites, the main results and the links with the website of the project

Statistics: a compendium of reports, with CARE (the European road accidents data base) as the

<u>Toolbox</u>: manuals and best practice guides produced by various EU- funded projects.

European Road Safety Policy Orientations 2011-2020

- 1. Improved safety measures for trucks and cars
- 2. Building safer roads
- 3. Developing intelligent vehicles
- 4. Strengthening licensing and training
- 5. Better enforcement
- 6. Targeting injuries
- 7. A new focus on motorcyclists.

Overall target: halving the overall number of road deaths in the European Union by 2020 starting from 2010. Equivalent target for serious injuries.

These targets should also be set for each city separately.









Fundamental directions for urban road safety choices

- Safety should be integrated not only into the development of Urban Mobility Plans but also into proposed Urban Mobility Audits and Guidelines and be reflected in common targets.
- Plans should adopt a clear hierarchy of transport users, with public transport users, cyclists and pedestrians at the top of the hierarchy.
- The core public transport modes (bus and rail) are the safest modes of transport.
- Real and perceived safety can have a profound effect on modal choice especially in terms of the most sustainable modes of travel - walking and cycling and ability to access public transport.







Some good practices for urban road safety

- Draft guidelines for promoting best practice in traffic calming measures (roundabouts, road narrowing, chicanes, road humps, space-sharing).
- Promotion (including legislation) of passive and active vehicle safety technologies for the unprotected road users (Intelligent Speed Assistance, car windshield airbags, pedestrian friendly bumpers, etc.)
- Introduction of minimum requirements for cycle lighting and reflective elements.
- Support the assessment of the safety impact of new traffic rules, e.g. contra-flow cycling, cycles in buslanes.



















Urban Mobility and Road Safety Choices

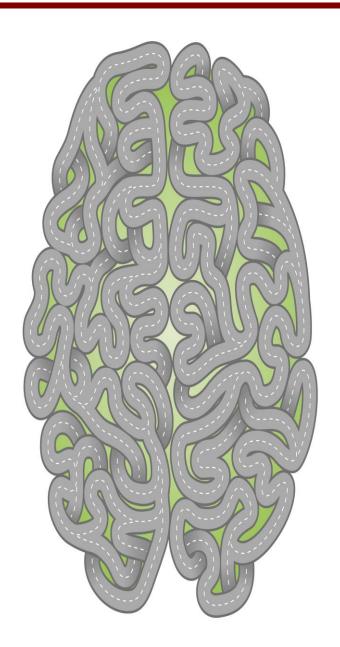
The high complexity of the urban environment makes road safety choices a very difficult task, attempting to balance conflicting social needs and economical restraints, especially during the economic crisis.

- Traffic Efficiency (Speed) <u>Versus</u> Traffic Safety
- Vehicles <u>Versus</u> Vulnerable Road Users
- Expensive but safe <u>Versus</u> Cheap but unsafe (vehicle, infrastructure, management)
- Priorities in policies, measures, research, etc.



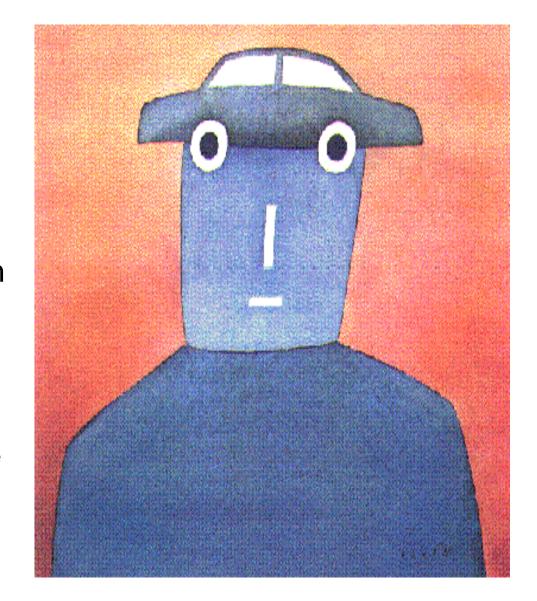
The urban road safety choices

- First comes safety then speed and traffic efficiency
- First comes public transport then cycling and walking and last car traffic.
- Identify the right mix between separated and non separated vehicle traffic from pedestrian and cycling traffic.
- Optimum separation of passenger traffic from urban freight transport.
- In complex locations (junctions, etc.):
 - optimum readability of directions,
 - road design consistency (no surprises)
 - a forgiving road environment.



Conclusion

- Urban road safety should be integrated into the urban mobility plans, equally with environment, energy and mobility concerns.
- Both authorities and citizens should realise the **choices** to be made (with focus on car traffic restriction) and work together and sincerely to implement them.
- Urban road safety policies should be tailored to the specific mobility and safety problems and needs of each city.



The future urban road safety challenges

Brave Road Safety Choices

Vehicle Technology

Smart Infrastructure

Efficient Enforcement

Driver Behaviour

Safety Culture

Power Two Wheelers

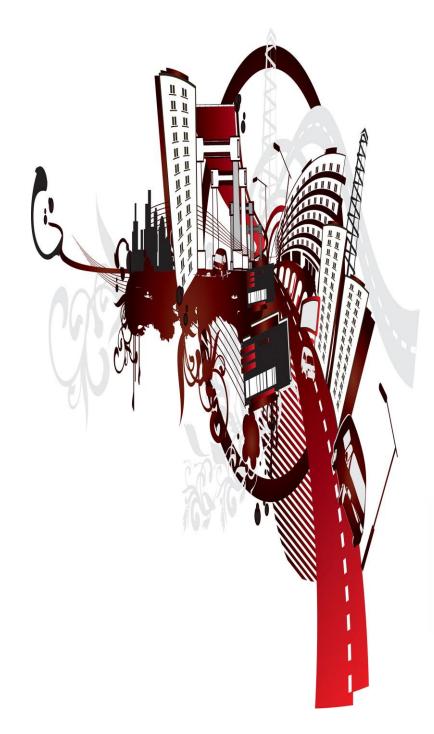
Pedestrians

Efficient Measures Available Data & Knowledge

International Cooperation

Scientific Research

Evidence Based Policy Making



International Healthy Cities Conference "Health and the City: Urban living in the 21st Century" Athens, 22 October 2014

Traffic safety in urban mobility policy

George Yannis, Associate Professor www.nrso.ntua.gr/geyannis

Eleonora Papadimitriou, PhD www.nrso.ntua.gr/nopapadi

National Technical University of Athens