



Current trends in Urban Road Safety in Europe



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Urban road safety - Open questions

- Which are the current and future urban road safety problems?
- Are they the same across Europe?
- How critical are data and evidence based decision making?
- How much transferable are successful urban road safety solutions?
- 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?



Objectives and Structure of the presentation

Objective

To provide a comprehensive picture on urban road safety today in Europe and of the future challenges, with focus on urban safety and mobility, specially of the vulnerable road users


Structure

- Basic facts on urban road safety in Europe
- Current road safety problems
- The need for road safety data and knowledge
- Fundamental urban road safety choices




Traffic Safety Basic Facts

- Road accident data from the EU-CARE database.
- 24 EU countries (BE, CZ, DK, DE, EE, IE, EL, ES, FR, IT, LV, LU, HU, NL, MT, AT, PL, PT, RO, SI, SK, SE, FI, UK).
- Data for the period 2001- 2010.
- Road accident data on road fatalities outside urban areas correlated with basic safety parameters
- Available risk exposure data from other international data files (Eurostat, etc.)



European
Road
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Traffic Safety Basic Facts 2012
Urban areas


In 2010, 10,837 people were killed in traffic accidents on urban roads in the EU-19¹. This is 38% of all traffic accident fatalities in 2010. In the last decade, urban road fatalities have reduced by more than a third (39%), a little bit less than the total number of fatalities that has reduced by 42%.

Table 1: Urban road fatalities by country by year in EU-19^{1, 2}, 2001-2010

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
BE	453	353	350	295	255	265	275	274	257	246
CZ	525	570	556	525	503	427	442	444	329	291
DK	125	126	114	120	95	101	129	129	92	78
DE	1,726	1,684	1,646	1,484	1,471	1,384	1,335	1,261	1,225	1,011
IE	104	104	89	108	80	62	77	62	56	45
EL	830	718	716	766	758	774	724	744	646	583
ES	973	912	919	900	790	736	740	634	584	550
FR	2,277	2,056	1,667	1,534	1,664	1,346	1,359	1,235	1,252	1,133
IT	3,351	3,083	2,746	2,596	2,588	2,494	2,269	2,070	1,892	1,759
LU	17	20	16	17	13	8	9	9	10	3
NL	335	348	346	252	254	283	270	243	227	-
AT	216	265	223	232	202	200	173	189	173	141
PL	2,528	2,761	2,653	2,755	2,495	2,349	2,549	2,499	2,171	1,813
PT	720	699	659	556	537	448	389	417	386	484
RO	1,841	1,767	1,506	1,697	1,895	1,638	1,780	1,919	1,756	1,493
SI	91	81	72	83	81	92	94	73	64	60
FI	113	105	101	82	101	93	81	108	76	63
SE	180	146	134	125	110	106	127	99	89	-
UK	1,448	1,421	1,439	1,349	1,302	1,326	1,178	1,087	1,000	758
EU-19 ²	17,853	17,219	15,952	15,476	15,194	14,132	14,000	13,496	12,285	10,837
Yearly reduction		3,6%	7,4%	3,0%	1,8%	7,0%	0,9%	3,6%	9,0%	11,8%
EE	-	-	-	-	46	46	63	41	19	-
LV	-	-	-	142	125	148	165	97	68	78
HU	-	-	478	478	502	508	505	419	301	272
MT	-	-	-	-	17	11	12	9	15	13
SK	-	-	-	-	277	291	298	280	176	157
CH	-	-	-	191	-	-	-	135	137	114
IS	-	2	6	8	3	10	-	5	5	4

Table 1 presents the number of fatalities in accidents on urban roads by country from 2001 to 2010.

¹ See table "Definition of EU-level and used Country abbreviations" on page 15.
² Where a number is missing for an EU-19/24 country in a particular year, its contribution to the EU-19/24 total is estimated as the most recent known value.
³ Since 2010 Portugal has been calculating the fatalities at 30 days without correction factor, contributing to the increase between 2009 and 2010. Otherwise, it would have been 394.



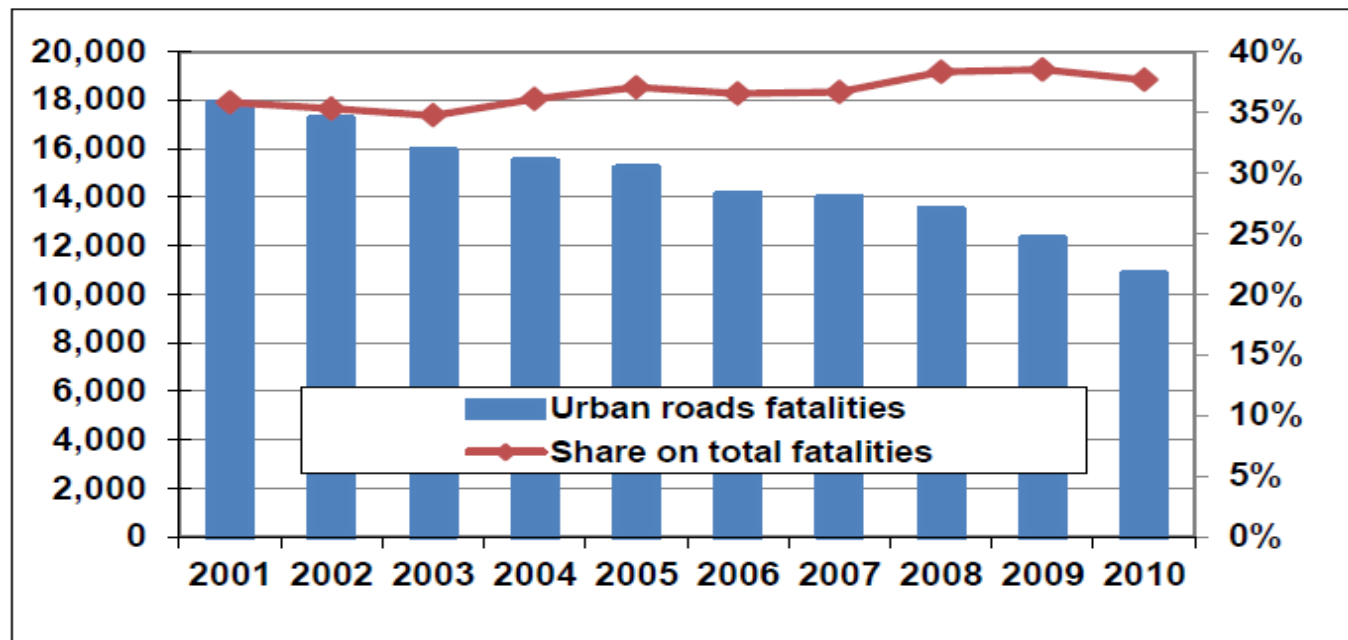
Mobility & Transport

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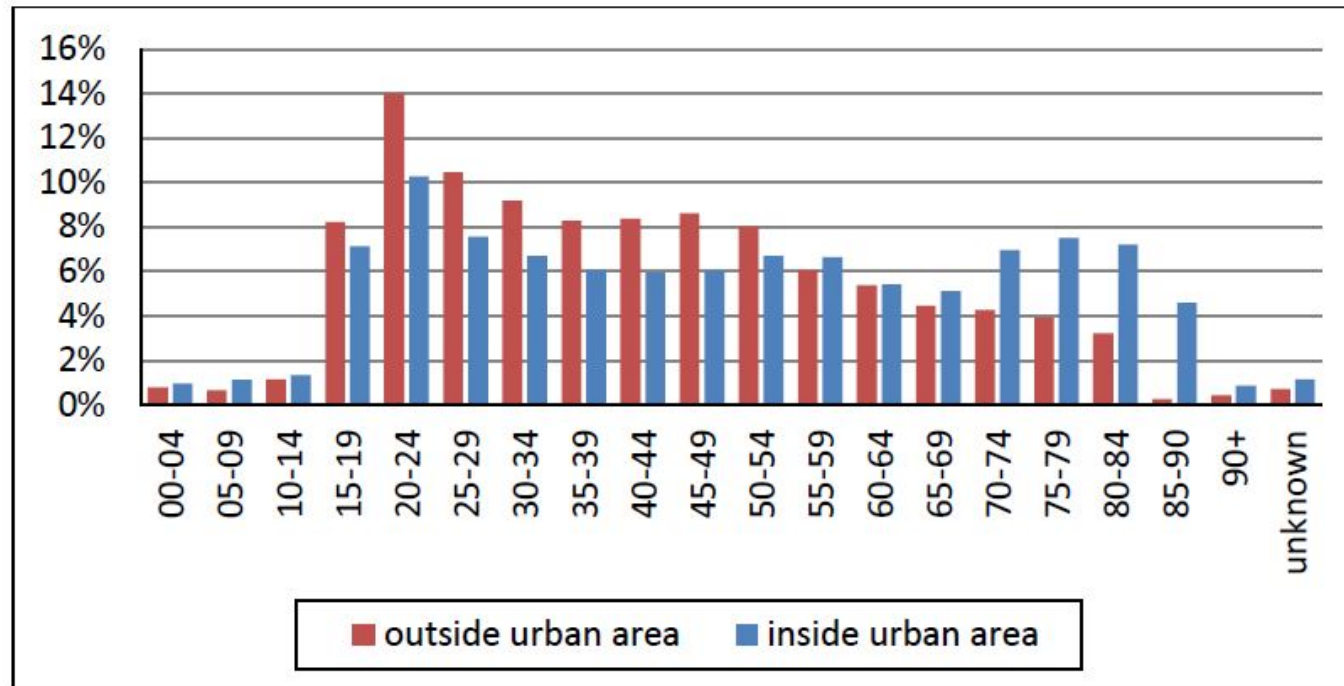
Fatalities inside Urban Areas - Overall Trends

- In 2010, about 10.830 people died in traffic accidents on urban roads in the EU-19
- Fatalities inside urban areas constitute 38% of all traffic accident fatalities in 2010
- In the last decade, urban road fatalities have reduced by more than a third (39%)



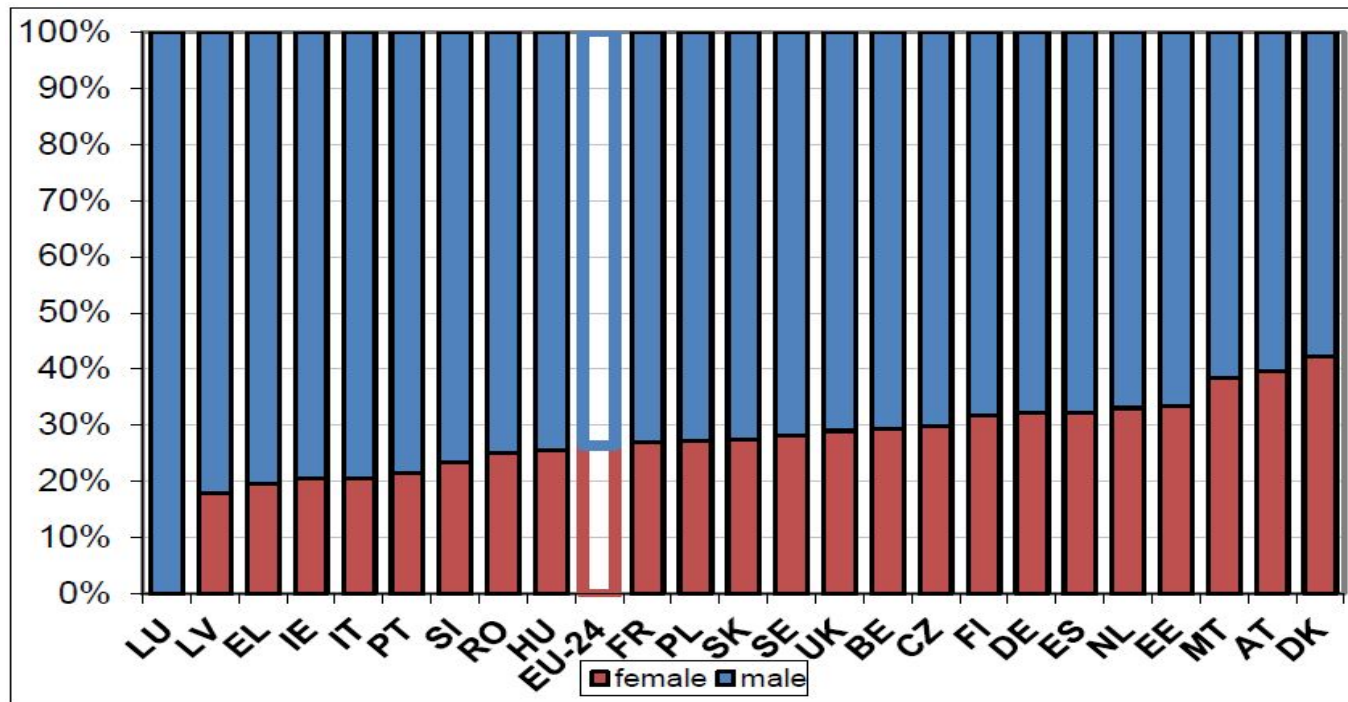
Fatalities by Area Type and Age Group

- The proportion of elderly fatalities is much higher inside urban areas than outside
- This trend is inverted for the age groups between 15 and 54 where the percentage of fatalities is higher outside urban areas.



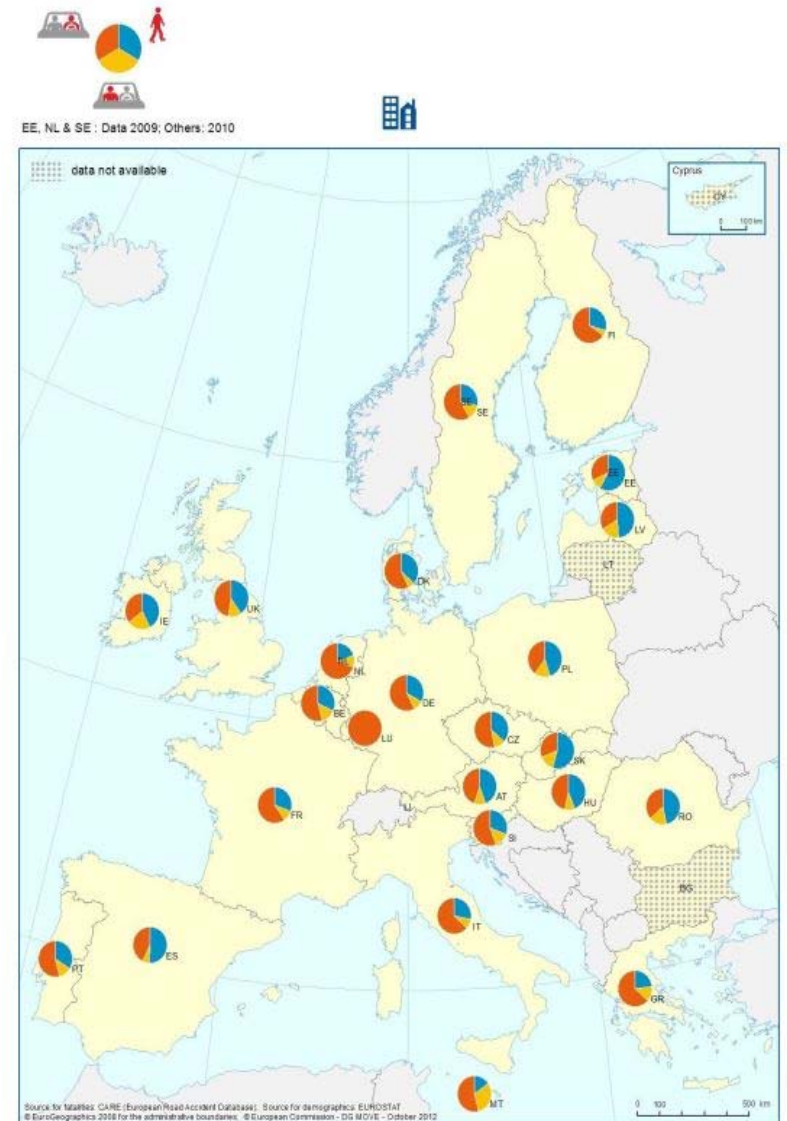
Fatalities by Area Type and Gender

- A higher proportion of females died in urban areas compared to rural areas
- Denmark and Austria have the highest percentage of urban road fatalities which are female



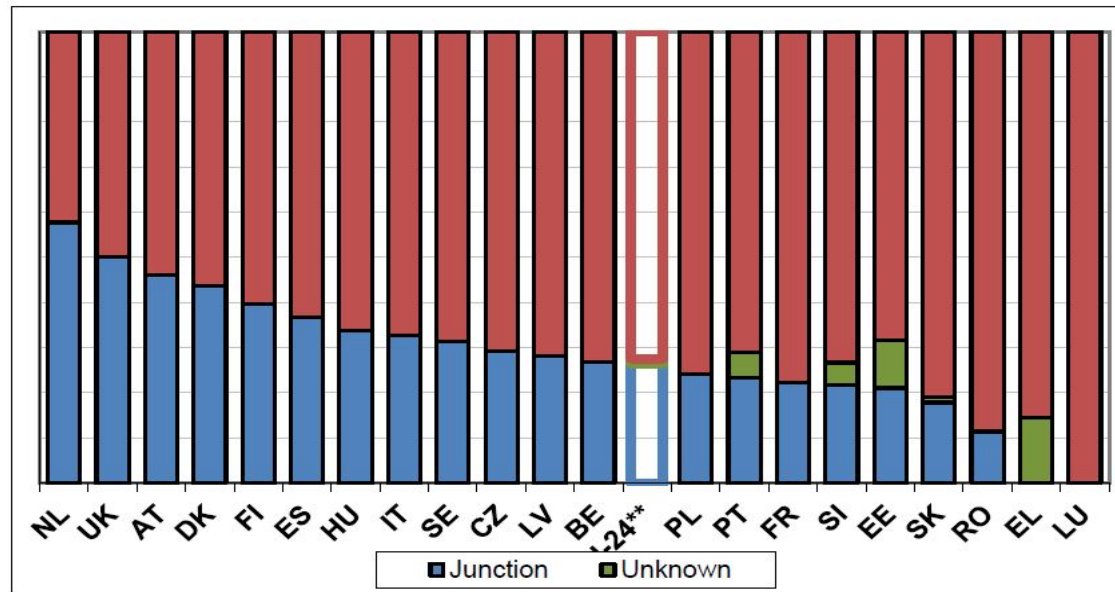
Fatalities by Road User Type

- Inside urban areas, 51% of the fatalities are drivers and 37% are pedestrians
- Outside urban areas, these percentages are 68% for the drivers and under 9% for pedestrians
- Netherlands has the highest percentage of driver fatalities (69%) followed by Finland (65%) and Italy (64%)
- Malta (31%) and Ireland (22%) have the highest percentage of passenger fatalities
- Estonia (58%) has the highest percentage of pedestrians fatalities



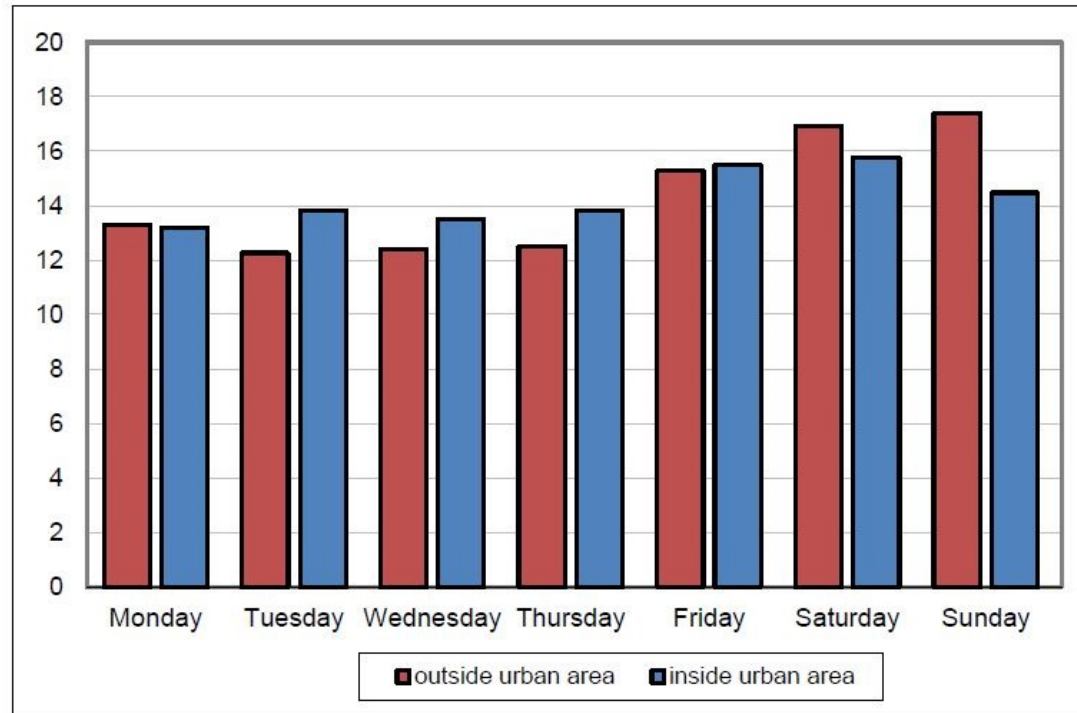
Fatalities by Area Type and Junction

- Fatalities at junctions inside urban areas are double than the fatalities at junctions outside urban areas
- Romania has the lowest percentage of junction fatalities (11%) followed by Slovakia (18%).
- In contrast, around a half of the fatalities in the United Kingdom and more than a half in the Netherlands occur at junctions



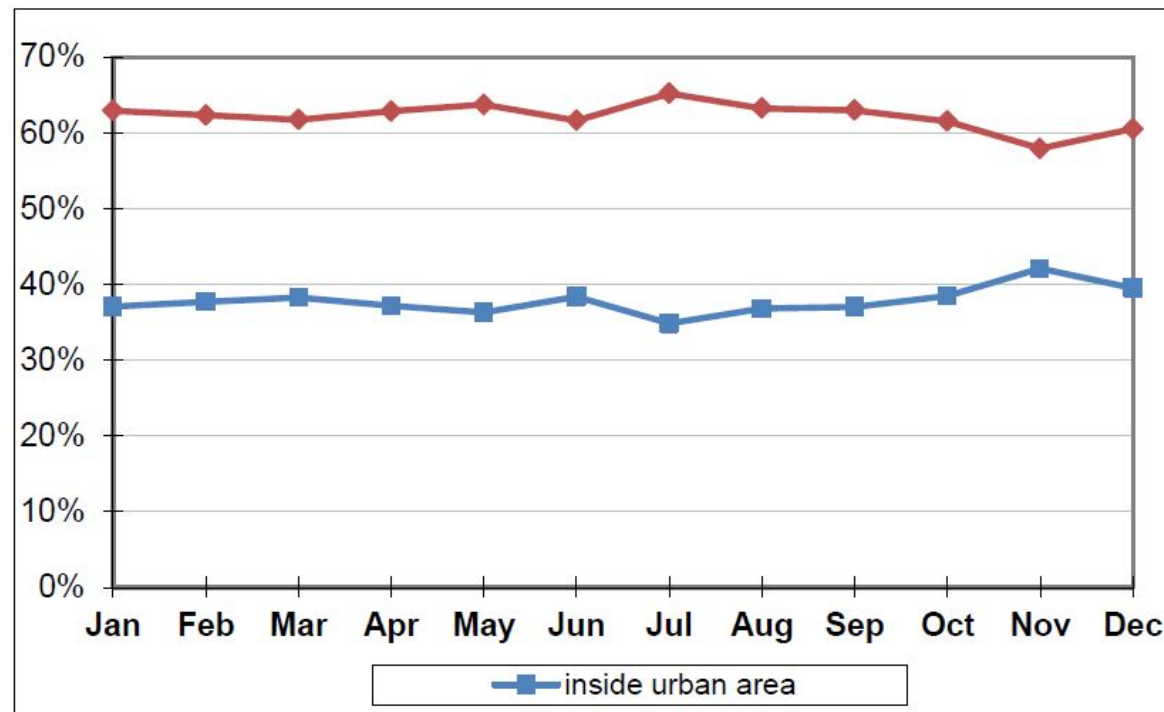
Fatalities by Area Type and Day of Week

- On working days, the percentage of fatalities is slightly higher inside urban areas than outside urban areas
- During the weekends, the percentage of fatalities outside urban areas increases



Fatalities by Area Type and Month

- The number of fatalities per month in 2010 has a quite similar pattern inside and outside urban areas
- The proportion of fatalities in urban areas is higher in November



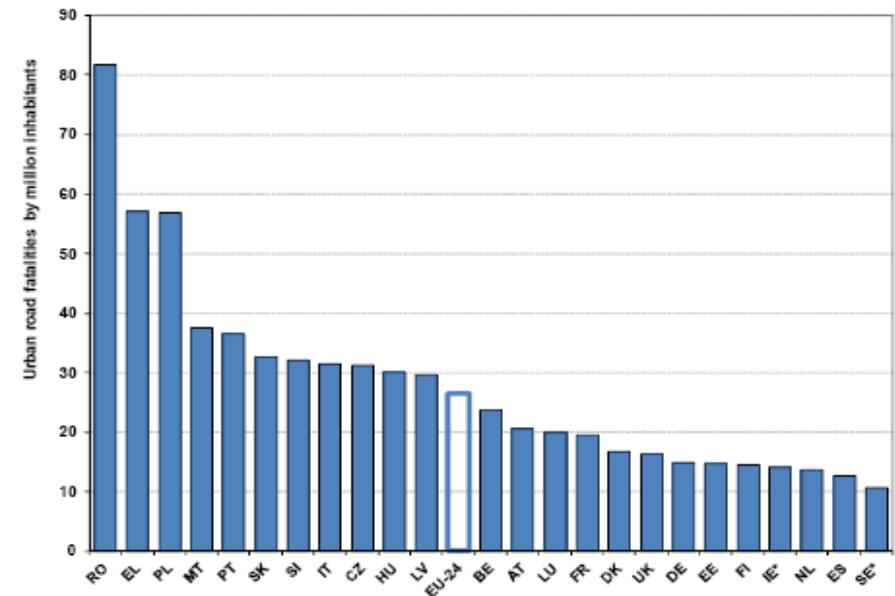
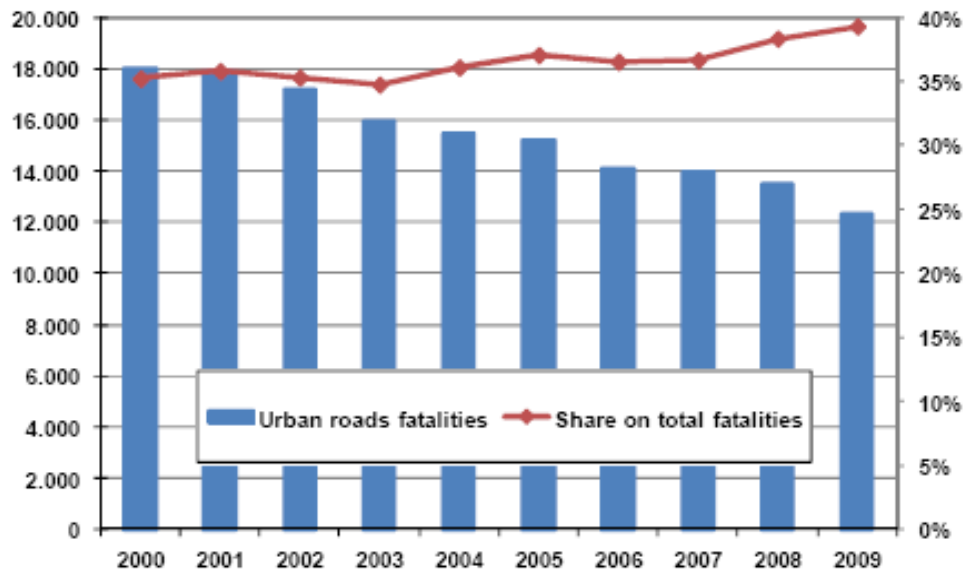
Different urban road safety progress in different countries

Road Fatalities change 2001-2010 (source: CARE)

Urban Areas
Inside Outside

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

North-Western countries
Southern countries
Eastern countries



Different urban road safety patterns 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%



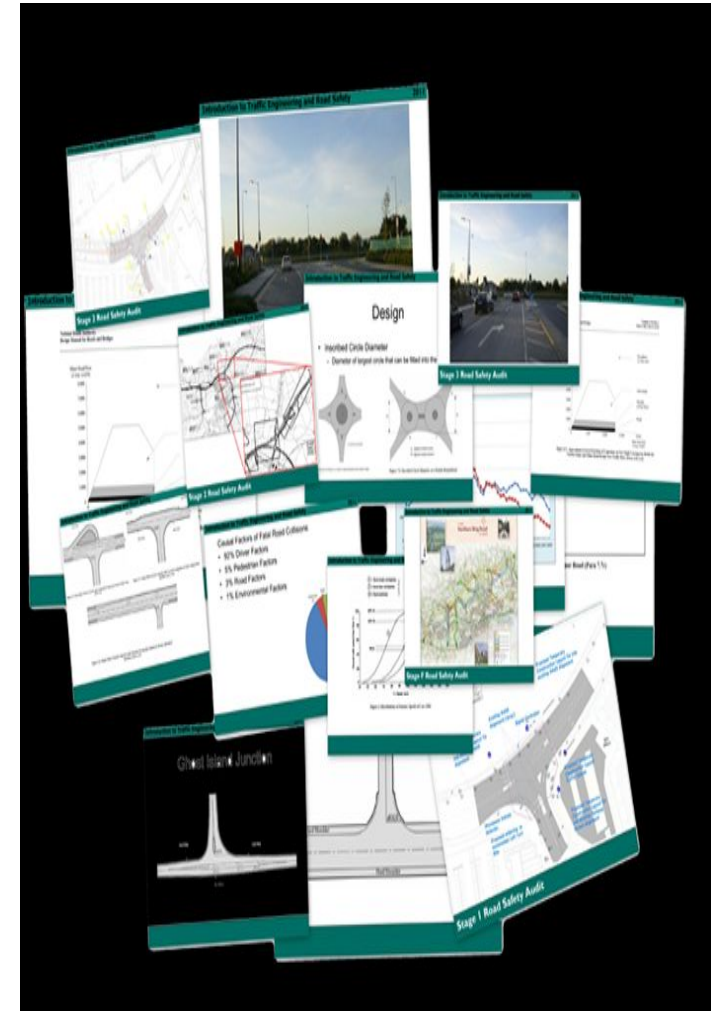
Current Urban Road Safety Problems

- 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** has a direct impact to road fatalities decrease, but what will happen when recession will be over?



From problems to measures

- The identification of the suitable measures for specific urban 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.
- Road safety research and international cooperation are the keys to support evidence based decision making.



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 cities and between different regions may reveal high discrepancies not only in the unit cost of the measures but also in the implementation effort and the safety output.
- 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 data and knowledge

- Positive and negative aspects of each solution in the short and long term should be demonstrated allowing all urban 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.
- Good practices manuals are useful but each measure should be tailored to the particular needs of each urban environment and the overall network design and traffic operation.

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- EU road safety policy** : a comprehensive overview of European legislation, including when relevant the detail of national implementing legislation.
- Road Safety knowledge base** : high quality information, scientifically founded, easy to read and ready to use, on main road safety subjects.
- Projects** : 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 participants
- Statistics** : a compendium of reports, with CARE (the European road accidents data base) as the primary source.
- Toolbox** : 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.



● POLICY ORIENTATIONS ON ROAD SAFETY 2011-2020

Urban Mobility and Road Safety Choices

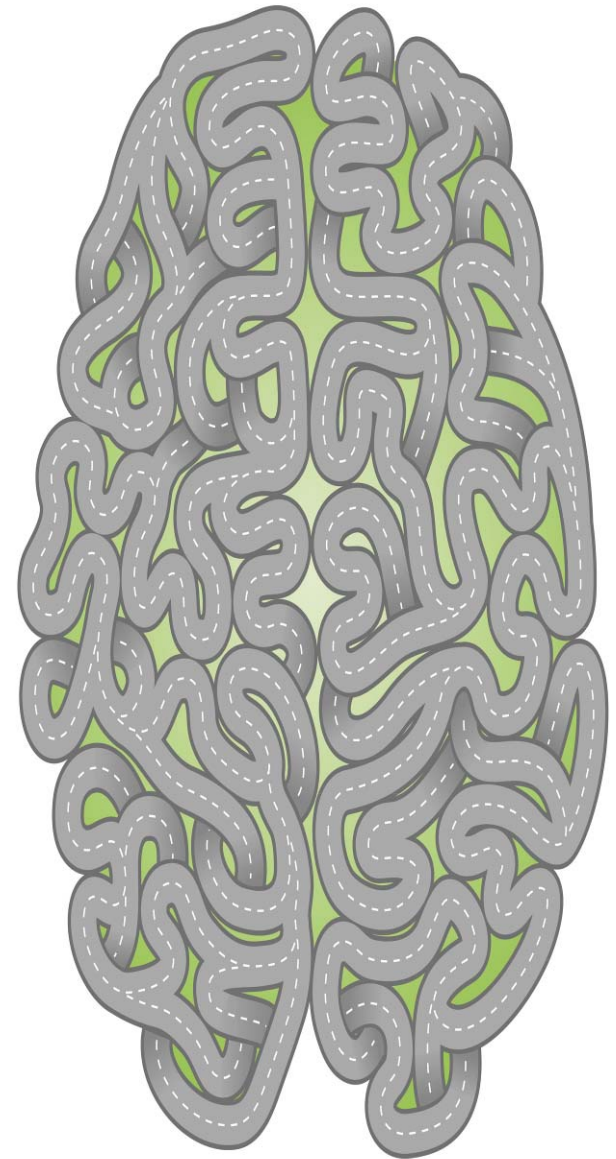
The high complexity of the urban environment makes road safety choices a very difficult task, attempting to balance conflicting social needs and economical restraints, especially during the economic crisis.

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



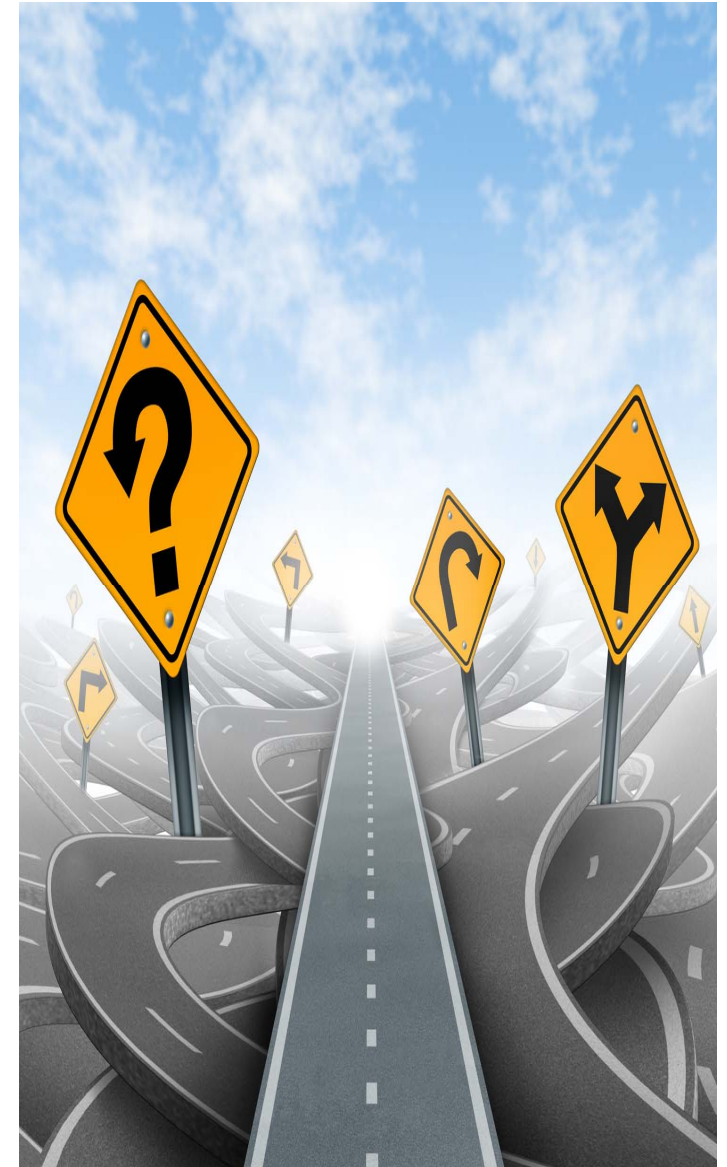
The urban road safety choices

- 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.



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.



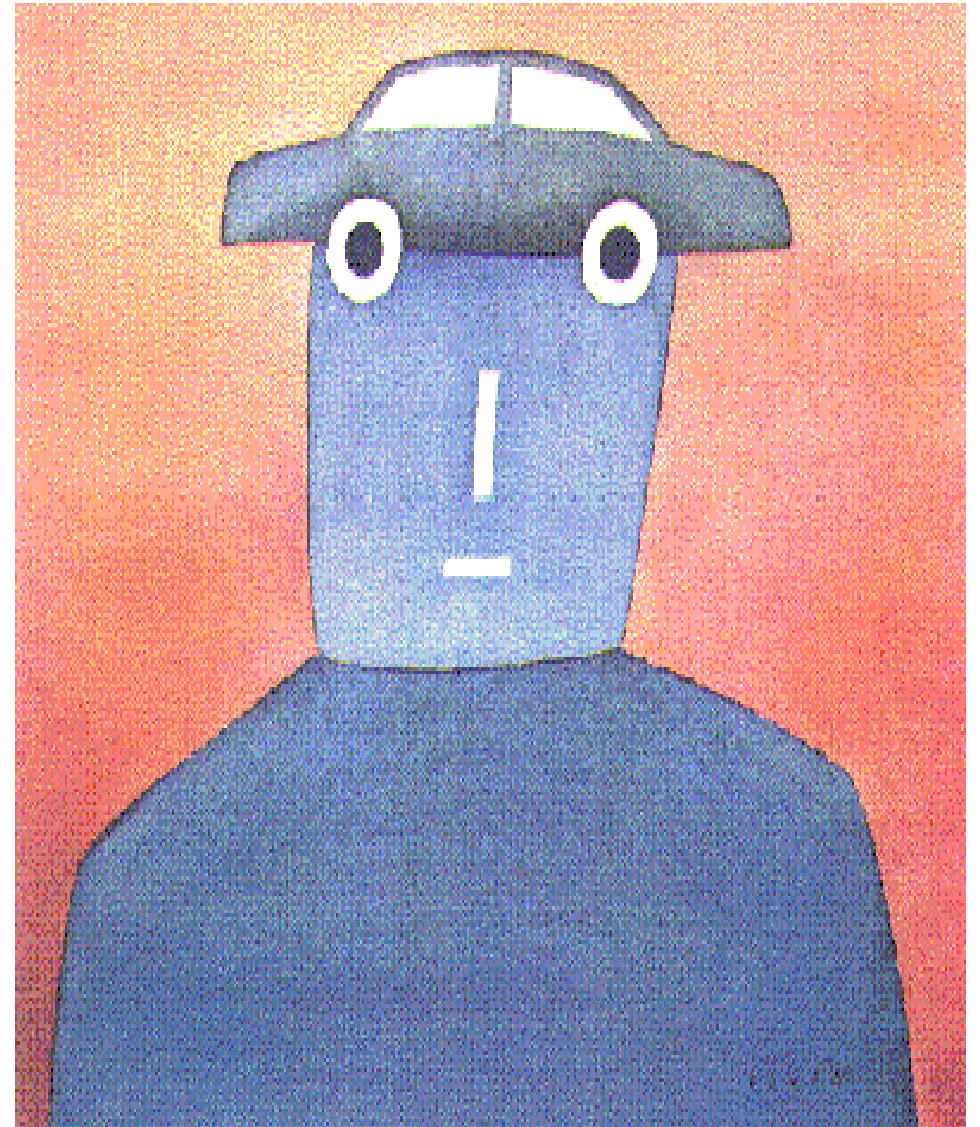
Some good practices for urban road safety

- Draft guidelines for promoting best practice in traffic calming measures (roundabouts, road narrowing, chicanes, road humps, space-sharing).
- Develop a clear hierarchy of the road network and design and implement common infrastructure and traffic arrangements for each type of network.
- 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.



Conclusion

- Urban road safety should be **integrated into the urban mobility plans**, equally with environment, energy and mobility concerns, within a long term and sustainable vision.
- Both authorities and citizens should **realise the choices** to be made (with focus on car traffic and speed restriction) and work together and sincerely to implement them.
- **Continuous research** is needed to acquire the necessary knowledge for the support of decision making.



The future urban road safety challenges

Brave Road Safety Choices

Vehicle Technology

Driver Behaviour

Smart Infrastructure

Safety Culture

Efficient Enforcement



Power Two Wheelers

Efficient Measures

Pedestrians

Available Data & Knowledge

International Cooperation

Scientific Research

Evidence Based Policy Making



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