Road Safety Culture in Greece and worldwide

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Structure of the presentation

Road Safety In Greece

Road Safety in Europe and worldwide

Monitoring Road Safety Culture
Road Safety Culture in Greece
In the EU28 the overall level of road mortality was 51 deaths per million inhabitants in 2015, compared with 63 in 2010.

Norway had the lowest number of road deaths per million inhabitants (23), followed by Malta, Sweden, the UK and Denmark with less than 30 deaths per million inhabitants.

Greece with 72 fatalities per million inhabitants is getting closer to the EU average (52) than to the least performing EU countries (80-105).

Source: ETSC, 2016
Road Safety Performance in Greece

- Road fatalities in 2015 shows a slight annual increase of 1.3%, whereas injury accidents show a slight decrease of -1.1%.
- This road fatalities increase is observed for the first time since 2004, ending an impressive 49% road fatalities decrease in the economic crisis period 2008-2014 (-23% in injury accidents).
Road Safety Performance in Greece

A number of possible impacts of economic recession are estimated to contribute to the impressive reductions in fatalities:

• **Less vehicle-kilometers**: increased fuel prices, decrease of recreation mobility, less heavy goods vehicle traffic

• **Less speeding**: increased fuel prices, more economical and environment friendly driving, low drivers’ morale

• **Less risky driving**: fewer young, inexperienced or elderly drivers who may afford vehicle ownership and travel

Road Safety Culture in Greece and worldwide
Road Safety Performance in Greece

• Today, Greece has reached a point where there is great need for extra effort to further improve road safety in the Greek roads, with systematic actions from the Authorities and serious engagement from the society despite the continuous economic and social crisis in Greece.

• There is an important potential for further road safety improvement in Greece.
Basic road safety indicators in Greece and in EU

<table>
<thead>
<tr>
<th></th>
<th>Greece</th>
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</thead>
<tbody>
<tr>
<td>Fatalities</td>
<td>1.658</td>
<td>1.657</td>
<td>1.612</td>
<td>1.553</td>
<td>1.456</td>
<td>1.258</td>
<td>1.141</td>
<td>0.988</td>
<td>0.879</td>
<td>0.795</td>
<td>0.805</td>
<td>-51%</td>
</tr>
<tr>
<td>Vehicles (mil.)</td>
<td>6,641</td>
<td>6,996</td>
<td>7,380</td>
<td>7,729</td>
<td>7,911</td>
<td>8,062</td>
<td>8,087</td>
<td>8,070</td>
<td>8,035</td>
<td>8,048</td>
<td>8,061</td>
<td>21%</td>
</tr>
<tr>
<td>Fatal./mil.veh.</td>
<td>250</td>
<td>237</td>
<td>218</td>
<td>201</td>
<td>184</td>
<td>156</td>
<td>141</td>
<td>122</td>
<td>109</td>
<td>99</td>
<td>100</td>
<td>-60%</td>
</tr>
<tr>
<td>Fatal./mil.popul.</td>
<td>150</td>
<td>149</td>
<td>145</td>
<td>139</td>
<td>130</td>
<td>112</td>
<td>103</td>
<td>89</td>
<td>79</td>
<td>72</td>
<td>74</td>
<td>-51%</td>
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<table>
<thead>
<tr>
<th></th>
<th>EU-28</th>
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</thead>
<tbody>
<tr>
<td>Vehicles (mil.)</td>
<td>269.67</td>
<td>274.11</td>
<td>286.51</td>
<td>285.89</td>
<td>289.80</td>
<td>293.14</td>
<td>301.98</td>
<td>304.61</td>
<td>307.30</td>
<td>310.85</td>
<td>314.44</td>
<td>17%</td>
</tr>
<tr>
<td>Fatal./mil.veh.</td>
<td>171</td>
<td>160</td>
<td>151</td>
<td>139</td>
<td>122</td>
<td>107</td>
<td>101</td>
<td>93</td>
<td>85</td>
<td>84</td>
<td>84</td>
<td>-51%</td>
</tr>
<tr>
<td>Fatal./mil.popul.</td>
<td>92</td>
<td>87</td>
<td>86</td>
<td>78</td>
<td>70</td>
<td>63</td>
<td>61</td>
<td>56</td>
<td>52</td>
<td>51</td>
<td>52</td>
<td>-43%</td>
</tr>
</tbody>
</table>

Sources: EL.STAT., EC-CARE
Road Safety Performance in Greece

• The socio-economic cost of fatalities, injuries and material damage in recorded road accidents with casualties in Greece is estimated to exceed 2.5 billion (€) per year. It is possibly tripled if the actual number of casualties and accidents with material damage only are taken into account.
Road Safety Structure in Greece

- Inter-Ministerial Road Safety Committee (not operational since 2011)
  Chairman: Prime Minister, Vice Chairman: Vice President of the Government
  Members: Ministers (Economy, National Defense, Interior, Education, Health, Infrastructure, Transport and Networks, Environment, Public Order and Tourism) and the State Secretary for Infrastructure, Transport and Networks
  Committee for Processing Proposals
  Road Safety Secretariat

- National Road Safety Board (not operational since 2012)

- Road Safety Stakeholders:
  - Ministries
  - Professional Associations
  - Universities and Research Institutes
  - Non-Governmental Organisations

Road Safety Culture in Greece and worldwide
Road Safety Structure in Greece

Road Safety Strategic Plan:
• Need to introduce an organized way to improve road safety based on the Safe System approach.

• Quantitative target of halving road fatalities of 2010 by 50% in 2020 meaning that, in 2020, the number of road fatalities in Greece, must be lower than 640.

• Mid-term target for the first five years: the number of road fatalities in 2015 must be lower than 880.

Inadequate overall implementation.
Problems and causes

Critical factors causing road accidents in Greece (in order of importance):

• driving at high speeds
• high rates of motorcyclists in traffic
• low rates of seat-belt and helmet use, especially by passengers
• unorganized and unprotected movement of vulnerable road users
• driving under the influence of alcohol and using a mobile phone
• generalized aggressive driving

Basic Road Safety Indicators in Greece and in Europe (Source: EL.STAT, EC-CARE)

<table>
<thead>
<tr>
<th>% fatalities 2014</th>
<th>Greece</th>
<th>EU</th>
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<tbody>
<tr>
<td>Inside urban areas</td>
<td>50%</td>
<td>38%</td>
</tr>
<tr>
<td>Pedestrians</td>
<td>16%</td>
<td>22%</td>
</tr>
<tr>
<td>Motorcyclists</td>
<td>35%</td>
<td>15%</td>
</tr>
<tr>
<td>Young drivers (15-24 years old)</td>
<td>12%</td>
<td>17%</td>
</tr>
<tr>
<td>Older drivers (65+ years old)</td>
<td>12%</td>
<td>21%</td>
</tr>
<tr>
<td>Single vehicle accidents</td>
<td>54%</td>
<td>30%</td>
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</table>
## Road Safety Culture in Greece

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</thead>
<tbody>
<tr>
<td>Speed infringements</td>
<td>374.712</td>
<td>307.763</td>
<td>353.133</td>
<td>349.417</td>
<td>330.186</td>
<td>263.382</td>
<td>238.033</td>
<td>186.675</td>
<td>178.816</td>
<td>156.892</td>
<td>141.639</td>
<td>-62%</td>
</tr>
<tr>
<td>Drink &amp; drive</td>
<td>46.938</td>
<td>44.848</td>
<td>45.668</td>
<td>47.257</td>
<td>45.901</td>
<td>38.033</td>
<td>34.992</td>
<td>30.707</td>
<td>30.853</td>
<td>29.597</td>
<td>25.982</td>
<td>-45%</td>
</tr>
<tr>
<td>Seat belt infringements</td>
<td>142.227</td>
<td>142.152</td>
<td>107.112</td>
<td>86.353</td>
<td>77.274</td>
<td>49.703</td>
<td>37.120</td>
<td>33.722</td>
<td>35.478</td>
<td>34.526</td>
<td>24.625</td>
<td>-83%</td>
</tr>
<tr>
<td>Helmet infringements</td>
<td>150.198</td>
<td>144.251</td>
<td>97.953</td>
<td>94.530</td>
<td>78.453</td>
<td>51.526</td>
<td>47.250</td>
<td>47.736</td>
<td>58.122</td>
<td>54.354</td>
<td>41.900</td>
<td>-72%</td>
</tr>
</tbody>
</table>

Source: Traffic Police

During the last ten years there is a significant decrease in infringements related to key issues of road user behaviour.
Road Safety Culture in Greece

Greek citizens (and the Authorities) do not realize that speed and safety cannot coexist in the complexity of pedestrian and vehicle traffic.

They drive aggressively and at speeds which are not appropriate for the existing traffic conditions, thinking that road accidents happen only to others and never to themselves.
Road Safety Culture in Greece

• Around 1 out of 4 drivers do not use seat belts

• Females have higher seat belt use rates

• Only 19% of rear seat passengers use seat belt inside urban areas and 28% outside urban areas

• Child restrain use is 57% with no significant difference inside / outside urban area

Source: NTUA 2009
Road Safety Culture in Greece

- 75% of motorcycle riders use their helmet.
- Young females (16-24 years old) have lower helmet use rates than young males, while the opposite is the case for the other age groups.
- Only 41% of motorcycle passengers use their helmet inside built-up areas.
- More than 90% of riders use their helmet outside built-up areas.

Source: NTUA 2009
Road Safety Culture in Greece

• Mobile phone use rate is increased for young car drivers (16-24 years old)

• Mobile phone use rate is higher inside built-up areas

• PTW riders present very low mobile phone use rates, except for young females (12%)

Source: NTUA 2009
Road Safety Culture in Greece

In the past 12 months, as a road user, how often did you?
(5-point scale, 1=never to 5=(almost) always)

- Drive faster than the speed limit inside built-up areas: 67.5%
- Drive faster than the speed limit outside built-up areas (except motorways/freeways): 72.9%
- Drive faster than the speed limit on motorways/freeways: 72.8%

Source: ESRA 2016

Mean in 17 European ESRA countries

Greece
Road Safety Culture in Greece

In the past 12 months, as a road user, how often did you? (5-point scale, 1=never to 5=(almost) always)

- Drive after drinking alcohol
  - Mean in 17 European ESRA countries: 28.6%
  - Greece: 30.9%

- Drive after using illegal drugs
  - Mean in 17 European ESRA countries: 10.9%
  - Greece: 10.1%

Source: ESRA 2016
In the past 12 months, as a road user, how often did you?
(5-point scale, 1=never to 5=(almost) always)

- as a pedestrian, cross streets at places other than at a pedestrian crossing: 87.7%
- as a pedestrian, cross the road when a pedestrian light was red: 66.6%
- listen to music through headphones as a pedestrian: 38.2%

Source: ESRA 2016
Problems and causes

Main causes of the high number of road accidents in Greece:

- Inadequate enforcement that is not perceived by the driver
- Road infrastructure and overall organization of urban space and traffic oriented to accommodate private cars and speed
- Interurban roads with inadequate maintenance and defects making dangerous surprises to drivers while they also do not forgive driver mistakes
- Inadequacies of Authorities - a bad example for citizens
- Indifference of the Authorities and its citizens to respect the rules and the correct traffic behaviour
- Promotion of poor driving behaviour patterns
Problems and causes

Key institutional road safety problems in Greece:

• Inefficient organization of the Public Administration

• Lack of organized State structures with responsibility for road safety and lack of accountability for the implementation of their actions

• Lack of a centralized structure with substantial road safety responsibility and authority on State agencies and accountability for its actions

• Insufficient funding for road safety

• Failure to understand that road safety is a science
Problems and causes

• During and after the deep economic and social crisis, priority should be given to serious efforts to improve road safety.

• An effective road safety policy should be based firstly on the fundamental principle that incorporation of safe driving at the expense of speed should be taken into account in every decision made by the Authorities and the citizens.
Priority actions

The priority actions for the improvement of road safety culture in Greece, are in order of importance:

• Establishment and operation of a **Central Government Authority**.
• **Intensification of enforcement** for road safety.
• **Systematic monitoring** of the implementation of road safety actions.
• Development and implementation of **effective road infrastructure management system**.
• **Radical redesign** of road infrastructure and urban traffic.
• Design and implementation of a **comprehensive policy** to promote safe driving behavior.
Aspects of Road Safety Culture in Europe and worldwide
Examples of Road Safety Culture - Sweden

• In 1997 Sweden introduced the Vision Zero approach to road safety thinking, which is summarized in the sentence: “No loss of life is acceptable”.

• Its enlightened view of the role of human behavior is, basically, to encourage people to take responsibility to drive safely but also to protect them from injury even if they do not (Tingvall and Haworth 1999).

• Vision Zero approach in road safety targeting has also been adopted by other countries, such as Czech Republic, Denmark, Luxembourg, Norway, Poland, Slovenia and Spain.
Examples of Road Safety Culture - Australia

• In the previous years, Australia focused on strong enforcement and education programmes and targeted high risk behaviours such as speeding, drink-driving and non-usage of seat belts, which has benefited road safety evolution.

• The Federal Office of Road Safety and since 1999 the Australian Transport Safety Bureau were conducting surveys in order to monitor community attitudes to a variety of road safety issues, evaluate specific road safety countermeasures, suggest new areas for intervention and identify significant differences between states and territories.
Road Safety Culture in the USA

- Traffic Safety Culture Index (AAA foundation for Traffic Safety)

- An annual, nationally representative-survey for aged 16 years and older, exploring:
  - residents’ perceptions of road safety issues in relation to other current national issues
  - residents’ attitudes about specific traffic safety issues, including but not limited to driving behaviors (e.g. Drinking and driving, Cell phone use and text messaging, Speeding, Red-light running, Drowsy driving, Seatbelts and helmets)
  - the level of their support or opposition for a number of measures to prevent or reduce motor vehicle accidents

Road Safety Culture in Greece and worldwide
Comparison between Australia and USA

The differences in cultural safety between the two countries involve:

• governments in Australia are more willing to intervene to protect people’s safety and to adopt a scientific approach in doing so

• support for safety initiatives from parliamentary committees focused on road safety and the availability of funds for safety endeavors

• policies being easier to implement because there are fewer decision makers involved, and a public that is more accepting of government interventions, in part, because of intensive community education undertaken during pre-law periods

• the acceptance of government intervention in Australia is also an outcome of traditional dependence on government to provide infrastructure and initiatives across a wide variety of areas, in contrast to the private enterprise which has been historically more important in the USA

Source: Williams & Haworth, 2007
Safety Culture in the SUNflower approach

- Structure consists of physical structure and operational (functional) structure
  - Physical structure: geographic and climate conditions, demography, road topology, urbanization etc.
  - Operational structure: the organization and arrangements between all potential actors involved in policy making

- Culture consists of values and norms in their social sense.
  - Values can be regarded as assumptions upon which implementation can be based. Values such as the value of a human life, respect for each other’s rights, etc., are directly reflected in road safety provisions.
  - Norms refer to the rules that are socially enforced. Social sanctioning is what distinguishes them from values. They can be viewed as reference standards, or statements that regulate behaviour and act as informal social control.

Road Safety Culture in Greece and worldwide
• Country performance in reducing road deaths attributed to drink driving compared with progress in reducing other road deaths.

• In two thirds of the countries, progress in reducing drink driving has contributed more than its share to overall reduction in road deaths.

Source: ETSC, 2014
Drink - driving in Europe

- The knowledge about the legal national BAC limit varies widely among EU countries.
- The Czech Republic, with a BAC limit for driving of zero, tops the list with 75% of respondents able to answer correctly.
- In Austria (69%) and Finland (67%), both with a limit of 0.5 g/l, over two-thirds of respondents gave a correct answer.
- In Belgium (82%), the Netherlands (70%) and Spain (66%), all countries with a 0.5 g/l limit, two thirds or more gave a wrong answer.
- There is also huge variation across Member States in the proportion of respondents who said they don't know the legal limit.

Source: Eurobarometer, 2010
Seat-belt use in Europe

- France, Germany and Sweden have the highest seat belt wearing rates with 98% drivers and front passengers buckling up.

- Seat belt use in front seats increased most between 2005 and 2012 in the Czech Republic, Estonia, Belgium, Spain, Hungary, Switzerland and Portugal.

Source: ETSC, 2014
Speeding in Europe

- The proportion of drivers exceeding the speed limit on motorways has been between 15% and 50% since 2008.
- 48% of drivers in free-flowing traffic exceed the limit on motorways in Finland and Great Britain, 38% in Spain and 35% in the Netherlands.
- In France the number of drivers exceeding the speed limit of 110km/h decreased from 59% in 2003, before the deployment of speed cameras, to 24% in 2012.

Source: ETSC, 2015
Aspects of Road Safety Culture in Europe

• Projects in the EU

- The SARTRE study explored the opinions and reported behaviours of car drivers throughout Europe. The first one was in 1991-1992 (15 countries); the second in 1996-1997 (19 countries); the third in 2002-2003 (23 countries).

- SARTRE 4 (2010 - 19 countries) addressed issues such as mobility experiences, perception of safety needs by different types of road users; opinions and experiences about speeding, impaired driving; attitudes towards motorcycle riders, pedestrians and other road users.
Aspects of Road Safety Culture in Europe

- The ESRA project is a joint initiative of 17 European countries aiming at collecting comparable national data on road users’ opinions, attitudes and behaviour with respect to road traffic risks.

- The survey took place in 2015 and the results will start to be published on June 2016.
## Speeding in Europe

### Road Safety Culture in Greece and worldwide

**Source:** ESRA, 2016

<table>
<thead>
<tr>
<th>Country</th>
<th>% of Acceptability of Driving 20km/h Over the Speed Limit on Motorways</th>
<th>% of Acceptability of Driving 20km/h Over the Speed Limit in Urban Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>17%</td>
<td>43%</td>
</tr>
<tr>
<td>ES</td>
<td>28%</td>
<td>44%</td>
</tr>
<tr>
<td>FR</td>
<td>23%</td>
<td>46%</td>
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<tr>
<td>IE</td>
<td>26%</td>
<td>44%</td>
</tr>
<tr>
<td>FI</td>
<td>36%</td>
<td>40%</td>
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<tr>
<td>EL</td>
<td>29%</td>
<td>40%</td>
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<tr>
<td>SI</td>
<td>27%</td>
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<td>EU</td>
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<td>CH</td>
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<td>BE</td>
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<td>NL</td>
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<td>AT</td>
<td>36%</td>
<td>6%</td>
</tr>
<tr>
<td>PT</td>
<td>37%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Social and personal acceptability of driving 20km/h over the speed limit on motorways (left) and in urban areas (right)

Source: ESRA, 2016
Use of mobile phone while driving in Europe

Social and personal acceptability of talking on a hands-free mobile phone (left) and on a hand-held mobile phone (right) while driving

Source: ESRA, 2016
Monitoring Road Safety Culture

Road Safety Culture in Greece and worldwide
Monitoring Road Safety

Monitoring ROAD SAFETY INTERVENTIONS

Analyses correlating Interventions with RSPI

Analyses correlating Interventions with Accidents (Crash Modification Factors)

Analyses correlating Cost-benefit / effectiveness

Monitoring ROAD SAFETY PERFORMANCE INDICATORS (RSPI)

Analyses correlating RSPI with Accidents

Monitoring ROAD ACCIDENT AND CASUALTIES

Making widely available all Monitoring and Analysis Results
Monitoring Road Safety and Safety Culture

Monitoring ROAD SAFETY INTERVENTIONS

Making widely available all Monitoring and Analysis Results

Analyses correlating Interventions with RSPI

Analyses correlating Interventions with Accidents (Crash Modification Factors)

Monitoring ROAD SAFETY PERFORMANCE INDICATORS (RSPI)

Analyses correlating RSPI with Accidents

Analyses correlating RSPI with Accidents

Analyses correlating Cost-benefit / effectiveness

Monitoring ROAD ACCIDENT AND CASUALTIES

Analyses correlating RSC with Accidents

Monitoring ROAD SAFETY CULTURE (RSC)

Analyses correlating RSC with Accidents

Analyses correlating Indicators with RSC

Monitoring SOCIAL & ECONOMIC INDICATORS

Analyses correlating Interventions with RSC

Road Safety Culture in Greece and worldwide
Concluding Remarks

Road Safety Culture is developed through systematic implementation of integrated road safety policies and programmes by local, regional, national and international Authorities.

Road Safety Culture might be a very appropriate notion integrating all the characteristics and efforts of the society affecting road safety performance.

Road Safety Culture Composite Indexes could be developed to be used as latent variables in Structural Equation Models for capturing the effect of various different road safety related components.
Road Safety Culture in Greece and worldwide

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