Collection of Key Performance Indicators for Road Safety in Greece

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Background

- In 2020, Greece recorded 579 fatalities in road crashes, achieving a **54% reduction compared to 2010**. Despite this significant improvement, additional efforts are required in order to further improve road safety performance.

- An important step towards this direction is to better understand the **factors leading to road crashes** and casualties.

- Within this context, the Ministry of Infrastructure and Transport in collaboration with the National Technical University of Athens (NTUA) participated in the **Baseline project**, with aim the data collection and calculation of the following KPIs for road safety in Greece.
Data Collection

- **Roadside surveys** were carried out in Spring 2022 in order to collect data for the four following road safety KPIs:
  - KPI Speed
  - KPI Seat belt
  - KPI Helmet
  - KPI Driver Distraction

- The roadside surveys were carried out in appropriately selected locations in **15 regions** of Greece.
- **150 locations in total**; 10 locations per road type (urban roads, rural roads and motorways) and region.
- All roadside surveys were carried out **during daytime**, on weekdays and at weekends.

- Data from **national databases** were collected for the KPIs on Vehicle Safety and Post-crash Care.
KPI Speed

- Speed data were collected for **34,420 vehicles**:
  - urban roads: 13,358; rural roads: 13,252; motorways: 7,810
  - weekdays: 27,251; weekends: 7,169
  - passenger cars: 25,344; vans/small trucks: 2,655; trucks/ buses/ heavy goods vehicles: 4,412; motorcycles: 2,009

- The lowest percentages of vehicles moving within the speed limits were observed on **urban roads** (56%), while the highest percentages on **rural roads** (90%).

- Among the different vehicle types, **passenger cars** and **motorcycles inside urban areas** present the lowest KPI values.
KPI Seat belt use

- Data for **28,042 passenger cars** were collected
  - 35,041 front occupants and 1,759 rear passengers
  - Motorways: 6,855; rural roads: 9,489; urban roads: 11,688
  - Weekdays: 21,649; weekend: 6,393

- Seat belt use rates for passenger car drivers and all front occupants (drivers and front passengers) are similar.

- For the **rear passengers**, the seat-belt use rate is significantly lower (53.9%).

- For all types of vehicle occupants, seat belt use rates are higher on **motorways** and during the **weekend**.

### Road Type

<table>
<thead>
<tr>
<th>Road Type</th>
<th>Driver</th>
<th>Front Occupant</th>
<th>Rear Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorways</td>
<td>83.5% (82.6%-84.4%)</td>
<td>85.3% (84.6%-86.1%)</td>
<td>65.5% (60.8%-70.2%)</td>
</tr>
<tr>
<td>Rural Roads</td>
<td>66.6% (65.7%-67.6%)</td>
<td>67.4% (66.5%-68.2%)</td>
<td>54.3% (50.3%-58.2%)</td>
</tr>
<tr>
<td>Urban Roads</td>
<td>70.0% (69.2%-70.9%)</td>
<td>71.3% (70.5%-72.0%)</td>
<td>52.7% (49.1%-56.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>68.5% (68.0%-69.1%)</td>
<td>69.5% (69%-70.0%)</td>
<td>53.9% (51.6%-56.2%)</td>
</tr>
</tbody>
</table>

### Time Period

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Driver</th>
<th>Front Occupant</th>
<th>Rear Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekdays</td>
<td>67.5% (66.8%-68.1%)</td>
<td>68.4% (67.8%-68.9%)</td>
<td>50.5% (47.8%-53.2%)</td>
</tr>
<tr>
<td>Weekend</td>
<td>71.1% (70.0%-72.2%)</td>
<td>72.3% (71.3%-73.2%)</td>
<td>61.9% (57.2%-66.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>68.5% (68.0%-69.1%)</td>
<td>69.5% (69%-70.0%)</td>
<td>53.9% (51.6%-56.2%)</td>
</tr>
</tbody>
</table>
KPI Protective systems (Helmet)

- Data for **3,717** motorcycles were collected:
  - 3,186 Riders; 531 Passengers
  - urban roads: 2,387, rural roads: 614, motorways: 185
  - weekdays: 2,474, weekends: 712

- **80,1% of motorcycle riders** wear a helmet, while the respective percentage for the motorcycle passengers is lower (63,5%).

- The highest rates of helmet use for both riders and passengers were observed on **motorways**

<table>
<thead>
<tr>
<th>Road Type</th>
<th>Rider</th>
<th>Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorways</td>
<td>95,1%</td>
<td>92,3%</td>
</tr>
<tr>
<td></td>
<td>(91,9%-98,2%)</td>
<td></td>
</tr>
<tr>
<td>Rural Roads</td>
<td>81,5%</td>
<td>61,8%</td>
</tr>
<tr>
<td></td>
<td>(78,4%-84,6%)</td>
<td>(52,7%-70,9%)</td>
</tr>
<tr>
<td>Urban Roads</td>
<td>77,0%</td>
<td>63,9%</td>
</tr>
<tr>
<td></td>
<td>(75,3%-78,7%)</td>
<td>(59,2%-68,7%)</td>
</tr>
<tr>
<td>Total</td>
<td>80,1%</td>
<td>63,5%</td>
</tr>
<tr>
<td></td>
<td>(78,7%-81,5%)</td>
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<th>Time Period</th>
<th>Rider</th>
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<tbody>
<tr>
<td>Weekdays</td>
<td>82,4%</td>
<td>70,4%</td>
</tr>
<tr>
<td></td>
<td>(80,9%-83,9%)</td>
<td>(66,0%-74,8%)</td>
</tr>
<tr>
<td>Weekend</td>
<td>75,5%</td>
<td>49,9%</td>
</tr>
<tr>
<td></td>
<td>(72,4%-78,7%)</td>
<td>(40,8%-59,1%)</td>
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KPI Distraction

- The KPI concerns passenger cars, light goods vehicles/vans and buses.
- Data for 36,858 drivers were collected. 
  - urban roads: 14,526; rural roads: 11,906; motorways: 10,426
  - weekdays: 29,148, weekends: 7,710
  - passenger cars: 28,042; vans/small trucks: 3,186; light goods vehicles: 4,681; buses/coaches: 949
- 92.3% of drivers are not using a mobile phone while driving, with the highest KPI value percentage being observed for bus drivers.
- As for car drivers, the highest use of mobile phone while driving is observed on urban roads.
KPI Vehicle

- Greece in 2020 had a passenger car fleet with an **average age of 17,4 years**.

- Of the 76,988 new cars registered this year, **89,2% are rated with 4 Euro NCAP stars** or above.

- **67,5%** of newly registered passenger cars them are rated with **5 Euro NCAP stars**.

- About **5%** of vehicles are inspected with **major or dangerous deficiency** in technical inspections.

<table>
<thead>
<tr>
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<th>New Passenger Cars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2019</td>
</tr>
<tr>
<td>KPI percentage-threshold of 4 stars (excl. no star rating cars)</td>
<td>90,3%</td>
</tr>
<tr>
<td>KPI percentage-threshold of 4 stars</td>
<td>88,4%</td>
</tr>
<tr>
<td>KPI percentage-threshold of 5 stars (excl. no star rating cars)</td>
<td>61,3%</td>
</tr>
<tr>
<td>KPI percentage-threshold of 5 stars</td>
<td>60,0%</td>
</tr>
</tbody>
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</thead>
<tbody>
<tr>
<td></td>
<td>2019</td>
</tr>
<tr>
<td>Average age of the vehicle fleet</td>
<td>16,8</td>
</tr>
<tr>
<td>% of vehicles inspected with any major or dangerous deficiency in technical inspections</td>
<td>5,1%</td>
</tr>
</tbody>
</table>
KPI Post-crash Care

- The national EMS database covers only **17 Regional Units** out of 74 in total, representing thus 54% of the total population. No other data are available in Greece.

- Available data for **23,408** calls in 2019 and **18,861** calls in 2020

- For about **8%** of the interventions, the response times were **unknown/erroneous**

- The response time of the emergency services is on **average 20 minutes** after the call following a road crash, while the **95th percentile is 64 minutes**.

<table>
<thead>
<tr>
<th>Response Time (min)</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPI - 95th Percentile</td>
<td>71</td>
<td>64</td>
</tr>
<tr>
<td>75th Percentile</td>
<td>35</td>
<td>32</td>
</tr>
<tr>
<td>50th Percentile</td>
<td>21</td>
<td>20</td>
</tr>
</tbody>
</table>
Conclusions

- Within the Baseline project, Greece collected data for 7 KPIs for the first time, which are also comparable with those of the other EU countries.

- The detailed results for the Key Performance Indicators consist valuable information for documenting targeted road safety actions and monitoring road safety progress over this decade.

- Further analysis of these results, alongside with the related exposure and road crash data could reveal the real dimension and main causes of the road safety problem in Greece.
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