ROAD SAFETY IN SPAIN: “MEASURES FOR SAFER ROADS”
INDEX

ROAD SAFETY IN SPAIN: CONTEXT AND FIGURES

MEASURES FOR SAFER ROADS

CONCLUSIONS
CONTEXT AND FIGURES
FATALITIES IN ROAD ACCIDENTS IN SPAIN


5776 5517 5347 5399 4741 4442 4104 3823 3100 2714 2478 2060 1903 1680 1688 1689

0 1000 2000 3000 4000 5000 6000 7000
DEATH IN ROAD ACCIDENTS IN EU

Source: CARE (EU road accidents database)
Δ LONG DISTANCE MOVEMENTS – RISK EXPOSURE
- Population: 44 Million
- Drivers: 26 Million
- Vehicles: 33 Million
- Tourists: 75.3 Million
**CONTEXT**

• Road Network Type (km)

<table>
<thead>
<tr>
<th></th>
<th>Estado</th>
<th>CCAA</th>
<th>Diputaciones y cabildos</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual carriageway</td>
<td>11.943</td>
<td>3.968</td>
<td>1.111</td>
<td>17.022</td>
</tr>
<tr>
<td>Total</td>
<td>26.329</td>
<td>71.324</td>
<td>68.349</td>
<td>166.002</td>
</tr>
</tbody>
</table>

• Fatalties type of road distribution (interurban)
No loss of life is acceptable.

VISION ZERO APPROACH:

We are human and make mistakes

The road system needs to keep us moving. But it must also be designed to protect us at every turn.
MEASURES FOR SAFER ROADS
MEASURES FOR SAFER ROADS

Spanish Road Safety Strategy 2011-2020

1. Education and training
2. Communication
3. Regulations and enforcement
4. Health and road safety
5. Vehicle safety
6. Infrastructure and ITS
7. Urban area
8. Driving for work and professional driving
9. Victims
10. Research and knowledge management
11. Coordination and participation

1. Information concerning infrastructure
2. Operation and preservation of infrastructure
3. Safe infrastructure design
4. ITS and Traffic management
• Adoption of the international methodology iRAP for the analysis and evaluation of the network (Star Rating)

• General standard of the route

• Monitor the evolution of infrastructure security – setting objectives

• 100% rated – may recommend routes

• 2017: 10,000 km - EuroRAP
RUMBLE STRIPS

• A-375 - 45 km

• Low cost and high effectiveness to avoid head-on collision (217 f.) & run-off-road (363 f.) accidents.

• Prioritised intervention in single carriageway roads

(1) Centerline Rumble Strips – Safety Evaluation. Aalborg University – Faculty of Engineering and Science – Transportation Department. 2011

MEASURES FOR SAFER ROADS

SPEED WARNING

- In sections with specific speed limit and cross town-link
- Pilot with VMS showing licence plate
SMART INTERSECTION

- Low cost
- Welcomed by road owner.
SAFER ROUTES FOR CYCLISTS

- Frequently use routes by cyclists
- Link to leisure
- Speed limitation during weekend mornings
- Signal and web (47)
- Future published in National Access Point of traffic information
OVERTAKING LIMITATION

- Improve the safety of single carriage roads by redistributing the road overtaking sections according with the functionality of the road (analysis and simulation).
- Provide greater certainty and safety to one of the most dangerous maneuvers.
- Low-cost road safety measures that can prevent accidents

Diseño de zonas de adelantamiento para la mejora de la seguridad y la funcionalidad de carreteras convencionales (Ana Tsui Moreno Chou, Carlos Llorca García, y Alfredo García García) 2016
GUIDE OF MEASURES FOR CROSS TOWN-LINK

- Compilation of examples of possible low-cost actions to be implemented in new infrastructures to be projected or to remodel existing ones.
- Reduce risk for vulnerable users.
MEASURES FOR SAFER ROADS

CONNECTED MOBILITY PLATFORM

- Cooperative hub (IoT)
- Data exchange
- Open to:
  - Platforms
  - OEMs
  - Route providers
- Users
- Integrate and share
- Adding value
UC1: Information by any road users: breakdown, accident, etc…

UC2: Planned roadworks

UC3: Info provided by vehicles (lights, wipers, warnings, ESP..).

UC4: Virtual VMS

UC5: X,Y dynamic event (Abnormal sized vehicles, ambulance, fog, vulnerable users, etc.)

UC6: X,Y static event (road closures).

UC7: Recommended speed. (Congestion or traffic lights).
CONCLUSIONS
CONCLUSIONS

• Better roads, better vehicles and better drivers have contributed to reach a situation which places Spain among the top performing countries regarding road safety.

• The stabilization of the numbers of fatalities due to traffic accidents requires the implementation of short- and medium- term plans to continue furthering our progress towards the ultimate zero death objective.

• Challenges such as those related to an ageing population, an ageing vehicle fleet, and less monitored secondary roadways arise.

• In this context the road system must be ready to protect us.
Thanks for your attention
abergareche@dgt.es