ASECAP Road Safety Conference

Road Safety – A shared responsibility
A story of success or failure?

BRUSSELS, EUROPEAN ECONOMIC AND SOCIAL COMMITTEE

21ST MARCH 2017
09.00-13.00
ASECAP Road Safety Conference

Road Safety – A shared responsibility
A story of success or failure?

INFRASTRUCTURE AND TECHNOLOGIES, PDCA ACCIDENT INVESTIGATIONS AND USERS’ AWARENESS: THE MAIN KEYS FOR “LIVE SAVING CHAIN”

ASECAP MEMBER
AUTOOSTRADE PER L’ITALIA SPA

SPEAKER:
GIANMARCO ANGELETTI

Association Européenne des Concessionnaires d’Autoroutes et d’Ouvrages à Péage

European Economic and Social Committee
Overview of ASPI network

- 2,854.6 km
- 4M customers per day
- > 45Bn km travelled per year
- > 5,000 employees

9 Regional Headquarters
- 320 km of network operated by each regional HQ
- 9 traffic management centers h24
- 35 O&M regional departments ("Centri Esercizio")

2 Central Headquarters
- Rome
- Florence
Total Delay represents the fluidity in terms of "lost time" (hours) by users in transit in comparison to a reference transit time.

PISM are 1km long sections where the number of accidents is above the network average.
Road Safety Improvement

- PDCA ACCIDENT INVESTIGATIONS
- INFRASTRUCTURE & TECHNOLOGIES
- INFORMATION & AWARENESS
PDCA Accident Investigations

[2002-2016] “high-accident-rate-sections” (1km long sections)

Number of accidents - 84%

over 2,000 specific improvement actions

PDCA Process

PLAN
Monthly analysis of accidents and definition of specific improvement actions

ACT
- Positive results: Follow up and standardization
- Negative results: new PLAN

DO
Execution of scheduled actions

CHECK
Check of actions’ effectiveness

Positive results: Follow up and standardization
Negative results: new PLAN
Software “AGE”, developed by ASPI, is used to identify and analyse the accident rate’s levels in the network.

**ASPI Levels of Accident Rate**
(n° of accidents in the last 12 months)

- **RED**: >24
- **ORANGE**: 17-23
- **YELLOW**: 10-16
- **GREEN**: 8-9
- **WHITE**: < 8

Identification of section (i.e., Highway A1, Km2, Direction N)

Accidents Data per **year** and per each **100 meters** (km 2+100...Km 2+900)

Accidents Data per **type of accident** (i.e., rear-end), **location** (i.e., off-ramp) and **condition of pavement** (dry-wet)
PDCA Accident Investigations


**Before**
- 2014: 22 accidents
- 2015: 23 accidents

**MAIN FEATURES**
- High Traffic Volumes
- Frequent Crossing of Striped Markings
- Frequent Rear-ends & Side-impacts

**Actions**

**After**
- 2016: 10 accidents

- High-Impact and Special Warning Signs
- Optic Speed Stripes
- Static Road Marker + Rumble Strips

N° of accidents - 57%
PDCA Accident Investigations

Best Practices [2/4]: Highway A4, km 138

Before
2013: 46 accidents
2014: 42 accidents

MAIN FEATURES
• High Heavy Traffic Volumes
• Frequent Lane Crossings by Heavy Vehicles to use Telepass Tolling lanes
• Frequent Rear-end & Side impacts

Actions

After
2015: 19 accidents
2016: 16 accidents

N° of accidents - 60%

Improving Pre-Channelling Vertical Signs

High-Impact and Special Warning Signs

Right Lane: Heavy Vehicles + Telepass

Left & Centre Lane: Light Vehicles + Telepass
**PDCA Accident Investigations**

### Best Practices [3/4]: Highway A7, km 133

<table>
<thead>
<tr>
<th>Year</th>
<th>Accidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>27</td>
</tr>
<tr>
<td>2013</td>
<td>28</td>
</tr>
<tr>
<td>2014</td>
<td>26</td>
</tr>
<tr>
<td>2015</td>
<td>16</td>
</tr>
</tbody>
</table>

**MAIN FEATURES**
- High Traffic Volumes (Heavy+Light vehicles)
- Entries from the harbour and from Genoa city
  - Frequent Rear-end & Side impacts

**Actions**

- Special Road Signs with speed detector
- Static Road Marker + Fencing Extension

**Before**

**After**

N° of accidents - 41%
PDCA Accident Investigation

Before
2015: 36 accidents

Actions
Rumble Strips to separate the 2 different flows

After
2016: 13 accidents
N° of accidents - 64%

MAIN FEATURES
- 2 different flows (Highway A7 and Highway A12)
- Curving section
- Frequent Side impacts

Application of high-grip pavement
Infrastructure & Technologies

POROUS ASPHALT
- Reduction of aquaplaning and spray-effect
  - 16% in 1999 → 100% in 2008
    (excluding tunnels and mountain highways)

ROAD WORKS
- Improvement in road-works warnings
- Road-Works GPS tracking on My Way App
- Rumble strips on the right edge strip
- Simultaneous activities in the working area

TUNNELS
- Safety standards upgrade through new systems (illumination, ventilation...) in more than 400 tunnels

VMS & CCTV
- 1,089 Variable Message Signs
- 3,308 Traffic Control Cameras

NETWORK’S UPGRADING
- ≈400 Km widening to 3, 4 or 5 lanes
PREVENTION OF “WRONG-WAY” DRIVERS

- High-impact road signs on all the entries since 2008
- A trial of new technologies for alerting purposes with:
  - high-impact road signs;
  - photoluminescent road markings;
  - optic fiber, sensors and cameras.

To activate the devices on the deceleration lane (i.e. flashing lights on road signs, sound alarm) and to provide real-time information to the Traffic Management Center.
Infrastructure & Technologies

MAIN TOOLS FOR TRAFFIC MANAGEMENT (developed by ASPI)

“SIV”
- Information management of network events which are automatically processed and shown on VMS to warn users and to be broadcasted by radio service

“BMS”
- Real-time resources management through an automated phone system
- GPS Tracking System on the operational vehicles

“AUTOTRAF”
- Real-time management of data measured by more than 2,000 sensors placed on the network (CCTV, recording beacons, weather stations...)
- Travel time’s calculation to give an alert to the users via VMS
Information & Awareness

SAFETY TUTOR: The Average Speed Control System

Pioneering system introduced in Italy to check vehicles average speed

MILESTONES

- 2005 → ASPI was the first to use the Safety Tutor in Italy
- 2016 → 2,500km covered (40% of ASPI network)

RESULTS

- -51% Global Death Rate
- -15% Average Speed
- -25% Peak Speed
Information & Awareness

**BROADCASTING CHANNELS**

- 1,089 *Variable Message Signs*
- 3,308 *Traffic Control Cameras*
- **APP MYWAY** and **MYWAY-TRUCK**
- **Radio** (Isoradio – RTL)
- **TV** (Canale 5 – La 7 – MyWay, the first European TV channel exclusively dedicated to Traffic Information)
- **H24 Call-Center** with 120 phone lines (40,000 calls per day)
Information & Awareness

90% of accidents due to unsafe behaviors (i.e. Lack of attention, No safety distance)

“Do you drive? Don’t drink alcohol” & “Life is a breath” [2006-2007]

“12 Safety Months” [2008]

The right use of children’s car seats

“10 Commandaments for Road Safety” [2008]

“Education & Prevention Campaigns” promoted by ASPI

Free Coffee at Night [2005-2012] ➔ -50% Global Night Death Rate

Diabolik for Road Safety [2014-2016]

VMS Contest [2012-2016]

Emergency Lane & Mobile Work Zone [2016]
THANKS FOR YOUR ATTENTION