Conference on Improving Road Safety in the BSEC Region, UNECE
18th & 19th November, 2010, Ioannina, Greece

Safe road design and network management.
Improved planning, design, construction, operation and maintenance

The Case of Attica Tollway
(Attiki Odos)

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President, Hellenic Institute of Transportation Engineers
Road Safety in Europe

• The European Union has set an ambitious target of halving the number of road deaths between 2001 and 2010 (54,374 fatalities in 2001 for EU27).

• The 2010 target will not be reached by the target date. As many as 34,900 people lost their lives in road collisions in 2009; this is still far more than the target of 27,000 which the EU set for 2010.
Road Safety in Greece

- A 23% reduction was achieved for the period 2001-2009 (1880 fatalities for 2001).
- Impossible to achieve the common European target for reducing road fatalities by 50% until the year 2010.
- Today, more than 5 people lose their lives daily (about 1500 people per year).
- A new strategic plan for the decade 2010-2020 has been launched.
Attica Tollway
Athens, Greece

OMC: Operation and Maintenance Center
TB: Technical Base

Centerline: 65 Kms
Length: 130 Kms (bidirectional)
39 Toll Stations
195 Toll Gates (92 ETC capable)
16 km of tunnels and cut and cover sections (12% of length)
Daily Entries: 300,000 veh/day
Annual Average Daily Transactions

Annual traffic growth:

<table>
<thead>
<tr>
<th>Year</th>
<th>Avg.</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>33,500</td>
<td>+7.5%</td>
</tr>
<tr>
<td>2002</td>
<td>36,500</td>
<td>+8.5%</td>
</tr>
<tr>
<td>2003</td>
<td>125,000</td>
<td>+9.3%</td>
</tr>
<tr>
<td>2004</td>
<td>231,542</td>
<td>+2.0%</td>
</tr>
<tr>
<td>2005</td>
<td>248,784</td>
<td>+2.0%</td>
</tr>
<tr>
<td>2006</td>
<td>270,002</td>
<td>-8.1%</td>
</tr>
<tr>
<td>2007</td>
<td>295,140</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>300,993</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>307,300</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>282,424</td>
<td></td>
</tr>
</tbody>
</table>
## Road Safety Statistics for Attica Tollway (2006-2009)

<table>
<thead>
<tr>
<th>Traffic Data</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Average Number of vehicles entries (AADN)</td>
<td>270.000</td>
<td>295.000</td>
<td>301.000</td>
<td>307.000</td>
</tr>
<tr>
<td>Motorcycles (% of AADN)</td>
<td>2,54%</td>
<td>2,64%</td>
<td>2,91%</td>
<td>2,91%</td>
</tr>
<tr>
<td>Average distance travelled/vehicle</td>
<td>15,3</td>
<td>15,0</td>
<td>14,8</td>
<td>14,8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indicators for Accidents</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatalities per 100 million Vehicle-km</td>
<td>0,7</td>
<td>0,9</td>
<td>0,9</td>
<td>0,3</td>
</tr>
<tr>
<td>% of fatalities involving motorcyclists</td>
<td>30%</td>
<td>64%</td>
<td>73%</td>
<td>60%</td>
</tr>
<tr>
<td>Accidents with injuries per 100 million Vehicle-km</td>
<td>4,2</td>
<td>6,1</td>
<td>5,2</td>
<td>6,2</td>
</tr>
<tr>
<td>% of motorcycles involved in accidents with injuries</td>
<td>47%</td>
<td>50%</td>
<td>49%</td>
<td>53%</td>
</tr>
</tbody>
</table>
Mission of Attica Tollway

• The main objective for the construction and operation of the Attica Tollway is the safety of its users.
• Attica Tollway introduced breakthrough standards in the Greek motorways, by providing quality road safety services.
• Traffic Safety became the core business of the Operation Agency.
• Active Traffic Management became the major component of the Traffic Safety Plan.
The Infrastructure

- Attica Tollway was designed and constructed on the basis of the strictest international safety specifications.
- It features high quality skid resistant asphalt pavement and full crash barrier fencing is installed along its entire length.
- Special attention has been given to providing sufficient and effective lighting along the motorway.
Active Traffic Management

Traffic Management Center

- FIBER OPTIC
- DIRECT LINE
- TETRA, AVL
- Athens TMC Ministry of PW
- Traffic Police
- Fire Brigade Ambulances
- Civil Protection, Media, Municipalities etc.
- Patrons
- Road Assistant and Recovery Units
- Maintenance Teams
Incident Management is the Key to Maintain Road Safety on the Road

- TMC based monitoring (full CCTV cover)
- Dense patrolling on 7/24/365 basis
- Free of charge intervention and towing service
- Stand-by Assistance Units
- Emergency Hot Line (tel. # 1866)
- Cooperation with emergency services (Police, Fire, EMS etc)
Configuration of Patrolling Service

On Average 1 Patrol for 2.7 Assists

Morning Shift:
12 Patrols for 39 assists or
1 Patrol for 3.3 Assists

Afternoon Shift:
12 Patrols for 40 assists or
1 Patrol for 3.3 Assists

Night Shift:
9 Patrols for 9 assists or
1 Patrol for 1 Assist

On Average 1 Patrol for 2.7 Assists
Response Times 2009

- Attikes Diadromes: 5.4
- Recov. Unit: 9.3
- Recov. Unit HGV: 19.9
- Police: 12.3
- Fire Brigade: 15.7
- Ambulances: 19.5
Incident Statistics 2009

Total No of incidents: 29,161

Types of incidents:

- OTHER TYPE OF INCIDENTS, 4,740, 16%
- ACCIDENT & CRASHES, 1,298, 4%
- BREAKDOWN 21,229, 74%
- CONGESTION, 1,894, 6%

XXX = Number of Incidents, % of Total
Annual Road Safety Campaigns
Road Safety Campaigns for Children
Road Safety Campaigns for Teenagers
Road Safety Campaigns for Teenagers
Campaigns against Alcohol Consumption
Material for Professionals
Road Safety Gadgets and Equipment
Road Safety Informative Leaflets
Organization of Road Safety Conferences & Workshops
Educational Programs for Motorcyclists
Educational Articles
The result is an excellent safety record

Average fatality rate (per 100 million veh-km) for years 2007-2009

The average fatality rate per 100 million vehicle-km in Attiki Odos during the same period is 0.7 deaths / 100 million veh-km

Source: European Transport Safety Council
Customer Satisfaction: Feeling safe while driving on Attica Tollway (%)

Satisfaction range:
92.7% - 96.4% for the period 2007-2010
Positive opinion towards public campaigns

- Seminars to school pupils for Rad Safety Issues: 86.7% (May-10), 78.2% (Mar-09)
- First Aid Information & Seminars: 68.5% (May-10), 54.5% (Mar-09)
- Guidelines for safe driving on the motorway: 57.5% (May-10), 46.7% (Mar-09)
- Guidelines for safe driving: 55.2% (May-10), 46.4% (Mar-09)
- Information for car maintenance: 45.9% (May-10), 33.4% (Mar-09)
- None from the above: 0.9% (May-10), 4.5% (Mar-09)

88% have a positive opinion for road safety seminars at schools (2010)
Reasons for feeling unsafe while driving in Attica Tollway

81% feel unsafe due to the driving behavior of other drivers (2010)
Attikes Diadromes S.A. was awarded 1st prize in Road Safety “for its proactive initiatives” making Attica Tollway one of the safest motorways in Europe (2005).

IRF-International Road Federation

IRF- European Road Safety Award
Recognition of our efforts

Award from the Greek Road Federation within the framework of the International Convention “Roads of the Future” for the contribution to Road Safety

1st Prize during the Convention “CEO & CSR 2009” for its Road Safety Campaign focused on motorcycle drivers
Recognition of our efforts

Road Safety Prize during the AUTOCAR awards “for the high standards of operations and services provided to the motorway’s users” (2005)

1st Prize during the the Automotive Awards, for being the “Safest Road in Greece”, based on the low car accidents indices and on the safety standards of construction and operation (2010)
Conclusions

- Greece is one of the countries with the lowest safety levels in EU.
- Attica Tollway succeeded to hold a good safety record due to numerous actions and became “a good example”.
- Active incident management and proper infrastructure maintenance help to preserve the safe condition of the motorway.
- Attica Tollway’s efforts are recognised not only by its users but also by prestigious International Organisations.
- Attica Tollway is dedicated to a continuous improvement on road safety.
Thank you!

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