MOTORWAYS IN CROATIA

MOTORWAY MANAGEMENT MAINTANCE SYSTEMS

Vilnius, 16.06.2014
MOTORWAYS AND SEMI MOTORWAYS - 1.288,50 km

STATE ROADS – 6.929 km

COUNTY ROADS – 10.342 km

LOCAL ROADS – 10.936 km

TOTAL: 29.495,50 km
MOTORWAY MANAGEMENT
Management system of motorways in Croatia

MOTORWAYS ARE MANAGED BY 4 COMPANIES
- 2 STATE OWNED
  HAC (Croatian Motorways)
  ARZ (Motorway Rijeka – Zagreb)

MAINTANANCE AND TOLL COLLECTING MERGED INTO
1 NEW COMPANY
  HAC ONC
  (Croatian Motorways Maintainance and Tolling)

- 2 CONCESSIONARES
  BINA ISTRA
  AZM (Motorway Zagreb – Macelj)
Management system of motorways in Croatia

MREŽA AUTOCESTA/MOTORWAY NETWORK

UKUPNO/TOTAL: 1,288.5 km

HAC AB AB AB 900.5 km
ARZ AB AB 187.0 km
AZM AB 60.0 km
Bina Istra AB 141.0 km

Dijelom autoceste A1 od Zagreba do Bosiljeva upravlja ARZ/Part of the motorway A1 from Zagreb to Bosiljevo is operated by ARZ.
Management system of motorways in Croatia

Number of employees per company

- HAC: 2,77
- ARZ: 2,18
- BINA: 3,86
- AZM: 1,60
- Total: 2493

Number of employees on motorways in Croatia (3,571)

- Toll collection: 567
- Maintenance staff: 1107
- Patrol service: 10
- Management bord: 197
- Others: 1690
- Total: 3,571
MOTORWAY MAINTANANCE
Motorways build in Croatia per year

Kilometers of motorways in Croatia

<table>
<thead>
<tr>
<th>Year</th>
<th>Kilometers</th>
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<tbody>
<tr>
<td>2013</td>
<td>1,288,50</td>
</tr>
<tr>
<td>2012</td>
<td>1,250,70</td>
</tr>
<tr>
<td>2011</td>
<td>1,250,70</td>
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<tr>
<td>2010</td>
<td>1,240,70</td>
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<tr>
<td>2009</td>
<td>1,240,70</td>
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<tr>
<td>2008</td>
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<td>2007</td>
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<td>2006</td>
<td>1,078,90</td>
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<td>2005</td>
<td>1,035,20</td>
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<td>2004</td>
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<td>2003</td>
<td>747,60</td>
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<td>2002</td>
<td>598,60</td>
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<td>466,90</td>
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<td>1997</td>
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<td>1992</td>
<td>346,40</td>
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<td>1991</td>
<td>346,40</td>
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</tbody>
</table>
1.206,5 km of motorways, are built with double carriageway, two lanes with emergency lanes (hard shoulders) on each side and intersections that are grade separated. Carriageways are separated with median and safety guardrails.

61,2 km – single carriageway and 20,8 km double carriageways with 3 lanes)

All motorways are fenced with steel wired fences: height 1,6 m – 2 m
Traffic on motorways

AADT
2013 – 13,627 vehicles
(cars + heavy road vehicles)

ASDT
2012 – 20,686 vehicles
2013 – 21,479 vehicles
(On some motorways ASDT goes up to 50,000)
23 MAINTANCE AND TRAFFIC CONTROL CENTERS

149 BRIDGES AND VIADUCTS – TOTAL LENGTH 29,10 km

51 TUNNELS – TOTAL LENGTH 47,30 km

75 FILLING STATIONS (29 KM)

130 VMS – VARIABLE MESSAGE SIGNS

80 CROSSINGS FOR WILD ANIMALS
Motorway maintenance

- Routine maintenance – surveillance, inspection, cleaning, maintenance of pavement, drainage, road furniture, winter maintenance, etc.

- Periodic maintenance – periodic activities at local improvement of roads, improvement of road safety, ensuring stability and durability of motorways, etc.
- In line with the intensive construction of motorways in RoC modern Communication-Information System is being developed for the traffic control and management
- Transport – Information System (TIS)
- Remote operation and surveillance – in tunnels only
- Video surveillance on motorways (1548 cameras installed)
- Video detection system
- Toll collection system
- Emergency telephones
- Public address system in tunnels
- Radio broadcast system in tunnels
Toll collecting

- Closed toll collection system – payable by cash, credit cards and electronic toll collection – ETC (special lanes)
- Open toll collection system (on engineering structures – bridges, tunnels and on shorter motorway sections) – toll station serves as both entry and exit station
  - 105 toll plazas
  - 686 toll lanes
  - 466 ETC lanes
  - 1228 km of motorways are covered by ETC (Not entirely compatible)
Few examples of video surveillance
Few examples of video surveillance
Thank you for your attention!

TOMISLAV HODAK, M.Eng.

tomislav.hodak@mppi.hr