



# 2007.

HRVATSKA UDRUGA KONCESIONARA ZA AUTOCESTE S NAPLATOM CESTARINE  
CROATIAN ASSOCIATION OF TOLL MOTORWAYS CONCESSIONAIRES

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# National Report

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# CROATIA – NATIONAL REPORT 2007

## NETWORK

The total length of motorway network, as completed by the end of 2007 in Croatia, amounts to 1163.5 km. All motorway network in Croatia is tolled. Tolling system is mainly closed and on some motorway is open. In Croatia, motorways are operated by 4 companies, i.e.

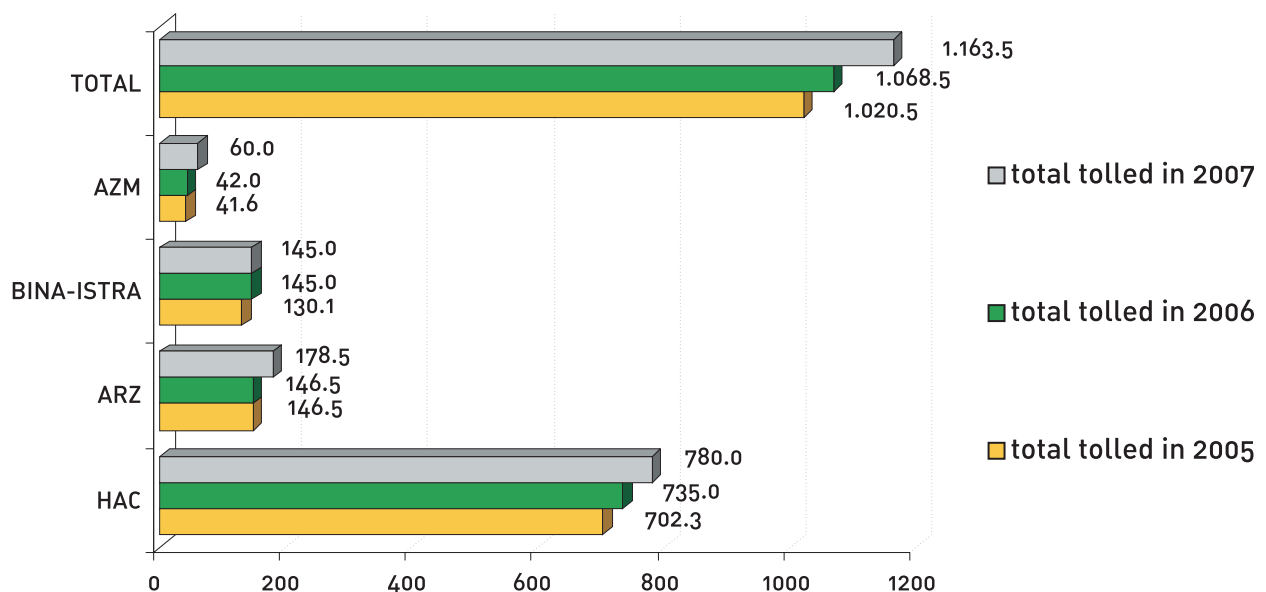
by Hrvatske autoceste d.o.o. (operates all toll motorways except for those in concession) and by three concession companies BINA-ISTRA d.d. Pula (operates the so called Istrian Upsilon – A8 and A9), Autocesta Rijeka – Zagreb d.d. (A6 and A7) and Autocesta Zagreb – Macelj d.o.o. (A2).

### MOTORWAY NETWORK IN SERVICE

	Company	2006 total	2007 total
1.	HAC d.o.o.	735,0	780,0
2.	ARZ d.d.	146,5	178,5
3.	BINA-ISTRA d.d.	145,0	145,0
4.	AZM d.d.	42,0	60,0
<b>TOTAL:</b>		<b>1068,5</b>	<b>1163,5</b>

**Note:** As of 01/09/2007 the operation of the Motorway A7: Rupa – Rijeka, and bridge Krk on the D10 national road were handed out from the company Hrvatske autoceste to the company Autocesta Rijeka – Zagreb.

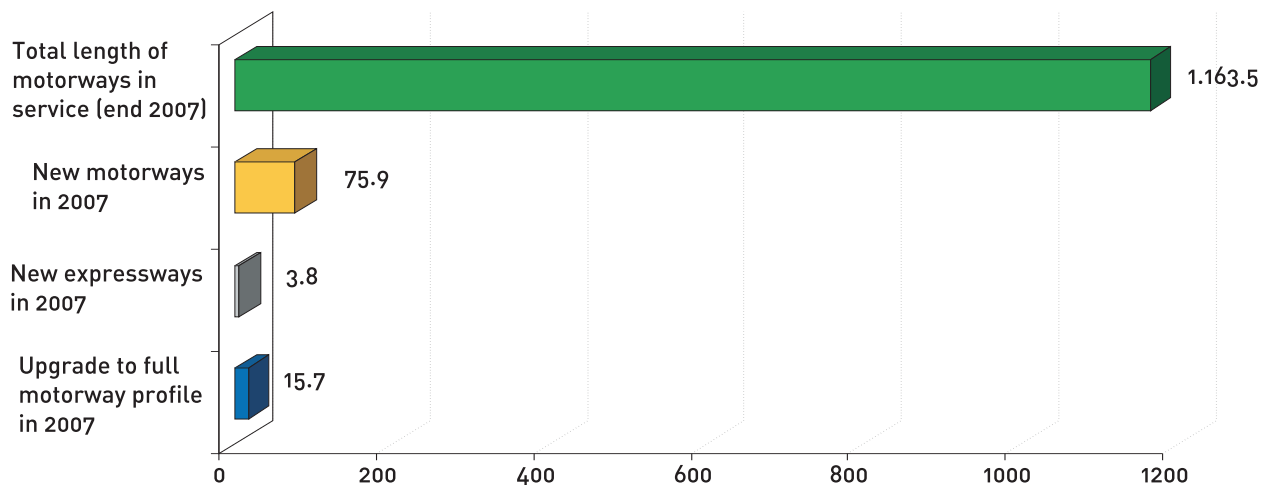
### Motorway network in service



### NETWORK OPENED TO TRAFFIC IN 2007

New motorways	New semi-motorways	Upgrading to the full motorway profile	The total length of motorway network (end 2007)
75,9 km	3,8 km	15,7 km	1163,5 km

### New motorways opened to traffic in 2007 (in km)



### NEW SECTION OPENED TO TRAFFIC IN 2007

	Motorway	Section	Km	Description
1.	A1: Zagreb – Split – Ploče	Dugopolje – Bisko – Šestanovac	37	Opened to traffic in full profile in 06/2007
2.	A5: Beli Manastir – Osijek – border BiH	Sredanci – Đakovo	23	Opened to traffic as full motorway in 11/2007
3.	A11: Zagreb – Sisak	Jakuševac – Velika Gorica jug	2,5	Completion of the interchange Velika Gorica South and 2,5 km of a motorway stretch in 05/2007 and in 09/2007
4.	A2: Zagreb – Macelj	Krapina – Macelj	13,4	Completed as full motorway in 05/2007
<b>TOTAL MOTORWAYS:</b>			<b>75,9</b>	
5.	A2: Zagreb – Macelj	Krapina – Macelj	3,8	Part of section Đurmanec – Krapina completed as semi motorway in 05/2007
<b>TOTAL SEMI MOTORWAYS:</b>			<b>3,8</b>	
6.	A6: Zagreb – Rijeka	Vrbovsko – Bosiljevo	8,44	Upgrade to the full motorway profile of the viaduct Zečeve Drage, tunnel Veliki Gložac, viaduct Osojnik and viaduct Severinske Drage together with corresponding motorway segments in 06/2007
		Oštrovica – Kikovica	7,25	Upgrade to the full motorway profile in 11/2007
<b>TOTAL UPGRADE TO THE FULL MOTORWAY PROFILE:</b>			<b>15,7</b>	

## SECTIONS UNDER CONSTRUCTION

On January 1, 2008, the works were in progress on the total of 90 km of new motorways, 9 km of access road, 36.9 km of the existing roads (upgrading to the full mo-

torway profile) and 11,46 km of the second tubes of the tunnels Mala Kapela and Sveti Rok:

### WORKS IN PROGRESS ON JANUARY 1, 2008

Motorway/semi motorway	Section	Km
<b>A1: Zagreb – Split – Dubrovnik: sector Split – Ploče</b>	Šestanovac – Zagvozd	13,0
	Zagvozd – Ravča	27,0
	<b>TOTAL:</b>	<b>40,0</b>
<b>A4: Zagreb – Goričan</b>	Section from Goričan to border with Hungary including the bridge over the river Mura	1,5
	<b>TOTAL:</b>	<b>1,5</b>
<b>A5: Beli Manastir – Osijek – border with Bosnia and Herzegovina</b>	Osijek – Đakovo	33,0
	<b>TOTAL:</b>	<b>33,0</b>
<b>A11: Zagreb – Sisak</b>	Remaining part of the Section Jakuševac – Velika Gorica South	7,5
	Velika Gorica South – Lekenik, Velika Gorica South – Buševac	8,0
	<b>TOTAL:</b>	<b>15,5</b>
	<b>SUBTOTAL:</b>	<b>90,0</b>
<b>A10 : Mali Prolog – Ploče</b>	Expressway connecting Ploče 1 Interchange to Ploče Harbour	9,0
	<b>TOTAL:</b>	<b>9,0</b>
<b>A6: Zagreb – Rijeka (upgrading of existing roads to full motorway profile)</b>	Oštrovica – Vrata	12,5
	Vrata – Delnice	8,9
	Delnice – Kupjak	7,9
	Kupjak – Vrbovsko (from the start of the section to immediately after the Stara Sušica viaduct)	7,6
	<b>TOTAL:</b>	<b>36,9</b>
<b>A1: Zagreb – Split – Dubrovnik: sector Split – Ploče</b>	Second (left) tube of the existing tunnel Mala Kapela	5,8
	Second (left) tube of the existing tunnel Sveti Rok	5,7
	<b>TOTAL:</b>	<b>11,5</b>
<b>A3: Bregana – Zagreb – Lipovac</b>	Rehabilitation of Ivanja Reka – Velika Kapanica Section New interchange construction: Križ and Rugvica	208,4
	<b>TOTAL:</b>	<b>208,4</b>

In 2008, the total of 41,5 km of new motorways will be opened to traffic, 9 km of expressway as well as 36.9 km of existing roads upgraded to full motorway profile:

### NEW OPENINGS TO TRAFFIC PLANNED IN 2008

Motorway/semi motorway	Section	Km
A1: Zagreb – Split – Dubrovnik	Šestanovac – Zagvozd	13,0
	Zagvozd – Ravača	27,0
	<b>TOTAL:</b>	<b>40,0</b>
A4: Goričan – Zagreb	Goričan Motorway – section to the border with Hungary including the bridge over the river Mura	1,5
	<b>TOTAL:</b>	<b>1,5</b>
<b>SUBTOTAL:</b>		<b>41,5</b>
A10 : Mali Prolog – Ploče	Expressway connecting Ploče 1 Interchange to Ploče Harbour	9,0
	<b>TOTAL:</b>	<b>9,0</b>
A6: Rijeka – Zagreb: (upgrading of existing roads to full motorway profile)	Oštrovica – Vrbovsko	36,9
	<b>TOTAL:</b>	<b>36,9</b>

In 2008, in addition to the continuation of the works started in previous year, the construction work will start on 71.7 km of new motorways and on 95 km of roads to be upgraded to motorway profile:

### BEGINNING OF CONSTRUCTION OF NEW SECTIONS IN 2008

Motorway/semi motorway	Section	Km
A1: Zagreb – Split – Dubrovnik	Ravča – Ploče 1	25,0
A2: Zagreb-Macelj	Connecting road to the Macelj cross-border with Slovenia	0,8
A5: Beli Manastir – Osijek – border with Bosnia and Herzegovina	Osijek – Beli Manastir	25,0
A7: Rupa – Žuta Lokva	Construction of south carriageway of the Rijeka by-pass and Section from Orehovica interchange to Diračje interchange	8,9
A11: Zagreb – Sisak	On the section Velika Gorica South – Lekenik works will start on the Lekenik – Buševac sub-section	12,0
<b>TOTAL:</b>		<b>71,7</b>
A8 i A9: Istarski ipsilon (upgrading of existing roads to full motorway profile)	A8: Kanfanar – Rogovići	18,0
	A9: Umag – Pula	77,0
	<b>TOTAL:</b>	<b>95,0</b>

### FINANCING AND INVESTMENTS

In 2007, the investments in new motorway construction amounted to the total of 5,207.08 millions of kunas (EUR 694.27 million), while 716.88 millions of kunas

(EUR 95.58 million) were invested in the upgrade of existing sections.

- in millions of kn (millions of EUR) (1EUR = 7,5 kuna)

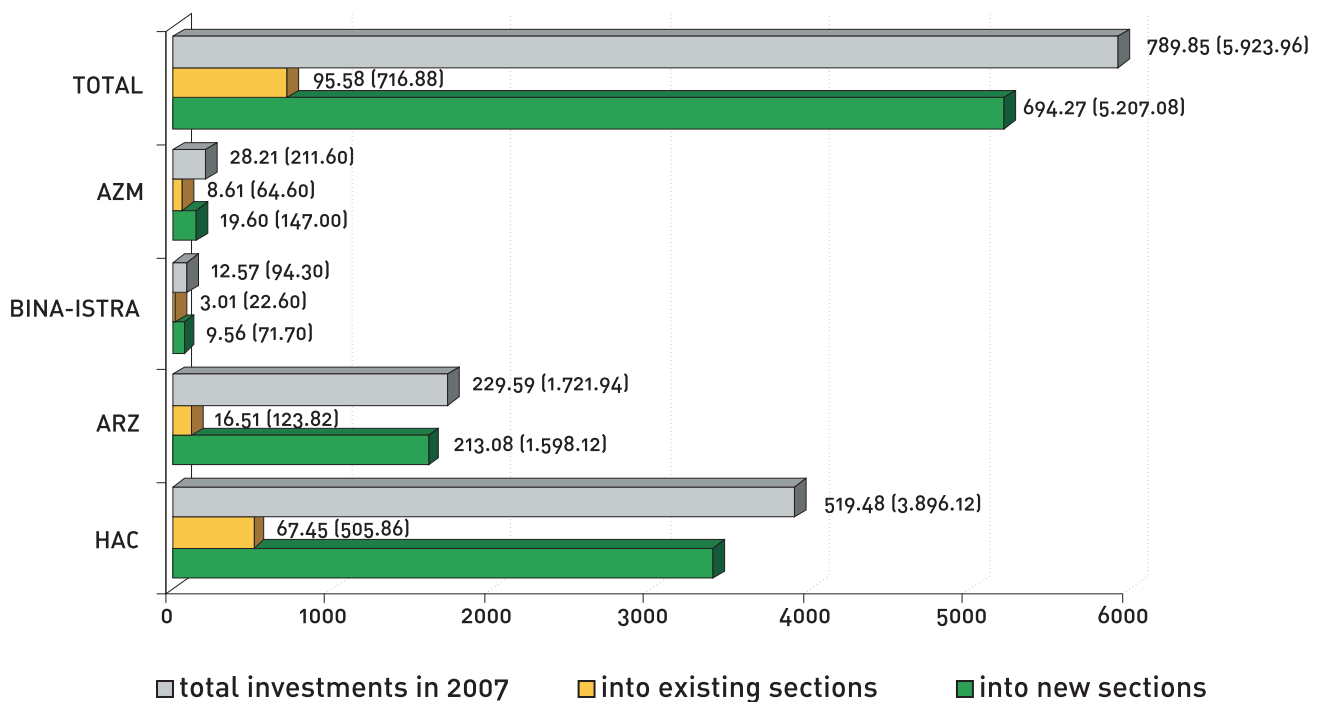
#### INVESTMENTS

Company	Investments in 2007		Planned investments in 2008	
	new sections	existing sections	new sections	existing sections
HAC	3.390,26 (452,03)	505,86 (67,45)	2.032,04 (270,94)	486,68 (64,89)
ARZ	1.598,12 (213,08)	123,82 (16,51)	2.047,15 (272,95)	142,44 (18,99)
BINA-ISTRA	71,70 (9,56)	22,60 (3,01)	581,10 (77,48)	23,50 (3,13)
AZM	147,00 (19,60)	64,60 (8,61)	0,00 (0,00)	15,00 (2,00)
<b>TOTAL:</b>	<b>5.207,08 (694,27)</b>	<b>716,88 (95,58)</b>	<b>4.660,29 (621,37)</b>	<b>667,62 (89,01)</b>

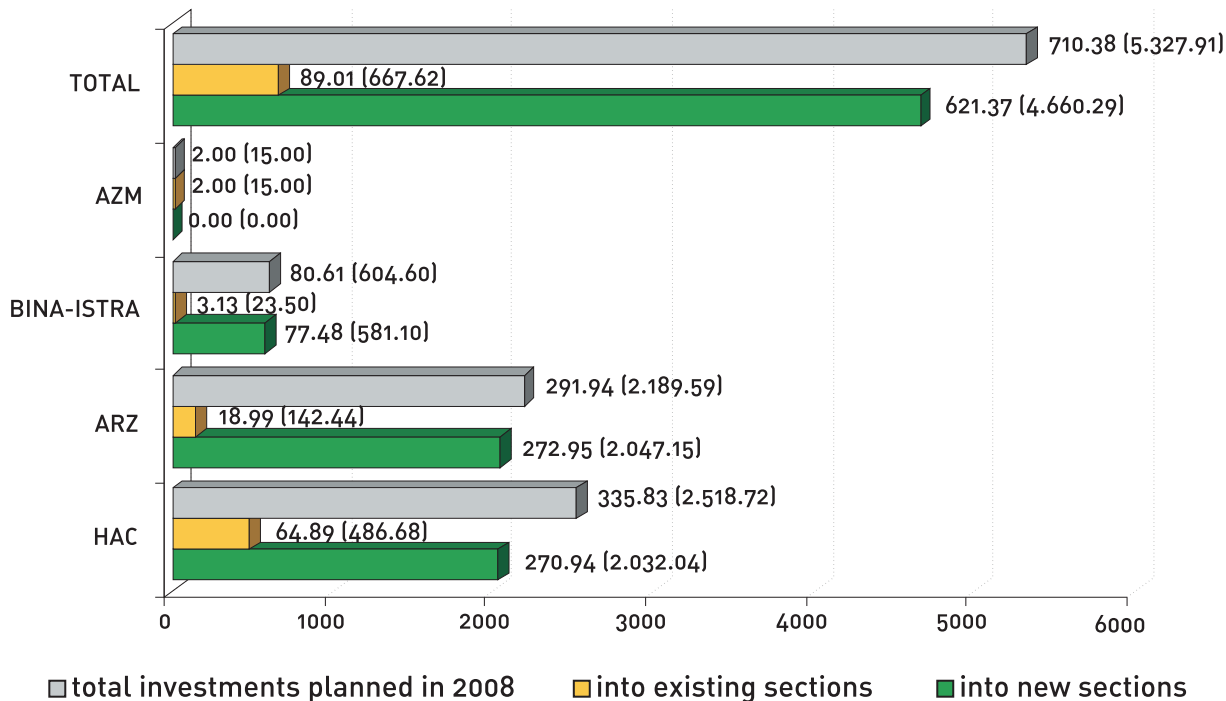
In 2007, the construction of motorways was mostly financed through loans and toll revenues, and the company Hrvatske autoceste d.o.o. also finances mo-

torway construction through fuel tax revenues 0.60 kn per litre (EUR 0,08).

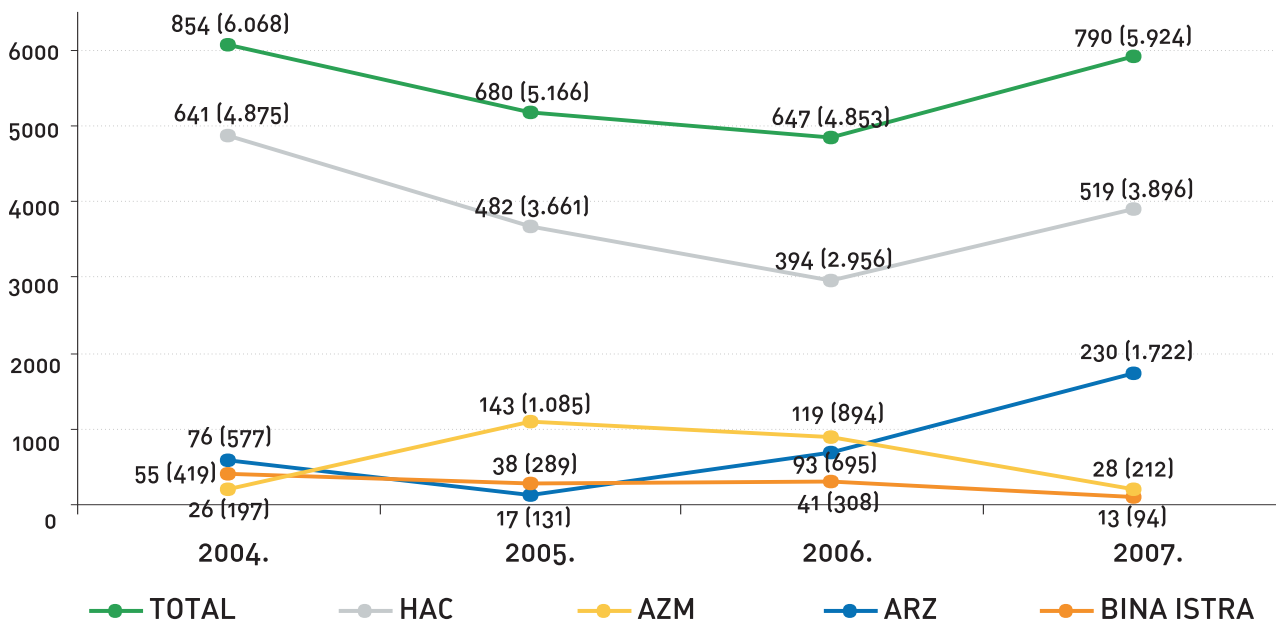
#### Investments in 2007 in mio EUR (mio kn)



### Investments planned in 2008 in mio EUR (mio kn)



### Total investments from 2004 to 2007 in mio EUR



### TRAFFIC

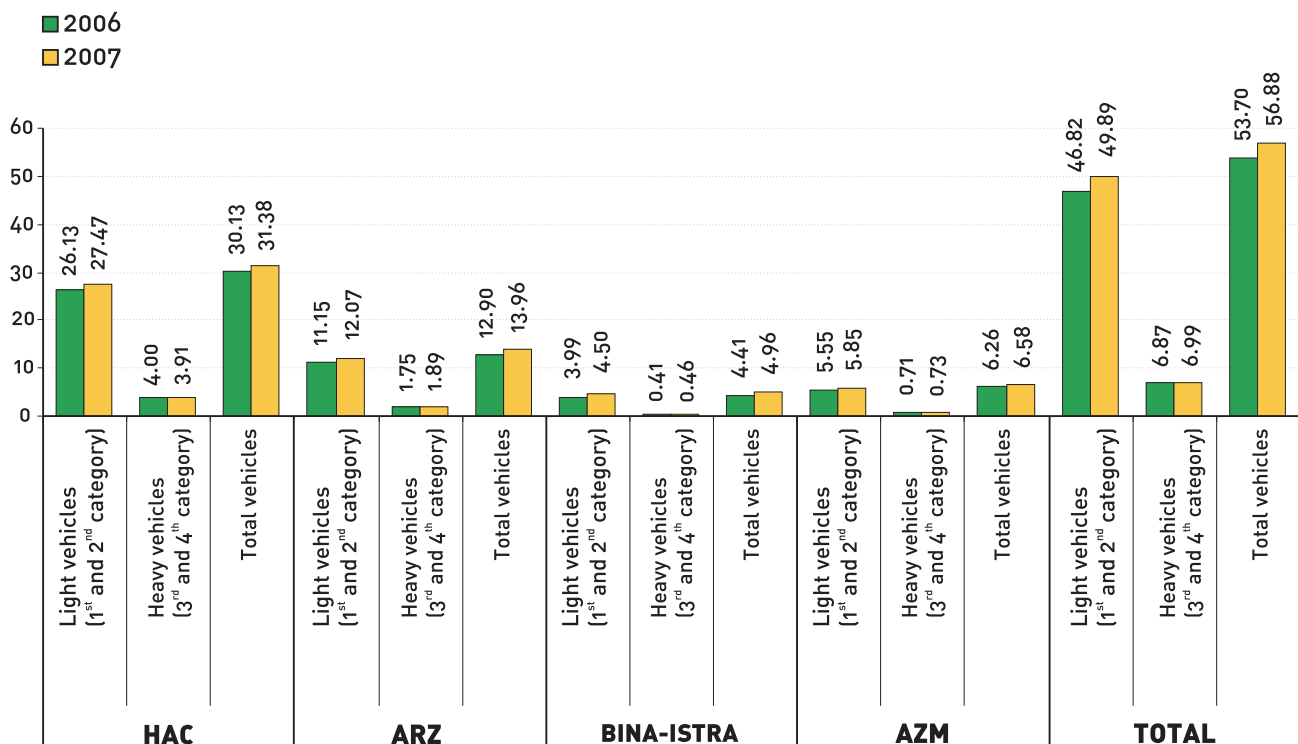
The total motor vehicle traffic operated on motorways increased in 2007 by 5.9 percent, when compared to the previous year.

#### NUMBER OF VEHICLES IN TOLL-COLLECTION ZONES

Company	2006		2007			
	Light vehicles (1 <sup>st</sup> and 2 <sup>nd</sup> category)	Heavy vehicles (3 <sup>rd</sup> and 4 <sup>th</sup> category)	Light vehicles (1 <sup>st</sup> and 2 <sup>nd</sup> category)	% (07/06)	Heavy vehicles (3 <sup>rd</sup> and 4 <sup>th</sup> category)	% (07/06)
HAC	26.132.792	4.001.357	27.468.537*	+ 5,11	3.908.210*	- 2,33
ARZ	11.152.446	1.746.766	12.069.014	+ 8,22	1.893.629	+ 8,41
BINA-ISTRA	3.992.150	412.949	4.502.102	+ 12,77	461.029	+ 11,64
AZM	5.547.567	712.747	5.848.134	+ 5,42	729.005	+ 2,28
<b>TOTAL:</b>	<b>46.824.955</b>	<b>6.873.819</b>	<b>49.887.787</b>	<b>+ 6,54</b>	<b>6.991.873</b>	<b>+ 1,72</b>

\* The above data do not include 915.246 vehicles (mainly LV) free of toll charging. Data do not include vehicles on the Rupa – Rijeka – Žuta Lokva motorway and bridge Krk from Sep. – Dec. 2007 since the operation of this sections was handed over to ARZ company in Sept. 2007.

#### Number of vehicles in toll-collection zones (in mio vehicles)





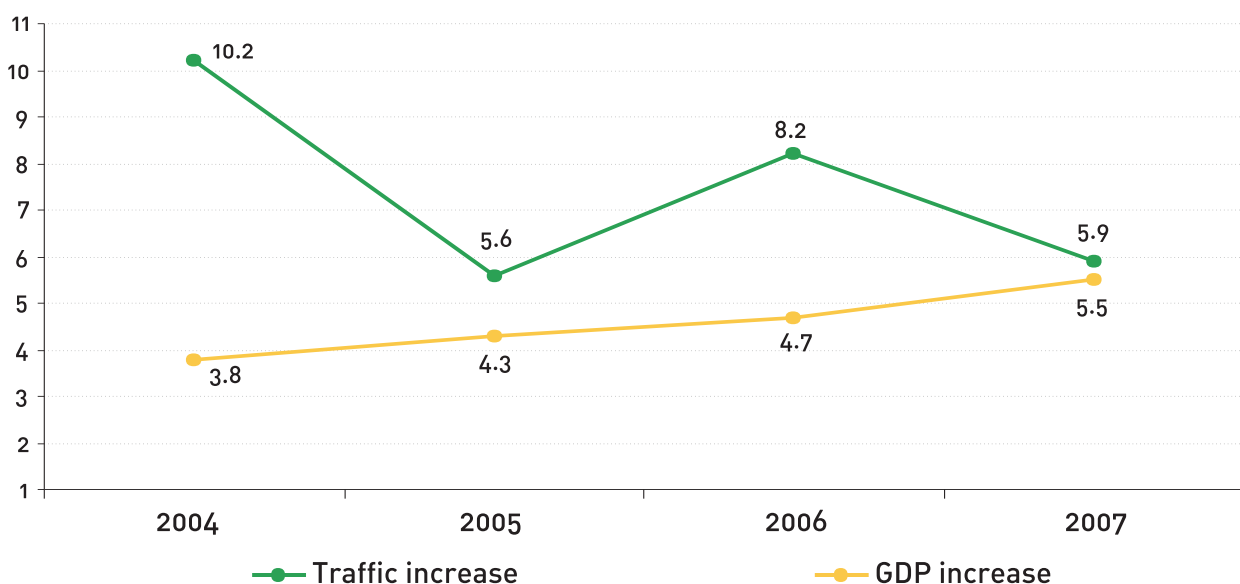
### TRAFFIC AND GDP INCREASE

GDP increase in 2006 (%)	Traffic increase in 2006 (%)	GDP increase in 2007 (%)	Traffic increase in 2007 (%)
4,8	5,6	5,5	5,9

In 2006, the network increased by 43 km, i.e. by 4.7 per cent when compared to the previous year. In 2007, the

total motorway network increased by 80 km, i.e. by 8.9 percent when compared to the size of network in 2006.

### Traffic & GDP increase from 2004 to 2007



## TOLL RATES

The motorway network in Croatia is still under construction. Both the closed and open system of toll collection are used at the moment, however, once the

network is completed all motorways with multiple entry and exit points will operate a closed toll collection system.

### SYSTEM OF TOLL COLLECTION

System of toll collection	Light vehicles (1 <sup>st</sup> category)	
	KN/km (not including VAT)	EUR/km (not including VAT)
Open	0,33	0,043
Closed	0,29	0,038

The toll fee ratio between light vehicles (category I) and heavy vehicles (category IV) is 1:4.

## HAC

Did not increase toll rates in 2007, and offers a 10 % discount on SMART card toll subscription all year round. A new service for ETC users was introduced in July – toll payment by standing order using credit cards (Diners, Visa, American, Mastercard). A new TOUCH&GO service was introduced for SMART card users beginning with December 1 2007, using the system of external readers

on entry and exit lanes on toll plazas of all HAC managed motorways. ETC was introduced for category III and IV vehicles (not yet for category II). A discount of 10 % is given on ETC toll subscription all year round. A seasonal discount of 23.5 % is given in the winter season between November 1 and March 31.

## ARZ

Did not change its toll rates in 2007. A 10 % discount is offered for smart card subscription all year round. A seasonal discount of 23.5 % is offered in the winter season

between November 1 and March 31. ETC was introduced in addition to other payment methods in 2006, as well as payment by INA cards.

## BINA-ISTRA

Did not increase toll rates for either the Učka tunnel or the Mirna viaduct, and runs an open toll collection system.

## AZM

Did not increase toll rates in 2007. However, new distance-related toll rates were introduced for the newly opened section Krapina – Macelj. AZM offers

express toll payment service with any credit card. AZM also accepts INA fuel cards for payment of tolls.

## TOLL REVENUES

Without taking into account the data from ARZ which are not comparable toll revenues increased by 10.76 per cent compared to the previous year. This is principally due to traffic increase, opening of new toll motorway

sections, introduction of new toll collection methods, and to some smaller price corrections on certain motorways in Croatia.

1 EUR = 7.5 kn

### TOLL REVENUES (NOT INCLUDING VAT)

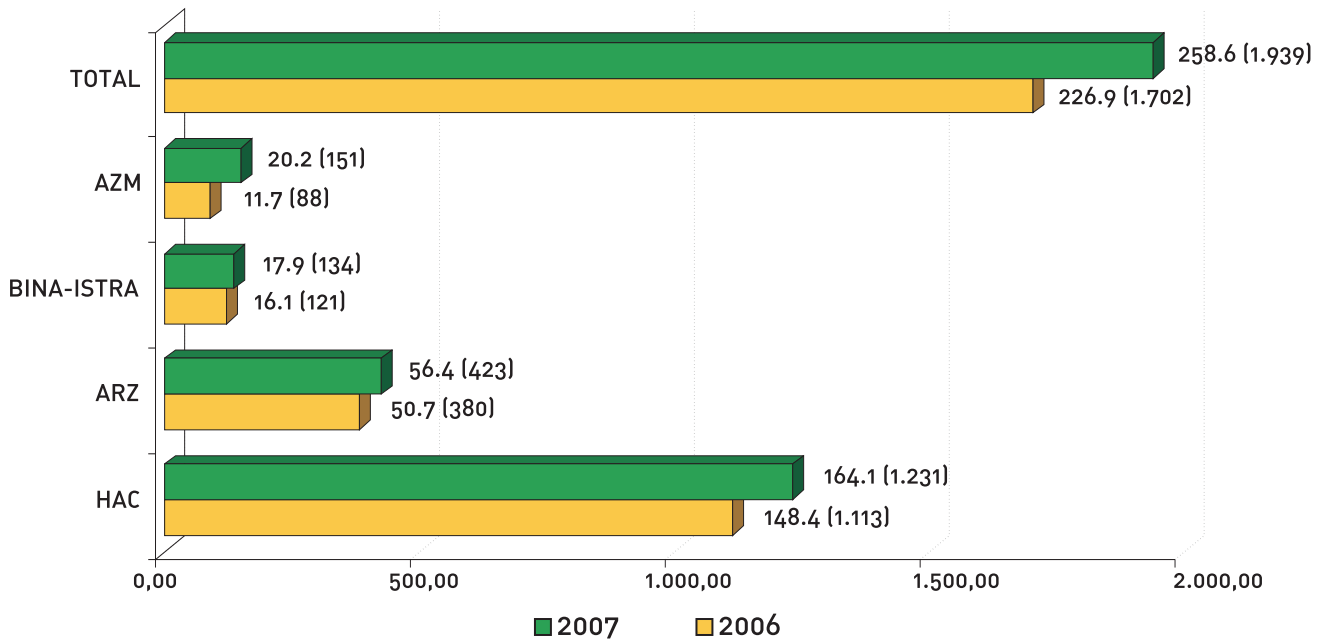
Company	2006		2007		% (07/06)
	Kn	EUR	Kn	EUR	
HAC	1.113.192.788	148.425.705	1.230.509.256	164.067.901	+10,54
ARZ	380.405.106	50.720.681	423.273.303	56.436.440	+11,26*
BINA-ISTRA	120.675.524	16.090.069	134.125.037	17.883.338	+11,15
AZM	87.754.303	11.700.573	151.282.568	20.171.009	+72,40**
<b>TOTAL:</b>	<b>1.702.027.721</b>	<b>226.937.028</b>	<b>1.939.190.164</b>	<b>258.558.688</b>	<b>+10,76***</b>

\* As of September 1, 2007 HAC handed over to ARZ the Rupa – Rijeka motorway and the bridge Krk

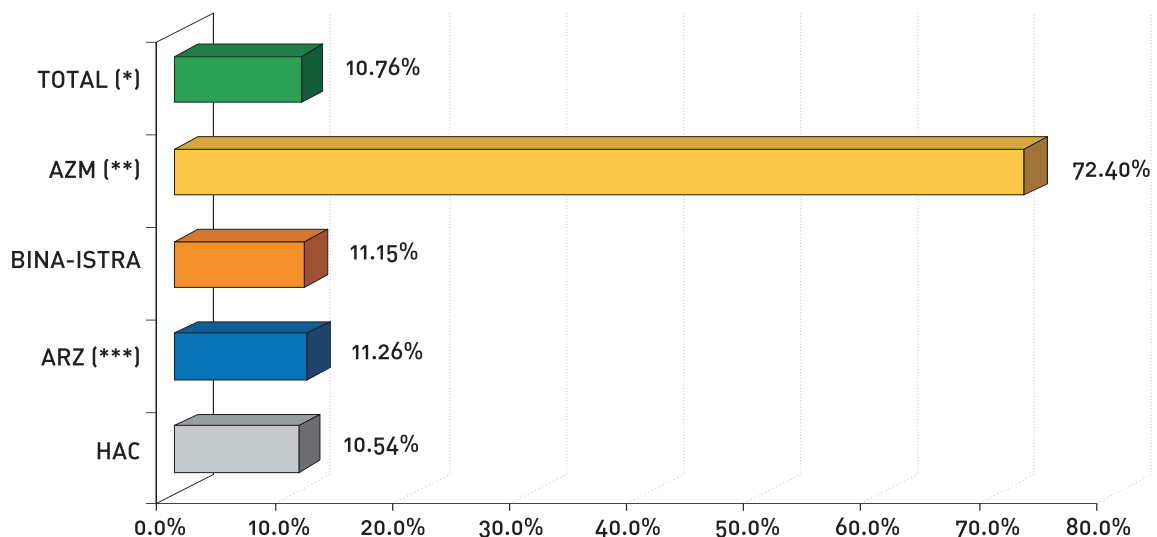
\*\* The percentage is not comparable since the Krapina – Macelj section open to traffic only in 2007

\*\*\* The data do not comprise AZM increase in revenues

### Toll Revenues without VAT - in mio EUR (mio kn)



### Toll revenue increase 2007/2006 (in %)



\* The data do not comprise AZM increase in revenues

\*\* The percentage is not comparable since the Krapina Macelj section open to traffic only in 2007

\*\*\* As of September 1, 2007 HAC handed over to ARZ the Rupa Rijeka motorway and the bridge Krk

### TRAFFIC SAFETY

The total of 2615 traffic accidents, with 83 fatalities, was registered in 2007. Out of this total, the number of accidents with injuries was 414. The number of traffic

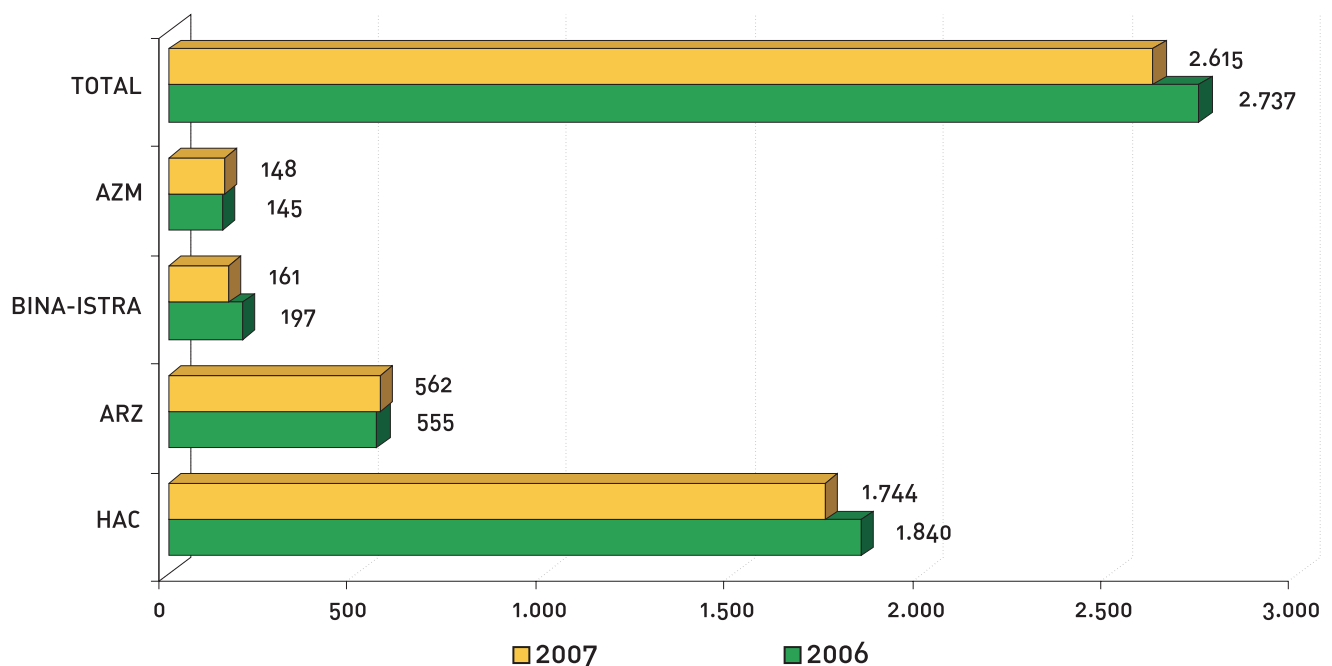
accidents decreased by 4.5 percent when compared to the previous year and the number of kilometres of the motorway network in 2007 increased by 8.9 percent.

#### TRAFFIC SAFETY

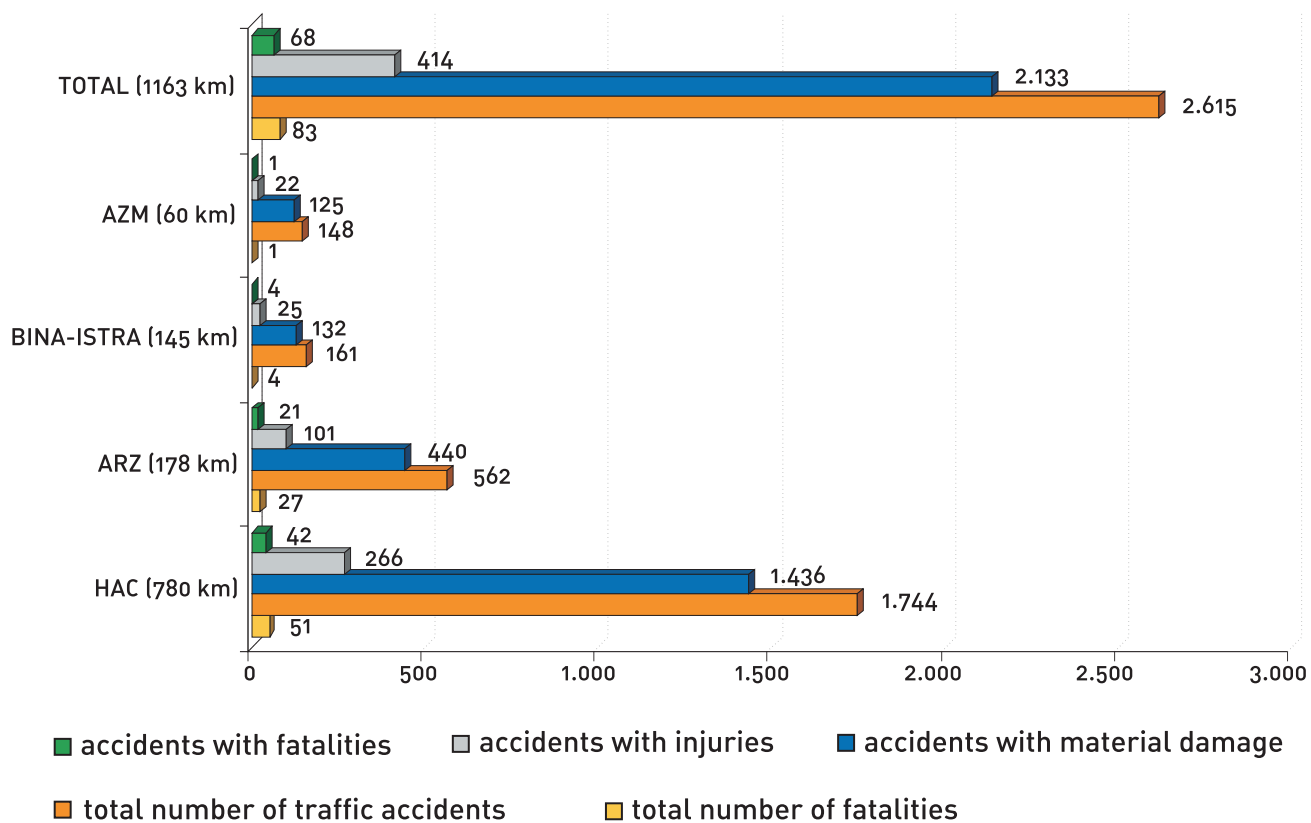
Number of accidents:	2006					2007				
	HAC (735 km)	ARZ (146 km)	BINA- ISTRA (145 km)	AZM (42 km)	RH (1068 km)	HAC (780 km)*	ARZ (163 km)*	BINA- ISTRA (145 km)*	AZM (60 km)*	RH (1163 km)*
- fatal accidents	21	15	5	2	<b>43</b>	42	21	4	1	<b>68</b>
- accidents with injuries	291	106	15	25	<b>437</b>	266	101	25	22	<b>414</b>
- accidents with material damage	1528	434	177	118	<b>2257</b>	1436	440	132	125	<b>2133</b>
<b>Total number of traffic accidents</b>	<b>1840</b>	<b>555</b>	<b>197</b>	<b>145</b>	<b>2737</b>	<b>1744</b>	<b>562</b>	<b>161</b>	<b>148</b>	<b>2615</b>
<b>Total number of fatalities</b>	<b>32</b>	<b>22</b>	<b>11</b>	<b>2</b>	<b>67</b>	<b>51</b>	<b>27</b>	<b>4</b>	<b>1</b>	<b>83</b>

\* number of kilometres in service as of September 2007

#### Total number of traffic accidents 2007/ 2006



### Total number of traffic accidents in 2007 by type of accident



## MEDIUM AND LONG TERM FORECASTS AND TENDENCIES

According to the Transport Development Strategy devised for the Republic of Croatia and adopted by Croatian Parliament, the Croatia is to have 1,365 km of motorways by the year 2013.

Technical properties of motorways and other toll facilities, and specific features of financial operations in this sector, made it necessary to put in place a specific organizational structure for the operation of these

facilities. In addition to ensuring continuity of maintenance and further construction of sections and facilities on which work has already started, an intensive activity must be promoted in the next planning period in order to improve organization of routine maintenance, to further automatise toll collection, and to enhance quality of roadside service facilities on motorways.

## IMPORTANT ACTIONS INITIATED OR COMPLETED IN 2007 AND OBJECTIVES FOR 2008

### HAC

**The Toll Collection Sector has set the following goals for 2008:**

1. to increase turnover and growth of revenues from toll collection in 2008 by 5 % compared to the year 2007;
2. to increase the level of services and the share of non-contact toll payment through ETC in the total turnover and toll revenue from 16 % in 2007 to 30 % in 2008;
3. to increase the sale of HAC products in toll collection and to focus on motorway users;
4. to provide a high service level in the toll collection system, maintenance of facilities and environment protection
5. safety of traffic and tellers

### ARZ

**In 2007:**

- ARZ joined the Croatian Business Council for Sustainable Development, which means increased efforts for coupling economic growth with social responsibility and care for the environment, as well as active implementation and support of this business orientation
- ARZ obtained ISO 14001:2004 certificate
- ARZ enabled all ETC and SMART card users to have access to their electronic toll payment account
- ARZ signed the IV Agreement on Amendments to the ART Concession Agreement, by which the concession area of ARZ is extended to the motorway section between the intersection Orehovica and the border-crossing point Rupa and between the intersection Orehovica to the intersection Križišće, including the access road between the intersection Draga and the city of Rijeka, and access road between the intersection Križišće and the island of Krk bridge, including the bridge to the island of Krk.
- since September 1 ARZ has taken over operation and maintenance of the Rijeka – Rupa motorway and the island of Krk bridge (total length 17.3 km)
- ARZ has also taken over from Hrvatske ceste d.o.o. operation of the detour between Diračje and Orehovica in the total length of 9.5 km. Once Hrvatske ceste d.o.o. completes the construction of the D-404 road and the section Sv. Kuzam – Križišće, these sections will also be transferred to ARZ.
- SAP project was implemented in September in all organizational units of ARZ. ARZ believes that SAP will help the company to implement the best business practice
- in December ARZ obtained the new ISO 9001:2000 certificate. Recertification audit in ARZ established improvement of business operation on all locations and in all processes, thus confirming the rights acquired through certification
- ARZ joined Global Compact, world's largest initiative in the area of socially responsible business operation. The aim is to promote business ethics and cooperation among companies with this aim. Business excellence we are aiming at is unthinkable without respect for human and labour rights, consumer i.e. service-user rights, environment protection, fight against corruption etc.

- ARZ started developing the project of a folklore village, i.e. accompanying facility Petehovac. This facility will be located between Delnice and Kupjak, at the section known for the first Croatian wild game mo-

### In 2008:

- in cooperation with UNDP and HAK, ARZ is initiating a project for providing information and advice for drivers, with the aim to increase safety and promote environmentally efficient driving. Information to drivers will be available through a website, brochures, flyers, terminals, cards etc.  
- cooperation is planned with public institutions for nature protection and eco-associations, and their pro-

torway crossing at Dedin, the highest point of Rijeka – Zagreb motorway at the height of 860 m above sea-level.

motion through our website and in other ways  
- planned prevention activities for environmental protection through programmes for:

- monitoring transport of hazardous substances,
- organization of drills,
- updating of emergency situation protocols and communication procedures

## BINA-ISTRA d.d.

Towards the end of 2007 BINA-ISTRA Operation and Maintenance received the environmental protection certi-

ificate 14000, and continues activities in environment protection.

## AZM

### The focus in 2007 was on the following activities:

- reduction of toll payment queues by promotion of SMART cards  
- benefits for frequent and local users

- increased traffic safety, organization of own fire-fighting unit  
- acceptance of private companies' credit cards

### Most important objectives in 2008 :

- introduction of interoperability with other operators  
- environment protection

## KEY FIGURES 2007

<b>CROATIA</b>	<b>2007</b>
Total length of motorways network, km, as on January 1, 2008	1163,5
2 x 1 lane	208,8
2 x 2 lanes	936,4
2 x 3 lanes	18,3
2 x 4 lanes	0
Number of km opened to traffic in 2007	
Motorways	75,9
Semi-motorways	3,8
Upgrading to the full motorway profile	15,7
Number of km under construction as on January 1, 2008	
Motorways	90,0
Semi-motorways	9,0
Upgrading to the full motorway profile	36,9
Estimate of new sections to be completed and opened to traffic in 2008, km	
Motorways	41,0
Semi-motorways	9,0
Upgrading to the full motorway profile	36,9
Annual toll revenues in 2007, EUR	258.558.688
Permanent staff as on January 1, 2008	3.374
AADT, LIGHT VEHICLES	11.747
AADT, HEAVY VEHICLES	1.461
AADT, LV + HV	13.208
Total number of accidents	2.615
Number of accidents with injuries	414
Number of fatalities	83
Number of kilometres travelled (10 <sup>6</sup> x km)	5.874
Number of toll stations	70
Number of traffic lanes	492
Number of lanes destined to electronic toll collection	253
Number of electronic tolling system subscribers	22.740*
Number of rest areas (with filling stations)	71
Number of rest areas	115
Number of restaurants	16
Number of hotels	9

\* HAC and ARZ companies have already introduced the interoperable electronic toll collection system, while this system is still not in place on motorways operated by BINA-ISTRRA and AZM.