

HUKA announces appointment of its new President and Vice President

During its regular Assembly session held on October 11 this year, HUKA appointed its new top officials that will direct affairs of the Association over the next two-year term of office. The Assembly also adopted the Program of Work and the Budget for the year 2007.

The term of office of Aleksa Ladavac, the former president who erected foundations of this Association, expired in accordance with the HUKA statute, and was declared ended during the same session.

Josip Sapunar Ph.D., MBA, Member of the HAC Management Board, was appointed as the new President. Josip Sapunar earned his doctoral degree in economics at the University of Harvard in Cambridge, USA, and at the University of Zagreb. He has been the HAC Management Board Member since late 2001. Prior to that, he was the Assistant Director of the company Autocesta Rijeka-Zagreb d.d. At the beginning of his carrier, he was employed with the Merrill Lynch investment bank in the USA as a debt and equity analyst. He is very well acquainted with concession financing models through PPP (Public-Private Partnership) arrangements.

Jurica Prskalo, President of the ARZ Management Board, was appointed as the Vice-President of the Association. Jurica Prskalo is a graduate civil engineer who came to the Autocesta Rijeka-Zagreb d.d. in late 2005 from the Split-



Josip Sapunar, Ph.D., MBA, President

based Konstruktor company. He participated in the construction of the following motorway sections in Croatia: Zagreb - Goričan, Rijeka - Zagreb, Bosiljevo - Mala Kapela, and Sv. Rok - Dugopolje. In addition to the already signed contract for the Phase II Project financing, some of other major objectives set both by him and the company include obtaining the environment management certificate according to ISO 14000, and realization of the full motorway profile, with the focus on improvements in traffic safety and environmental protection.

At this session, the first HUKA President, Aleksa



Jurica Prskalo, B.Sc. (Civ. Eng.), Vice President

Ladavac, was also elected as Honorary President of the Association. Brankica Bršec will continue to manage operative affairs of the Association. It should also be noted that the Association moved from its former location and so its headquarters are now situated in the HAC building at Širolina 4 in Zagreb.

HUKA members currently operate 1049 km of motorways in the Republic of Croatia and their interests are primarily focused on advanced management of motorways and other toll facilities, so as to be able to provide and increasingly good level of services to their users.

Marijo Lovrinčević - a new member of the HAC Management Board

Marijo Lovrinčević was appointed as the new member of the Hrvatske autoceste (HAC) Management Board in accordance with the corresponding decision as issued on July 6, 2006 by the Government of the Republic of Croatia. The company is now led by the three-member management board formed of the following senior officials: Mario Crnjak, as President of the Management Board, and Marijo Lovrinčević and Josip Sapunar Ph.D., MBA, as Members of the Management Board.

Marijo Lovrinčević was born in Split on November 3, 1967 where he completed his primary and secondary school studies. He graduated from the Faculty of Civil Engineering in Zagreb, and is currently completing his postgraduate studies at the Faculty of Civil Engineering in Split. Prior

to the present appointment to the position of Hrvatske autoceste Management Board Member, Marijo Lovrinčević was employed with the City of Split Municipal Government as Municipal Government Member in charge of the municipal infrastructure sector. Before this post, he was briefly employed with Hrvatske autoceste as Chief Engineer Coordinator. Before that, he worked at the Design Office operating within Konstruktor Inženjering d.d.

Some changes also occurred among senior managers of the company. Thus Goran Legac has been appointed as the new Construction Sector Manager, and Marijana Raguž, B.L., as the Head of the Legal and General Services Sector.



**Marijo Lovrinčević,
HAC Management Board Member**

Contract signing with EBRD



On July 27, 2006, the company Autocesta Rijeka - Zagreb d. d. (ARZ) and the European Bank for Reconstruction and Development (EBRD) signed a loan agreement for the amount of 50 million EUR which is to be used to finance construction of the Phase II B of the Rijeka - Zagreb motorway, i. e. to widen to the fully motorway profile the 44.26 km long sections on the stretch from Kikovica to the Stara Sušica Viaduct.

The loan, additionally backed by the guarantee given by the Republic of Croatia, is to be reimbursed within 25 years, and the grace period is 4 years. The interest rate corresponds to the standard EBRD interest rate, i. e. variable EURIBOR + 1%, with an option for fixing the interest rate for a portion of the loan or the entire loan amount. The loan will be repaid exclusively from the revenues generated by the borrowing company.

This loan is related to the 210 EUR million loan granted by the European Investment Bank based on the loan agreement signed in Rijeka on March 9, 2006 hence, the funding generated through both loans amounts to 260 million EUR. The proceeds of these loans will be used to finance construction work amounting to 250 million EUR, and to cover costs of supervision and consulting services in accordance with contract terms.

Zečeve drage viaduct

The launching of the last superstructure segment was completed on November 7, 2006 at the Zečeve Drage viaduct, which is situated on the Vrbovsko - Bosiljevo 2 section of the Rijeka - Zagreb motorway. This is the most demanding structure that was to be realized in the scope of the ongoing construction Phase II A, during which the Rijeka - Zagreb motorway will be widened to the full motorway profile.

The Zečeve Drage Viaduct measures 924 m in length and takes up an area of 12,000 square meters. The superstructure is formed of 37 segments which are joined together into a logical whole. All segments, except the first and the last

ones, measure 25 m in length. The viaduct rests on 18 piers, the highest of them measuring 50 m in height. The superstructure is perched about 55 m above the surrounding terrain. The load bearing structure of the viaduct weighs 25,000 tons.

All previously concreted segments are pushed simultaneously with the launching of the last concreted segment.

This contract, awarded in August 2005, is priced at 13 million EUR. The works commenced on September 2005 and are due for completion in June 2007. The construction work is being realized by the Zagreb-based company Viaduct d.d.



Rijeka-Zagreb motorway - Zečeve drage viaduct

Start of Winter Motorway Maintenance Activities

This year, the working season of the Hrvatske autoceste (HAC) Winter Maintenance Service started as usual, on November 1, 2006. In the scope of initial preparations, HAC has adapted its human and material resources to the round-the-clock winter maintenance system. Twenty new trucks, equipped with the state-of-the-art winter maintenance equipment, have recently been purchased and so 19 existing technical maintenance units have now at their disposal a car pool with as many as 98 trucks and special snow clearing vehicles. HAC maintains about 750 km of motorways and semi-motorways, or about 16.7 million square meters of paved surfaces. In the harshest conditions, with abundant and continuous snowfalls, the company makes use of additional 57 vehicles that are provided by HAC subcontractors who have their own machinery and crews, as well as the snow clearing equipment.

In the course of September and October, HAC stocks were replenished with about 17 thousand tons of NaCl and with 420 tons of CaCl₂. HAC uses an appropriate calcium chloride and sodium chloride solution that has proven to be highly efficient in the prevention of glaze ice, and in the removal

of ice and snow from pavement. In addition, this solution remains on motorway for a considerable time at temperatures of less than -5° C. During extremely harsh and long winters, an additional funding can be raised to purchase yet another 24 thousand tons of NaCl and 200 tons of CaCl₂. Two times a day all maintenance crews receive highly localized weather reports (for 8 zones along the motorway route) from the National

Meteorological and Hydrological Service. Road patrols gather round-the-clock weather information from 60 meteorological stations and sensors located along the motorway route (the information gathered includes data on air temperature, pavement temperature, precipitation, visibility, wind force, etc.). Relevant data are also obtained from mobile temperature sensors installed on every road patrol vehicle.



Učka Tunnel - 25 years of continuous operation

In the late nineteen-sixties, the Urban Planning Institute of Croatia prepared a comprehensive Regional Development Plan for Istria, in which it defined the road network of highest level of service (motorway network) to be developed on the Istrian peninsula.

This constituted the basis for subsequent surge of activities aimed at creating an appropriate link between Istria and other parts of Croatia, namely through conquering the mountainous range of Učka and Čičarija by building a road tunnel through Učka Mountain.

Initial activities relating to this project (design documents, geological surveys, electricity and water supply, etc.) started in 1970. The principal construction work, comprising excavation of this 5 km long tunnel, but also construction of a 20 km road section from Matulji on the Kvarner side to Lupoglav in Istria, commenced in 1976.

The Pazin-based Učka company was founded to watch over realization of this project, and the coordination of all activities was entrusted to the Učka Tunnel Coordination Board. The contract was signed with Institut građevinarstva Hrvatske for preparation of technical documents, and the Institute of Economics was engaged to prepare the economic study.

The main tunnelling work, awarded to Hidroelektra, Zagreb and Konstruktor, Split, started in September 1976, and the 5 km long Učka Tunnel, with its 20 km of approach roads, was opened to traffic on September 27, 1981, following installation of a highly sophisticated tunnel equipment. The construction work was financed by the Croatian Self-Managed Community for Roads and, to a smaller extent (5%), from proceeds of a national loan.

Road construction activities were at the standstill for some years after 1981 but were once again resumed following adoption of the middle-term development plan for 1986-1990.

The new road construction boost came in September 1995, after signature of concession agreement between BINA ISTRA d.d. and the Government of the Republic of Croatia.

The French partner, owning 51 percent of shares in the BINA ISTRA concession, soon secured new sources of financing and continued with road construction by engaging a number of Croatian builders, principally those headquartered in Istria.

This construction started with realization of works on the road section Rogovići - Kanfanar - Vodnjan, 33 km in length, which coincided with completion work on the Cerovlje - Rogovići (Pazin) section by Hrvatske ceste. In fact, both sections were opened to traffic by late 1999. The road work resumed in 2003 with construction of the Istrian Y west leg from Medaki Interchange to Umag Interchange, 42 km in length. This section was opened to traffic in 2005. The work continued in the same year by construction of the 13 km long Vodnjan - Pula section, which was completed in September 2006. Učka Tunnel has thus seen realization of as many as 142 km of semi-motorways (Phase I of the Concession Agreement) during its 25 years of continuous operation.

No	Designation	Section	km
1.	A-8	Kanfanar Interchange - Pazin Interchange - Matulji Interchange	64,2
2.	A-9	Umag Interchange - Kanfanar Intechange - Pula Interchange	77,0
3.	A8 + A9	Istrian Y	141,2

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ISTRIAN Y

Over 25 years of operation, the Učka Tunnel management and maintenance activities were performed in various organizational settings: from an initially independent company to a unit forming part of Hrvatske ceste and, finally, to the company BINA ISTRA Upravljanje i Održavanje (BIUO) which is fully owned by the concession company BINA ISTRA d.d.

The management and maintenance activities for the Učka Tunnel and the related road sections have been defined in full detail through the agreement signed between the BIUO and the concession company BINA ISTRA d.d.

The BIUO has obtained the quality certificate ISO 9001:2000 which is a guarantee of the high level of services that is being offered to road and tunnel users.

As many as 36.9 million vehicles have passed through the Učka Tunnel since its opening to traffic in 1981. No fatal traffic accidents were registered during that time and so the Učka Tunnel currently ranks among the safest tunnels in



Učka Tunnel - Istrian-side portal with administration building

Europe. Although the users, highly respectful of traffic rules, deserve the most credit for this outstanding ranking, a lot of credit must also be given to the well devised traffic system and to professionals in charge of its operation.

As the AADT figures for the eleven months of 2006 amount to 7,795 vehicles/day, the time is now considered ripe to commence preparations for construction of the second tube of the Učka Tunnel. Preparatory work for this second phase has already been initiated by signing contracts for preparation of detailed designs for the Istrian Y high-priority sections in the length of about 100 km (out of the total of 141 km) and for preparation of other related documents.



David Gabelica - General Manager of Bina-Istra d.d.

Seasonal Smart Card

This year, the public company Hrvatske autoceste d.o.o. is once again offering its users the possibility to buy a Seasonal Smart Card at a hefty 23.5 percent seasonal discount. The Seasonal Smart Card can be used in the period from November 1, 2006 to March 31, 2007 on all motorway sections and on other toll facilities operated by the companies Hrvatske autoceste and Autocesta Rijeka - Zagreb. The card may be purchased by both physical and legal persons and its use is not restricted to a specific road section or a license

plate number, but rather to a vehicle category. The same Smart Card can be used for several vehicles, but within the same vehicle category, i.e. either in the category I, II, III or IV.

The amount remaining unused after the March 31, 2007 can still be used as subscription with a ten percent discount. An additional advantage offered during purchase of this card is the possibility to spread the payments over up to 6 instalments via credit cards (AmEx and Diners).

The minimum amount charged for Smart Card is not the same for physical and legal persons, i.e. it is based on 10 trips for physical persons and 26 trips for legal persons. For instance, a minimum

payment the legal person has to make to buy the Seasonal Smart Card amounts to 2,998.80 kunas for the first vehicle category, and the savings amount to 921.20 kunas. The minimum amount of money a physical person is to pay for the Seasonal Smart Card, also for the first vehicle category, is 1,199.52 kunas, and the savings thus achieved amount to 368.48 kunas.



Checking longitudinal air circulation in the Mala Kapela Tunnel



On October 23, 2006, Hrvatske autoceste conducted, in concert with Brodarski institut d.o.o., an extensive fire testing in the Mala Kapela Tunnel. The testing was conducted to check operation of the new fire-protection computer program during a simulated tunnel fire accident.

The research team from Brodarski institut d.o.o., lead by Miodrag Drakulić, PhD, has developed over a past year a complex computer program for checking longitudinal air circulation in road tunnels utilising longitudinal ventilation systems. This computer software is an integral part of the new strategy of longitudinal ventilation management in fire conditions, which inter alia implies an automated checking of the longitudinal propagation of air and smoke during all stages of a fire

accident. A reliable and efficient management of smoke in the tunnel tube is of crucial significance for a successful evacuation of travellers, and for the safe work of fire brigades. The newly developed computer program controls, in critical moments of a tunnel accident, the direction and propagation rate of smoke, and hence creates best possible conditions for the evacuation of travellers in an initial phase of fire, and for subsequent intervention of fire brigades and rescue teams. In addition, after activation of this computer program, the traffic centre operators will no longer need to make manual ventilation system adjustments under conditions of high stress, typical for fire accidents.

After an in depth analysis of fire test results, the computer program will be put to regular use.

Thus the already high level of fire protection in this tunnel (as confirmed by independent external auditors - ADAC) will additionally be increased, and conditions will be met for the implementation of this program on other long tunnels in Croatia. By using this new state-of-the-art program, Croatia has entered the very narrow circle of European countries that are currently developing this type of specialized and highly sophisticated computer software.

ASECAP's regular Steering Committee meeting in Copenhagen



The ASECAP's regular Steering Committee and General Assembly meeting was held in Copenhagen on October 2, 2006. Reports submitted by the General Secretary and the ASECAP Permanent Committees (COPER I, II and III and CESARE III), whose activities are in the focus of ASECAP interest, were the main points on the agenda.

The work program and the budget for the year 2007 were adopted, and some European issues significant to ASECAP and its members (Revision of the White Paper on transport, Eurovignette Directive, new European framework on concessions and PPPs, and public procurement), were discussed.

At the European Commission level, ASECAP was asked to continue to strengthen its role regarding the road safety issues.

Over the next year, the Permanent Committees COPER I and COPER II (the first dealing with toll collection and the second with traffic safety) will prepare the study on the internalisation of external costs, and on external benefits to the mo-

torway sector (as required by the EU legislation through its Directive on Eurovignette).

The activities relating to the strengthening of interoperability in the field of electronic fee collection (EFC) are currently at a crossroads. It is quite probable that the CESARE III project (dealing with contractual aspects of interoperability) and the RCI project (Road Charging Interoperability), will be of crucial significance for continued work in this field. The work in the scope of CESARE III is now finished, and so ASECAP plans to approach the European Commission in order to enable continuation of the project (CESARE IV).

The Permanent Committee COPER III (dealing with telematics and intelligent transport systems) reported on the recent EU-level activities, which is mostly characterized by the cooperation and coordination between the Directorate-General for the Information Society and Media (DG INF-SO) and the Directorate-General for the Energy and Transport (DG TREN). At that, the DG INF-SO places emphasis on technologies relating to vehicles, while DG TREN places focus on technologies that are related to infrastructure facilities. The new project called ITHACA is currently being prepared. Although the project is mostly supported by Italy and Greece, all members have been in-

ited to strengthen their cooperation in the field of ITS implementation.

ASECAP is also active in the cooperation with countries where creation of national motorway associations is under way or is being considered: Poland, Czech Republic, and Slovakia. ASECAP has also received letters of interest from the companies Toll Collect, AGES, and Kapsch, by which these companies express their wish to become associate members.

The ASECAP's most significant internal activity is the creation of new and highly redesigned Internet pages www.asecap.com where a variety of interesting materials and documents can be found. The new electronic version of the Association's Newsletter - Info Digest - will also be presented on these pages. An another significant internal activity of ASECAP is the creation of the statistical data base of all members, known as ORCA. ASECAP is also planning to create its glossary: the ASECAP's glossary of motorway-related terms. The glossary project is known as the GREAT. In addition, preparations for the next Study and Information Days, which will be held in 2007 on the island of Crete in Greece, have already been initiated.

Zagreb - Macelj motorway IMPROVEMENT OF THE EXISTING TOLLING SYSTEM

The closed toll collection system, introduced in February 2006 on the Zagreb - Macelj motorway, has been devised in such a way to enable an electronic toll collection. To allow practical implementation of this useful feature, every toll station has been equipped with electronic toll lanes, the number of which is in every case equal to the number of manually operated toll lanes. Our objective is to increase the number of electronic toll transactions to as many as 25 percent of all toll transactions.

The drivers, in most cases accustomed to paying toll in cash, are not easily persuaded to use the smart card or other credit cards, although their use would eliminate the waiting time and enable much faster payment when compared to manual toll collection.

In order to make the electronic toll collection more acceptable to road users, we have made appropriate risk-sharing arrangements with our bank to enable use of debit cards (Maestro, Visa Electron, etc.) without requiring users to sign or to enter the PIN number. The time of properly completed toll payment transaction has now been brought down to 5 to 10 seconds counting from the card insertion to the barrier lifting time.

A 10% discount given to the categories I and II of the smart card users has also stimulated greater implementation of the electronic tolling system.

The possibility of buying and reactivating smart cards at every manual toll lane, and at every toll facility, is an additional factor favouring elec-



tronic toll card purchase. The users are thus not required to go to a specialized store to acquire/reactivate their cards.

We are quite aware that we are a fairly small system when compared to other toll network operators in Croatia. In addition, we know well that drivers might be hard to persuade to change their payment habits, principally on the account of the restricted length of the section we operate. However, because of the speed and simplicity of payment by smart or credit (or debit) card, we have good grounds to believe that this method

will become appealing to an increasing number of road users. In order to fulfil its electronic tolling objectives, the AZM is currently preparing an additional campaign, both in the media and on the motorway itself, to further promote and enhance use of its advanced electronic tolling system.

Cave found in the Vrata tunnel

Builders discovered a relatively big cavern (cave) during tunnelling work in the Vrata tunnel which is realized in the scope of construction works on the Rijeka - Zagreb motorway aimed at widening the current road to the full motorway profile.

The main hall of the cave measures over 80 m in length and more than 60 m in width, and it reaches over 40 m in height.

The cavern was discovered in the right-hand south tube of the tunnel, 139 m away from the Zagreb-side entrance.

Caverns are speleological sites (caves or pits) that do not have a natural entrance from the ground surface. They are discovered exclusively during construction works, i.e. during realization of tunnels, cuttings, bridge or viaduct foundations, or in quarries, mines, etc.

The preliminary speleological survey of the Vrata Tunnel cave is conducted by an expert team from the Faculty of Civil Engineering, University of Zagreb.

The tunnelling works from the Rijeka-side (south side) of the tunnel were conducted simultaneously with the cave testing and solution finding activities. These tunnelling works were completed on November 7, 2006.



First Croatian conference on road maintenance

The public company Hrvatske autoceste d.o.o. took part in the first Croatian conference on road maintenance which was organized by the Professional Association of Road Maintenance Companies called HRVATSKI CESTAR. The conference was held in Šibenik on October 24-26, 2006 under the high auspices of the Ministry of Sea, Tourism, Transport and Development.

The principal objective of this conference is to promote significance of road maintenance activities for the overall development of the Republic of Croatia, and to contribute to the advancement and improvement of current maintenance practices in the sector of roads and other infrastructure facilities, particularly in winter conditions (winter maintenance).

The conference sessions were organized around the following themes: Legislation and Standards, Management System and Financing, Operating System, Technologies for Removing Snow and Ice from Pavement, Social Aspects and Meteorology as a Function of Winter Maintenance. The following two round tables were also held: "Public Road Maintenance in the Current Legislation and Court Practice" and "Winter Maintenance Costs, Road Passability and User Satisfaction".



Statistical data

TRAFFIC

number of vehicles on toll plazas

Company	Until the end of September 2006		Total
	Light vehicles (categories 1 and 2)	Heavy vehicles (categories 3 and 4)	
HAC	20.591.978	3.088.025	23.680.003
ARZ	8.978.270	1.104.133	10.082.403
BINA ISTRA	4.302.216	524.363	4.826.579
AZM	3.240.031	314.089	3.554.120
TOTAL	37.112.495	5.030.610	42.143.105

TOLL REVENUES (without VAT)

1 EUR = 7,5 KN

Company	Until the end of September 2006		% (06/05)
	kn	EUR	
HAC	871.428.245,72	116.190.432,76	13,34
ARZ	299.761.352,00	39.968.180,00	10,13
AZM	68.685.721,89	9.158.096,25	58,36
BINA ISTRA	95.888.049,00	12.785.073,00	12,65*
TOTAL	1.335.763.368,61	178.101.782,01	23,62

* Toll plaza Mirna was opened on 04/06/2005

TRAFFIC SAFETY

Number of traffic accidents	Until the end of September 2006				
	HAC	BINA ISTRA	ARZ	AZM	TOTAL CROATIA
with fatal casualties	16	5	8	2	31
with injuries	229	13	73	11	326
with material damage	1085	135	299	117	1636
TOTAL number of accidents	1330	153	380	130	1993
TOTAL number of deaths in fatal accidents	22	11	10	2	45



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