

## A6 Motorway, Rijeka – Zagreb opened to traffic in full motorway profile

**On October 22, 2008, Prime Minister of the Republic of Croatia, Ivo Sanader, ceremoniously opened to traffic the Rijeka – Zagreb Motorway in full motorway profile, in its entire length of 146.5 kilometres.**

The opening ceremony, held on the motorway route next to the south portal of the Tuhobić Tunnel, was graced by the presence of Božidar Kalmeta, Minister of Sea, Transport and Infrastructure, Marina Matulović-Dropulić, Minister of Environmental Protection, Physical Planning and Construction, Božo Biškupić, Minister of Culture, and representatives of contractors, regional and local government units, and other distinguished guests. The motorway was blessed by the Rijeka Archbishop, Ivan Devčić.

The opening of the full profile sections Oštrovica – Vrata (11 km) and Kupjak – Vrbovsko (3.6 km) marks completion of the Rijeka – Zagreb Motorway Project, the realization of which lasted almost four decades.

The total length of the Rijeka – Zagreb Motorway is 146.5 kilometres. The construction work started in the early 1970s. In fact, the first section from Orehovica to Kikovica, 10.5 km long, was opened to traffic in 1971. This

was followed by the Zagreb to Karlovac section, 39.3 km in length, which was opened a year later, in 1972. The next motorway and semi-motorway sections, 46.8 km in total length, were built on the stretch from Rijeka to Kupjak, from 1971 to 1982, and from 1996 to 1997.

The rate of the Rijeka – Zagreb Motorway construction was significantly accelerated after establishment of the concession company called Autocesta Rijeka – Zagreb d.d. The rest of the construction project was divided into two phases.

**The Phase I** project involved (semi) motorway construction from Kupjak to Karlovac, 60.18 kilometres in length. This work was completed in 2004.

**The Phase II (divided into subphases IIA and IIB)** of the Rijeka – Zagreb motorway construction project involved widening of the semi motorway to the full motorway profile, and this from the Bosiljevo II interregional interchange to the Kikovica interchange,



55.57 kilometres in length (as related to the total planned route 146.5 km in length). This motorway widening work was completed in October 2008.

The highly demanding nature of the Rijeka – Zagreb motorway project is evidenced by the fact that the total length of structures is 22.1 km (15%) while the route is 124.4 km in length (85%). Thus the total length of bridges is 1.7 km, viaducts account for 10.1 km, and tunnels for 10.3 km. In total, there are 5 bridges, 13 tunnels, 34 viaducts, 45 overpasses and 26 underpasses.

The Rijeka – Zagreb motorway is an integral part of the European roadway E65, and it links the greatest and most significant Croatian port of Rijeka with Zagreb, and thus with the entire motorway network of the central and western Europe. It is a part of the Pan-European transport corridor Vb. In Bosiljevo II Interchange, this motorway is linked with the Zagreb – Split – Dubrovnik Motorway.

The completion of the Rijeka – Zagreb motorway will further improve transport links with the neighbouring countries. It will also result in speedier growth of trade and tourism, and in more convenient transport of goods and passengers, which will undoubtedly spur economic development in all spheres of activity. 



Tuhobić Tunnel

# Full profile construction starts on Istrian Upsilon

**The start of full-profile construction works was ceremoniously marked on 6 October 2008. The Phase 2A work is to be completed in 41 months. In addition to higher driving comfort, the four-lane motorway will also bring considerable improvements in the sphere of traffic safety.**

Immediately after opening to traffic of the last semi-motorway section (Vodnjan – Pula), and in response to rapid and steady increase of traffic, Bina-Istra initiated in the early 2007 preliminary activities needed for full profile construction (detailed design work for the so called Phase 2 Project, building permit procurement by sections, purchase of land needed for road widening, and archaeological investigations along the route). The full profile motorway will be realized in phases, so that the entire task of doubling the Istrian Upsilon road route can be completed as soon as practicable. In fact, the construction is to start immediately after delivery of construction permit for any road section or road structure. Based on this policy, the full profile construction work for the Vodnjan – Pula section started immediately after procurement of the valid construction permit.

## WHY BUILD FULL PROFILE ON THE ISTRIAN UPSILON PROJECT?

### Traffic growth

Over the past decade, the traffic on the Istrian Upsilon has been increasing at the rate of about 5 percent annually. In summer months, up to 15 thousand vehicles pass through Učka Tunnel each day, while this daily figure for the Mirna Bridge is as many as 19 thousand vehicles! Because of the great traffic density and intensity, the Istrian Upsilon has become overly congested. It is obvious that, for traffic safety reasons, rapid action had to be taken to widen the roadway to the full motorway profile. For instance, the traffic at the Učka Tunnel has doubled in the period from 1995 to 2008. It can reasonably be expected that traffic will continue to increase in the mid term at the rate of 5 percent annually and, after completion of the full profile motorway, Bina-Istra experts believe that the traffic will be increasing by about 2–3 % annually in the long term.

### Safety

When compared to the current two-lane facility (semi-motorway), the level of traffic safety at the future four-lane motorway will be much higher, particularly as to the direct collision hazard. With the increase of traffic, this positive safety element will become even more pronounced.

## FINANCING OF WORKS

Following approval of the Republic of Croatia in its capacity as grantor, the financing has been secured in December 2007 for widening to the full motorway profile. In this respect, Bina-Istra has signed a syndicated loan agreement for EUR 693.5 million with the consortium formed of three banks: Société Générale, The Royal Bank of Scotland, and Zagrebačka banka, d.d. This loan enables refinancing of the existing debt dating back to 2003 (funding that was required to complete the Phase 1 construction) at a much more favourable interest rate, and provides stand-by financing for continued construction on the Istrian Upsilon project (widening to the full profile). This is one of the biggest loans awarded so far to a private Croatian company.

### Toll collection improvements

The construction of the full motorway profile will also enable introduction of a new tariffing method, the so called closed toll collection system. According to the new system, the user will be paying for the distance actually travelled.

This is considerably different from the currently applied open toll collection system in which only the users passing through the Učka Tunnel and over the Mirna Bridge pay toll, and are charged for the entire length of the Istrian Upsilon transport scheme.

The electronic toll collection system compatible with that applied by other motorway concessionaires in Croatia will also be introduced.

### Sustainable development

In addition to the environmentally friendly



features already present on the Istrian Upsilon – waste water drainage and purification systems, noise barriers, use of solar energy for powering emergency phones and speed-measuring radar equipment, energy-efficient tunnel ventilation system – the widening to the full motorway profile will bring some additional features of great significance for sustainable development: ENERGY-EFFICIENT LIGHTING – an environmental lighting system, in which light will be shed on the concrete and asphalt areas only, is to be installed on all interchanges, and hence the natural biorhythm of birds and nocturnal animals will be preserved, and OPTIMIZED USE OF SPACE – the Istrian Upsilon will become even more compatible with the existing secondary road network of Istria. In fact, in the scope of the full profile construction work, Bina-Istra will also build two roads that do not form part of the concession area. Toll will not be charged on these two roads, and they will be handed over to the Croatian national or county-level road authority for further operation and use. The first one is the link road 1.5 km in length from the Umag Interchange to the national road D200, in the direction of the Kaštel and Plovanija border crossings, and the second one is the 8 km long link road from Pula Interchange (Istrian Upsilon) to Pomer (Medulin), which is expected to ease traffic at the entrance to the town of Pula.



Information sign on Istrian Y – construction of full profile

## FULL-PROFILE CONSTRUCTION SCHEDULE

The Phase II (road profile doubling) is divided into two subphases: 2A and 2B. The subphase 2A work concerns construction of those sections for which the existing location permits and environmental impact studies can be used, while the Subphase 2B work will be undertaken upon procurement of location permits and/or preparation of environmental impacts studies.

### Phase 2A:

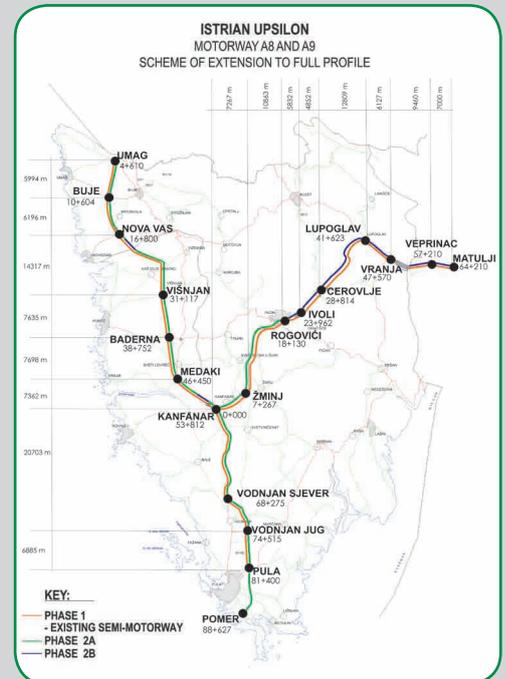
- Second carriageway on the following sections:  
Umag – Kanfanar, with the exception of the Limska Draga Viaduct and Mirna Bridge (49.2 km)  
Kanfanar – Pula, including the new Vodnjan North Interchange (27.6 km)  
Kanfanar – Rogovići (18 km)

**Note:** The cross-section for two additional lanes consists of 2 lanes x 3.5 m + 2.5 m emergency lane

- Introduction of the closed toll collection system on the entire network, with the exception of the Matulji – Učka Tunnel section.
- About 8 km long link road to the south of Pula in the direction of tourist destinations of Pomer, Ližnjan, Medulin and Premantura. The work includes construction of 1 viaduct, 4 underpasses and 4 roundabouts.
- 1.5 km long link road, from Umag Interchange to the National Road D200, in the direction of Kaštel and Plovanija border crossings.
- Third lane on the section between Matulji and Učka (2 km in length) in order to accelerate traffic which is currently often hindered by slow truck traffic.

### Phase 2B:

- Second carriageway on the Rogovići – Učka Tunnel – Matulji section (including construction of the second tube for the Učka Tunnel)
- Construction of the second Limska Draga Viaduct and the second bridge over the Mirna River.



Full profile construction scheme

## A4 Motorway, Zagreb – Goričan

### Motorway traffic opens at the final 1.4 km of A4 motorway, with the Mura Bridge

The final 1.4 km long section of the Zagreb – Goričan Motorway (A4), running from the border with the Republic of Hungary to the town of Goričan, was opened to traffic on 23 October 2008. The completion of this section marks establishment of the proper link between Croatian and Hungarian motorways, and it also comes as the long awaited fulfilment of the vision shared by the two neighbouring countries.

The total price of this project amounts to HRK 50 million.

The most significant structure on this section is the Mura Bridge which is positioned on both Croatian and Hungarian sides of border, and can therefore be regarded as a veritable link between the two nations.

The intergovernmental agreement signed on 16 December 2004 in Budapest between the Republic of Croatia and the Republic of Hungary on the joint construction of the borderline Mura bridge, situated on the motorway between Letenye and Goričan, sets basic parameters and defines relationships between the parties with respect to the preparation and realization of the borderline motorway sections and the joint bridge. The actual

works started in 2007 and were completed in 15 months, in 2008, together with the motorway connecting parts. Thus a proper link was established between the Croatian and Hungarian motorway systems.

The bridge is 216 meters long but its overall length, with abutments, is 225 m. It is made of two 15 m wide bridges, spaced 80 centimetres from one another. Each bridge has a separate structure. It is designed with two pavements in every direction of travel. Each pavement has two driving lanes each 3.75 m in width, emergency lane of the same width, and the pedestrian path 1.5 m in width.

The bridge was jointly financed by the Croatian company HRVATSKE AUTOCESTE d.o.o. and the Hungarian company NEMZETI INFRASTRUKTÚRA FEJLESZTŐ Zrt. The price of the project amounted to EUR 8 million, and the works were realized by the Croatian company Hidroelektra niskogradnja d.d. and its subcontractor Đuro Đaković montaža d.d., while the bridge design was prepared by the Hungarian company UVATERV Zrt.

The realization of the corridor Vb has enabled good and rapid transport of goods, which will greatly contribute to the economic develop-



ment of the Republic of Hungary and the Republic of Croatia, and will also enhance transport links with other countries in the region. This infrastructure development will also contribute to the increase of tourist activity in the regions situated along the corridor, which is especially important for the tourism on Lake Balaton, which is one of main tourist destinations in the Republic of Hungary. In addition, this roadway will enable better and faster link between the northern and central European countries and the Adriatic Sea, which ranks among the most favoured tourist destinations in Europe.

The total length of the corridor Vb from Budapest to Rijeka is 496.2 km, out of which 232.5 km are situated in the territory of the Republic of Hungary, and 263.7 km in the territory of the Republic of Croatia.

## Autocesta Rijeka-Zagreb d.d. upgrades its biggest toll station

### Upgrade of Lučko toll station and construction of new Demerje toll gate

The new Demerje toll gate will be built three kilometres before the Lučko toll station, viewed from the direction of Karlovac, in the scope of the project to be realized by the Summer of 2009. This new toll gate will be used exclusively for cashless toll collection, while cash will continue to be accepted at the Lučko toll station. The total length of the zone in which this tolling upgrade will be operated is 4,557 meters. Two traffic lanes  $2 \times 3.75$  m in width, one emergency lane 2.50 m in width, and one hard shoulder 1.50 m wide, will be built along the existing motorway pavement (Karlovac – Zagreb direction). This widening will be physically divided from the existing motorway pavement by the 2.50 m wide median strip, where steel traffic barriers will be installed. The Demerje toll gate platform will consist of 10 toll lanes, two of which will exclusively be used for the no-stop electronic toll collection, while the remaining 8 toll lanes will be used for the no-contact card payment.

The existing Lučko toll station will still be used for cash-based toll collection, while the drivers that have paid toll by other means at Demerje toll gate will freely pass through the Lučko toll station via two special lanes 3.50 m in width, divided by a 2.00 m wide channelizing island, currently accommodating a toll booth which will have to be dismantled.

The capacity of the toll collection system currently operated at the Lučko toll station is 2,325 pc/h. After the planned works the Lučko toll station capacity will be 1,750 pc/h, while the Demerje toll gate capacity will be 9,400 pc/h.

Following the Lučko toll station upgrade and Demerje toll gate construction, the overall capacity will amount to 11,150 pc/h, which is an increase of 4.8 times when compared to the current situation.

After the Lučko toll station upgrade and Demerje toll gate construction, the motorway serviceability level will be increased, especially in terms of higher vehicle flow rate and more comfortable driving, with simultaneous reduction in noise levels and harmful gas emissions. 



## Bina-Istra d.d.

### A novel approach to traffic safety – presentation of the "Vision Zero"

Why can't we curb the current traffic safety deterioration trends, and what will have to be done to improve the present situation – these are the questions discussed by numerous participants in the round table which was organized in Pula on 2 October 2008 by the Association for families of traffic-accident victims.

This technical gathering focusing on traffic safety issues in Istrian County was attended by representatives from the Ministry of Transport, Police, legal authorities, Parliamentary Committee for Transport and Communications, Istrian County and town of Pula authorities, Croatian driving schools and automobile associations, Red Cross officials and Istrian health care providers, and by representatives of Bina-Istra.

After analysis of the current situation and discouraging national statistical data about traffic safety, various activities and measures taken in the scope of the National Road Traffic Safety Program were presented, and programs realized by individual automobile associations and the Red Cross organization were outlined.

Bina-Istra presented an overview of measures that have been taken by this company to increase traffic safety levels, and gave an example of the concrete measurable result that has been obtained after placement of audible horizontal markings, with intensive retro-reflection capability, along the entire Istrian Upsilon route. In 2007, this measure resulted in a 50 percent decrease in traffic accidents due to dangerous overtaking. Although traffic accidents caused on Istrian Upsilon accounted for only 3.8 percent of all traffic accidents registered on Istrian roads in 2007, Bina-Istra representatives proudly claim that the full-profile motorway construction will be the largest single contributing factor to the major increase in traffic safety.

In conclusion, representatives of the Association for families of traffic-accident victims presented 10 steps for implementation of an integrated approach to traffic safety. In this respect, some of the most interesting presentations concerned the Norwegian model and the so called "Vision Zero" which



is aimed at achieving zero casualties and zero heavy injuries in road traffic. According to this model, every region, town, and even smaller communities, are legally committed to make a four-year traffic safety plan with concrete measures for improving black spots, educating young people, taking preventive actions, reducing risk factors, etc. It was also emphasized that the "Vision Zero" can not be achieved without considering the traffic safety issue on a larger scale, which calls for adoption of an appropriate multi-disciplinary approach, complemented with activities involving all participants in traffic, and this on the entire road network. 

## A2 Motorway, Zagreb – Macelj

### Motorway as a major stimulus to economic growth in Krapina-Zagorje County

Over the past several years we have become used to reading in this Newsletter about ceremonious opening of new motorway sections, new tunnels, new roadside rest areas, new toll collection methods, etc. Croatia's motorway network has for, the most part, achieved its main purpose, which is to link together all parts of our country.

At this point in time, we are gradually beginning to recognise true advantages of these rapid and high-quality roadways, and to reap the fruits of many consequential benefits that have now come to light.

We are witnessing a new evaluation of space along the motorways, including inter alia busy activities for building various new amenities that are rapidly emerging in this space, especially in the zone of bigger, and even smaller, interchanges.

The Zagreb – Macelj motorway has obviously attracted a great number of foreign and domestic investors, and so the Zagorje region has been gradually reshaping from the once backward area to the presently well organized environment dominated by medium-scale to large-scale entrepreneurs.

If we start from Zagreb, we can see that the Jankomir Business and Commercial Zone is already in place and operational at the very beginning of this motorway. A new big Shop-



ping City Zagreb is under construction at the west of the Interchange No. 2, Zaprešić. To the east of the motorway, regional planning documents are already prepared and location permit is being procured in order to build the new Bistra Business and Commercial Zone.

Close to the following Interchange No. 3, Zabok, there is already a shopping mall and a business zone for the town of Zabok which now plans to widen the parallel road from the Zabok Interchange to the town of Zabok, 3 km in length, so that the existing business-industrial-commercial zone can expand along the motorway route.

The Roses Fashion Outlet, with about 70

stores offering known international brands, has been opened along the east side of the Interchange No. 4, sv. Križ Začretje. This outlet rounds up the existing supply of manufacturing and other services in this zone, already fully developed on the west side of the motorway.

The Krapina municipality is also planning to build, next to the Interchange No. 5, Krapina, a business-commercial zone for which the regional development plan has recently been adopted. The public debate requirement has also been fulfilled.

Thus the known slogan "road means life" can now rightfully be changed into "motorway means life". [↗](#)

## Autocesta Rijeka – Zagreb d.d. issues its first Report on sustainable development

Autocesta Rijeka – Zagreb d.d. issued in September 2008 its first Report on sustainability and social accountability which focuses on its economic, environmental and social performance in 2007, taking into account the overall operations and activities of the company. The report was prepared in accordance with guidelines supplied in 2006 by the Global Reporting Initiative (GRI 3).

The report issued by Autocesta Rijeka – Zagreb d.d. is aimed at informing road users, our partners and the wider social community about our achievements in the sphere of sustainability. By our efforts and investments in this area, which often exceed requirements defined by the law, we are increasing standards in the field of social development, environmental protection, and respect of human rights.

The basic determinants of Autocesta Rijeka – Zagreb d.d., i.e. the safety, environmental protection, serviceability and efficiency, serve as benchmarks against which all our

strategies, plans and objectives are measured. We are certified for quality management system according to ISO 9001:2000, and also for the environment management system according to ISO 14001:2004. We are the member of the Croatian Business Council for Sustainable Development, and have adhered to the UN International Agreement (Global compact). We have formed a User Forum and prepared

a User Charter which reflects the needs and wishes of our users, and our relations towards them. We are constantly investing in the development of human resources, and are hence creating a generation of educated, informed and motivated persons who will become the core and foundations not only of a company, but of the society in general.



In keeping with the mentioned guidelines, we are regularly monitoring company advances in the sphere of sustainable development, and the reporting on activities and achievements in this field will become our standard practice.

The report is available on our web site: [www.arz.hr](http://www.arz.hr). [↗](#)

## New Sector formed in Hrvatske autoceste d.o.o.

Various options for restructuring the Construction Sector and the Sector for Development, Technical Regulations and Technology, have been considered in Hrvatske autoceste d.o.o. in the course of the month of September. On 1 October 2008 a new Development and Design Sector was formed, partly from the Design Division of the Construction Sector, and partly from the Sector for Development, Technical Regulations and Technology. Miodrag Furdin, Graduate Civil Engineer, was appointed by the Management Board as Director of

this new Sector. Miodrag Furdin was born in 1959 in Garešnica. He graduated in 1985 from the Faculty of Civil Engineering, Zagreb. He started working in 1986 in Vladimir Gortan and, in the same year, he changed employment and started working at Viadukt where he remained until 1987. Then he moved to the Inženjerski projektni zavod and remained with this company until 2001. In 2001 he was employed by Hrvatske autoceste d.o.o. as Chief of the Design Division. In this ca-



capacity he was responsible for the design of all significant motorway network segments built in Croatia from 2001 to the present time.

## Hrvatske autoceste d.o.o.

### Winter maintenance and toll collection on motorways

The winter maintenance of motorways started on 1 November 2008. Hrvatske autoceste d.o.o. (HAC) has adapted its human and material resources to the round-the-clock regimen of winter maintenance. In this respect, the company purchased 3 new trucks equipped with the state-of-the-art winter maintenance tools and implements, so that currently 19 technical maintenance crews have at their disposal the vehicle fleet con-

sisting of 98 trucks and special vehicles for all kinds of snow clearing operations. HAC maintains about 786 km of motorways, to which a new 47 km long section will be added in December. In other words, it is responsible for the total of 20.5 millions sq.m. of asphalt surfaces. Under the harshest conditions, in case of abundant and long-lasting snowfalls, HAC will also engage additional 65 vehicles from its subcontractors who have their own vehicles and crews, as well as the snow clearing equipment. In the course of September and October, the company's depots were filled with about 14 thousand tons of NaCl and 245 tons of CaCl<sub>2</sub>. HAC uses the calcium chloride and sodium chloride solution that has proven to be effective in preventing formation of glaze ice and in removal, or melting, of ice and snow from the pave-

**We wish to remind our users that in wintertime, from 1 November 2008 to 31 March 2009, HAC d.o.o. offers discount to the users of ETC (electronic toll collection) and SMART seasonal subscription services.**

ment and, at temperatures of less than -5 °C, it remains longer on the pavement surface. If the winter is extremely harsh and long, additional funding can be secured for another 8.3 thousand tons of NaCl and 116 tons of CaCl<sub>2</sub>. As of 1 November 2008, all technical maintenance crews receive twice a day local weather forecasts (for 8 areas along the motorway) from the National Weather Service. Road maintenance patrols have round-the-clock access to information from some eighty weather stations and sensors placed along the motorway route (for measuring and controlling temperature of air and pavement, precipitation levels, visibility, wind force, etc.).

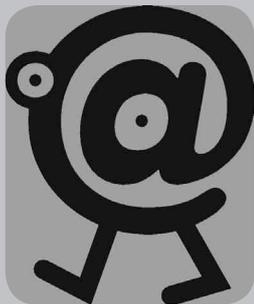


## New web site of the Association

Since HUKA was founded in the late 2003, we have received many enquiries and suggestions from our members, and also from motorway users and business partners, about the information available on the web site of our Association.

This is why we have made many additions to our site, and enriched it with maps of individual motorway routes with interchanges and roadside rest areas, with information about the payment methods and toll collection systems on motorways. We also introduced a completely new section called Legislation.

You can also find on our site all quarterly and annual publications issued by the Association. In brief, we invite you to visit our site at the old address [www.huka.hr](http://www.huka.hr) but in new clothing.



The screenshot shows the HUKA website interface. At the top, it says 'HRVATSKA UDRUGA KONCESIONARA ZA AUTOCESTE S NAPLATOM CESTARINE'. Below that is a banner for '25 000' and 'Orderly driving is environment friendly'. The main content area includes a 'Members' section with a description of the association and logos for Hrvatske Autoceste, Autocesta Rijeka-Zagreb, Bina-Istria, and Autocesta Zagreb-Macelj. A sidebar on the left contains navigation links like 'News', 'About us', 'Motorway network', 'Tolls', 'Publications', 'Legislation', and 'ASECAP'. At the bottom, there is a counter for 'Number of unique visitors: 248' and a note about the website design.

## Eurovignette Directive – third amendment

The Directive on charges to be applied to trucks for the use of certain infrastructure facilities is briefly called the Eurovignette Directive. The first Directive was adopted in 1999 and its amendments were approved in 2006.

The Directive enables the member countries to levy charges on heavy goods vehicles of more than 3.5 tonnes (in the first Directive it was only possible for trucks of more than 12 t). These charges for the use of infrastructure can be levied on motorways but also on the entire road network (in the first Directive, the charges were applied to motorways only).

The main novelty of the Directive passed in 2006 is that it enables individual states to integrate the "external costs" of road transport (congestion, environmental pollution, noise, health hazards, damage to landscape, and traffic accidents) into toll prices. The European Commission had to define, within 2 years following approval of the second Directive, the methodology for calculation and internalisation of such external costs, so that they can be built into the toll prices. The

EC gave its proposal, but the European Parliament reporter on the revision of the Eurovignette Directive has its counter-proposals that are much stricter with respect to internalisation of external costs.

Thus he proposes that environmental charges must be included in the toll charged for trucks, while the Commission mentioned this just as a possibility. The EP reporter has some other proposals as well: he considers that maximum amounts of such costs should not be limited, and that CO<sub>2</sub> emission costs, traffic accident costs, and congestion costs, must not be left out when calculating the toll prices.

It is estimated that these additional costs could amount to three to four percent of the toll price.

And, finally, the reporter recommends that the time-based system of toll collection be



abolished and replaced by toll based on kilometres travelled (the second Directive enables choice between these two possibilities).

Taking into account the complexity of this issue and the lack of clear vision in the EU about how the collected funds will be allocated, it can be expected that many battles will be waged over this issue before the third amendments to the Eurovignette Directive are finally adopted. [📄](#)

## EU adopts the Directive on Road Infrastructure Safety Management

The Council of Ministers has adopted on October 21 this year a new Directive on the safety of road infrastructure in the European Union. The aim of this document is to guarantee inclusion of safety aspect in all phases of management, from planning and design to the operation and maintenance of road infrastructure.

The level of road safety in EU greatly differs from one member country to another. In fact, in many cases the present day road network does not meet modern safety standards, as it has often been designed for transport capacities that are much smaller than those we have today. In many member countries, the subjects in charge of road construction are confronted with higher traffic safety requirements on roads that are overcrowded, and have to cope at the same time with restricted financing.

Although the initial proposal was submitted already in 2006, it was refused in 2007 as the representatives decided that the measures proposed can not be considered obligatory.

The Directive and its Annexes have thus become a compromise, i.e. a set of guidelines and recommendations that are not mandatory to member countries, although the latter "must attempt" to respect them in road



safety management practices on national levels. In addition, the Directive is related to the Transeuropean Road Network (RTE-T), rather than to all motorways in the EU.

It is stated in the Directive that the establishment of appropriate procedures is of crucial significance for making improvements in traffic safety. In addition, the Directive places emphasis on the significance of road safety assessments and infrastructure project revisions, in order to define in full detail all dangerous aspects of a road project. The significance of traffic signs is also stressed as they should warn drivers about

road works and hazardous road spots, so that drivers can adapt their driving to such circumstances. The need to conduct preventive safety inspections is emphasized.

The Directive also points to the significance of roadside rest areas, especially in terms of prevention of criminal activities and increase in road safety, and so their construction should be planned from the very start of the project.

Counting from the entry into force of this Directive, the member countries will have two years to adapt their national acts to its provisions. [📄](#)

## Statistical data

### TRAFFIC

NUMBER OF VEHICLES ON TOLL PLAZAS

Company	Until the end of September 2008		Total
	Light vehicles (categories 1 and 2)	Heavy vehicles (categories 3 and 4)	
HAC	21.705.985	3.140.786	24.846.771
ARZ	11.338.841	1.378.545	12.717.386
BINA-ISTRA	3.522.187	357.024	3.879.211
AZM	4.499.532	576.313	5.075.845
<b>TOTAL</b>	<b>41.066.545</b>	<b>5.452.668</b>	<b>46.519.213</b>

### TOLL REVENUES (without VAT)

1EUR = 7,5 KN

Company	Until the end of September 2008		% (08/07)
	KN	EUR	
HAC	981.885.560	130.918.075	+ 3,2
ARZ	405.095.929	54.012.790	+ 18,0*
BINA-ISTRA	104.749.760	13.966.635	- 1,1**
AZM	124.769.528	16.635.936	+ 18,1***
<b>TOTAL</b>	<b>1.616.500.777</b>	<b>215.533.436</b>	<b>+ 9,5</b>

\* Such significant increase in revenues is due to rise in traffic on the Rijeka – Zagreb motorway as well as to take over from HAC of the Krk bridge and the Rupa – Rijeka motorway on 01/09/2007

\*\* In September 2007, the rehabilitation work started on the Novigrad – Poreč County road in order to make repairs on the Antenal Bridge and, for that reason, all drivers used the section B-9 over the Mirna Bridge.

\*\*\* The increase percentage for 08/07 is not realistic as the new Krapina – Macelj section was opened to traffic in June 2007

### TRAFFIC SAFETY

Number of traffic accidents:	Until the end of September 2008				
	HAC (780 km)	ARZ (178 km)	BINA-ISTRA (145 km)	AZM (60 km)	CROATIA (1163 km)
- with fatal casualties	21	8	4	7	<b>40</b>
- with injuries	193	92	17	5	<b>307</b>
- with material damage	1040	341	108	90	<b>1579</b>
<b>TOTAL number of accidents</b>	<b>1254</b>	<b>441</b>	<b>129</b>	<b>102</b>	<b>1926</b>
<b>TOTAL number of deaths in fatal accidents</b>	<b>40</b>	<b>10</b>	<b>5</b>	<b>8</b>	<b>63</b>



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