

CROATIA NATIONAL REPORT ON MOTORWAYS 2017

I Current State of the Network

As on 31 December 2017, the total length of the motorway network in Croatia amounted to **1,313.8 km**. Motorways are operated by 4 companies:

- Hrvatske autoceste d.o.o. (operates motorways A1, A3, A4, A5, A10, A11 and St. Ilija tunnel),
- BINA-ISTRA d.d. (it operates the so called Istrian Y - A8 and A9),
- Autocesta Rijeka - Zagreb d.d. (operates motorway A6, part of A1 and A7, the Krk Bridge and part of D6 State Road from Novigrad to Netretić)
- Autocesta Zagreb - Macelj d.o.o. (operates motorway A2).

	Company	2016 Total network	2017 Total network	Total network plan for 2018
1.	HAC d.o.o.*	925.80	925.80	918. 50**
2.	ARZ d.d.*	187.03	187.03	187.03
3.	BINA-ISTRA d.d.	141.00	141.00	141.00
4.	AZM d.o.o.	60.00	60.00	60.00
TOTAL		1,313.83	1,313.83	1,306.53

**revised km according to km of network in service*

***As of 1st January 2018 St. Ilija Tunnel was handed over to Croatian Roads Authority (HC) therefore HAC network will decrease in 2018 by 7.3 km*

OPENING OF NEW STRETCHES IN 2017

In 2017 a new 1.2 km link road Karamatići-Port of Ploče, ensuring entrance to the Port of Ploče and Town of Ploče, was opened to traffic. This road was handed over to Public Roads Authority for operation and maintenance as it is state road. Therefore motorway network did not increase in 2017.

Tunnels and Bridges on the Network - length in sole one direction

Company	Km of Tunnels	Km of Bridges	Total Tunnels and Bridges
HAC	31.63	8.51	40.14
ARZ	12.88	14.56	27.44
BINA ISTRA	5.31	9.36	14.67
AZM	3.50	7.87	11.37
TOTAL	53.32	40.30	93.62

II Works in Progress

On 31 December 2017, the works were in progress on:

- 7.8 km of motorways
- 10.60 km of fast roads,
- 1 motorway interchange

WORKS IN PROGRESS ON 31 DECEMBER 2017			
Motorway/Road	Section	Km	Description
A5 Beli Manastir-Osijek-Svilaj	Halasica Bridge-Drava Bridge	0.80	Construction work and supervision
	Bridge Drava	2,50	
	Drava Bridge - Osijek	3,80	
	Bridge Sava	0,70	
A3 Bregana-Zagreb-Lipovac	Lipovljani interch.		Construction work and supervision
Fast road: D12 Podravina Y	Vrbovec 2 - Farkaševac	10.60*	Construction work and supervision

In 2018, road works will be completed on the total of:

- 10.60 km of fast roads,
- 1 motorway interchange

THE FOLLOWING SECTIONS WILL BE OPENED TO TRAFFIC IN 2018			
Motorway	Section	Km	Opening to traffic scheduled
Fast road: D12 Podravina Y	Vrbovec - Farkaševac	10.60*	In the second semester of 2018
A3 Bregana-Zagreb-Lipovac	Lipovljani Interch.		In the first semester of 2018

**sections of state roads which will not be integrated in motorway network of HAC but after the completion of works done by HAC they will be handed over to HC (Croatian Roads Authority)*

In addition to the continuation of work from the previous year, the following **new work** will start in 2018:

- 17.50 km of new motorways
- 10.68 km of widening to full profile

START OF NEW WORK IN 2018			
Motorway	Section	Km	Description
A5 Beli Manastir - Osijek - B&H	Subsection Beli Manastir -Halasica Bridge	17.50	Construction work and supervision
A8 Kanfanar - Matulji	Rogovići - Cerovlje *	10.68*	Widening to full profile

**plan (assuming the realization of investment in phase 2B1)*

III Cost of Investment and Financing

The total of HRK 107.07 million (€ 14.26 million) was invested in the construction of new motorways in 2017, while HRK 206.39 million (€ 27.48 million) was invested into sections under traffic.

- in mio HRK

Company	Investments in 2017		Plan for 2018	
	Into new sections	Into existing sections	Into new sections	Into existing sections
HAC	107.07	133.34	400.52	147.84
ARZ*	0.00	32.74	0.00	157.32
BINA ISTRRA	0.00	24.96	281.91	25.44
AZM	0.00	15.35	0.00	0.00
TOTAL	107.07	206.39	682.43	330.60
TOTAL INVESTMENTS	313.46		1,013.03	

- in mio EUR

Company	Investments in 2017		Plan for 2018	
	Into new sections	Into existing sections	Into new sections	Into existing sections
HAC***	14.26	17.75	53.33	19.68
ARZ*	0.00	4.37	0.00	20.95
BINA ISTRRA	0.00	3.32	37.54	3.39
AZM	0.00	2.04	0.00	0.00
TOTAL	14.26	27.48	90.87	44.02
TOTAL INVESTMENTS	41.74		134.89	

*The investment amounts are based on the temporary report for 2017

**1 EUR=7.51 HRK (Exchange rate as per 31st December 2017, Source: Croatian National Bank)

***HAC: Investment amount for the year 2017 is based on temporary report and for the year 2018 is based on Draft Plan of construction and maintenance approved on the 22nd March 2018 by the Supervisory Board of the Company and submitted to Ministry of the Sea, Transport, and Infrastructure for final approval by the Croatian Government.

Source of investments financing in 2017 (%)	HAC	ARZ	BINA ISTRRA	AZM
Loans	20.37		0	0
proper resources	0		0	0
Revenues from tolls and other revenues	0	100,00	54.0	70
Revenues from fuel HRK 0.20/l i.e. EUR 0.026/l	72.88		0	0
Reimbursable and non-reimbursable state funding	0		46.0	30
EU funds	6.75		0	0
TOTAL	100	100	100	100

IV Traffic

In 2017 all motorway companies experienced increase in traffic when compared to the previous year. The total traffic of all vehicles increased by 5,07 % in comparison with the previous year.

- number of vehicles in toll collection zones

Company	2016		2017				Total (17/16)
	Light vehicles	Heavy vehicles	Light vehicles	%	Heavy vehicles	%	
	(IA+I+II)	(III+IV)	(IA+I+II)	(17/16)	(III+IV)	(17/16)	
HAC	33.797.887	5.022.564	35.487.682	5.00	5.335.700	6.23	5.16
ARZ	19.159.313	2.182.413	20.248.065	5.68	2.340.165	7.23	5.84
BINA ISTRRA	8.338.141	729.034	8.828.171	5.88	768.200	5.37	5.84
AZM	6.051.203	760.766	6.125.932	1.23	765.442	0.61	1.17
TOTAL	67.346.544	8.694.777	70.689.850	4.96	9.209.507	5.92	5.07
TOTAL TRAFFIC	76.041.321		79.899.357				5.07

GDP 2016/2015 (%)	Traffic 2016/2015 (%)	CPI 2016/2015 (%)	GDP 2017/2016 (%)	Traffic 2017/2016 (%)	CPI 2017/2016 (%)
3.2	8.0	0.2	2.8*	5.1	1.2

* Flash estimate (source: Central Bureau of Statistics)

V Tolling

The closed toll collection system, with several entrances and exit points, is predominantly operated in the Republic of Croatia. Motorway usage is charged per mileage and vehicle category. At the entrance to the motorway, the user takes an entry card (or the entry is recorded on their ETC device) and the payment is made on exit toll stations per the length of travel.

The open toll collection system is used on Bregana - Zagreb Motorway, on the Krk Bridge, on Rupa-Rijeka and on the St. Ilija Tunnel.

1 EUR = 7.51 HRK (on 31st December 2017)

AVERAGE TOLL RATE PER KM (with VAT)		
Existing systems	Light vehicles (Category I)	
	HRK/km	€/km
Closed system	0.507	0.067
Open system	0.495	0.066
Ratio categories I : IV closed tolling system	1 : 4.3	
	Trucks (Category IV)	
	HRK/km	€/km
Closed system	2.185	0.291
Open system	1.918	0.264
Ratio categories I : IV open tolling system	1 : 4.05	

Motorcycles (category IA) pay 60% of the toll charged for category I vehicles.

On all motorways, toll can be paid in cash (HRK and €), by credit and debit cards, by INA card, by SMART cards. Electronic toll collection (ETC) system is available on all motorways except on the Zagreb-Macelj Motorway (A2).

VAT on tolls is 25%.

TECHNOLOGY OF ELECTRONIC TOLL COLLECTION SYSTEM IN USE

The toll collection systems of HAC, ARZ and BINA ISTRAN network has a stop and go system that integrates electronic toll collection (ETC).

The technology of electronic toll collection is in accordance with the legal provisions: DSRC 5.8 GHz

Communication standards: Physical Layer ENV 12795 and ENV 12253

Data Link Layer ENV 12834 and ENV 13372

Application standards: Application Layer ISO14906 EFC

Transaction models: PISTA and TIS are in use, with openness to other transactional models in accordance with relevant standards.

HAC

The Government of the Republic of Croatia started a process aiming to transformation of the existing tolling system on motorways into system that will enable electronic tolling without barriers, improvement of road safety and traffic flow levels, that will be acceptable and non-discriminatory for all groups of users paying the toll and will ensure to motorway operators optimum costs and revenues regarding tolling and that will be interoperable with future EETS service. New tolling system should be implemented by 2020 at the latest.

ARZ

Future ARZ projects are focused on the need to increase the flow of toll stations by introducing more fast toll lanes without stopping (currently there are two) and to introduce new products based on electronic tags and ANPR modules.

BINA-ISTRAN D.D.

The Istrian Y network has a closed toll system. Users have at their disposal a total of 108 toll lanes, of which 45 are entry lanes and 63 are exit lanes. Payment can be made in cash in HRK and EUR (only for non-residents), with bank cards or Bina Istra ETC devices.

For users who travel frequently, Bina Istra has prepared special offers with significant discounts on toll rates depending on the package chosen. The discounts can be obtained by using the Bina Istra ETC device, which is compatible with the networks of other motorway concessionaires in Croatia - ARZ and HAC.

During low traffic intensity, toll collection at most toll stations runs in automatic mode without the presence of a toll collector.

Bina-Istra ETC subscribers can use the Internet or SMS subscription to see the balance of their accounts and subscription expiry time and can also obtain the listing of passes through toll stations. In addition, they can replenish their accounts and fill in and print invoices for payments via bank transfer. At Bina-Istra toll collection points, toll can be paid by all credit and debit cards, and by INA card and the ETC device.

Furthermore, users who already own an ETC device can additionally register devices already bought at HAC and ARZ with the BINA-ISTRA toll collection system and in this way become Bina-Istra subscribers (this is valid for frequent users entitled to average discount of 30 to 50% , depending on the section used) or to register their credit cards for an ETC device (applicable to non-frequent users).

Toll rates

HRVATSKE AUTOCESTE D.O.O. (HAC)

To implement measures in the framework of approved financial restructuring process of toll tariffs on the HAC network in 2017 HAC changed its toll rates as follows:

As to adjust its unit toll tariffs per kilometre for the I. category of vehicles with the toll tariffs valid on ARZ network, unit toll tariffs per kilometre for the I. category of vehicles has been increased by 5%. In peak traffic period during tourist season, from 1st July to 30th September 2017, toll tariffs for IA and I category of vehicles have been increased by 10%.

AUTOCESTA RIJEKA-ZAGREB D.D. (ARZ)

In 2017 the unit toll rates did not change on the motorway network under ARZ concession. However, in peak traffic period during tourist season, from 1st July to 30th September 2017, toll tariffs for IA and I category of vehicles have been increased by 10%.

AUTOCESTA ZAGREB-MACELJ D.O.O. (AZM)

In 2017 toll rates did not change. For prepaid toll payments via SMART card the discount of 25% is calculated for categories I and II and 13% for categories III and IV (for amounts more than HRK 2,000.00). In addition to SMART card, payments can also be made via debit and credit cards, and by INA card.

BINA-ISTRA D.D.

As of 1.1.2017. new toll tariffs have been applied on the Istrian Y motorway, adjusted for inflation rate for the last 12 months, which resulted in average increase of toll rates on the Istrian Y by 1.2%.

The summer tariffs have been applied on Istrian Y also this summer (from 1.6.-30.9.2016.). This special tariff was approved by the Ministry of the Sea, Transport and Infrastructure and represents full toll tariff increased by 10%.

For subscribers and local population using ETC device tolls remain unchanged. Since summer 2015 BINA ISTRA has proposed to its users a new ETC package called EASY, offering a general discount of 10% without time limit.

ETC users still have the possibility to qualify for a series of discounts on the regular toll price. Bina-Istra ETC subscribers can use the Internet or SMS subscription to see the balance of their accounts and subscription expiry time and can also obtain the listing of passes through toll stations. In addition, they can replenish their accounts and fill in and print invoices for payments via bank transfer.

To improve services for its users, in 2017 the company launched several projects whose implementation is expected in 2018.

VI Toll Revenues (without VAT)

In 2017, the total toll revenues amounted to **EUR 383.036.824** which represents an increase of toll revenues by **10.85 percent** when compared to the previous year.

- In HRK

Company		2016			2017			% (17/16)
		LV	HV	TOTAL HRK	LV	HV	TOTAL HRK	
1.	HAC	1.097.896.996	499.236.135	1.597.133.131	1.257.746.507	554.591.092	1.812.337.599	13.47
2.	ARZ	427.514.272	153.316.109	580.830.381	469.458.952	161.829.848	631.288.800	8.69
3.	BINA-ISTRA	161.289.728	42.848.367	204.138.095	172.655.545	46.461.731	219.117.276	7.34
4.	AZM	144.710.867	68.141.191	212.852.058	145.493.757	68.369.114	213.862.871	0.47
TOTAL		1.831.411.863	763.541.802	2.594.935.665	2.045.354.761	831.251.785	2.876.606.545	10.85

Company		2016		2017		% (17/16)
		HRK	€	HRK	€	
1.	HAC	1.597.133.131	212.667.527	1.812.337.599	241.323.249	13.47
2.	ARZ	580.830.381	77.340.930	631.288.800	84.059.760	8.69
3.	BINA-ISTRA	204.138.095	27.182.170	219.117.276	29.176.734	7.34
4.	AZM	212.852.058	28.342.484	213.862.871	28.477.080	0.47
TOTAL		2.594.935.665	345.533.111	2.876.606.545	383.036.824	10.85

Toll revenues breakdown for light vehicles and heavy vehicles

	2017 (in EUR)					
	Light vehicles	Heavy vehicles	Total	LV%	HV%	%
	(IA+I+II)	(III+IV)		(17/16)	(17/16)	(17/16)
HAC	167.476.233	73.847.016	241.323.249	14.56	11.09	13.47
ARZ	62.511.179	21.548.582	84.059.760	9.81	5.55	8.69
BINA ISTRA	22.990.086	6.186.649	29.176.734	7.05	8.43	7.34
AZM	19.373.336	9.103.744	28.477.080	0.54	0.33	0.47
TOTAL	272.350.834	110.685.990	383.036.824	11.68	8.87	10.85

Toll revenues are based on the temporary reports for 2017

1 EUR=7.51 HRK (Exchange rate as per 31st December 2017, Source: Croatian National Bank)

VII Traffic Safety

The total of 2,465 traffic accidents, with 23 fatalities and 561 injuries was registered in 2017. The total number of all traffic accidents registered in 2017 increased by 2.84 % and total number of fatalities decreased by 36.11 %, when compared to the previous year.

Number of traffic accidents	2016					2017					%
	HAC 925 km	BINA ISTRA* 141 km	ARZ 187 km	AZM 60 km	CROATIA 1313 km	HAC 925 km	BINA ISTRA* 141 km	ARZ 187 km	AZM 60 km	CROATIA 1313 km	
with fatalities	20	4	3	0	27	14	0	4	2	20	-25.93
with injured	219	14	65	17	315	231	7	78	16	332	5.40
with material damage	1.596	65	284	110	2.055	1.620	77	290	126	2.113	2.82
Total number of traffic accidents	1.835	83	352	127	2.397	1.865	84	372	144	2.465	2.84
Total number of injuries	388	40	94	29	551	382	9	135	35	561	1.81
Total number of fatalities	28	4	4	0	36	16	0	5	2	23	-36.11

Traffic accidents are observed on the totality of the motorway network

** BINA ISTRA figures on traffic accidents are given for the total network of Istrian Y (both motorway and semi motorway) while safety ratios are given only for stretches in full motorway profile to be comparable with other concessionaires.*

Main safety ratios

	10 ⁹ vehicles/km in 2017					change 2017/2016 in %				
	HAC* 911 km	BINA ISTRA*** 100 km	ARZ** 146 km	AZM 60 km	CROATIA 1217 km	HAC* 911 km	BINA ISTRA*** 100 km	ARZ** 146 km	AZM 60 km	CROATIA 1217 km
Personal injury rate	47,84	3,36	56,75	42,42	45,60	0,06	-71,60	4,19	-4,65	0,23
Fatal accident rate	2,89	0,00	2,91	5,3	2,75	-33,72	-100	5,05	-100	-29,56
Rate of dead	3,31	0	3,64	5,3	3,16	-45,83	-100	-1,36	-100	-39,24

** km of the network maintained used for calculating the safety figures*

***ARZ safety ratios refer to A1 and A6 motorways i.e. to 146,5 km, while table with traffic accidents include the total ARZ network i.e. 187,03 km*

**** BINA ISTRA figures on traffic accidents are given for the total network of Istrian Y (both motorway and semi motorway) while safety ratios are given only for stretches in full motorway profile to be comparable with other concessionaires.*

VIII Long and Medium-Term Development Program

According to the Roads Act, the construction and maintenance of motorways is planned:

- In the long term, through the public road development strategy
- In the medium term, through four-year Public Road Construction and Maintenance Programmes passed by the Government of the Republic of Croatia based on the proposal of the Ministry of Sea, Transport, and Infrastructure,
- Annually, through construction and maintenance plans defined by individual motorway operating companies.

In August 2017 the Croatian Parliament adopted new Strategy of Transport Development of the Republic of Croatia for the period 2017-2030.

As far as road sector is concerned the Strategy sets up following specific goals:

- SG1 - Improve road safety
- SG2 - Achieve better use of Croatian road system as to boost public transport (local, regional, and national bus lines).
- SG3 - Decrease impact of the oldest stretches of Croatian motorways to environment
- SG4 - Optimize and harmonize different tolling system in Croatia.
- SG5 - Improve technical requirements in road design by promoting more economical technical solutions, safety standards, green mobility, intramodality of transport with zero emission of CO₂.
- SG6 - Improve access to areas where the existing infrastructure capacity reached their ceilings and where alternative transport models (public rail transport, coastal traffic) are not economically justified (touristic destinations in Littoral Croatia), including introduction of sustainable public transport concept with zero emission of CO₂.
- SG7 - Improve links with neighbouring countries as to improve cooperation and territorial integration.
- SG8 - Improve access to areas where the existing infrastructure capacity reached their ceilings and where alternative road infrastructure does not exist (parallel motorways etc.). - from Zagreb towards Bjelovar and from Varaždin towards Koprivnica and Krapina.
- SG9 - Decrease road bottlenecks in agglomerations with high traffic density, respecting specific rules concerning national heritage protection.

The Government of the Republic of Croatia adopted in total five four-year Public Road Construction and Maintenance Programs (2001-2004, 2005-2008, 2009-2012, 2013-2016, 2017-2020). The new four-year Programme for 2017-2020 was adopted in May 2017.

Croatia will finish realisation of defined strategic goals (attainment of planned regular maintenance of roads, ensuring that the total core road network matches the up to date transport standards and completion of the necessary planned motorway and fast roads network).

According to Public Road Construction and Maintenance Program 2017-2020 the following motorways and express roads are to be completed and opened to traffic:

A5 Beli Manastir - Osijek - B&H Border Section

- Osijek-Beli Manastir Section including Drava Bridge
- Sava Bridge

A3 Bregana -Zagreb-Lipovac

- Lipovljani interchange

A8 Kanfanar - Matulji Motorway

- Rogovići - Vranja Section- widening to the full motorway profile

D12 Podravina Y (Bjelovar)

- Vrbovec 2 - Farkaševac Section

Start of construction of the “Ranžirni” Overpass on the A11 Motorway Zagreb - Sisak in 2020.

CROCODILE 2 CROATIA is joint ITS project involving state roads and motorway operators having for goal to ensure coordinated traffic management and control that will result in providing high quality information to users on one of the most important road corridors in the enlarged Europe. For the exchange of data and information on european level DATEX II protocol will be used. DATEX II is a protocol for information exchange between TMCC centres, roads information centres, road service providers and users.

Details about the project

- Start of project: 2016
- End of project: 2019
- Value of the project: 10.956.000,00 EUR
- Co-funding by EU: 9.312.600,00 EUR

Partners

Project Applicant

Ministry of the Sea, Transport, and Infrastructure

Implementation Bodies

Hrvatske autoceste d.o.o.
Autocesta Rijeka-Zagreb d.d.
Autocesta Zagreb-Macelj d.o.o.
Bina-Istra d.d.
Hrvatske ceste d.o.o.

CROCODILE 3 CROATIA project is a cooperation between public authorities, road administrations and traffic information service providers as logical follow up of the previous CROCODILE project phases. The Project is part of CROCODILE 3 corridor which includes EU-Member States from the Central European region who are working together to improve cross-border traffic and transport through implementing harmonized and synchronized ITS applications on the high-level road network in this area. The corridor involves Central European (CE) countries, thereby ensuring coordinated traffic management and control resulting in high quality travellers' information services on one of the most important road-corridors in an enlarged Europe.

For drivers, the provision of information services along the whole CROCODILE 3 corridor before and during their journey will help them to optimize their route, respond to disruptions, and avoid hazardous situations.

Project details

- Commencement of the project: 01.01.2018.
- End of project: 31.12.2020.
- Value of the project: 4.896.000,00 EUR
- Co-financing EU funds: 4.161.600,00 EUR

Participants

Project coordinator

- Hrvatske autoceste d.o.o.

Beneficiaries

- Autocesta Rijeka-Zagreb d.d.
- Autocesta Zagreb-Macelj d.o.o.
- Bina-Istra d.d.
- Hrvatske ceste d.o.o.

IX Significant activities in 2017 and plans for 2018

HRVATSKE AUTOCESTE D.O.O.

In 2017 the company was focused on:

Opening to traffic of 1,2 km of link road Karamatići-Port of Ploče. Handover of this road to Croatian Roads Authority for operation and maintenance is under way.

The works were under way as follows:

1. On A5 Motorway Beli Manastir - Osijek - border with Bosnia and Herzegovina, construction and equipment of full motorway subsection Osijek Interch -Bridge Drava of total length of 3.8 km and subsection Halasica Bridge - Drava Bridge of total length of 0.8 km as well as construction works of the Drava Bridge and Sava Bridge.
2. Construction and equipment of DC12 state road from Vrbovec 2 Interch. - Farkaševac
3. A3 Bregana-Lipovac-Zagreb - construction of Lipovljani Interchange
4. A1 and A3 motorways - setting up of noise protection walls in accordance with the Noise Protection Action Plan.

In addition, heavy maintenance works that included renewal and reconstruction of pavement and structures, cleaning up of; cuttings, water drainage system, road equipment and road signs, preparation of documentation for introduction of ITS in TMMC (application of ITS Directive and DATEX I protocol), upgrade of tunnels with requirements of the Directive 2004/54/EC), harmonizing of safety and protection fences with new regulation requirements, works at TMMC, systems etc. as to extend the life span of assets and improve quality and safety of motorway as well as regular maintenance in compliance with regulations and standards for regular maintenance.

Besides the investments under its own responsibility, in 2017 Hrvatske autoceste motorway company acted on behalf of the Ministry of Finances and managed the construction of 40 border crossing points defined by the Schengen Action Plan of the Government of the Republic of Croatia.

In 2018 the main works will be as follows:

1. On A5 Motorway Beli Manastir - Osijek - border with Bosnia and Herzegovina, completion of construction and equipment of the stretch Osijek Interch.-Drava Bridge of total length of 3.8 km, the stretch Drava Bridge-Halasica Bridge of total length of 0.8 km, the Drava Bridge, continuation of construction of Sava Bridge and start of construction of Halasica bridge to Beli Manastir Section of total length of 17.5 km including overpasses and road crossings.
2. Completion of works and equipment of state road D12 Vrbovec 2 Interch.-Farkaševac to be handed over to Croatian Roads Authority.
3. A4 Zagreb-Goričan - start of reconstruction of link road to Goričan border crossing.
4. Upgrade and modernising of toll collection system.
5. A1 and A3 motorways - setting up of noise protection walls in accordance with the Noise Protection Action Plan.

As in the previous years regular and heavy maintenance works are also planned in 2018. In addition to the activities from the last year and which will be continued also during this year, in

2018 will start introduction of ITS system in TMCC centres (implementation of ITS Directive and DATEX I protocol), upgrade of tunnels with requirements of the Directive 2004/54/EC), harmonizing of safety and protection fences with new regulation requirements, revitalizing of road side facilities and optimizing of motorway lighting on HAC network in the framework of the National Energy Efficiency Action Plan.

AUTOCESTA RIJEKA-ZAGREB D.D.

Some of major projects of the company in 2017 and to be continued also in 2018:

- a) Overall plan for development of the motorway Zagreb-Karlovac,
- b) Noise Protection Walls Project
- c) *LIFE DINALP BEAR project* „Population level management and conservation of brown bears in northern Dinaric Mountains and the Alps “. Goals of the project which are under responsibility of ARZ are mainly to increase road safety, improve motorway impact on nature. Through concrete project activities protected motorway corridor becomes additionally secured/closed to enable access for animals and to set up systematic approach to handle incident situation involving animals. As a direct result of this project i.e. of implemented measures we can observe significant decrease in incidents involving animals in the protected and closed corridor of motorway and consequently increase in traffic safety. Project is co-financed by EU funds in the framework of EU programme LIFE+. Implementation period is from 1.7.2014. to 30.6.2019.
- d) JOINT ITS PROJECT CROCODILE II CROATIA - project involve state roads and motorway operators having for goal to ensure coordinated traffic management and control and to achieve harmonized ITS systems that will result in providing high quality information to users on one of the most important road corridors in Europe.

For the exchange of data and information on European level DATEX II protocol will be used.

DATEX II is a protocol for information exchange between TMCC centres, roads information centres, road service providers and users. Implementation period is 1.5.2016. to 30.9.2019.

- e) Construction of the Interchange Trinajstići

Activities of the company in 2018:

In addition to the activities from 2017 the Company set for the year 2018 the following activities:

- investments relating to the rehabilitation and maintenance of existing facilities on the motorway and of the motorway itself
- maintenance of equipment as well as
- investments into heavy maintenance.

Projects undertaken by ARZ and planned for the year 2018 include improvement of service to users and of road safety level (better traffic flow, reduction of bottle necks, modernizing of traffic management system and prevention of accidents, investments in protection fences, environment protection investments in noise protection walls, reconstruction of the existing lighting system and migration to more energy efficient lighting).

In the long-term Construction/Diversion of the State Road D6 from Novigrad Interchange to Lišnica of total length of 4.440 m is planned.

BINA -ISTRA d.d.

In 2017 the company's activities were focused on:

For third year in a row Bina Istra proposes to its users new ETC subscription model with unlimited duration of funds available on their accounts and 10% discount on toll price and feedback from users is positive.

Bina Istra introduced application for mobile phones offering to users gathered information about weather forecast, conditions on Istrian Y motorway, road assistance including automatic localisation on the motorway, possibility for ETC users to access to their personal accounts and about general organizing travel information.

In addition, Bina Istra aims to provide to its users an efficient post-sale service through independent Client Service available for any kind of queries that users of Istrian Y might have. Client Service will have its free info phone 0800 600 601, where calls will be accepted and processed 24 hours a day.

Bina Istra will continue with project of achieving the full interoperability of ETC system which is planned to be implemented in 2 phases:

- interoperability of ETC devices among all motorway companies in Croatia
- interoperability of ETC on EU level

For the purpose to achieve interoperability on national level the Company has agreed and signed end 2016 an MoU with ARZ company to reach technical and operational preconditions to improve service to users in terms of providing partial interoperability.

For the year 2018 the company has set following objectives:

Company plans to achieve financial closing of the phase 2B1 and to launch works on widening the Rogovići-Cerovlje section to full motorway profile (10.68 km).

In the long term the Company plans as follows:

- Widening to full motorway profile on the Pazin-Učka Tunnel Section (Phase 2B1) i.e. completion of the Istrian Y project
- Construction of second tube of Učka Tunnel
- Debt refinancing

AUTOCESTA ZAGREB-MACELJ D.O.O.

The short-term objectives of the company include:

Regular and periodic maintenance, lowering the number of traffic accidents, energy savings, environmental protection.

Long term project of AZM is to upgrade of the Krapina-Durmanec Section of the total length of 3,7 km to the full motorway profile and introduction of ETC toll payment.

KEY DATA FOR 2017

CROATIA	2017
The total length of network according to concession agreement, in km, as on 31/12/2017	1.313.8
2 x 1 lanes not including the stopping lane	72.4
2 x 2 lanes not including the stopping lane	1.220,6
2 x 3 lanes not including the stopping lane	20.8
2 x 4 lanes not including the stopping lane	0
Number of km opened to traffic in 2017	
MOTORWAYS	0
SEMI-MOTORWAYS/FAST ROADS	0
LINK ROADS	1.2*
Number of km under construction as on 31/12/2017	
NEW INTERCHANGE	
MOTORWAYS	7.8
SEMI-MOTORWAYS/FAST ROADS	10.6**
Planned opening of new sections in 2018, in km	
MOTORWAYS	0
SEMI-MOTORWAYS/FAST ROADS	10.6**
Annual toll collection revenues in 2017, in EUR (without VAT)	383.036.824
Total full-time employees	3.380***
AADT LIGHT VEHICLES	13.648
AADT TRUCKS	2.012
AADT LV + HV	15.660
Total number of accidents	2.465
Number of accidents with injuries	332
Number of fatalities	23
Number of injuries	561
Number of kilometres travelled (10 ⁶ x km)	7.280,8
Fatality rate	3.16****
Number of toll stations	109
Number of toll collection lanes	726
Number of ETC lanes	499*****
Number of ETC subscribers	359.752
Number of roadside rest areas (with filling stations)	76
Number of rest areas	124
Number of restaurants	25
Number of hotels	11

* Section of the State Road DC425 that was handed over for operation to HC (Croatian Roads Authority)

** Section of the State Road DC12 to be handed over for operation to HC (Croatian Roads Authority) after completion

*** Total number of work force in all motorway companies and their operators

**** BINA ISTRRA figures on traffic accidents are given for the total network of Istrian Y (both motorway and semi motorway) while safety ratios are given only for stretches in full motorway profile to be comparable with other concessionaires.

*****The Autocesta Zagreb-Macelj d.o.o. has not yet introduced the ETC