



THE CROATIAN ASSOCIATION OF TOLL  
MOTORWAYS CONCESSIONAIRES

# NATIONAL REPORT 2021

ON MOTORWAYS



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The Croatian Association of Toll  
Motorways Concessionaires

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*In 2021 the Hrvatske autoceste Motorway Company opened to traffic the Sava Bridge (0.7 km) while Bina Istra Company completed the works on 16.82 km of widening of the existing stretches to full motorway profile: the stretch Cerovlje-Lupoglav (opened to traffic on the 26<sup>th</sup> July 2021) and the stretch Lupoglav-Vranja (opened to traffic on the 25<sup>th</sup> September 2021). Therefore the total length of the network did not change significantly.*

## Network and companies

## Current State of the Network

As on 31 December 2021, the total length of the motorway network in Croatia amounted to 1,313.40 km. In 2021 motorways were operated by 3 companies:

- Hrvatske autoceste d.o.o. (operates motorways A1, A3, A4, A5, A6, A7, A10, A11 and Bridge Krk),
- Bina-Istra d.d. (operates the so-called Istrian Y: A8 and A9),
- Autocesta Zagreb - Macelj d.o.o. (operates motorway A2).

### Motorway and semi-motorway network (in km)

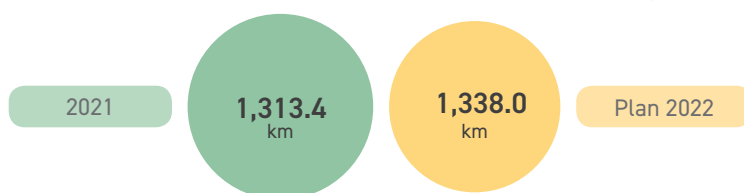
Company	2020 Total network	2021 Total network	Plan openings in 2022	Total network plan for 2022
HAC d.o.o.	1,105.53	1,112.40	24.60	1,137.00
BINA-ISTRA d.d.*	141.00	141.00	0	141.00
AZM d.o.o.	60.00	60.00	0	60.00
<b>TOTAL</b>	<b>1,306.53</b>	<b>1,313.40</b>	<b>24.60</b>	<b>1,338.00</b>

\*Widening to full motorway profile of the existing stretch, therefore the length of BINA network remains the same

### Opening of new stretches in 2021

In 2021 the Hrvatske autoceste Motorway Company opened to traffic the Sava Bridge (0.7 km). Bina-Istra Company completed the works on 16.82 km of widening of the existing stretches to full motorway profile: the stretch Cerovlje-Lupoglav (opened to traffic on the 26<sup>th</sup> July 2021) and the stretch Lupoglav-Vranja (opened to traffic on the 25<sup>th</sup> September 2021). Therefore the total length of the network did not change significantly.

### Motorway and semi-motorway network 2021 and plan 2022



### Tunnels and bridges on the network – single direction

Company	Km of tunnels	Km of bridges	Total km tunnels and bridges
HAC*	41.41	52.11	93.52
BINA-ISTRA	5.31	9.36	14.67
AZM*	4.70	3.32	8.02
<b>TOTAL</b>	<b>51.42</b>	<b>64.79</b>	<b>116.21</b>

\*Length of tunnels and bridges was revised

On 31<sup>st</sup> December 2021, works have been in progress on 17.50 km of new motorways (A5) and 1.00 km of upgrade to full motorway profile (A8 Istrian Y motorway).



# Works in Progress

## Works in progress on 31<sup>st</sup> December 2021

As per 31<sup>st</sup> December 2021 the works were in progress as follows:

- 24.60 km of motorways
- 1.00 km widening to full motorway profile

Motorway/Road	Section	Km	Description
A5 Beli Manastir – Osijek – Svilaj	Subsection Beli Manastir-Halasica Bridge	17.50	Construction works and equipment. Opening is planned by Mid 2022
	Subsection Halasica Bridge-Drava Bridge	0.80	
	Drava Bridge	2.50	
	Drava Bridge – Osijek	3.80	
A7 Rijeka – Rupa	Trinajstići Interchange	0.00	Opening is planned by Mid-2023
A8 Kanfanar – Matulji	Construction of 2 <sup>nd</sup> tube of the Učka Tunnel including Subsection Vranja - Učka Tunnel	1.00	Widening to full motorway profile of the existing stretch

## Openings to traffic planned in 2022

In 2022, road works will be completed on the total of:

- 24.60 km of motorways

Motorway/Road	Section	Km	Description
A5 Beli Manastir – Osijek – Svilaj	Subsection Beli Manastir-Halasica Bridge	17.50	Completion of works and opening to traffic planned in 2022
	Subsection Halasica Bridge-Drava Bridge	0.80	
	Drava Bridge	2.50	
	Drava Bridge – Osijek	3.80	

## Start of new works in 2022

In addition to the continuation of works from the previous year, the following new works will start in 2022:

- 16.00 km of new motorways of widening to full motorway profile
- 6.50 km of new motorway, single carriageway in the first phase
- 2.14 km of widening to full motorway profile

Motorway	Section	Km	Description
A1 Zagreb – Split – Dubrovnik	Šibenik – Vrpolje	0.00	Construction of new Šibenik Interchange (Podi)
	Prgomet – Dugopolje	0.00	Reconstruction and upgrade of the existing Dugopolje Interchange
A5 Beli Manastir - Osijek - Svilaj	Croatian border with Hungary – Beli Manastir	5.00	Completion of construction of the Corridor Vc
A7 Rupa – Rijeka-Križišće – Žuta Lokva	Rupa – Rijeka	0.00	Reconstruction of Matulji Interchange and full profile junction with Bina-Istra network
	Selce – N. Vinodolski	6.50	Construction of Novi Vinodolski bypass as a part of the First Phase of motorway construction of total length of 9.8 km (single lane in each direction) whereby 6.5 km of the future motorway will be built and 3.3 km of junctions with the state road near Selce and Novi Vinodolski. Opening is planned in the first semester of 2023
A8 Kanfanar – Matulji	Vranja – Učka Tunnel	2.14	Upgrade to full motorway profile of the existing subsection Vranja-Učka Tunnel, including construction of the 2 <sup>nd</sup> tunnel tube
A11 Zagreb – Sisak	Lekenik Interchange	0.00	Reconstruction of the Lekenik Interchange and junction with Lekenik business zone
	Lekenik – Sisak interchange	11.00	Construction of Lekenik – Sisak Interchange Section ( including construction of Interregional Interchange Sisak)

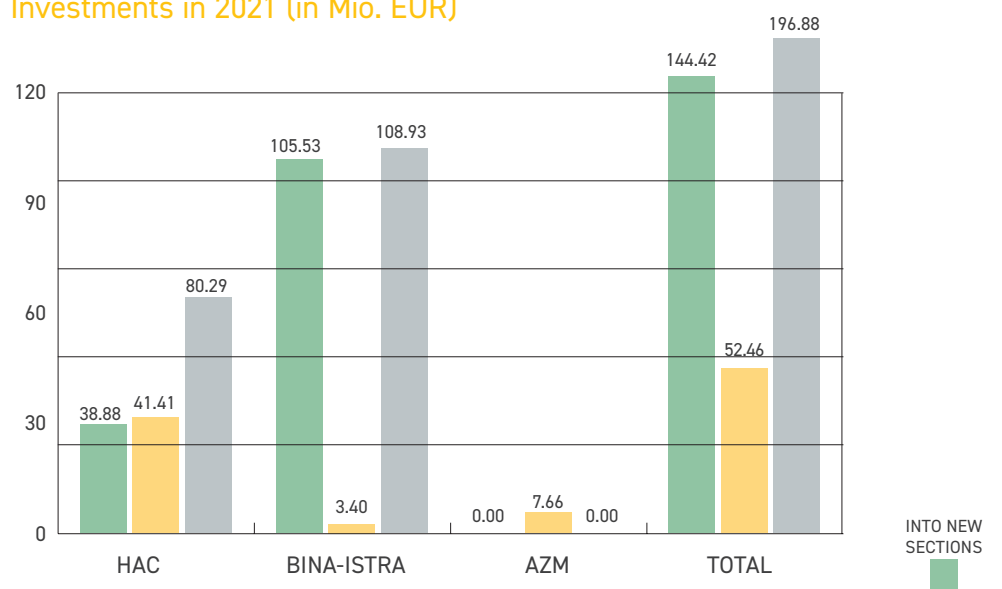
## Cost of Investment and Financing

The total of € 144.42 million (HRK 1,086.00 million) was invested in the construction of new motorways in 2021, while € 52.46 million (HRK 394.51 million) was invested into sections under traffic.

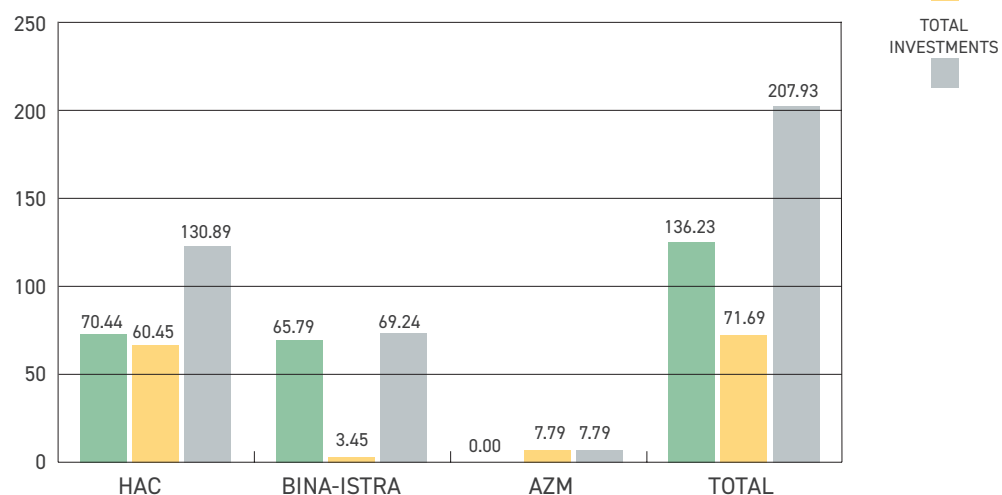
- In mio EUR

Company	Investments in 2021		Plan for 2022	
	Into new sections	Into existing sections	Into new sections	Into existing sections
HAC	38.88	41.41	70.44	60.45
BINA-ISTRA	105.53	3.40	65.79	3.45
AZM	0	7.66	0	7.79
<b>TOTAL</b>	<b>144.42</b>	<b>52.46</b>	<b>136.23</b>	<b>71.69</b>
<b>TOTAL INVESTMENTS</b>	<b>196.88</b>		<b>207.93</b>	

### Investments in 2021 (in Mio. EUR)



### Investments plan for 2022 (in Mio. EUR)

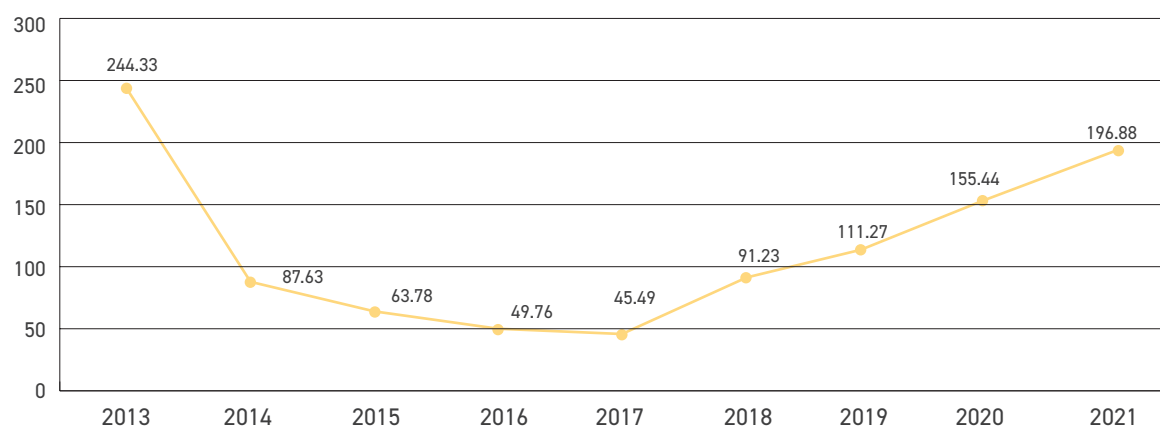


1 EUR=7.52 HRK (Average annual exchange rate in 2021, Source: Croatian National Bank)





## Total investments 2013 – 2021 (in Mio. EUR)



1 EUR=7.52 HRK (Average annual exchange rate in 2021, Source: Croatian National Bank)

## Financing structure in 2021

Source of investments financing in 2021 (%)	HAC	BINA-ISTRA	AZM
Loans	35.55	0	0
Proper resources	0	0	100
Revenues from tolls and other revenues	27.16	56.00	0
Revenues from fuel HRK 0.20/l (EUR 0.026/l)	33.17	0	0
Reimbursable and non-reimbursable state funding	0	44.00	0
EU funds	4.12	0	0
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>

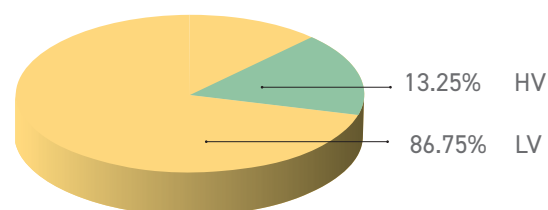
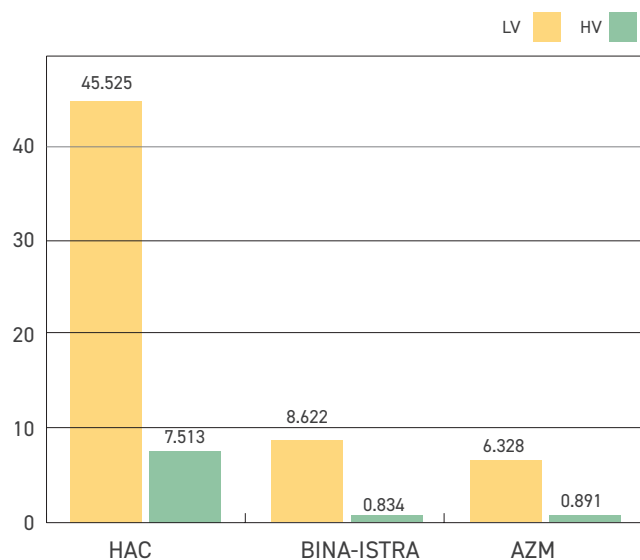
# Traffic

In 2021 all motorway companies experienced increase in traffic for all categories of vehicles by 25.63 % in comparison with the previous year.

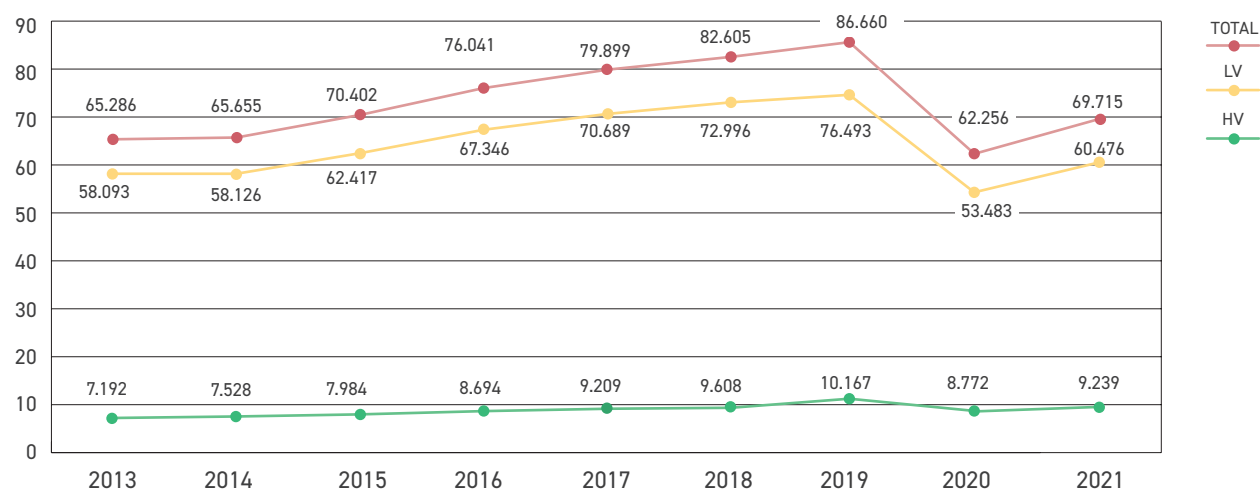
- Number of vehicles in toll collection zones

Company	2020		2021				Total % (21/20)
	Light vehicles (IA+I+II)	Heavy vehicles (III+IV)	Light vehicles (IA+I+II)	LV % (21/20)	Heavy vehicles (III+IV)	HV % (21/20)	
HAC	36.093.101	6.758.892	45.525.345	26.13	7.513.322	11.16	23.77
BINA-ISTRA	6.327.601	788.210	8.622.635	36.27	834.402	5.86	32.90
AZM	4.729.505	796.194	6.328.432	33.81	891.308	11.95	30.66
TOTAL	47.150.207	8.343.296	60.476.412	28.26	9.239.032	10.74	25.63
TOTAL TRAFFIC	55.493.503		69.715.444				25.63

Number of vehicles in toll collection zones 2021 (in Mio. vehicles)



Total number of vehicles in toll collection zones 2013 – 2021 (in Mio. vehicles)

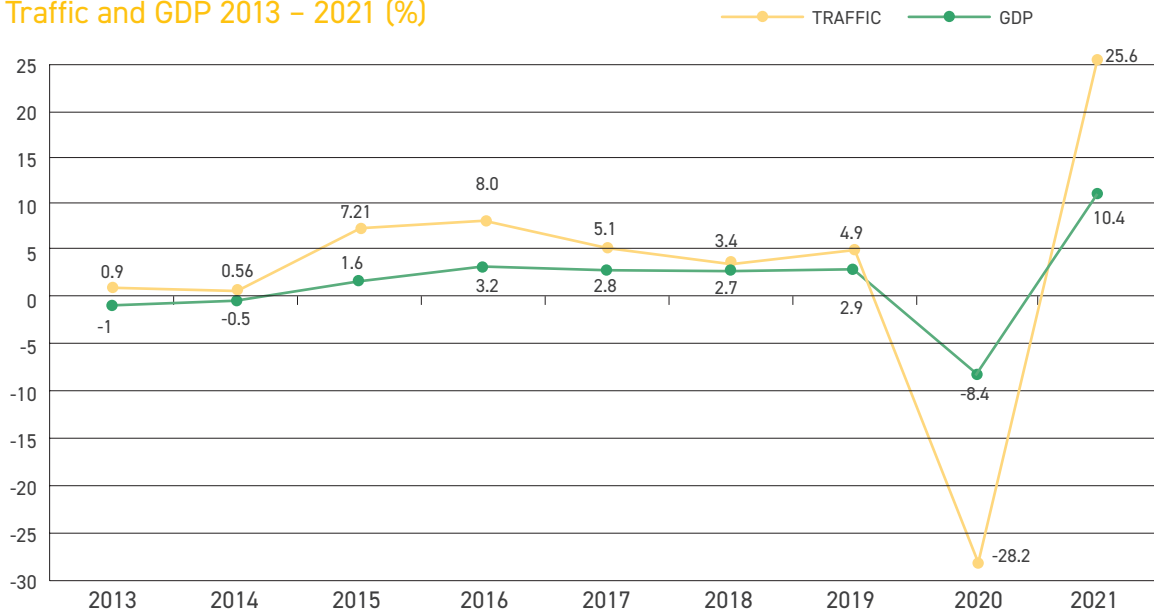




GDP 2020/2019 (%)	Traffic 2020/2019 (%)	CPI 2020/2019 (%)	GDP 2021/2020 (%)	Traffic 2021/2020 (%)	CPI 2021/2020 (%)
-8.4	-28.2	0.1	10.4	25.6	5.5

Source: Central Bureau of Statistics, 2021

### Traffic and GDP 2013 – 2021 (%)



## 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 according to distance travelled.

The open toll collection system is used on Bregana - Zagreb and on Rupa-Rijeka Motorways.

### Average toll rate per km (with VAT)

Existing systems	Light vehicles (Category I)	
	HRK/km	€/km
Closed system	0.417	0.055
Open system	0.386	0.051
Ratio categories I : IV closed tolling system	4.3	
	Trucks (Category IV)	
	HRK/km	€/km
Closed system	1.801	0.240
Open system	1.546	0.206
Ratio categories I : IV open tolling system	4.0	

1 EUR=7.52 HRK (Average annual exchange rate in 2021, Source: Croatian National Bank)

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 and 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 and BINA ISTRA 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 EN 12975, ENV 12795 and EN 12253

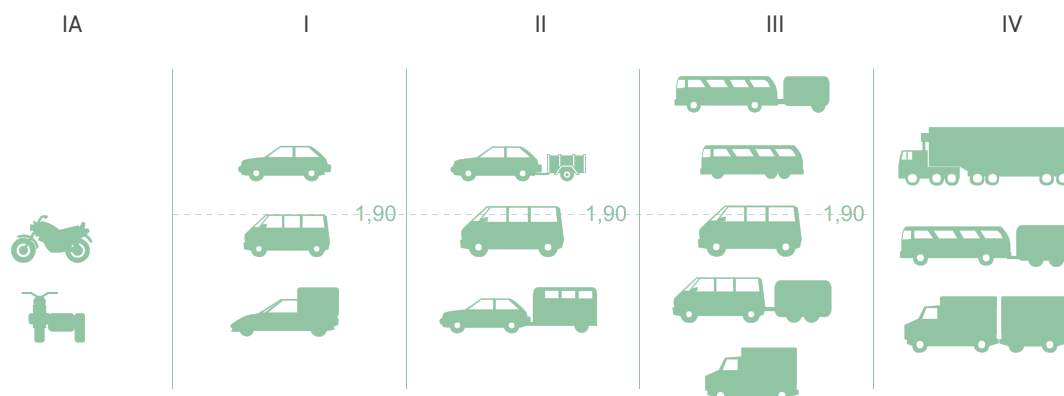
Data Link Layer: ENV 12834 and ENV 13372

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.

Tolling system in the country	Tolling/charging system	Tolling technology
Light vehicles	Distance related system with barriers	DSRC 5,8 GHz
Heavy vehicles	Distance related system with barriers	DSRC 5,8 GHz
Enforcement	Different enforcement means; subsequent back office check and analysis of transactions identified by IT system, video cameras and ANPR (OCR) cameras for vehicle plate recognition	ANPR/OCR enforcement

In the Republic of Croatia tolls are paid according to the following categories of vehicles:



## HRVATSKE AUTOCESTE d.o.o. (HAC)

The Government of the Republic of Croatia started a process aiming to transformation of the existing DSRC tolling system on motorways (which includes toll barriers at toll plazas) into free flow 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.

## BINA-ISTRA d.d. (BINA)

The Istrian Y network has a closed toll system. Toll is paid according to distance travelled and depending on the category of vehicle. Users take the toll ticket or register themselves with ETC device at entry toll station and toll is paid at exit toll station. 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 frequent users, 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 motorways operated by HAC.

In addition to discounts for frequent ETC subscribers, BINA offers to users the possibility to register their credit card or INA fleet card with their ETC subscription which enables them a passage thorough toll plazas. Users do not have to replenish their account in advance but the toll payment is done at the end of the month with the registered credit card or INA fleet card.



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 fleet card and the ETC device.

Furthermore, users who already own an ETC device can additionally register devices already bought at HAC 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).

From August 17<sup>th</sup> 2020, HAC and Bina-Istra introduced a new benefit for post-paid users. ENC IN is a model of interoperable ENC device that allows Bina-Istra users in the post-paid credit card system (Master Card, Diners, Visa, Visa Premium, INA card) to use ETC devices also on HAC network without additional registration with HAC. The ENC IN service will be activated by the first use of ETC device on motorways managed by HAC. Bina-Istra subscribers keep discounts on sections of the Istrian Y while the full amount of toll is charged on the sections of HAC.

### AUTOCESTA ZAGREB-MACELJ d.o.o. (AZM)

Tolls can be paid in cash in HRK or EUR (only for non-residents), by credit or debit cards, INA fleet card and by smart cards.

Users of prepaid toll payments via smart card benefit from discount which depend on category of vehicle and frequency of trips. For the I and II category of vehicles discount on toll is 25% for smart card without no time limit or 40% for the Ticket 40 which is valid for 40 days. Users of prepaid smart card for categories III and IV benefit from 13% discount on amount replenished on the card (for amounts equal to or more than HRK 2,000.00).

### Toll rates in 2021

#### HRVATSKE AUTOCESTE d.o.o. (HAC)

In 2021 HAC did not change its unit toll rates. In peak traffic period during tourist season, from 15<sup>th</sup> June to 14<sup>th</sup> September 2021, seasonal toll tariffs have not been applied this summer (10% increase on regular toll tariffs) due to impact of COVID-19 pandemic.

#### BINA-ISTRA d.d. (BINA)

In 2021 same toll tariffs as in 2020 have been applied on the Istrian Y motorway. As of 26<sup>th</sup> July 2021 toll has been introduced on the upgraded section Cerovlje-Lupoglav (2B1-1) and as of 25<sup>th</sup> September 2021 also on the last section of the phase 2B1 – the Lupoglav-Vranja Section (2B1-3).

As temporary measure, with aim to mitigate the impact of toll increase to decrease of traffic caused by lower economic activity due to COVID-19, since the introduction of toll on the above said sections until the 31<sup>st</sup> December 2021 Bina has offered to frequent ETC Plus subscribers an increase of discount from 30% to 40% but only on the two above mentioned subsections 2B1-2 and 2B1-3. The discounts have been harmonized on the related sections.

The summer tariffs have been applied on Istrian Y also this summer (from 1.6.-30.9.2021.). 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 ETC package called EASY, offering a general discount of 10% without time limit.

Since summer 2015 Bina-Istra has proposed to its users ETC package called EASY, offering a general discount of 10% without time limit.

ETC users continue to 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 2021 the company launched several projects whose implementation is expected in 2022.

### AUTOCESTA ZAGREB-MACELJ d.o.o. (AZM)

In 2021 toll rates on Zagreb Macelj motorway did not change.

## Toll Revenues (without VAT)

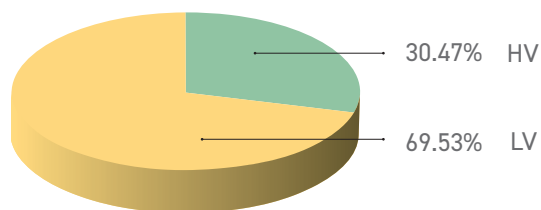
In 2021, the total toll revenues for all motorway companies amounted to € 366,59 million (HRK 2,756.80 million) which represents an increase of toll revenues by 27.39 % when compared to the previous year.

### Toll revenues 2020 - 2021, without VAT

- In EUR

Company	2020			2021			% (21/20)
	LV	HV	TOTAL EUR	LV	HV	TOTAL EUR	
HAC	156,998,239	85,253,830	242,252,069	209,821,935	93,952,403	303,774,339	25.23
BINA-ISTRA	16,672,376	6,557,603	23,229,979	26,580,102	7,932,570	34,512,672	48.37
AZM	12,719,615	9,179,906	21,899,522	18,499,414	9,809,786	28,309,200	29.10
TOTAL	183,390,230	100,991,339	287,381,569	254,901,450	111,694,760	366,596,210	27.39

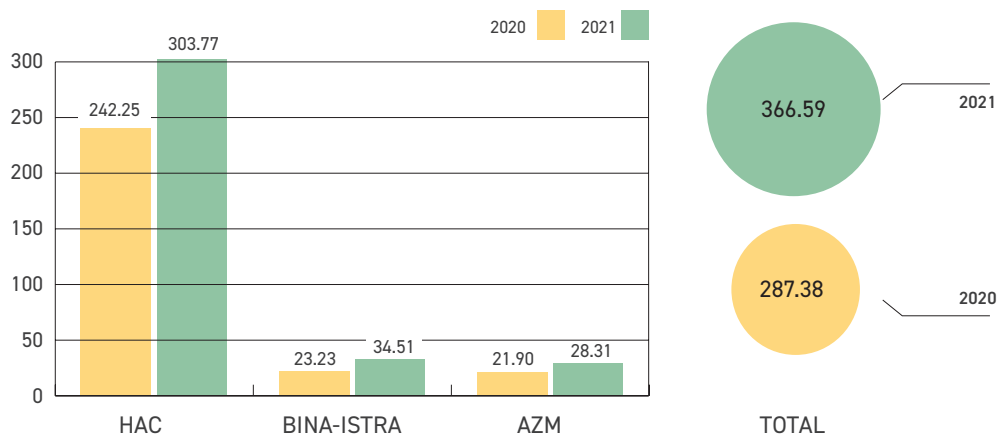
### Portion of LV and HV in total toll revenues 2021



### Toll revenues breakdown for light and heavy vehicles

Company	2021					
	Light vehicles	Heavy vehicles	Total	LV%	HV%	%
	(IA+I+II)	(III+IV)	(IA+I+II+III+IV)	(21/20)	(21/20)	(21/20)
HAC	209,821,935	93,952,403	303,774,338	33.47	10.06	25.23
BINA-ISTRA	26,580,102	7,932,570	34,512,672	59.21	20.81	48.37
AZM	18,499,414	9,809,786	28,309,200	45.25	6.72	29.10
TOTAL	254,901,450	111,694,760	366,596,210	36.58	10.45	27.39

### Toll revenues 2020 - 2021, without VAT (in Mio. EUR)



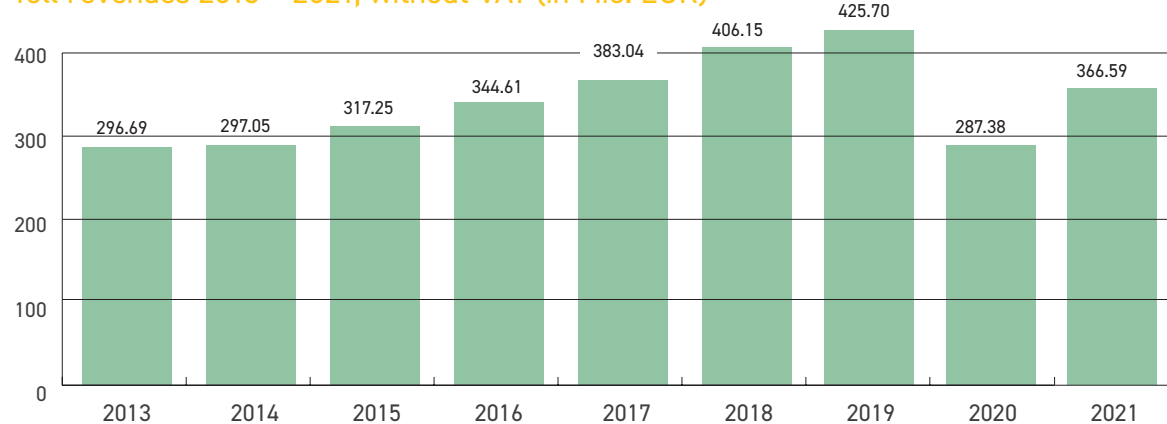
Toll revenues are based on the temporary reports for 2021

\*1 EUR=7.53 HRK (exchange rate as per 31<sup>st</sup> December 2020 Source: Croatian National Bank)

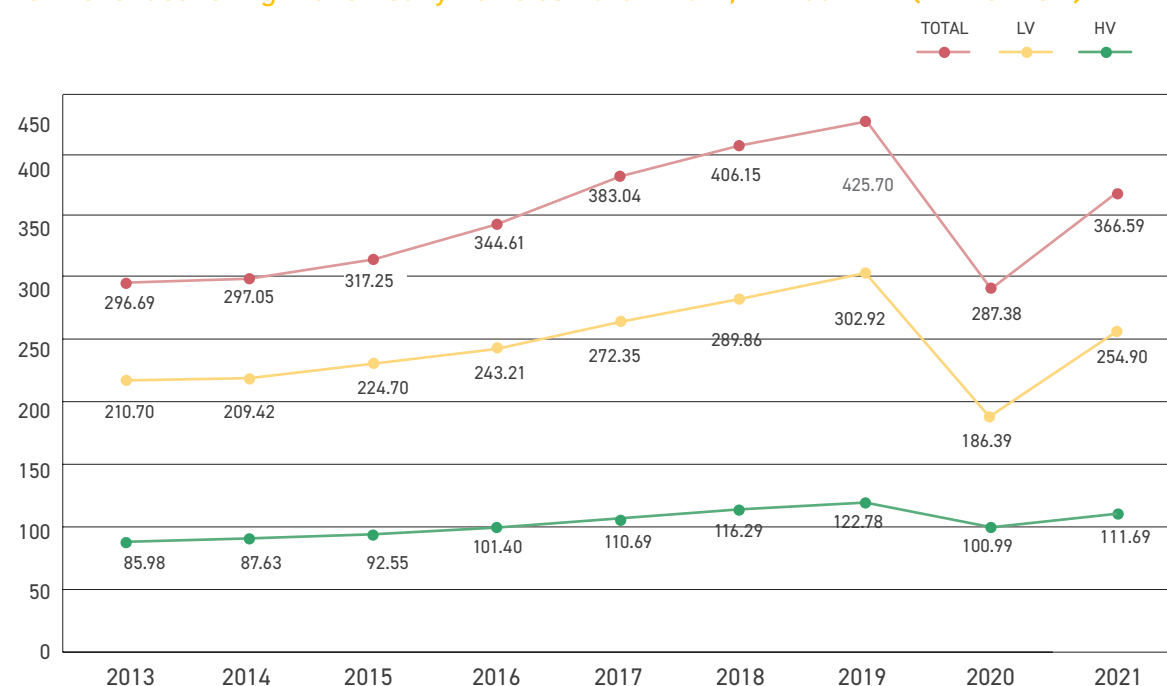
\*\*1 EUR=7.52 HRK (Average annual exchange rate in 2021, Source: Croatian National Bank)



### Toll revenues 2013 – 2021, without VAT (in Mio. EUR)



### Toll revenues for light and heavy vehicles 2013 – 2021, without VAT (in Mio. EUR)



Toll revenues are based on the temporary reports for 2021

Average annual exchange rate for 2021 is 1 EUR = 7.52 HRK (Source: Croatian National Bank)

## Traffic Safety

The total of 2.747 traffic accidents, with 36 fatalities and 458 injuries was registered in 2021. The total number of all traffic accidents registered in 2021 increased by 29.39 % and total number of fatalities increased by 63.64 %, when compared to the previous year. Number of injured people also increased by 55.78 % when compared to the year 2020.

N. of traffic accidents	2020				2021				% (21/20)
	HAC	BINA-ISTRA**	AZM	CROATIA	HAC	BINA-ISTRA**	AZM	CROATIA	
km*	1,105	141	60	1,306	1,105	141	60	1,306	
with fatalities	14	3	0	17	18	2	0	20	17.65
with injured	158	9	15	182	225	10	7	242	32.97
with material damage	1.785	53	86	1.924	2.322	55	108	2.485	29.16
Total n.of traffic accidents	1.957	65	101	2.123	2.565	67	115	2.747	29.39
Total n.of injuries	253	20	21	294	432	17	9	458	55.78
Total n.of fatalities	18	4	0	22	33	3	0	36	63.64

\*Length of network used for calculating traffic accidents.

\*\*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.

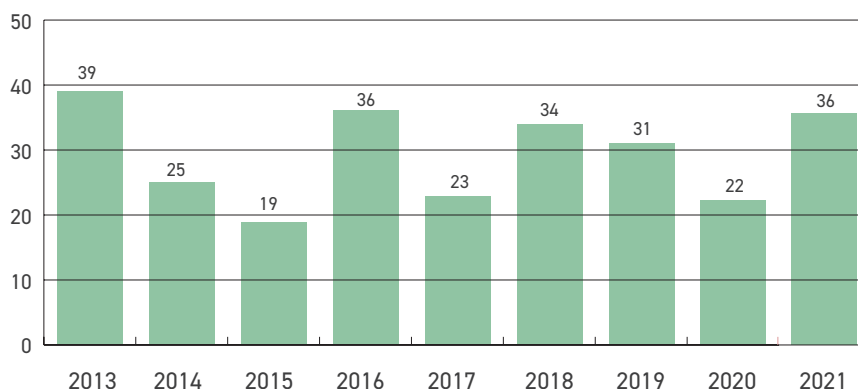
### Main safety ratios

N. of traffic accidents	10 <sup>3</sup> vehicles/km in 2021				change 2021/2020 in %			
	HAC	BINA-ISTRA**	AZM	CROATIA	HAC	BINA-ISTRA**	AZM	CROATIA
km*	1,105	125	60	1,290	1,105	100	60	1,265
Personal injury accident rate	34.75	12.96	28.68	31.30	6.24	50.35	-50.54	-4.00
Personal injury rate	2.80	1.29	0.00	2.59	-3.45	-100	0.00	-15.06
Fatal accident rate	66.72	19.44	36.88	59.23	27.38	28.91	-54.57	12.47
Rate of dead	5.10	2.59	0.00	4.66	36.73	-100	0.00	18.14

\*Length of network used for calculating traffic accidents.

\*\*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. To calculate safety ratios in 2021 only the stretches of full motorway profile (125 km) were taken into account.

### Total number of fatalities 2013 – 2021





## Road Safety

CROATIA*	2020	2021	21/20 %
N. of dead (fatalities) on ALL roads in the country	237	292	23.2
N. of dead (fatalities) on ALL motorways in the country	22	36	63.6

\*Source: Ministry of the Interior of the Republic of Croatia 2021.

HUKA members	2020	2021	21/20 %
N. of persons injured (light and heavy injuries)	294	458	55.8
Personal injury rate	52.66	59.23	12.5
N. of fatal accidents	17	20	17.6
Fatal accident rate	3.05	2.59	-15.0
N. of dead (fatalities)	22	36	63.6
Fatality rate on members network	3.94	4.66	18.1

## 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 the Sea, Transport, and Infrastructure,
- Annually, through Construction and Maintenance Plans defined by individual motorway operating companies.

In order to provide quality transport planning the Government of the Republic of Croatia prepared in 2017 the National Transport Model which was followed by adoption of the Strategy of Transport Development of the Republic of Croatia for the period 2017-2030 and set up the framework for further development of road network in Croatia.

The Government of the Republic of Croatia adopted by now five four-year Public Road Construction and Maintenance Programs (2001-2004, 2005-2008, 2009-2012, 2013-2016, 2017-2020). Procedure for adoption of the Program for the period 2021- 2024 is under way.

The Republic of Croatia will complete its strategic goals and implement the standard of regular road maintenance as planned, harmonize the entire core road network with modern road transport requirements and complete the needed network of motorways and fast roads in Croatia.

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

### A5 Beli Manastir – Osijek - B&H Border Section

- Osijek - Beli Manastir Section (including Drava Bridge)

### A11 Zagreb - Sisak

- Lekenik - Sisak Interchange
- Plan of construction of the "Ranžirni" Overpass on the A11 Motorway

### A8 Kanfanar - Matulji Motorway

- Finalizing of widening to full motorway profile of the Pazin - Učka Tunnel Section (Phase 2B1) i.e. completion of the Istrian Y
- Construction of second tube of Učka Tunnel including the Vranja – Učka Tunnel Section (Subphase 2B2-1)

# Significant activities in 2021 and plans for 2022

## HRVATSKE AUTOCESTE d.o.o. (HAC)

In 2021 the company was focused on works as follows:

- On A5 Motorway Beli Manastir - Osijek – border with Bosnia and Herzegovina:
  - Completion of works and equipment of full motorway section from Halasica Bridge to Osijek (subsection from Osijek Interchange to Drava Bridge 3.8 km)
  - Subsection Halasica Bridge to Drava Bridge (0.8 km) and Sava Bridge (2.5 km)
  - Construction of Sava Bridge (0.66 km)
  - Works continued on 7 road crossing representing the part of the subsection Beli Manastir – Halasica Bridge (17.5 km)
  - The Sava Bridge was opened to traffic in 2021
- On A7 Motorway
  - Start of construction of Trinajstići Interchange
- On A3 Motorway
  - Continuation of revitalizing of Črnc service area

In addition to above said in 2021 HAC carried out the following actions:

- Heavy maintenance activities including renewal and reconstruction of pavement and structures
- Cleaning up of cuttings, water drainage system, road equipment and road signs,
- Procurement of ITS equipment in TMCC (application of ITS Directive and DATEX I protocol),
- Upgrade of tunnels with requirements of the Directive 2004/54/EC (construction requirements),
- Harmonizing of safety and protection fences with new regulation requirements, works at TMCC, 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.

In 2022 the main activities are planned as follows:

- A1 Motorway Zagreb – Split – Dubrovnik:
  - Start of widening of Dugopolje Interchange - II and III Phase
  - Start of works on construction of Šibenik Interchange (Podi)
- A5 Motorway A5 Beli Manastir-Osijek-Svilaj:
  - Continuation of works on subsection from Beli Manastir to Halasica Bridge (17.5 km) and opening to traffic of 7 road crossings representing the part of this subsection
  - Opening to traffic of section from Beli Manastir – Halasica Bridge – Drava Bridge – Osijek (24.6 km)
- A7 Motorway Rupa - Rijeka- Žuta Lokva:
  - Start of construction of Novi Vinodolski Interchange (the I Phase of future motorway section)
  - Start of reconstruction of Matulji Interchange
- A11 Motorway Zagreb – Sisak
  - Start of construction of Section Lekenik – Sisak Interchange, including Lekenik Interchange
- A3 Motorway Bregana – Lipovac:
  - Revitalizing of service areas (Ježev South and Nova Gradiška, Dragalić North)
  - Setting up of noise protection walls in accordance with Noise Protection Action Plan

In addition to above said in 2022 HAC plans to carry out heavy maintenance as follows:

- 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 (equipment)
- Revitalizing of road side facilities
- Optimizing of motorway lighting on HAC network in the framework of the National Energy Efficiency Action Plan
- Several projects aiming at improving the road safety (setting up of signing to prevent ghost drivers, treatment of potentially dangerous road spots, replacement of obsolete variable road signing, implementation of over-speed monitoring project on motorway network etc.)

In the long term the Company plans as follows:

- Implementation of new free flow tolling system
- Refurbishment of rest service facilities and areas



## BINA-ISTRA d.d. (BINA)

In 2021 the company's activities were focused on:

- Completion of construction of the Phase 2B1 and opening to traffic of last subsections, 2B1-2 (Cerovlje - Lupoglav) which was open to traffic on the 26<sup>th</sup> July 2021 and subsection 2B1-3 (Lupoglav - Vranja open to traffic on the 25<sup>th</sup> September 2021)
- Promotion of "COVID free trip" with ENC Next (ENC IN) interoperable ETC package enabling the customer to use any ETC lanes in Croatia without stopping
- Improvement of mobile web application providing user friendly browsing of content and replenishment of ETC account
- Extension of validity of time limited discounts based on justified user's request caused by justified reason due to limited mobility conditions caused by negative impact of COVID-19
- Summer promotional sale of ETC package for 1 HRK for new subscribers with aim to improve traffic flow at toll plazas
- Introduction of contactless toll payment on automatic lanes

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

In addition, all current and future ETC users have the possibility to associate their ETC device with their credit card or INA fleet card account. In that way users do not need to replenish their ETC account, but their credit card or INA fleet card is charged on monthly basis for all trips made in one month. The feedback from users is positive.

Bina-Istra introduced improved web page version for mobile phones offering to users better and more user-friendly experience while searching for information on ETC packages, 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 and other useful information.

In 2022 Company plans the following activities:

- Construction of second tube of the Učka Tunnel including the Vranja-Učka Tunnel Section as well as enlargement of Kvarner rest area (Subsection 2B2-1)
- Opening of rest service area Rebri East with filling station and restaurant
- Parametrization of system in order to display dual prices at toll booths (in HRK and EUR)
- Improvement of electric vehicles charging services at rest service areas

In the long term the Company plans as follows:

- Widening to full motorway profile i.e. construction of two additional lanes between the Matulji and Učka Tunnel (Subsection 2B2-2)
- Doubling of Mirna and Limska Draga viaducts (Subsection 2B2-3)
- Debt restructuring/refinancing

## AUTOCESTA ZAGREB-MACELJ d.o.o. (AZM)

In 2021 the company was focused on works as follows:

- Obtaining of building permit for construction of the left carriageway on the C2 Section Krapina – Đurmanec of total length of 3.9 km
- Obtaining of building permit for construction of noise protection walls on the Zabok-Krapina (Velika Ves) Section

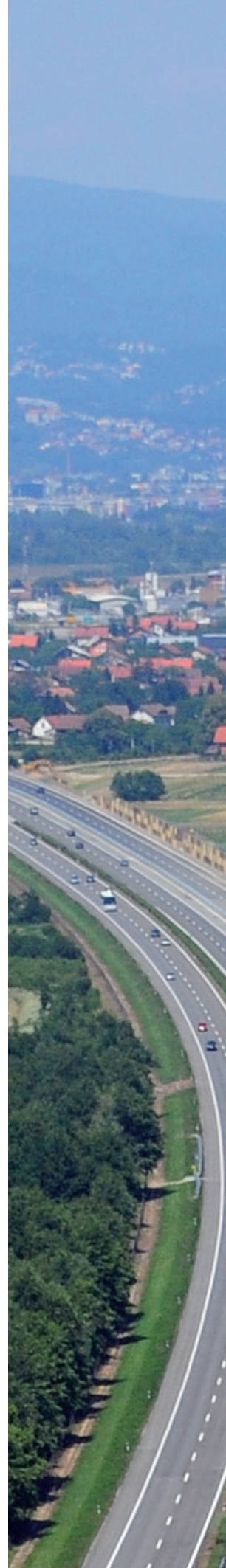
In 2022 Company plans the following activities.

- Construction of the left carriageway on the Krapina – Đurmanec section of total length of (3.9 km) i.e. widening of the existing section to full motorway profile
- Construction of noise protection walls on Jankomir - Krapina (Velika Ves) Section



## Key Data for 2021

CROATIA	2020	2021	% (21/20)
The total length of motorway network, in km, as on 31/12/2021	1,306.5	1,313.4	0.5
Tolled network length	1,230.8	1,229.6	-0.1
2 x 1 lanes not including the stopping lane	44.5	20.2	-54.7
2 x 2 lanes not including the stopping lane	1,241.2	1,272.4	2.5
2 x 3 lanes not including the stopping lane	20.8	20.8	0
2 x 4 lanes not including the stopping lane	0	0	0
Length of tunnels longer than 500 m (in km of tunnel tubes)	79.18	80.63	1.8
Number of tunnels operated by the members longer than 500 m	31	31	0
Single directional length of bridges longer than 100 m	55.01	55.35	0.6
Number of bridges operated by the members longer than 100m	171	174	5.8
NETWORK			
Number of km opened to traffic	2020	2021	
MOTORWAYS	0	0.7	
WIDENING OF EXISTING STRETCH TO FULL MOTORWAY	12.6 <sup>(1)</sup>	16.8 <sup>(1)</sup>	
Number of km under construction	2021	2022	
MOTORWAYS	24.6	22.5	
WIDENING OF EXISTING STRETCH TO FULL MOTORWAY	1 <sup>(1)</sup>	2.14 <sup>(1)</sup>	
Planned opening of new sections, in km	2021	2022	
MOTORWAYS	0.7	24.6	
WIDENING OF EXISTING STRETCH TO FULL MOTORWAY	16.8 <sup>(1)</sup>	0	
INVESTMENTS			
New investments (in M€)	95.25	144.41	51.6
Investments into existing network (in M€)	60.19	52.47	-12.8
Total annual investments (in M€)	155.44	196.88	26.7
TOLL REVENUES, in EUR (without VAT)			
Annual toll revenues from light vehicles (in M€)	183.39	254.90	36.6
Annual toll revenues from heavy vehicles (in M€)	100.99	111.69	10.5
Annual toll revenues - total (without VAT, in M€)	287.38	366.59	27.4
Taxes other than VAT calculated on toll	0	0	0
VAT %	25 %	25 %	0
Calculated VAT/VAT charged on tolls (in M€)	71.84	91.65	27.4
EMPLOYMENT			
Total full-time employees <sup>(2)</sup>	2,923	2,801	-4.2
TRAFFIC DATA			
AADT LIGHT VEHICLES	10,078	14,061	39.5
AADT TRUCKS	2,116	2,399	13.4
AADT LV + HV	12,194	16,460	35.0





CROATIA	2020	2021	% (21/20)
KILOMETRES TRAVELLED (10 <sup>6</sup> x km)			
Total number of km travelled	5,582.5	7,732.2	38.5
Number of kilometres travelled (10 <sup>6</sup> x km) - light vehicles	4,624.7	6,625.3	43.3
Number of kilometres travelled (10 <sup>6</sup> x km) - heavy vehicles	957.8	1,106.9	35.0
ROAD SAFETY			
Total number of accidents on motorways <sup>(3)</sup>	2,123	2,747	29.4
Number of accidents with injuries	182	242	33.0
Number of fatalities	22	36	63.6
Number of injuries	294	458	55.8
Fatality rate	3.94	4.66	18.1
Number of kilometres travelled (10 <sup>6</sup> x km)	5,582.5	7,732.2	38.5
TOLLING			
Number of toll transactions - total	62,256,768	69,714,444	12.0
Number of toll transactions - light vehicles	53,483,812	60,476,407	13.1
Number of toll transactions - heavy vehicles	8,772,956	9,239,630	5.3
Total number of ETC transactions	23,687,852	25,961,630	9.6
% of manual transactions (other forms of payment; CC, BC and fleet cards)	62%	61%	-2.0
% of ETC transactions <sup>(4)</sup>	38%	39%	3.4
Number of toll stations	108	108	0
Number of toll lanes	714	747	4.6
Number of ETC lanes or mixed lanes	505	503	-0.4
Number of ETC subscribers - total	484,583	516,013	6.5
Number of ETC subscribers - light vehicles	416,299	441,707	6.1
Number of ETC subscribers - heavy vehicles	68,284	74,306	8.8
Number of ETC devices in use <sup>(5)</sup>	791,388	655,999 <sup>(5)</sup>	-17.1
Length of the network tolled electronically (in km) <sup>(6)</sup>	1,178.2	1,178.2	0
Length of the network tolled in the MLFF (Multi-lane free flow)	0	0	0
ITS			
Length of the network covered by traffic monitoring	1,306.5	1,313.4	3.8
SERVICES			
Number of truck parking lots <sup>(7)</sup>	2,122	1,670 <sup>(7)</sup>	-21.2
Number of roadside rest areas (with filling stations)	74	72	2.8
Number of rest areas	121	121	0
Number of restaurants	29	29	0
Number of hotels	9	8	-11.1
ENVIRONMENT			
Euro-emission classes (yes/no)	NO	NO	0
If yes: % of »clean traffic« (per Euro class categories EURO V, VI and EEV)	NO	NO	0

<sup>(1)</sup> Widening of the existing stretch of Istrian Y to full motorway profile

<sup>(2)</sup> Total number of work force in all motorway companies and their operators

<sup>(3)</sup> 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.

<sup>(4)</sup> The percentage of penetration of ETC in total transactions is not taking into account AZM Company which does not have ETC

<sup>(5)</sup> Revised number of ETC OBU's after merger of ARZ into HAC Company

<sup>(6)</sup> The Autocesta Zagreb-Macelj d.o.o. has not yet introduced the ETC

<sup>(7)</sup> Reduction in number of parking lots is due to renewal of rest areas on A3 motorway





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