

Croatian Motorways Maintenance and Tolling Ltd.

Maintenance Sector

Overview

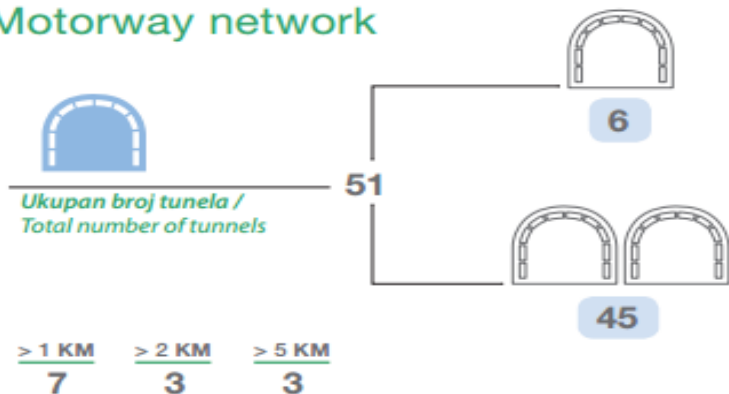
- The existing motorway network in Croatia is 1,313 km in length and is operated by four companies. Two of these companies, jointly responsible for 1,112 km of the network are state owned

The two state owned motorway companies are:

- - Hrvatske Autoceste d.o.o. (HAC) who operate 925,80 km of the network; and
- - Autocesta Rijeka Zagreb d.d. (ARZ) who operate 187,03 km of the network.

MOTORWAYS IN THE REPUBLIC OF CROATIA

Mreža autocesta / Motorway network



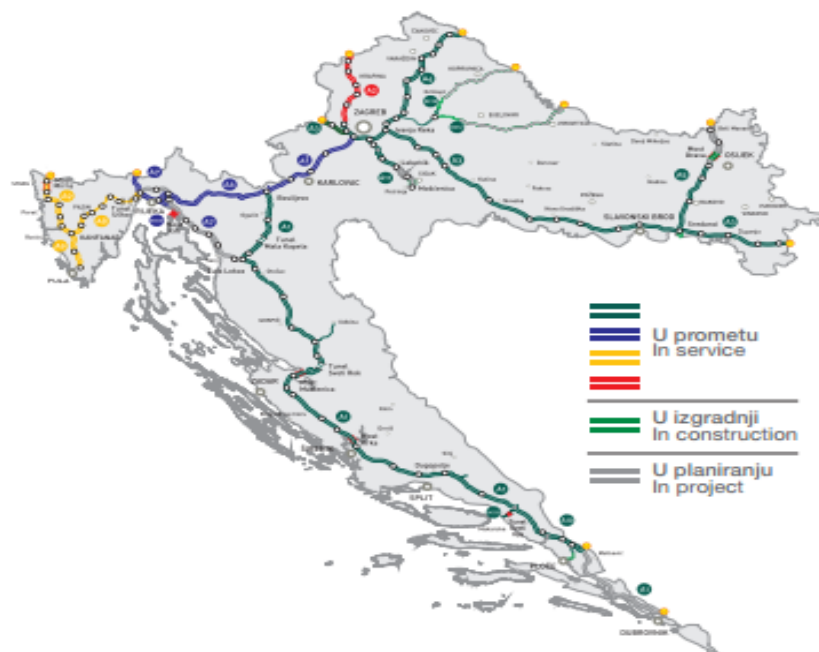
Ukupna duljina tunela / Total length of tunnels	55,72 KM
Udio tunela u ukupnoj mreži / Portion of tunnels in total network	4,2 %
Najduži tunel / The longest tunnel	Mala Kapela A1 5,8 KM



Udio nezgoda u tunelima u ukupnom broju nezgoda / Portion of accidents in tunnels in the total accidents



Ukupno / Total 1.313,83 KM



- █ U prometu / In service
- █ U izgradnji / In construction
- █ U planiranju / In project

	A1, A3, A4, A5, A10, A11, A12	925,80 KM
	A1, A6, A7, A8	187,03 KM
	A6, A9	141,00 KM
	A2	60,00 KM

A1 Dijelom autoceste A1 od Zagreba do Bosiljeva upravlja ARZ / Part of the motorway A1 from Zagreb to Bosiljevo is operated by ARZ

Some key figures

Usluge / Services



Benzinske postaje /
Filling stations

76

svakih /
every
29 km



Odmorišta /
Rest areas

128

svakih /
every
20 km



Cafe barovi /
Caffe bars

85

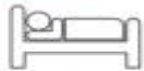
svakih /
every
21 km



Restorani /
Restaurants

20

svakih /
every
49 km



Hoteli /
Hotels

9



Parkirališna mjesta
LV / Parking places LV

6.746



COKP Centri održ. i kont.
prometa / MTCC Maint. &
Traffic Control Centres

27



Parkirališna mjesta
TV / Parking places HV

2.122



Dinamički informacijski
paneli / VMS

136



Broj nadzornih video
kamera / Number of
CCTV cameras

1.596



Broj ralica / Number of
snowplowers

213



Broj intervencija
vatrogasnih jedinica /
Number of firebrigade
interventions

1.620

Promet / Traffic



7,21 %

2015. / 2014.

Rast broja vozila u područjima
naplate / Increase in number
of vehicles in toll collection
zones

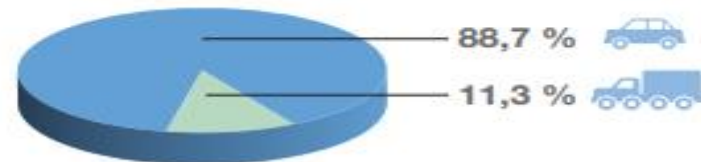


70,4 MIL./MIO.

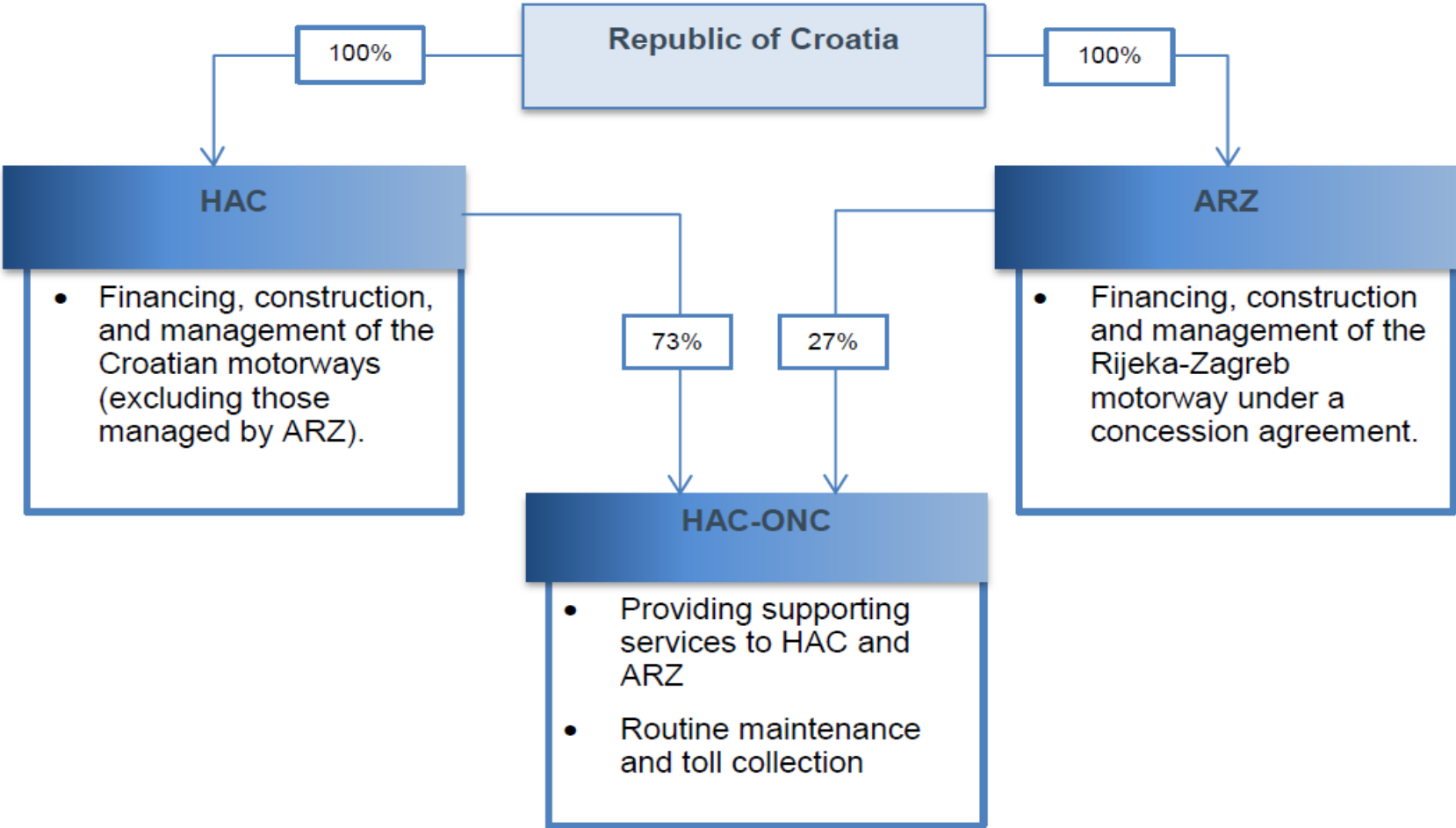
Broj vozila u područjima naplate /
Number of vehicles in toll collection zones

Društvo Company	15./14.	% 15./14.	15./14.	% 15./14.	Total % 15./14.
HAC	30.971.249	9,35	4.593.990	6,24	8,94
ARZ	17.904.051	5,91	1.991.560	8,68	6,18
BINA-ISTRRA	7.810.914	4,85	682.081	4,77	4,84
AZM	5.721.187	5,00	716.557	-0,59	4,35
Ukupno / Total	62.407.401	7,36	7.984.188	6,06	7,21
SVEUKUPNO / TOTAL			70.391.589		7,21

Udio LV i TV u ukupnom broju vozila /
Portion of LV & HV in total no. of vehicles



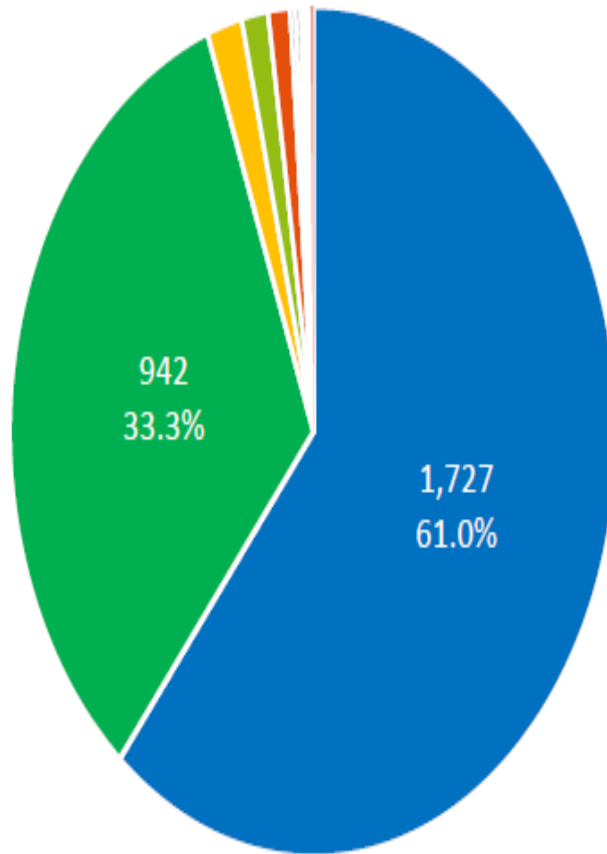
Ownership structure



Total employment

- According to the latest figures total employment in the three project companies is as follows:
- - HAC-ONC has 2,830 workers, as of 6 May 2016;
- - HAC has 206 workers, as of the beginning of May 2016; and
- - ARZ has 39 workers, as of 30 April 2016.
- HAC-ONC thus accounts for 92.1 % of the total employment in the three project companies taken together. HAC represents 6.6 % and ARZ represents 1.3 %.

HAC ONC Employment structure



- Maintenance sector (1,727 workers)
- Tolling sector (942 workers)
- Department for ICT (53 workers)
- Dept. for economy, finance & joint works (40 workers)
- Department for internal control (33 workers)
- Department for procurement (8 workers)
- Department for safety at work (8 workers)
- Management office (6 workers)
- Department for HR and public relations (5 workers)
- Group for quality and standardisation (4 workers)
- Management of the company (4 workers)

HAC ONC Organogram



HAC ONC toll motorway infrastructure

- A1 Bosiljevo - Split - Ravča (389 kilometres)
- A1 Vrgorac - Ploce (11 kilometres)
- A3 Bregana - Zagreb - Lipovac (307 kilometres)
- A4 Zagreb - Goričan (97 kilometres)
- A5 Osijek - Đakovo - Sredanci (56 kilometres)
- A5 Sredanci – Bosnia Herzegovina border (3 kilometres)
- A6 Zagreb Lucko - Rijeka Grobnik (146 kilometres)
- A7 Matulji – Rupa (18 kilometres)
- A10 Bosnia Herzegovina border - Metkovic - Ploce (7.5 kilometres)
- A11 Zagreb - Lekenik (30 kilometres)

Highway infrastructure in numbers

Line item	Description	Unit	Total for HAC ONC
1	Highway length	km	1.112,83
2	Pavement surface	m ²	28.309.964,00
3	Number of tunnels	pcs	42
4	Total tunnels length (both tubes)	m'	84.640,00
5	Number of rest area	pcs	76
6	Number of junctions	pcs	95
7	Number of long bridges, overpasses, viaducts and other	pcs	48
8	Number of overpasses in junctions	pcs	95
9	Number of head toll plazas	pcs	11
10	Total number of toll plazas	pcs	66

Highway	Toll plaza	Junction	Rest area facilities	Rest area	Tunnels
A1	35	33	33	15	23
A3	17	25	25	3	0
A4	9	12	4	2	2
A5	4	4	2	6	0
A6	6	8	5		12
A7	1	6	5		5
A10	1	1		1	
A11	3	6	0	2	0
DC 102	1	0	2		0
Total	77	95	76	29	42

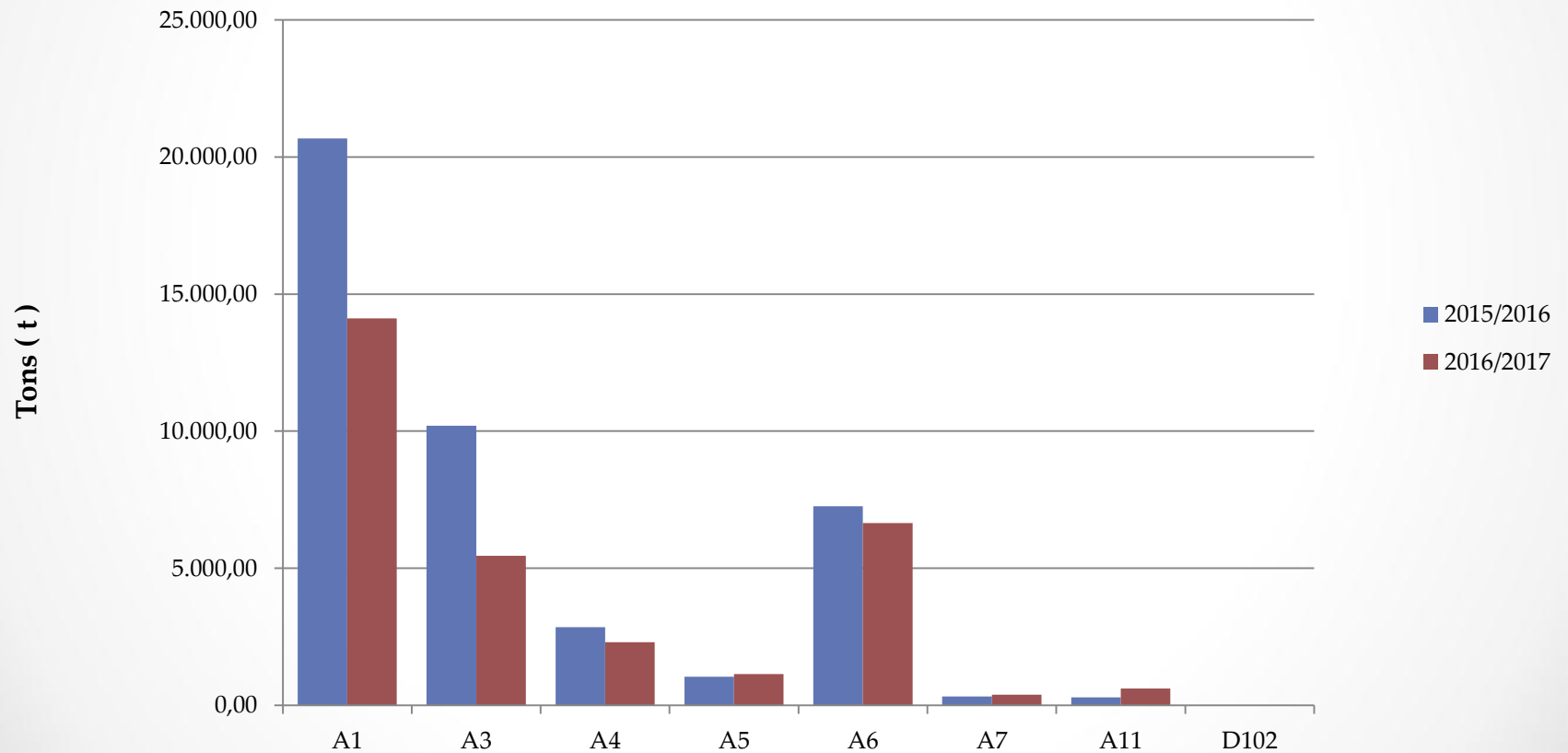
HAC ONC Equipment

Type	Number	Age
Personal vehicles	89	
Light vans	52	
Light Trucks	121	1 from 1990s, 28 from 2000-2005
Box Trucks	10	
Flatbed trucks	10	4 from 2000-2005
Tipper trucks	91	19 from 1990s, 24 from 2000-2005
Crash cushion	3	
Tunnel Maintenance Vehicle	1	
UNIMOG and similar	55	2 from 1980s, 12 from 1990s
Salt spreader for trucks (demountable)	109	12 from 1990s, 32 from 2000-2005
Salt spreader for UNIMOG	52	6 from 1990s
Salt spreader for tractor	16	-
Snow plough for trucks	159	-
Snow plough for UNIMOG	69	-
Snow plough for Tractor	14	-
Snow blower	11	1 from 1990s, 4 from 2000-2005
Loader/backhoe	26	2 from 1990s, 13 from 2000-2005
Mobile lifting platform	17	
Water tankers lorry mounted	20	1 from 1990s, 15 from 2000-2005
Mechanical road sweeper	13	
Refuse trucks	19	3 from 1990s, 10 from 2000-2005
Breakdown/recover trucks	20	10 from 2000-2005

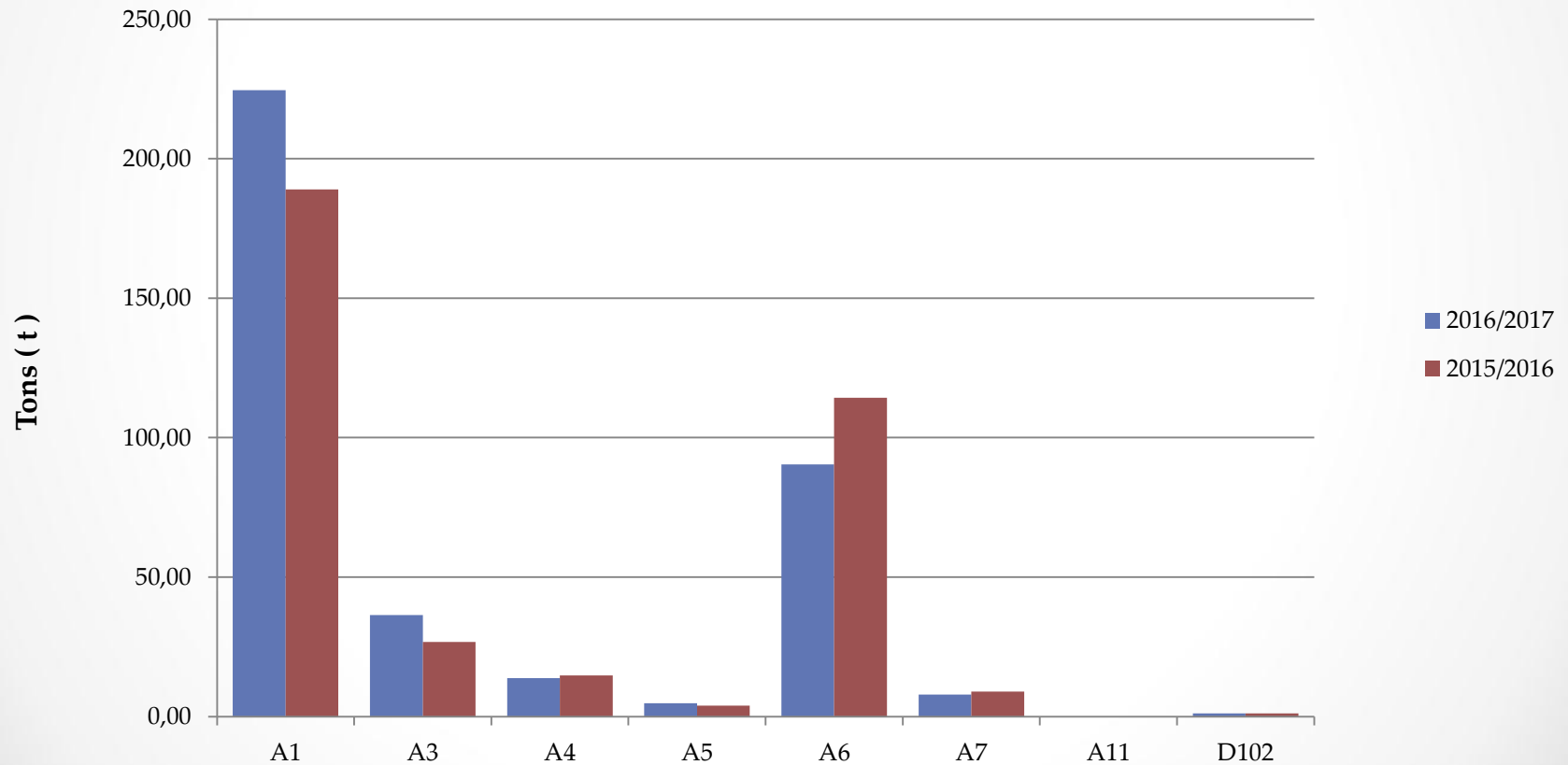
Part of the activities on regular maintenance in 2016.

Line item	Activitie	Activities performed
1	Activities in respect to the traffic safety	
1.1	Traffic accident	In 2016.. there was 1.970 traffic accidents, 318 slightly injured, 70 seriously injured and 28 with fatal consequences
1.2	Guardrail replacement	7.923 m'
1.3	Guardrail repair	8.201 m'
1.4	Guardrail installation on official service passes	14.989 m'
1.5	Wire fence replacement	21.735 m ²
1.6	Wire fence repair	32.681 m ²
2	Activities related to the cleanliness and landscaping	
2.1	Pavement cleaning with machinery	18.468.841,00 m ²
2.2	Mannual pavement cleaning	48.640,00 m ²
2.3	Cleaning the terrain parts	60.770,00 hours
2.4	Grass cutting with machinery	57.747.736,80 m ²
2.5	Manual grass cutting	15.300.990,00 m ²
3	Activites on winter road maintenance service	
3.1	Work hours of own machinery	20.231 hours
3.2	Work hours of leased machinery (40 tipper trucks)	1.511 hours
3.3	NaCl consumption	26.875,24 tons
3.4	CaCl ₂ consumption	267,24 tons

Consumption comparison of NaCl per sections



Consumption comparison of CaCl_2 per sections



Highway network owned by HAC and ARZ is maintained by HAC ONC with 1.705 employees organized in:

- three operational sections with 26 centers for regular maintenance
- fire brigade with six fire stations and four fire substations
- six expert departments

HAC ONC together with HAC and ARZ has made a Standard of regular maintenance of highways in order to achieve

- the highest level of traffic safety
- highest possible level of service
- retention of useful features of buildings
- minimum impact on environment

Regular maintenance standard determines

- methods and frequency for checking the status of all elements of highways
- methods and frequency of works that would retain the required level of functionality of the highway elements
- criteria and parameters for works for periodic maintenance and reconstruction maintenance performance

REGULAR MAINTENANCE STANDARD

Monitoring and inspections of highways

Pavement maintenance

Building (incl. bridges, overpass etc.) maintenance

Drainage maintenance

Winter maintenance

Fire brigades

Other works

Terrain maintenance

Maintenance of traffic signs, signals and equipment

Maintenance of electric power facilities, electrical systems, equipment and installations

Forming part of the standard is:

- list of regular maintenance works depending on method, frequency and priority
- technology description
- work norms for each line item in work nomenclature

Planning of works

- Works are planned based on the standard works of regular maintenance
- For each centers for regular maintenance, maintenance course and HAC ONC exist
- Annual Plan of Regular Maintenance Works

OPERATIVNI PLAN RADOVA REDOVNOG ODRŽAVANJA ZA 2016. GODINU

Šifra	Opis stavke	Jed.mj.	Ukupno	Siječanj	Veljača	Ožujak	Travanj	Svibanj	Lipanj	Srpanj	Kolovoz	Rujan	Listopad	Studeni	Prosinac
1.	NADZIRANJE AUTOCESTA														
1.1.	Nadziranje prohodnosti i uporabnosti autoceste - ophodarska služba														
1.1.1.1	Ophodnja autoceste	h	130.090,00	11.319,45	10.190,48	10.934,45	10.667,89	10.812,45	10.749,89	10.992,45	11.002,30	10.672,64	10.853,30	10.691,74	11.055,94
1.1.1.2	Dežurstvo ophodarske službe	h	97.529,00	8.227,19	7.848,43	8.196,99	8.058,21	8.185,19	8.051,23	8.171,19	8.191,46	8.026,74	8.196,46	8.046,65	8.273,22
1.1.1.3	Intervencija ophodara - uklanjanje posljedica prometnih nesreća i izvanrednih događaja	h	8.174,96	593,97	572,72	617,88	659,96	685,56	689,64	854,95	890,19	702,44	643,48	617,20	637,40
1.1.2	Redovan pregled stanja autoceste – Odgovorne osobe	h	13.330,00	1.092,10	1.077,22	1.115,34	1.133,02	1.126,42	1.133,82	1.128,82	1.117,82	1.119,04	1.110,82	1.088,42	1.083,96
1.1.3	Vodenje, kontrola prometa i nadzor pogona tunela	h	237.008,00	20.001,60	18.727,98	20.001,60	19.402,18	19.961,60	19.402,18	20.176,80	20.176,80	19.577,38	20.136,80	19.402,18	19.882,37
1.1.4	Fizička zaštita mosta Krk	h	26.352,00	2.232,00	2.088,00	2.232,00	2.160,00	2.232,00	2.160,00	2.232,00	2.232,00	2.160,00	2.232,00	2.160,00	2.230,00

- Monthly plans of regular maintenance work

Monitoring the performance of regular maintenance work

- The monitoring of the execution of works is done in the form of percent (ratio of executed and planned quantities) on a monthly, periodic and annual basis

IZVJEŠĆE HAC ONC-a ZA PERIOD 01.01. - 31.12.2016.

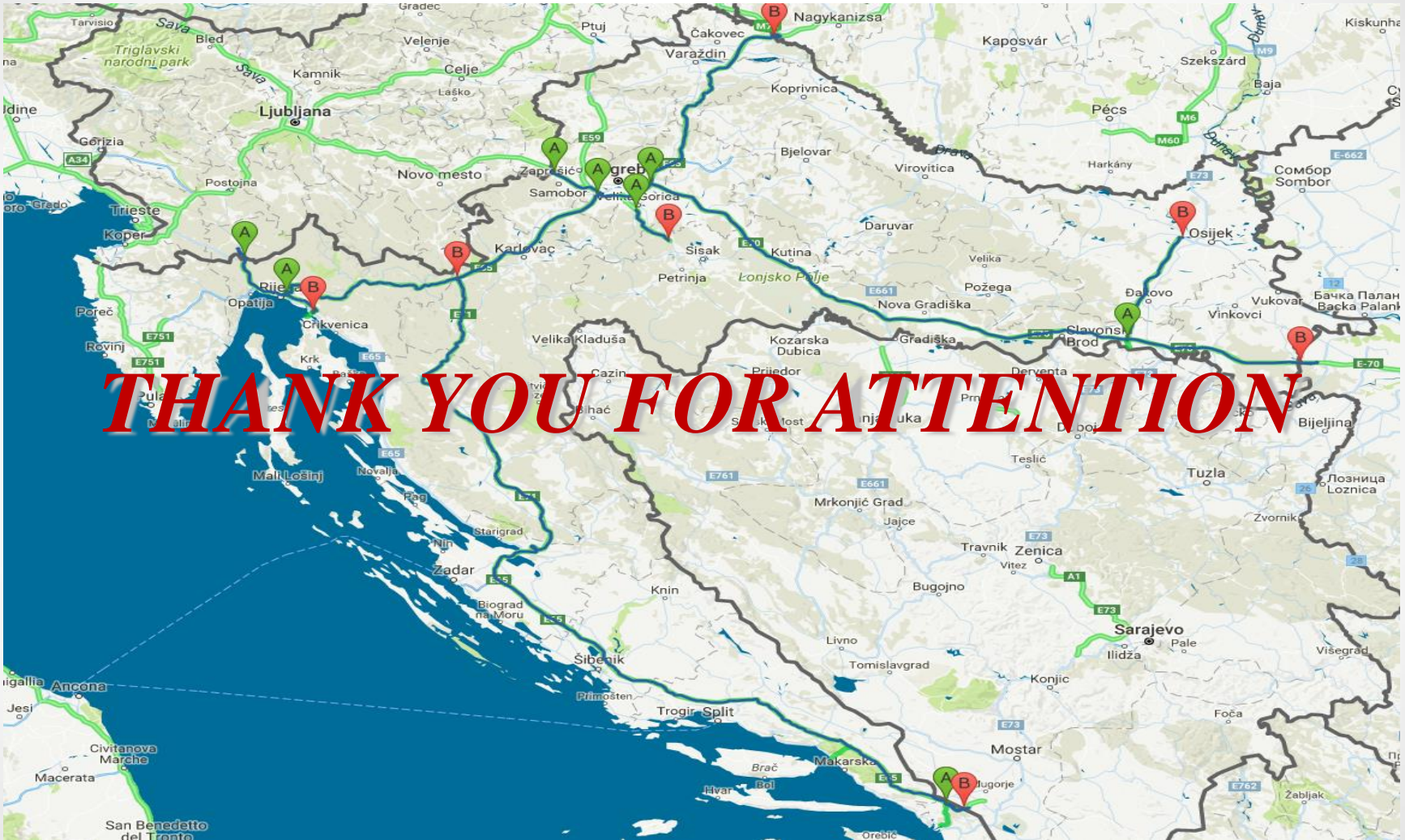
Šifra	Opis stavke	Jmj	(GR) Planirano za razdoblje	Realizirano za razdoblje	Izvršeno ukupno % (za period)
Šifra Grupe: 1					
1.1.1.1	Ophodnja autoceste	h	130.090,00	130.549,60	100,35
1.1.1.2	Dežurstvo ophodarske službe	h	97.529,00	96.930,10	99,39
1.1.1.3	Intervencija ophodara - uklanjanje posljedica prometnih nesreća i izvanrednih događaja	h	8.174,96	7.826,25	95,73
1.1.2	Redovan pregled stanja autoceste – Odgovorne osobe	h	13.330,00	15.227,50	114,23
1.1.3	Vođenje, kontrola prometa i nadzor pogona tunela	h	237.008,00	236.923,75	99,96
1.1.4	Fizička zaštita mosta Krk	h	26.352,00	26.352,00	100,00

Other important routine maintenance activities

- Removing damaged and abandoned vehicles and other items from the highway
- Taking measures to protect the highway
- Taking action to ensure safe traffic
- Informing the public about the state and the passage of the highway, exceptional events and meteorological conditions that are important for safe traffic
- Intervention in the event of traffic accidents
- Taking environmental protection measures against the highway

Quality Assurance Policy

- The company has obtained certifications and operates in line with standards ISO 900, ISO 14001 and OHSAS 18001
- We follow environmental protection regulations
- Our services are adjusted to meet the needs of motorway users
- Health and safety of motorway users is our priority



April 2017.