

# GENERAL NATIONAL REPORT: 2017 MOTORWAY DEVELOPMENT IN SERBIA

## 1. Total length of Serbian motorway and expressway network

The length of the tolled motorways network managed and maintained by PE Roads of Serbia is changed when you compared with 2015. New sections were opened in 2016

- motorways and expressways
- tolled motorways and expressways: 610,2 km

### Openings in 2017

The opening of the following sections of tolled motorways is foreseen in 2017:

Motorway	Section	Length km
Open the new toll station Belgrade on the motorway E 75		
E 75 Srpska kuca Levosoje 8km	Grabovnica - Levosoje	25,4
E 80	Niš - Dimitrovgrad	74,11
<b>Total</b>		<b>99,51</b>

### Investments in motorways

Year	2016		2017	
	mil CSD	mil EUR	mil CSD	mil EUR
Investments in construction of new motorways	9.923,40	81,01	13.378,50	107,54
Investments in routine maintenance of existing motorways ***	20.459,00	167,01	13.020,60	104,67
<b>Total</b>	<b>30.382,40</b>	<b>248,02</b>	<b>26.399,10</b>	<b>212,21</b>

\*\*\*Investments in routine maintenance are for all state roads I and II category.  
Exchange rate 1 EUR = 122, 5 CSD/ 2016; Exchange rate 1 EUR = 124, 4 CSD/ 2017;

## **Financing**

<b>Year</b>	<b>2016</b>	<b>2017</b>
National Budget	25%	24 %
Loans ( IFI )	18%	18 %
Own income (toll collection and other fees)	57 %	58 %
<b>Total</b>	<b>100 %</b>	<b>100%</b>

## **Traffic on Serbian motorway network**

According to the data published by Statistical Office of the Republic of Serbia estimated increased of GDP 2016/2015 in Serbia is 2,7 %.

Inflation rate in 2016 was (taking December 2016/ December 2015 price index) 1, 6%.

*Traffic growth on motorway network in 2016/ 2015: 0,55 % (taking into account the total volume of traffic on all tolled motorways in Serbia).*

## **Tolling system and tolling technologies used**

On next sections: Belgrade - Niš, Belgrade - Šid and Belgrade - Sirig are installed so-called „closed “toll system and on section Niš - Doljevac, Ljig - Preljina, Levosoje - Preševo, Sirig - Subotica is „open “toll system.

To save space and money many lanes are mixed with manual and electronic toll.

### **ETC Pay Toll system features**

- ✓ Cutting edge technology
- ✓ Interoperability with neighbouring countries (Montenegro and Federation of Bosnia and Herzegovina) as well as with other countries
- ✓ High reliability
- ✓ Easy to maintenance
- ✓ State-of-the-art technology
- ✓ Excellent working environment

### **ETC Pay Toll system - Technology**

- ✓ ETC system was implemented in accordance with EU CEN 278/2004 and carrier frequency of 5.8 MHz
- ✓ Based on DSRC (Dedicated Short Range Communications) technology
- ✓ Implemented for pre-paid, post-paid and exempted users
- ✓ Each user of the ETC system has a on-board unit (OBU) attached to the windscreen of the vehicle
- ✓ Payment without stopping for all vehicle categories
- ✓ The speed of passing vehicles is limited to 50 km / h for safety reasons

## ***Toll Rates***

Now In Serbia there are only four toll classes, as follows:

Toll classes:

### 1a. Class

- a. Motor vehicles with the characteristics of motorcycle, motor tricycle and quad

### 1. Class

- a. Motor vehicles with two axles and height equal to or lower than 1.3 m, measured at the first axle
- b. Vans with two axles and total height equal to or lower than 1.9 m, with maximum allowed weight up to 3,500 kg

### 2. Class

- a. Motor vehicles with two axles and height equal to or lower than 1.3 m measured at the first axle, with trailers
- b. Vans with two axles and total height equal to or lower than 1.9 m, with maximum allowed weight up to 3,500 kg with trailers
- c. Vans with two axles and total height over 1.9 m, with maximum allowed weight up to 3,500 kg

### 3. Class

- a. Motor vehicles with two or three axles, with height over 1.3 m, measured at the first axle, with maximum allowed weight over 3,500 kg
- b. Vans with two axles and total height equal to or over 1.9 m, with maximum allowed weight up to 3,500 kg with trailers

### 4. Class

Motor vehicles with four or more axles (also counting the trailers' axles), with height over 1.3 m, measured at the first axle, with maximum allowed weight over 3,500 kg

## ***Revenues***

The gross toll income in 2016 was 16.893,27 million CSD or 140, 32 million EUR, taking the exchange rate 1 EUR = 116, 93 CSD.

The gross toll income in 2015 was 16.801 million CSD so the toll revenue approx. increased 0, 55 % in the year 2016 (calculated in national currency).

## Safety

### Main indicators:

According to statistical data published by Statistical Office of the Republic of Serbia in 2015 and the report published by Ministry of Internal Affairs in 2016 the following total of accidents on all roads in Serbia was:

Indicate the following main *ratios*:

	<b>Definition and method of calculation</b>	<b>Variation in % in 2015/2016</b>
<b>Personal injury rate</b>	2015 – 96,9 % total number of injury 2016 – 97,1 % total number of injury	+ 6,5 %
<b>Fatal accident rate</b>	2015 – 1,6 % total of accident number 2016 – 1,5 % total of accident number	+ 0,5 %
<b>Rate of dead</b>	2015 – 3,1 % total number of dead 2016 – 2,9 % total number of dead	+ 1,0 %

	<b>Total number of accidents</b>	<b>Number of accidents with a fatality</b>	<b>No. of personal injury accidents</b>	<b>Number of dead</b>	<b>Total no. of injured</b>
<b>2015.</b>	35.165	548	13.105	599	19.343
<b>2016.</b>	35.955	551	13.837	605	20.572

There is no available data about accidents with respect to designated motorway sections.

### On-going projects:

- Construction of Belgrade by-pass, Bridge over Sava river / in progress
- Construction of Belgrade by-pass  
Sector 4: Construction of the “Petlovo Brdo” Interchanges
- E 763 Beograd - Požega / in progress
- E 80 Nis - Dimitrovgrad / in progress
- Finalization of the motorway section E 75 Grabovnica - Levosoje / in progress
- Construction of the motorway E 75, Beograd - Niš - FYR Macedonia, section Srpska kuća - Levosoje / in progress

### ***Long-term forecast and tendencies:***

- Construction of the motorway E 70 Belgrade - Pančevo - Vršac
- Construction of Belgrade by-pass  
Section C Bujanj Potok - Pančevo
- E 763 Požega - Boljare
- E 761 Pojate - Preljina
- E 761 Požega - Užice - BIH
- E 761 Bulgarian border - Zaječar - Paraćin
- M 19, M 21 Novi Sad - Ruma - Šabac - Loznica
- M-24 Hungarian border - Kikinda - Pančevo - Kovin
- Nis - Merdare, Route no. 7 (SEETO), general design

### ***Significant actions already started and foreseen for 2017***

- Modernization of toll collection system in Serbia

Through the Sector for Toll Collection, the PE Roads of Serbia charges the road users on the following motorway sections:

- Belgrade-Niš, I A Category state road No. 1 (E-75)
- Belgrade-Šid, (border with Croatia), I A Category state road 3 (E-70)
- Belgrade-Subotica, (border with Hungary), I A Category state road No. 1 (E-75)
- Niš-Preševo, (border with Macedonia) I A Category state road No. 1 (E-75)
- Ljig-Preljina, I A Category state road No. 2 (E-763)

On sections of motorways Belgrade-Niš, Belgrade-Šid and Belgrade-Subotica (from Belgrade to Sirig) the toll is being collected within closed toll collection system, while on the sections Sirig-Subotica, Niš-Preševo and Ljig-Preljina the toll is being collected within open toll collection system.

The toll is being collected on motorways in the length of 610,2 km by automated toll collection system. System covers 45 toll stations.

Toll amount is calculated based on distance covered and vehicle class. Vehicles are classified according to their characteristics (i.e. number of axes, height of vehicle at first axis, total height and permissible maximum weight).

Closed toll collection system on the section of the I A Category state road No.1 (E-75), from Sirig to Subotica (border with Hungary) is planned to be implemented in 2017, as well as opening of two new stations with open toll collection system on the interchanges Vranje and Bujanovac on the I A Category state road No.1 (E-75) from Vladičin Han to Bujanovac.

Modernization of toll collection system has been successfully implemented, so that out of overall 230 traffic lanes with toll collection and card distribution, 180 (78.3%) of lanes is provided with the system for electronic toll collection.

The system is fully harmonized with the EU recommendations and standards for interoperability of electronic toll collection, thus allowing interconnection with huge part of electronic toll collection system installed in other European countries.

**SUMMARY**

**MAIN ASECAP KEY FIGURES**

Country: <b>REPUBLIC OF SERBIA</b>	Indicate below how you calculate each figure provided in the “2016” column	<b>2016 Figure</b>
Network length (Km)..... 2 x 2 lanes (Km)..... 2 x 3 lanes (Km)..... 2 x 4 lanes (Km).....		<b>610,2km</b> <b>610,2km</b>
Number of km in construction		
Forecasts of opening motorways section		
Annual toll revenues* (in millions of Euros)	<b>140,32 M EUR =116,93 + 23,39 VAT</b>	<b>140,32 M EUR</b>
VAT % (Indicate the VAT % percentage to the toll revenues)		<b>20%</b>
Permanent staff		<b>1225</b>
Average daily traffic (light vehicles)		<b>/</b>
Average daily traffic (heavy vehicles)		<b>/</b>
Average daily traffic (total = light + heavy vehicles)		<b>/</b>
Total number of accidents		<b>35.955</b>
Number of personal injury accidents		<b>13.837</b>
Number of dead		<b>605</b>
Fatality rate		<b>+1,0%</b>
Kilometres travelled (10 <sup>6</sup> x km)		<b>/</b>

	Indicate below how you calculate each figure provided in the “2016” column	2016
Number of toll transactions (Total) Number of toll transactions (light vehicles): Number of toll transactions (heavy vehicles):		43.022.987 36.076.977 6.946.010
Number of toll stations		45
Number of toll lanes		230
Number of ETC lanes		180**
Number of ETC subscribers (Total): Number of ETC subscribers (light vehicles): Number of ETC subscribers (heavy vehicles):		115.092 81.167 33.925
Number of service areas (equipped with petrol stations)		109
Number of rest areas		177
Number of restaurants		20
Number of hotels		60

\*please provide the figure VAT and other taxes excluded.

\*\* 131 combined manual and ETC and 49 ETC only



\*\*\* There is no data available on AADT on all motorways in Serbia; instead PE Roads of Serbia uses data about total traffic flow volume at designated sections of motorways as shown in table 1. For the purpose of this report vehicles belonging to I and II class are designated as light vehicles and vehicles belonging to III and IV class are designated as heavy vehicle

### Total traffic flow volume in 2016

Light vehicle (I and II class): 36.067.977 number of vehicles in 2016

Heavy vehicle (III and IV class): 6.946.010 number of vehicles in 2016