

## **Terms of Reference**

### **Project MARS: "Modernization and Restructuring of the Road Sector" IBRD Loan No. 8749-HR**

#### **Analysis of the social cost of traffic accidents and the unit social cost of traffic accidents with fatalities or seriously injured persons, for the period 2016-2020**

#### **B6 – G - CQS - MARS**

### **1. Introduction**

The Government of Croatia intends to improve the long-term sustainability of the country's road sector and, in particular, the State-managed motorway network. A total length of approximately 1.113 km of motorways is managed by HAC, as well as the routine maintenance and operation. The state road network, approximately 7000 km of roads is being managed by HC.

In the context of the World Bank-financed Road Sector Modernization and Restructuring (Croatia MARS 2017-2021) Project, technical assistance actions are foreseen that will benefit the road sector in general.

### **2. Objective of the assignment**

In accordance with Directive 2008/96 / EC and amendments to that Directive, Directive 2019/1936 / EC defines the implementation of procedures related to road safety impact assessments, road safety audits, road safety checks and road safety assessments at the level of the entire networks. The road safety impact assessment process consists of an analysis of various influencing factors on road safety, with a cost-benefit analysis of the various options for improving safety.

Member States shall ensure that corrective measures are primarily targeted at sections of roads with low levels of safety and where there is the potential to implement measures with a high potential for safety development and cost savings related to accidents. Accordingly, at the level of the Member State, according to Article 7 of the 2019/1936 Directive, it is necessary to calculate the average social cost of a fatal accident and the average social cost of a serious accident in the Member State's territory. Member States may further differentiate the levels of these costs, which shall be updated at least every five years.

In order for the cost-benefit assessment process to be carried out, it is necessary to make an analysis of the average social cost of traffic accidents and the unit social cost of accidents with severe consequences for the period 2016-2020 as defined in Article 71b of the Roads Act.

### **3. Scope of work**

For the purposes of evaluating and analyzing the costs and benefits of measures to raise the level of road safety, it is necessary to determine the social cost of traffic accidents and the unit social cost of traffic accidents with severe consequences at the level of the Republic of Croatia. This needs to be done by analyzing the movements of relevant socio-economic parameters and the trend of traffic accidents with fatalities or seriously injured persons in the past five years. When determining, it is necessary to make an analysis of the available literature and analyse analyzing the movements of relevant socio-economic parameters and the trend of traffic accidents with fatalities or seriously injured persons in the past five years. Also, it is necessary to make an analysis of the used methodologies for calculating and the value of the average social cost of traffic accidents and the average social cost of accidents with severe consequences for EU member states and neighboring countries.

Based on the selected method, it is necessary to calculate the average social cost of traffic accidents for the period 2016-2020 and the unit social cost of traffic accidents with fatalities or seriously injured persons for the Republic of Croatia. The unit cost should be calculated at the level of fatalities and serious injuries, taking into account the context in which non-residents of the Republic of Croatia are injured on the roads in the Republic of Croatia, where the cost of loss of life or severe casualties in the context of social costs is shared between several countries. take into account the fatalities and serious injuries of Croatian residents in traffic accidents that occurred in other countries.

When determining the unit price of the social cost of severely injured persons, it is necessary to analyze the classification and definition of serious injury used in the Republic of Croatia in the past five years, make a comparison with MAIS3 + classification of severe and light bodily injuries and calculate the unit social cost of severely injured persons according to both classifications' methodologies.

### **4. Milestones and Deliverables**

All analyses according to the structure below to be submitted in two deliveries of the same study: as a draft and as a final delivery.

**Draft report**, containing:

1. Detail analysis of relevant socio-economic parameters and the trend of traffic accidents in Croatia with fatalities or seriously injured persons in the past five years
2. Analysis of the used methodologies per EU country for calculating and the value of the average social cost of traffic accidents and the average social cost of accidents with severe consequences for EU member states and neighboring countries
3. Based on the methodologies under 2, calculated average social cost of traffic accidents for the period 2016-2020 and the unit social cost of traffic accidents with fatalities or seriously injured persons for the Republic of Croatia
4. Based on analysis of existing methodologies applied in the EU and recalculations of social costs for Croatia, list the advantages, disadvantages and limitations of different methodologies

5. Analysis of the classification and definition of serious injury used in the Republic of Croatia in the past five years, make a comparison with MAIS3 + classification of severe and light bodily injuries and calculate the unit social cost of severely injured persons according to both methodologies' classifications
6. Assessment of the potential for reducing the social cost of accidents with the aim of prioritizing action, and proposing enhancements in the implementation of the ten-year national action plan
7. In the Action Plan, in addition to the specifically mentioned proposed procedures, it is obligatory to state the cost of such a procedure and to what extent it contributes to the reduction of the social cost.

to be delivered **3 months after signing the contract**, and the final study 4 months after signing the contract.

Ministry of see, transport and infrastructure will have 2 weeks period for comments; after that consultant will have 2 weeks to include the comments in **the final report**.

Both reports to be submitted in Croatian and English in electronic and paper form - in 3 copies.

## **5. Duration**

The expected duration of the assignment is **4 months**.

## **6. Required qualifications**

It is expected that this project will require a team of consultants covering the following range of skill sets and comprising of international and local consultants.

### **6.1. Details on required company's capabilities requirements:**

Firms (or joint ventures of firms) should be experienced in providing consulting services, with at least one [1] project or more in the last five [5] years in European countries, related to both road safety and economics.

### **6.2. Details on required personal capabilities requirements:**

- Team Leader: road traffic safety expert with a university degree in traffic / transport / roads, which provides a minimum of 300 ECTS credits with a minimum of 10 years of project management experience (project manager), of which at least 5 years of involvement in road safety projects with a minimum of 1 (one) project of safety analysis and/or proposal of measures to improve road safety with the implementation of cost-benefit analysis
- Expert in economics or finance - with a university degree in economics, finance or transport economics, who acquires a minimum of 300 ECTS credits and has experience in developing at least 1 (one) project on transport economics, preferably involving accident social cost
- Expert in medicine - with a completed university study in the field of medical sciences, which provides a minimum of 300 ECTS credits, and preferably with experience in accident injuries