

Terms of Reference

TECHNICAL AND BUSINESS RATIONALIZATION OF CROATIAN STATE-MANAGED MOTORWAYS

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

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 are managed by the two companies HAC and ARZ. The routine maintenance and operation including toll collection of the HAC and ARZ network was performed by the company HAC-ONC. The Government has decided to proceed to unifying management of the motorway network, through [merging HAC with HAC-ONC and transferring the operational activities of ARZ to HAC], with the objective of optimizing business processes, providing economies of scale and reducing overall expenses. The merger of HAC and HAC ONC took place on December 1, 2017.

In the framework of an EBRD loan signed in 2016, a study on the operational restructuring of the State-managed motorways ("Atkins study") has been concluded. Its deliverables include a time-based Restructuring Action Plan (RAP) summarizing strategic, tactical and operational proposals for rationalizing motorway operations, in a number of areas including business planning processes, maintenance, tolling, traffic management, tunnel management, service areas, energy efficiency, administration and contract management. The basic recommendations of the Atkins study are to be elaborated by means of a number of subsequent targeted studies in accordance with the RAP.

In the context of the World Bank-financed Road Sector Modernization and Restructuring (Croatia MARS) Project, effective from November 4, 2017, technical assistance actions are foreseen that will benefit the road sector in general and motorways in particular. A consultancy for the technical and business rationalization of State-managed motorways is needed in order to establish an optimal Action Plan to rationalize the operational motorway entity [HAC], focusing primarily on its maintenance and traffic management activities. (Development of a new tolling system and its required maintenance is the object of a separate consultancy; however, tolling maintenance requirements of the existing tolling system are included in the present scope.)

Also under Croatia MARS Project an HR management consultancy will be contracted with assignment to prepare a detailed job analysis report describing prior review of the HAC's job hierarchy model, job descriptions and functions. This report should be considered as one of mandatory input documents for this assignment.

2. Objective of the assignment

Main objective of the assignment is achieving improvements in the technical and business efficiency and effectiveness of the motorway company. Detailed Action Plan should be

developed, based on the Restructuring Action Plan / Labor Restructuring Plan developed for MSTI through the EBRD financing (the Atkins study). The main objectives are to optimize management and maintenance costs, enhance outsourcing where beneficial, reduce technical units and rationalize administrative activities. These improvements will be based on modern management features and the notion of levels of service – including safety, riding comfort, travel speed, energy efficiency, etc. – and are expected to lead to a decrease in maintenance costs and to a significant reduction of staffing needs, following a careful review of functional needs. Key performance indicators (KPIs) measuring operational and business performance shall be introduced and multi-year rolling maintenance plans and budgets shall be adopted.

3. Scope of work

In order to elaborate on the findings of the Atkins study and detail the content of operational optimization, the Consultant shall address the following areas of improvement:

[1] Integrated routine/preventive and periodic maintenance of road assets

The motorway entity [HAC] will be responsible for the whole spectrum of maintenance activities on sections of A1, A3, A4, A5, A6, A7, A10 and A11 motorway and Krk bridge. The Atkins report has identified the need for increasing preventive maintenance.

The consultancy shall

1a - review the existing balance between routine and preventive maintenance activities and,

1b - based on international best practices, recommend optimized maintenance regimes for all civil works assets, including among others pavement, structures (bridges, tunnels, culverts, walls etc.), slopes, verges and landscaping / vegetation, drainage, horizontal and vertical signing, safety devices and fencing, other traffic management systems and ITS, current tolling system, buildings and gantries, lighting etc.

The consultancy will harmonize its recommendations with the relevant conclusions – as available and where relevant – of other consultancies/activities in the context of the World Bank project, most notably on Road Asset Management System (RAMS), maintenance standards, classification, tolling. (See Annex – Project Description.)

[2] Traffic management and tunnel safety

The consultancy shall propose improvements in the efficiency of traffic management and tunnel safety practices, including patrolling, incident management and tunnel safety, based on international best practices. The constraints and opportunities related to the legal context on traffic management and tunnel safety (including related EU Directives), as well as the priorities identified in the Atkins report (in particular as regards tunnel control centres, systems and fire safety) will be duly considered.

The consultancy will harmonize its recommendations with the relevant conclusions – as available and where relevant – of other consultancies/activities in the context of the Croatia MARS project, most notably on standards (as regards patrolling and tunnels), traffic management centre optimization and other road safety-related activities. (See Annex – Project Description.)

[3] Energy and environmental efficiency

The consultancy shall review options to reduce energy consumption and minimize or mitigate adverse environmental impacts associated with motorway maintenance, traffic management and tunnel safety, based on international good practices and in accordance with European and national legislation. Further to analysis of costs and benefits of possible investments such as in light dimming and introduction of LED technology, as recommended in the Atkins report, additional measures and practices will also be explored, with an emphasis on sustainable, preferably low-cost actions.

[4] Enhanced work organization, contracting and supervision of maintenance activities

4a - The consultancy shall review the whole spectrum of possibilities from exclusively in-house to fully-outsourced performance of maintenance and traffic management / tunnel safety, in order to analyse the effect of varying outsourcing mix on the motorway entity's organization (spatial, HR, plant/equipment, admin/management systems, IT etc.) and the resulting operating costs. According to the Atkins report, the majority of maintenance activities (as well as plant/equipment servicing) were completed within the organisation and only to a limited extent are they sub-contracted locally, including part of winter maintenance, leasing of some vehicles, some carriageway repairs and small construction works, specialized inspections, lighting repairs, marking removals etc.

Greater use of subcontractors could be advantageous in removing seasonal peaks in the demand for resources, including labour – for example in vegetation maintenance. Cost savings may arise especially in the long term. In addition, the local private-sector market should be fostered. The consultancy will perform an assessment of Croatia's private providers of road maintenance services for both works and related design/supervisory activities.

4b - The consultancy will detail adequate arrangements for technical supervision and monitoring by the management of the motorway entity [HAC] towards the providers of maintenance services. In particular, it shall review options to improve systems for job-control, planning/scheduling and estimating and managing works for all maintenance activities. It will also develop models of internal and external service-level agreements including KPIs, which will govern the relationship between the motorway entity [HAC] and the respective maintenance provider (an internal unit or, in cases of outsourcing, an external contractor under a performance-based contract / PBC, based on bill of quantities or hybrid if the consultancy deems it appropriate).

In the development of its recommendations the consultancy shall take into account a.o.t. the relevant proposals of the Atkins report as well as conclusions – as available and where relevant – of other consultancies in the Croatia MARS project, including on maintenance end-performance standards, corporate governance, HR Management consultancy and other management aspects, IT audit (See Annex – Project Description).

[5] Draft options for Detailed Action Plan, with optimized Technical Unit (TU) locations, equipment and staffing, depending on the level of outsourcing

A key element of the Detailed Action Plan for motorways will be the optimization of maintenance and traffic management / tunnel safety facilities in line with the propositions of

the project CROCODILE II CROATIA as part of the EU CEF project. The Atkins report has identified the need to reduce Technical Units (currently totalling 26) to a level better aligned with good international practices (significantly increasing their average spacing upwards from the current level of approximately 40 km) and more cost-efficient. By reducing the number of TUs and traffic/tunnel monitoring centres, some job positions could become redundant or merged. Moreover, there are opportunities to improve plant management by gradually and strategically reducing (a) the variety of suppliers (to achieve consistency and economies); (b) the net quantity of equipment, for example for outsourced activities; (c) the servicing of equipment (which also could be outsourced). In particular, winter maintenance and vegetation maintenance equipment, as well as patrol / safety vehicles, need to be included (including the respective specialized gear/kits) in this strategic assessment.

To that end, the consultancy shall:

5a – Perform a comprehensive network review in order to assess the facilities' location, plant/equipment, staffing levels and functional organization / interrelation (implication on the delivery of services);

5b – Define a small number of basic options (no more than three) for different levels of outsourcing, ranging from no outsourcing to full outsourcing of maintenance and traffic/tunnel activities.

For each of these options, the consultancy will review legal and institutional constraints and assess the impact on

- Spatial organization (and transition from current situation)
- Plant / equipment (and transition from current levels)
- Staffing (and need for retraining / retrenchment including relevant timing)
- Organizational factors (incl. quality control, job control, IT, admin)

5c – Proceed to a justified proposal of one of these options and develop a draft Detailed Action Plan (which will be the final deliverable), with preliminary assessments of costs/benefits and other impacts.

[6] Detailed Action Plan and cost-benefit analysis

Following comments by the Client on the draft, the consultancy shall:

6a – Develop a Detailed Action Plan, including a comprehensive cost-benefit assessment for each component thereof (or combination of components). The Detailed Action Plan will also identify impacts and risks, as well as an implementation timetable. Finally, it will indicate all relevant legal/administrative, financial, economic/business aspects.

6b – Proceed to a final submission, following the last set of comments from the Client.

[7] Introduction of KPIs

The consultancy should propose a set of KPIs, which would enable MSTI and HAC Management to effectively monitor and evaluate HAC performance.

4. Milestones and Deliverables

- Draft report on review of existing arrangements: 2 months
- Draft proposal on improvements in traffic maintenance and tunnel safety practices: 4 months
- Draft proposal for energy and environmental efficiency improvements: 4 months
- Draft Detailed Action Plan (pre-selected alternatives): 6 months
- Comments on Draft Detailed Action Plan: 7 months
- Detailed Action Plan – final draft including Cost-Benefit Analysis: 8 months
- Introduction of KPIs: 8 months
- Last set of comments on Action Plan and KPIs: 9 months
- Final submission: 10 months

5. Duration

The expected duration of the assignment is **10 months**.

6. Required qualifications

It is expected that this project will require a team of consultants, involving construction, traffic, business operation and other experts 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 ten [10] years in European countries, related to all of the following:

- motorway / trunk road maintenance and operation (traffic management and tolling), including winter maintenance
- business organization / operational restructuring including optimization of technical and administrative processes and functions, including development of operational efficiency and cost rationalization measures
- analysis of out-sourcing potential for business processes and functions
- development of management capacity / change management, including provision of training

6.2. Details on required personal capabilities requirements:

- Team Leader with at least 10 years' experience in business consulting including experience in operational restructuring projects
- Civil engineer with at least 7 years' experience in road maintenance / construction respectively
- Quality assurance engineer with at least 7 years' experience
- Traffic engineer with at least 7 years' experience in traffic management / safety
- Systems or electrical/electronic engineer or IT expert with at least 7 years' experience in traffic management / tunnel systems
- Business analyst with at least 7 years' experience in relevant business operations (road contractor and/or road managing authority)
- Legal expert with at least 7 years' experience in public sector restructuring

- Energy specialist (7 years overall experience)
- Environmental specialist (7 years overall experience)
- Work organization specialist (7 years overall experience)

ANNEX

MARS Project Description

Project description (components funded by the IBRD loan)

A. Project Components

Component A: Institutional strengthening and Sector Reforms

1. This component will finance consultancy services, institutional strengthening and capacity development to support debt re-structuring and sector reforms, and comprises the following sub-components.

Sub-component A.1: Financial Transaction Advisor

2. Financing will provide for the engagement of a Financial Transaction Advisor, to support the government in improving the existing debt of the companies. The financial transaction advisor will assist the government to (a) prepare a debt optimization strategy for HAC, ARZ and HC; (b) undertake analysis of debt facilities for rescheduling and refinancing, (c) propose the type and sequencing of the refinancing instrument; (d) develop and implement the engagement strategy for communication, negotiation and conclusion of the arrangements with the capital market; and (e) conclude arrangements with lenders. This activity is underway as of January 2017 and will be subject to retroactive financing.

Sub-component A.2: Strengthening of the Ministry of Sea, Transport and Infrastructure (MSTI) in Sector Planning and Oversight of Public Road Enterprises and Road Sector Governance and Monitoring

3. The Loan financing will support the development of a department, under the Ministry of Sea, Transport and Infrastructure, which will coordinate strategic planning and public investment program management in the transport sector. It will seek to optimize vertical and horizontal functions, generate economies of scale, reduce duplication, and improve cooperation by consolidating resources that are currently spread across transport companies and agencies. It will progressively contribute to the goal of improved road sector governance and MSTI oversight of State-owned enterprises (SOEs) in the road sector, through an effective linkage between sector strategy and investment plans elaborated at subsector level. For that part of the subcomponent the project will support:

(a) technical assistance in the creation of the Directorate by means of necessary equipment for the commencement of the department's operation. Running costs will be supported by the government.

4. This sub-component will also develop a system for improved governance and financial management of the road sector, by establishing overall sector goals, roles and responsibilities of the Ministry and road SOEs, and parameters of their interactions. The governance framework is aimed at improving the efficiency of the MSTI as the owner and purchaser of services from the road sector SOEs, and improve SOE management through establishment of monitoring systems and benchmarks for companies' operational and financial performance. Accounting practices across the companies will be improved and standardized, particularly in relation to methodologies for registration and depreciation of assets. Comprehensive long-term financial planning strategies will be introduced; companies will develop project

management and financial systems that allow to plan works, record costs, issue invoices, and fully understand and manage revenue and expenses.

5. The project will provide support for several technical assistance activities, including (a) consultancy development of a sector governance framework reinforcing MSTI's ownership role, including a.o.t. definition of key performance indicators (KPIs) for measuring company performance and monitoring arrangements incl. service agreements between MSTI and SOEs; (b) consultancy [and possible hardware provision] for the establishment of an IT application to facilitate data exchange and reporting between MSTI and SOEs; (c) consultancy to review accounting methodologies and improve accounting tools used by the SOEs and to ensure consistency of accounting across the SOEs; (d) consultancy on the business environment for the freight road transport industry; (e) consultancy to introduce/improve citizen engagement.

Sub-component A3: Implementation Support.

6. Under this sub-component, financing will be provided for technical assistance to support implementation of the Project at MSTI, in relation to technical, financial, communications, HR and legal matters, as well as a project audit. The activities are expected to contribute to (i) coordination of project activities; (ii) institutional strengthening and capacity building; (iii) refinement, implementation and possible updating of the road sector strategy and associated investment plans.

Financing will provide support for consultancies on (a) technical coordination; (b) financial coordination; (c) communications; (d) human resources issues; (e) project audits; (g) legal matters.

Component B: Operational Restructuring of Road Sector SOEs

7. This component will finance operational restructuring of motorway companies and Croatian Roads (HC), including human-resource impacts. On motorways, it will build on reforms introduced by the Government and complement activities carried out through an EBRD loan to Croatian Motorways (HAC) for operational restructuring of the entire state-managed motorway subsector, with distinct activities on maintenance and tolling. On both motorways and HC, it will enhance the technical framework for maintenance through support revisions to the road classification and maintenance standards, as well as a comprehensive Road Asset Management System (RAMS). Finally, road safety priorities within the MSTI, as identified in the Ministry's Road Safety Action Plan for 2017-2020, will be supported by a dedicated sub-component.

Sub-component B1: Road classification and standards

8. Technical assistance finance under this sub-component will assist MSTI and the road companies (motorways and HC) to (i) implement a technical classification of the public road network on the basis of functional criteria and (ii) develop consistent sets of maintenance-related regulations and specifications for all road classes, for the purpose of achieving efficient and effective road maintenance. The regulations and specifications will be defined in accordance with end-performance levels of service, for use in future maintenance contracts. They will follow the principle of "fair standards" (neither under- nor over-dimensioned) and covering the full range of road maintenance activities including traffic/incident management and tunnel safety, with appropriate references to input-based standards and technical specifications. Routine/preventive and periodic maintenance will be covered. Financing will provide support for a consultancy to support MSTI and companies in the above activities.

Sub-component B2: Road Asset Management System

8. Financing under this sub-component will provide technical assistance to implement road asset management systems (RAMS) for all road companies. The RAMS will comprise a computerized database for planning, scheduling and costing of road interventions, and this will form the basis for development of multi-year costed maintenance programs by each Company. The RAMS will cover pavement (PMS) and structure management systems (including bridges and tunnels) and the scope will include all stage-managed motorways and HC, with expandability for ZUC. Existing partial RAMS elements will be duly considered for inclusion. RAMS include simple mapping for each managing entity (company).

9. Technical assistance is phased in two steps: (a) to develop RAMS strategy and prepare scope (ToR) for 2nd phase; (b) RAMS implementation including any data collection, deterioration modelling, costed 4-year rolling plan, technical support as well as guidelines and training for future RAMS management and usage for budgeting purposes (consultancy plus equipment).

Sub-component B3: Rationalize Operations and Business Functions – Motorways.

10. Financing under this sub-component will be used to support operational and business rationalization of the motorway companies in conjunction with the EBRD-financed operational restructuring operation. It will be aimed at achieving improvements in the technical and business efficiency and effectiveness of the motorway companies. Detailed Action Plans will be developed, based on the Restructuring Action Plan / Labor Restructuring Plan developed for MSTI through the EBRD financing for HAC. The main objectives, as identified in this plan, include optimizing management and maintenance costs, enhancing outsourcing where beneficial, reducing technical units and rationalizing administrative activities. It is anticipated that this process will result in labor restructuring, and retrenchment packages will be part-financed by EBRD. Such packages will include support services for retraining and enhancing opportunities for finding alternative employment, including counselling and advisory support and employment intermediation. The activity would also encompass development and management of citizen engagement mechanisms and ensure social and environmental responsibility.

11. Financing will support consultancy services to review possibilities for increased overall outsourcing of routine maintenance functions (now largely performed by HAC), by examining the whole spectrum (from no outsourcing to full outsourcing); analyze the effect of this spectrum of options on the organization of motorway companies (HR/staffing, spatial organization, administrative & IT services, plant and equipment, record systems, management systems etc.); examine options to improve HR systems, compensation policies, systems for job-control, planning and estimating works; consider supervision and monitoring and develop operational standards to manage the road manager vs. operator interface. Finally, the consultancy will obtain agreement on preferred approach and resulting spatial, plant and staff organization, and develop detailed Action Plans for the preferred solutions. Throughout this process, the parallel support by legal, HR, financial, accounting and other consultancies of sub-components A2 and A3 will be important. Downstream work for support to MSTI and companies during the implementation will be necessary, covering quality, IT, plant and equipment management, procurement and other issues. IBRD will provide contribution to the initial voluntary retrenchment and further to complement the main EBRD loan.

Sub-component B4: Tolling

12. Financing under this sub-component will be used to identify, detail and implement an improved road charging system ensuring full automation. The scope of the technical assistance will include analytics to identify the preferred new automated road charging system and tariff structure, including plans to transition from the current tolling system and pricing regime through immediate and medium-term adjustments - including a consideration of legal and institutional issues as well as HR impacts, the latter to be refined using the “EBRD Plans” (ref. sub-component B3) as a basis. Other relevant subcomponents (A2, A3) are also expected to provide horizontal support.

13. Financing will support a staged consultancy that will (i) review options, technologies and systems, legislation, enforcement issues, costs/benefits, EU compliance and ITS, cross-border and inter-operability issues, toll rates (differentiation, classification, environmental / emissions component, phasing etc.), (ii) dimension HR impacts, (iii) recommend option, (iv) develop preferred option including transition plan and bidding documents, (v) perform downstream work in the implementation phase.

14. Moreover, financing will also be provided for retrenchment packages, to be covered by EBRD. Finally, the EBRD loan will also finance the implementation equipment in two phases (interim and final).

Sub-component B5: Operational and business rationalization of HC

15. This sub-component will assist to reform state-road maintenance practices by financing technical assistance to develop an Action Plan that will support (a) the decentralization of HC into six regional business units; (b) joint procurement at regional level among HC and ZUC; and (c) development of improved maintenance contracting practices using revised maintenance service-level standards, and assessment and programming of periodic maintenance needs based on the Road Asset Management System (RAMS). Parallel activities from sub-components A2, A3, B1 and B2 will support the process.

16. Financing will support consultancy services for operational and business rationalization of HC. An organization review of HC and its functions will be carried out, including monitoring of outsourced maintenance and procurement. The action aims at optimizing business processes, cost control and IT support and strengthening HR capacities, including enhancement of job descriptions. Alternative options for improvement of processes, policies, practices will be examined. An Action Plan for HC will be developed. Downstream work will also be performed in the implementation phase.

Sub-component B6: Road safety measures

17. The objective of this component is to contribute to the achievement of Croatia’s road safety goals by supporting the MSTI’s Road Safety Action Plan (RSAP) for 2017-2020 - in alignment with the country’s broader 2011-2020 National Road Safety Plan. Specific activities within the MSTI’s 2017-2020 investment plan are part of the RSAP. Financing will support consultancy services for design of improvements on the HAC motorway network, namely: (a) safety barrier improvements; (b) harmonization of remaining tunnel safety improvements in accordance with the EU Directive 2004/54; and (c) nationwide Intelligent Transport Systems for traffic information improvements.