

TERMS OF REFERENCE

Ministry of Transport and Communications of the Kyrgyz Republic

CENTRAL ASIA ROAD LINKS PROGRAM (CARs)

National Individual Consultant (Highway Engineer) on Improvement of road operations and maintenance practices (Axle Load Control and Asset Preservation and Maintenance) – CARs/CS-IC-16

A. PROJECT BACKGROUND AND OBJECTIVES

1. The Central Asia Road Links Program (CARs) has the overall objective to increase transport connectivity between neighboring countries in Central Asia along priority cross-border road links whilst supporting improvements in road operations and maintenance practices.
2. The components of the First Phase of the Central Asia Road Links Program (CARs-1) will focus on the Kyrgyz Republic and include the component on rehabilitation of priority 56 kilometers of road sections in Batken Oblast along and within close vicinity of the Osh-Batken-Isfana road corridor connecting to Tajikistan, and the component to finance the provision of goods, and consultants' services for the improvement of road operations and maintenance practices. The improvement of road operations will include a review of regional standards, norms, and parameters on vehicle (truck) weight and axle load limits and tariffication as well as the development of a strategic plan for the institutional arrangements for transport control, the setting up of an axle-load control system and methods for enforcement of axle load limits.
3. To this end, the Ministry of Transport and Communications of the Kyrgyz Republic (herein, MOTR) through its Investment Project Implementation Group (herein, IPIG) is in the process of procuring High-Speed Weight-In-Motion systems at two locations (Sosnovka and Kemin) in order to complement static weight scales. The procurement is done based on Design-Supply-Install method and the bid submission deadline approaches.
4. For purposes of improvement of road operations and maintenance practices, MOTR intends to hire an international individual consultant and two national consultants (1 lawyer and 1 highway engineer). An individual Terms of Reference was prepared for the international individual consultant. This Terms of Reference was prepared for the national consultant, highway engineer.

B. SCOPE OF WORKS

5. In order to improve road operations and maintenance practices, the MOTR seeks support and input from National individual consultant, Highway Engineer, covering two major areas:
 - Improvement and/or adjustment of methods for planning and programming regarding road preservation and maintenance to ensure sustainability of investments;
 - Preparation of a strategic plan on weight and dimension (transport) control and technical support during implementation of high-speed weigh-in-motion systems at 2 pilot locations.
6. The tasks of National Consultant, Highway Engineer will consist of the following tasks/ outputs:

Activity 1.1 Asset preservation maintenance: Analysis of technical and institutional framework

The aim is to draw an exact picture of the road asset preservation and maintenance activities currently carried out, the procedures used to apply, to check and to pay them, and the scope of their application.

Activity 1.2: Assistance in Proposing Typical Routine Maintenance Works and Developing Unit Rates for Typical Works

The objective of this activity is to develop a draft set of technical specifications for routine maintenance road and structural works, for the use in the Kyrgyz Republic, under the guidance of and jointly with the international individual consultant.

Upon developing the draft set of technical specifications for routine maintenance under the guidance of and jointly with the international individual consultant, the specifications for works should be presented so that aggregate unit cost for each element can be calculated.

1. Collect data on unit costs from previous contracts with DEPs (internally) and private companies (for periodic maintenance and rehabilitation) to calculate draft unit costs for each above listed maintenance activity. Cost evaluation where possible shall be done according to the developed list of standards.
2. Compare costs derived by calculation of “aggregate cost” and traditional calculation method applied by the Gosstroï in general and by items (earthworks, structures, bitumen works, marking, signs, etc.)

Activity 1.3: Assistance for Prioritization and Programming of Works

The activity shall include assistance for introducing simple planning tools for maintenance.

Principles of improved planning and programming both for maintenance and periodic repair shall be applied considering specific context of the Service Level Agreement (SLA) to be signed between UAD OBI and MOTR/RSD.

Activity 1.4: Monitoring of SLA with UAD OBI

During SLA implementation, the Consultant shall provide technical assistance both to UAD OBI and DDH.

Activity 2.1: Strategic plan on weight and dimension (transport) control

The objective of this activity is to provide technical support to develop a strategic plan on weight and dimension (transport) control for the Kyrgyz Republic. The Highway Engineer shall assist the Lawyer and the international individual Consultant in development of the strategic plan. This shall require participation at least the following tasks:

- An assessment the vehicle axle overloading problem in the Kyrgyz Republic, including (i) assisting MOTR in conducting axle load surveys with the available equipment to provide updated data on the scale of overloading on the road network; (ii) analyzing the causes of axle overloading; and (iii) recommending on how to address the problem.
- A review of existing axle load legislation and regulations in the Kyrgyz Republic (including special permissions for the transport of indivisible goods) and neighboring countries (at least China, Kazakhstan, Uzbekistan, Tajikistan, Turkey, Iran) and review of the structure of fines for overloading, methods of enforcement and entities involved in enforcement.
- Advice to MOTR on any amendments to legislation and regulations necessary for the Kyrgyz Republic to harmonize its legislation with that of neighboring countries including those required to ensure that MOTR has the legal powers: (i) to stop vehicles on the highway and direct them to off-load cargo, (ii) to apply fines for overloading; and (iii) to do direct enforcement of overloading, where overloaded trucks identified by weight in motion scales are automatically fined without being stopped to be weighted by more precise scales.

- A Review of the role of all Kyrgyz Republic entities that work on issues related to the enforcement of overloading to ensure that the obligations and roles of all entities are clearly defined. Propose a plan to enhance the coordination among these entities.
- Advice to MOTR on methods for monitoring axle load and the effectiveness of different technologies, and assist in the procurement and installation of axle weighing equipment that might be required at selected locations.
- Develop a program proposed to increase the public awareness of the need for vehicle axle load control and provide advance notice to the public of overloading control procedures to be implemented.
- Prepare a plan for installing weighing stations for the whole road network managed by MOTR and long-term strategy on axle load control in the country. The plan should indicate the preferred locations, method for axle load enforcement at each location (manual selection, automatic screening and pre-selection, or direct enforcement), equipment requirements (technical specifications), coordination among Kyrgyz Republic entities requirements, timeframe, and investment, maintenance and operating cost estimates.

Activity 2.2: Technical support during installation and implementation of high-speed weigh-in-motion systems (HSWIMs) at 2 pilot locations

The objective of this activity is to provide support to MOTR and its IPIG during bid evaluation and installation/ implementation phases of HSWIMs at 2 pilot locations. Specifically, the Consultant is expected to:

- Provide technical advice to MOTR/IPIG during the installation of HSWIMs and during coordination of the different entities in the Kyrgyz Republic involved in overloading issues to ensure best use of the system;
- Participate in the data analysis following the WIMS installation, and in analysis of the data provided by the previous slow motion system already under operation;
- Inform on advanced methods of HSWIMS operation and maintenance;
- Introduce proposals on provision of technical recommendations to MOTR on procedures regarding operation of the system;
- Introduce proposals during evaluation of results of HSWIMS pilot tests.

Activity 2.3: Dissemination and Workshop

Towards the end of the assignment, the National Consultant, Highway Engineer, shall participate in the organization and presentation of a 1/2-day work-shop or seminar, presenting the draft proposed documents and experience.

C. Requirements

For highway-engineer:

7. The Consultant should have higher background in road engineering and/or in transport economy with, at least, 5 (five) years of work experience in road system and/or road asset management systems and/or weight and dimension control;
 - Experience and/or knowledge of modern IT-based weight-in-motion systems applied around the world in weigh and dimension control shall be an advantage;
 - Experience in reviewing and drafting of legal and regulatory documents.
 - Good writing and speaking skills in Russian language, knowledge of the state language shall be an advantage.

D. Reporting

8. The National Consultant, Highway Engineer, will, under the supervision of the International Individual Consultant, be closely working with the MOTR's specialists authorized by the MOTR to work on road asset management and road maintenance as well as dimension and weight (transport) control. The consultant will also liaise with the IPIG Project Coordinator. Individual specialists to work with the consultants will be assigned by the Deputy Minister of Transport and Communications of the Kyrgyz Republic in liaison with the Director of the Investment Projects Implementation Group (IPIG).
9. Specifically, the National Consultant, Highway Engineer, should directly report to the International Individual Consultant, as well as Investment Projects Implementation Group (IPIG) Project Coordinator. Any output documentation should be submitted to the MOTR in Russian language.
10. The MOTR will provide the National Consultant, Highway Engineer, all support needed for reviewing regulation and legislation related to road preservation and axle load, in terms of personnel and logistics, and any other support needed.
11. Accommodation of office space for the consultant is to be provided by MOTR.

E. Deliverables

12. In course of the works the National Consultant, Highway Engineer, shall participate in the preparation of all Monthly reports, special reports and the Final report prepared by the international consultant in Russian language in accordance with entrusted tasks and obligations.
13. The National consultant shall prepare a final report that shall summarize the entire scope of work performed under the contract and be submitted to the international consultant for incorporation in the general report to be submitted to MOTR; the hard and soft copy of the report shall be submitted to the international consultant within ten days upon completion of the contract. It is expected that the MOTR will review and approve (or comment on) the materials submitted by the National Consultant, Highway Engineer within 2 weeks upon receipt thereof. The National Consultant, Highway Engineer shall take action on the comments (if any) within the following 2 weeks.

F. Duration

14. Duration of the assignment is 18 months with an estimated input of about 12 man-months. A Consultant will be mainly based in MOTR in Bishkek with regular visits to the HSWIMs two pilot sites as well as UAD OBI. Payment schedule is the following:

Month 1 and Advance Payment– 10%

Month 2 – 5%

Month 3– 5%

Month 4 – 5%

Month 5 – 5%

Month 6– 5%

Month 7 – 5%

Month 8 – 5%

Month 9 - 5%

Month 10 – 5%

Month 11 – 5%

Month 12 – 5%

Month 13 – 5%

Month 14 – 5%

Month 15 – 5%

Month 16 – 5%

Month 17 – 5%

Month 18 and Final report – 10%