

*Appendix 8 Minutes of Discussion*



## MINUTES OF KICKOFF MEETING

**July 8, 2013**

Venue	MOTC
Date	July 8, 2013 14.00~
Participants	Refer to attached file
<p><b>RESULTS OF DISCUSSION</b></p> <ul style="list-style-type: none"> <li>• At the beginning of the meeting Mr.Mizota mentioned that CTI Engineering won a tender to implement the Project.</li> <li>• Introduction from Mr. Mizota on agenda, location of the Project, implementation Schedule, implementation structure of the Project, decision according to MT, outputs and phases of the Project, Japanese Expert Team, outline of data base system.</li> <li>• Mr. Mizota told that Project implementation consists of 3 Phases and 4 outputs (hand-outs of Kick-off meeting 2<sup>nd</sup> page).</li> <li>• First JCC meeting is planned to be held on August. Overall 4 JCC meetings are planned to be held.</li> <li>• During discussion Nurmanbetov Kadyr, Deputy of RMD was appointed as Project Manager.</li> <li>• Mr. Kitamura introduced bridge photographing technology in order to create 3D format photo viewing.</li> <li>• Mr. Sodonbaev will give the list of 3-5 RMD staff for photographing training by JICA Expert Team.</li> <li>• MTA meeting is planned to be held on 10<sup>th</sup> of July at 10 A.M.</li> <li>• Mr. Keldibek, Deputy of Minister clarified from Mr. Tanaka about budget allocation for MT travel allowances, who live in regions. Mr. Tanaka replied that it was indicated in official document execution of cooperation and in Record of Discussion that Kyrgyz side obliged to cover all travel allowances. And if there is subject to change according to Ministry budget it should be rewrite and confirm again until the first JCC meeting.</li> <li>• Mr. Tanaka informed that in case of a possible allocation of budget to travel allowances, detailed cost estimation is required to approve the budget. Cost estimation should be made of articles on travel expenses, which are officially approved by the Ministry.</li> <li>• Mr. Mizota explained in detail development of Date Base System. Partners are requested to submit proposals according to DB structure and elements before DB development.</li> </ul>	

## ATTENDEE LIST OF KICKOFF MEETING

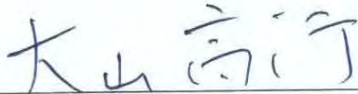
№	Name	Position	Organization
<b>Ministry of Transport and Communications (MOTC)</b>			
1.	Mr. Mamaev Kubanychbek	Chairman, Head	Investment Project Implementation Group (IPIG)
2.	Mr. Ibraev Keldibek	Deputy Minister	Ministry of Transport and Communications
3.	Mr. Sodombaev Jumash	Head	Road Maintenance Department (RMD)
4.	Mr. Alypsatarov Melis	Head	Road Management Department (RMND)
5.	Mr. Nurmanbetov Kadyrbek	Deputy Director	Road Maintenance Department (RMD)
6.	Ms. Milovatskaya Nina	Chief Specialist	Road Management Department (RMND)
7.	Mr. Nogoev Nurmat	Head	Preparation of Production and Acceptance of Work Division (PPAW), RMD
8.	Mr. Sarbagyshev S.		
<b>Japan International Cooperation Agency (JICA)</b>			
9.	Mr. Tanaka Fusato	Director, Transportation and ICT Division 3	Japan International Cooperation Agency (JICA)
10.	Mr. Takemura Yoshimasa	Program Officer, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
11.	Mrs. Shimada Aya	Assistant Director, Transportation and ICT Division 3	Japan International Cooperation Agency (JICA)
12.	Ms. Suyunaliyeva Guljan	Program Officer, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
<b>Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic</b>			
13.	Mr. Mizota Yuzo	Team Leader / Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
14.	Mr. Okazaki Akio	Deputy Team Leader / Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
15.	Mr. Takayosh Kitamura	Cost Estimate / Bridge Inspection Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
16.	Mr. Watanabe Masatoshi	Data Base Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
17.	Mr. Junichiro Ogawa	Coordinator / Assistant of Bridge Inspection	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
<b>Others</b>			
18.	Ms. Abdrazakova Sabira	Assistant	Road Administration Advisor (JICA)

# MINUTES OF 1st JCC MEETING

MINUTES OF MEETINGS  
BETWEEN  
JAPAN INTERNATIONAL COOPERATION AGENCY  
AND  
MINISTRY OF TRANSPORT AND COMMUNICATIONS  
OF THE KYRGYZ REPUBLIC  
ON  
THE PROJECT FOR CAPACITY DEVELOPMENT  
FOR MAINTENANCE MANAGEMENT  
OF BRIDGES AND TUNNELS  
IN THE KYRGYZ REPUBLIC

Bishkek

August \_\_ 2013



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Takayuki Oyama  
Chief Representative  
JICA Kyrgyz Office  
Japan International Cooperation  
Agency  
Japan



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Ibraev Keldibekov  
Deputy Minister  
Ministry of Transport and  
Communications  
Kyrgyz Republic



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Yuzo Mizota  
Leader  
Expert Team  
Japan International Cooperation  
Agency  
Japan



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Mamaev Kubanychbek  
Head  
Investment Project Implementation  
Group  
Ministry of Transport and  
Communications  
Kyrgyz Republic

Based on the Record of Discussions (R/D) on the Project for Capacity Development for Maintenance Management of Bridges and Tunnels (hereinafter referred to as "the Project") signed on February 14, 2013 between the Japan International Cooperation Agency (hereinafter referred to as "JICA") and Ministry of Transport and Communications (hereinafter referred to as "MOTC"), the Project was launched in the beginning of July 2013.

The first Joint Coordinating Committee (hereinafter referred to as "JCC") meeting was held on August 22, 2013 at 42 Isanov Str., 4th floor, Conference Room # 407, MOTC between MOTC and JICA. Chairman of this first JCC meeting was Mr. Kubanychbek Mamaev, Project Director of the Project, and the participants of the meeting are listed in Annex 1.

As a result of discussions and exchanges of opinions in the meeting, JICA and MOTC came to an agreement on the following issues.

#### **I. WORK PLAN**

Both JICA and MOTC approved the Work Plan presented in the meeting by Ms. Nina Milovatskaya, one of the four (4) counterparts of the Project. The Project will be implemented according to this approved Work Plan (Annex 2).

#### **II. AMENDMENTS OF RECORD OF DISCUSSIONS**

##### **1. Implementation Structure**

Both JICA and MOTC agreed to amend "II. OUTLINE OF THE PROJECT, 2. Implementation Structure, (1) MOTC" of "Appendix 1 Project Description" of R/D as follows:

(Before)

- (a) Project Director: Director of Investment Project Implementation Group
- (b) Project Manager: Chief Engineer of Road Maintenance Department
- (c) Counterparts: 1) Head of Preparation Division  
2) Chief Specialist of Road Management Department  
3) Leading Specialist of Bishkek-Osh UAD

(After)

- (a) Project Director: Director of Investment Project Implementation Group
- (b) Project Manager: Deputy Director of Road Maintenance Department
- (c) Counterparts: 1) Chief of Preparation of Production and Acceptance of

- Work Division, Road Maintenance Department
- 2) Chief Specialist of Road Management Department
  - 3) Leading Specialist of Preparation of Production and Acceptance of Work Division, Road Maintenance Department
  - 4) Specialist of Preparation of Production and Acceptance of Work Division, Road Maintenance Department

## 2. Logical Framework (Project Design Matrix: PDM)

Both JICA and MOTC agreed to amend "Annex 1 Logical Framework (Project Design Matrix: PDM)" of R/D as follows. The amended Logical Framework (Project Design Matrix: PDM) is attached in Annex 2 as Table 4.6.1.

### (1) "Period",

Dates are filled in the originally blank spaces.

### (2) "Objectively Verifiable Indicators",

Numerical values and dates are filled in the originally blank spaces.

### (3) "Inputs" of "Kyrgyz side", and

(Before)

3. Running expenses necessary for the implementation of the Project including travel expenses and allowances for the participants of the trainings.

(After)

3. Running expenses necessary for the implementation of the Project including travel expenses and allowances for the participants of the trainings with the exception of some participants.

Both JICA and MOTC confirmed that this amendment is identical to the agreement established in the document JKE-08-05 dated on August 6, 2013 between JICA and MOTC (Annex 3).

At the same time, however, both JICA and MOTC agreed to make small amendments to the document JKE-08-05 dated on August 6, 2013 as follows:

- a) Candidates of master trainers shown in Appendix-1 of the document JKE-08-05 had been updated as per Table 1.4.2 in Annex 2.
- b) Participation of one of the five (5) groups of master trainers, referred to as MT-C in the document JKE-08-05, had been cancelled. Both JICA and MOTC confirmed that it would not affect the achievement of the

Project's outputs because the participation of MT-C was originally planned to be only three (3) days per year and another group of master trainers, referred to as MT-A in the document JKE-08-05, from the same PLUAD/UAD would participate in the trainings and share their learning with MT-C.

(4) "Inputs" of "Japanese side".

(Before)

1. Experts

- 1) Leader / Bridge Expert (Substructure)
- 2) Bridge Expert (Superstructure)
- 3) Database Expert
- 4) Tunnel Expert (Structure)
- 5) Tunnel Expert (Facilities)
- 6) Cost Estimation Expert
- 7) Local Coordinator
- 8) Interpreters

(After)

1. Experts

- 1) Leader / Bridge Maintenance 1
- 2) Deputy Leader / Bridge Maintenance 2
- 3) Bridge Maintenance 3
- 4) Database Expert
- 5) Tunnel Maintenance 1
- 6) Tunnel Maintenance 2
- 7) Cost Estimation / Bridge Inspection
- 8) Coordinator / Assistant of Bridge Inspection
- 9) Local Coordinator
- 10) Interpreters

3. Tentative Plan of Operation

Both JICA and MOTC agreed to amend "Annex 2 Tentative Plan of Operation" of R/D by adding the information on actual achievements so far. The amended Plan of Operation is attached in Annex 2 as Figure 4.7.2(1).

4. Members of JCC

Both JICA and MOTC agreed to amend "Annex 4 List of Proposed Members of



Joint Coordinating Committee” of R/D as follows:

(Before)

**[JAPANESE SIDE]**

- 1) JICA Kyrgyz Republic Office
  - Representative / Program Officer in charge of the Project
- 2) JICA Experts
  - Leader / Bridge Expert (Substructure)
  - Bridge Expert (Superstructure)
  - Database Expert
  - Tunnel Expert (Structure)
  - Tunnel Expert (Facilities)
  - Cost Estimation Expert
  - Local Coordinator

**[Kyrgyz SIDE]**

- Project Director: Director of Investment Project Implementation Group
- Project Manager: Deputy Director of Road Maintenance Department
- Counterparts: 1) Head of Preparation Division, 2) Chief Specialist of Road Management Department, and 3) Leading Specialist of Bishkek-Osh UAD
- Other organizations concerned, if necessary

(After)

**[JAPANESE SIDE]**

- 1) JICA Kyrgyz Republic Office
  - Representative / Program Officer in charge of the Project
- 2) JICA Experts
  - Leader / Bridge Maintenance 1
  - Deputy Leader / Bridge Maintenance 2
  - Bridge Maintenance 3
  - Database Expert
  - Tunnel Maintenance 1
  - Tunnel Maintenance 2
  - Cost Estimation / Bridge Inspection
  - Coordinator / Assistant of Bridge Inspection
  - Local Coordinator
  - Interpreters

**[Kyrgyz SIDE]**

- Project Director: Director of Investment Project Implementation Group
- Project Manager: Chief Engineer of Road Maintenance Department
- Counterparts: 1) Chief of Preparation of Production and Acceptance of Work Division, Road Maintenance Department, 2) Chief Specialist of Road Management Department, 3) Leading Specialist of Preparation of Production and Acceptance of Work Division, Road Maintenance Department and 4) Specialist of Preparation of Production and Acceptance of Work Division, Road Maintenance Department
- Other organizations concerned, if necessary

**Annex 1:** List of Participants of the first JCC Meeting

**Annex 2:** Approved Work Plan

**Annex 3:** Copy of the document JKE-08-05 dated on August 6, 2013

**ATTENDEE LIST OF 1st JOINT COORDINATION COMMITTEE (JCC) MEETING**

<b>№</b>	<b>Name</b>	<b>Position</b>	<b>Organization</b>
<b>JCC members</b>			
1.	Mr. Mamaev Kubanychbek	Chairman, Head	Investment Project Implementation Group (IPIG)
2.	Mr. Nurmanbetov Kadyrbek	Deputy Head	Road Maintenance Department (RMD)
3.	Mr. Noguev Nurmat	Head	Preparation of Production and Acceptance of Work Division (PPAW), RMD
4.	Ms. Milovatskaya Nina	Chief Specialist	Road Management Department (RMND)
5.	Mr. Jeldenov Akim	Leading Specialist	Preparation of Production and Acceptance of Work Division (PPAW), RMD
6.	Mr. Esenbekov Tilek	Specialist	Preparation of Production and Acceptance of Work Division (PPAW), RMD
7.	Mr. Oyama Takayuki	Chief Representative, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
8.	Mr. Takemura Yoshimasa	Program Officer, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
9.	Mr. Mizota Yuzo	Team Leader / Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
10.	Mr. Miyauchi Hidetoshi	Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
11.	Mr. Kitamura Takayoshi	Cost Estimate/Bridge Inspection Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
12.	Mr. Hiroi Kazuya	Tunnel Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
13.	Mr. Miura Kentaro	Tunnel Maintenance (Facility) Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
<b>JCC Observers</b>			
1.	Mr. Alypsatarov Melis	Head	Road Management Department (RMND)
2.	Ms. Suyunaliyeva Guljan	Program Officer, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
3.	Mr. Abdireshov Adilet	Leading Specialist	PLUAD-1
4.	Mr. Altymyshov Esenbek	Leading Specialist	BO UAD
5.	Mr. Shalpykov Kaldar	Head of PTO	BO UAD
6.	Mr. Oruzbaev Altynbek	Leading Specialist	PLUAD-1
7.	Mr. Chengelov Baktybek	Leading Specialist	BNT UAD
8.	Ms. Isabekova Anara	Leading Specialist	UAD, MOTC
9.	Mr. Sagaliev Azat	Leading Specialist	BO UAD

## MINUTES OF SEMINAR ON FACT FINDING RESULTS

August 27, 2013

Venue	Ministry of Transport and Communications, conference-room #407
Date	August 27 <sup>th</sup> , 2013 10:00 a.m. ~ 12:15 p.m.
Participants	Refer to attachment
<b>CONTENTS OF THE MEETING</b>	
<ol style="list-style-type: none"> <li>1) Opening remarks from Mr. Mizota: the following issue is to be confirmed by C/P:               <ul style="list-style-type: none"> <li>- Issues on maintenance of bridges and tunnels.</li> </ul> </li> <li>2) Presentation from Mr. Miura on Tunnel Facilities.</li> <li>3) Presentation from Mr. Hiroi on Tunnel Construction.</li> <li>4) Presentation of issues on bridge maintenance from Mr. Kitamura and Mr. Miyauchi.</li> </ol>	
<b>RESULTS OF THE MEETING</b>	
<ul style="list-style-type: none"> <li>● Mr. Mamaev will decide the possibility to inform other donors on issues of maintenance of bridges and tunnels.</li> <li>● Mr. Nurmanbetov will make sure the staff members of all PLUADs/UADs to participate in trainings which will be carried out by Master Trainers. Also RMD will make sure smooth execution of trainings to be carried out by Master Trainers.</li> <li>● Regarding the maintenance of tunnels, the following activities are planned:               <ul style="list-style-type: none"> <li>- Manuals on the inspection and routine maintenance of tunnels will be developed mainly together with staff members of BO UAD.</li> <li>- Site training for tunnel maintenance is planned to be held in the middle of September 2013. This training will be held at tunnel #2 which is under jurisdiction of DEP 30. The period of training is 3 to 4 days.</li> </ul> </li> <li>● C/P will make sure some staff of DEP 38 to participate in training on tunnel maintenance.</li> <li>● C/P are required to take measures against water leak in tunnel #2.</li> <li>● All tunnels are maintained by the Tunnel Service Division which is under the BO UAD. The funds from the National Budget are allocated only for salaries of staff members of BO UAD. 2 check points were established in Sosnovka and Kara-Kul towns in 1996 for collecting fee for tunnel pass according to the Kyrgyz Government Decree (1996). The collected funds are used and they are sufficient for routine maintenance of tunnels. However additional funds from the National Budget or from other external sources (donors) are required for replacement of ventilation system or other big-scale works.</li> <li>● The Project will assist MOTC in cost estimation of tunnel and bridge maintenance. A plan of budget for appropriate maintenance will be developed considering budget limitations.</li> <li>● Most of existing bridges were designed and built in Soviet period. Some bridges with defect designs were approved also. This happened because there was only one organization namely Design Institute which designed bridges. Now situation has changed. There are private companies which can design, carry out supervision, etc. Therefore MOTC is trying to shift to the system "Customer-Contractor-Independent Technical Supervision".</li> </ul>	

**ATTENDEE LIST OF WORKSHOP ON FACT FINDING RESULTS**

<b>№</b>	<b>Name</b>	<b>Position</b>	<b>Organization</b>
<b>Ministry of Transport and Communications (MOTC)</b>			
1.	Mr. Mamaev Kubanychbek	Chairman, Head	Investment Project Implementation Group (IPIG)
2.	Mr. Nurmanbetov Kadyrbek	Deputy Head	Road Maintenance Department (RMD)
3.	Mr. Alypsatarov Melis	Head	Road Management Department (RMND)
4.	Ms. Milovatskaya Nina	Chief Specialist	Road Management Department (RMND)
5.	Mr. Nogoiev Nurmat	Head	Preparation of Production and Acceptance of Work Division (PPAW), RMD
6.	Mr. Esenbekov Tilek	Specialist	Preparation of Production and Acceptance of Work Division (PPAW), RMD
7.	Mr. Altyмышov Esenbek	Leading Specialist	BO UAD
8.	Mr. Doskojaev Ruslan	Specialist	Road Management Department (RMND)
9.	Mr. Duyshok uulu Tolonbek	Deputy Head	Road Management Department (RMND)
10.	Mr. Berdibaev Erlan	Chief Specialist	Road Management Department (RMND)
11.	Mr. Sagaliev Azat	Leading Specialist	BO UAD
<b>Japan International Cooperation Agency (JICA)</b>			
12.	Mr. Takemura Yoshimasa	Program Officer, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
13.	Ms. Suyunalieva Guljan	Program Officer, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
<b>Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic</b>			
14.	Mr. Mizota Yuzo	Team Leader / Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
15.	Mr. Miyauchi Hidetoshi	Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
16.	Mr. Kitamura Takayoshi	Cost Estimate/Bridge Inspection Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
17.	Mr. Hiroi Kazuya	Tunnel Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
18.	Mr. Miura Kentaro	Tunnel Maintenance (Facility) Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
<b>Others</b>			
19.	Ms. Abdrazakova Sabira	Assistant	Road management, JICA

## MINUTES OF KICKOFF SEMINAR

October 16, 2013

Venue	Ministry of Transport and Communications, conference-room #407
Date	October 16 <sup>th</sup> , 2013 14:00 a.m. ~16:00 p.m.
Participants	Refer to attachment

### CONTENTS OF THE MEETING

- Opening remarks from Mr. Mamaev: introduction of Project, its goals, Agenda, introduction of donors and RMD staff.
- Presentation from Ms. Milovatskaya on Project: location, outline, implementation schedule, work schedule of the Project.
- Presentation from Mr. Imankulov on present condition of bridges and issues on maintenance of tunnels.

### RESULTS OF THE MEETING

- **Question from Mrs. Rie Hiraoka ADB:**  
*Maintenance of bridges and tunnels is mostly part of overall Road Asset Management Maintenance Plan. There is plan schedule for developing of bridges and tunnels maintenance, how about road maintenance plan?  
 By the end of 2014 it seems Ministry of Transport has to identify the cost of maintenance and it inevitably has to discuss where financial and human resources coming from? Do you know how to mobilize human and financial resources by the end of 2014 for bridges and tunnels maintenance and also for general road asset?*
- **Answer from Mr. Imankulov:**  
*Bridges in Kyrgyzstan were constructed in 1960-1970. Due to the lack of budget, we repair about 10 bridges in one year. We understand that money sources should be divided into road maintenance and bridge maintenance.*
- **Answer from Mr. Mamaev:**  
*Under the lack of financing resource, main responsible organizations, PLUADs and DEPs, are carrying out routine maintenance to support and to keep the road in condition good enough for passing the vehicle. Activities of the analysis and measures for the improvement of technical condition of bridges and tunnels have not been conducted by MOTC. Teaching the staff of MOTC will help them how to conduct inspection and make budget. As you know the bridge consists of different parts, such as foundation, superstructure, and substructure. Bridge design also should consider river side as well. So, we should approach to the budget planning comprehensively. When we start to work in Project, we involve local staff in each area where they have bridges and tunnels. Regional representatives have been taught how to conduct bridge and tunnel inspection. At the end of the Project, the result would be creation of data base, prioritization, budget planning and its allocation.*
- **Question from Mr. Engel Gardt Dmitriy Vladimirovich EDB:**

*Now we are talking about existing 5 tunnels. Has MOTC plan to construct new tunnels up to 2015?*

- **Answer from Mr. Mamaev:**

MOTC has planned the construction of two tunnels in Too-Ashuu pass. The first tunnel will be 2-3 times longer than existing tunnel, with 3.8km long. It will be located at 108 km and reach Suusamyр valley. First tunnel is approved within the framework of "North-South" Highway Project. The finance for the first tunnel has been defined, and ratification of financial agreement is in the progress. Survey works and the preparation of the final geological report will be carried out in 2014. And, accordingly the second tunnel the finance is not defined. We have a plan to negotiate with donors. And if we would succeed in negotiation, we will start construction works in 2015.

- **Question from Mrs. Cordula Rastogi WB:**

*We have seen over the years Ministry has focused on Asset Management, not only on bridges and structures, but also on road infrastructure and also trying to give more responsibility to Road Maintenance Department. What kind of maintenance measures would you actually execute? You mentioned some of the bridges have been constructed in 1960-70s, I would assume they are already expired lifespan. Do you request PLUADs and DEPs to restrict heavy vehicle on these bridges? Or what are the measures Ministry make sure that bridge would not collapse? As for the tunnels design, most of the points presented here seems to be the issue of design rather than maintenance. What are the measures the Ministry make sure that they have no accidents in these tunnels, because of pure ventilation, no light? Do you restrict travel in the tunnel? You mentioned one element is budget, but there are other elements like techniques, like responsibilities?*

- **Answer from Mr. Imankulov:**

*Some bridges service life has been expired. Every year, only emergency conditions bridges have been repaired by PLUADs within budget.*

- **Answer from Mr. Nogpev:**

*Within the framework of Project, RMD staff has inspected all of the bridges in regions. Collected data would be examined. The bridges in emergency conditions would be considered in 2014 budget.*

- **Answer from Mr. Mamaev:**

*The important thing was pointed out by Mrs. Cordula that one of the issues is the mistake in design stage. As you see on the pictures, for instance, exposure of rebar is not caused by traffic or heavy loads. On the slab, the design process made some mistakes. Also it might be the mistakes in the stage of construction.*

- **Question from Mrs. Aidai Bayalieva WB:**

*As I see, you planned to develop Bridge manual. As far as I know, MOTC so far has no manuals on bridge and tunnel maintenance. Three years ago JICA had implemented the project by developing bridge inspection manual. As I know, MOTC has planned to develop Road Management System based on road network data base. Also, Data Base System or*

*bridges and tunnels will be created within the framework of Project.*

- **Question from Mr. Takemura Yoshimasa:**

*I think Road Asset Management System (RAMS) Project by World Bank is also important for the comprehensive activity in Kyrgyzstan. If possible, could you share the progress on the activity of RAMS?*

- **Answer from Mr. Mamaev:**

*The Project is ongoing now and now we are in the process of involving specialists and experts. We have issues, but working on it. We approved the consultants. Financial source has been already approved, but we cannot use in the way as World Bank requesting, which is not corresponding to Kyrgyz law. Or if the procedure corresponds to Kyrgyz law, it is different from policy or procedure of WB.*

- **Question from Mr. Mirdin Eshenaliev ADB:**

*Are you going to involve private sector to bridge and tunnel maintenance? And if you plan to involve private sector, it is important to invite them to participate in seminars and meetings.*

- **Answer from Mr. Imankulov:**

*If the budget of maintenance work exceeds 500 000 som, MOTC holds open tender. And all companies willing to participate in such tender, including private sector.*



## ATTENDEE LIST OF KICKOFF SEMINAR

№	Name	Position	Organization
<b>Ministry of Transport and Communications (MOTC)</b>			
1.	Mr. Mamaev Kubanychbek	Chairman, Head	Investment Project Implementation Group (IPIG)
2.	Mr. Alypsatarov Melis	Head	Road Management Department (RMND)
3.	Mr. Nurmanbetov Kadyrbek	Deputy Head	Road Maintenance Department (RMD)
4.	Mr. Nogoiev Nurmat	Head	Preparation of Production and Acceptance of Work Division (PPAW), RMD
5.	Ms. Milovatskaya Nina	Chief Specialist	Road Management Department (RMND)
6.	Mr. Jeldenov Akim	Leading Specialist	Preparation of Production and Acceptance of Work Division (PPAW), RMD
7.	Mr. Esenbekov Tilek	Specialist	Preparation of Production and Acceptance of Work Division (PPAW), RMD
<b>Japan International Cooperation Agency (JICA)</b>			
8.	Mr. Takemura Yoshimasa	Program Officer, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
9.	Ms. Suyunalieva Guljan	Program Officer, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
<b>Eurasian Development Bank (EDB)</b>			
10.	Mr. Engel Gardt Dmitriy	Representative Deputy Director	Eurasian Development Bank in the Kyrgyz Republic
<b>Asian Development Bank (ADB)</b>			
11.	Mrs. Rie Hiraoka	Permanent Representative	Asian Development Bank in the Kyrgyz Republic
12.	Mr. Mirdin Eshenaliev	Senior Project Specialist	Asian Development Bank in the Kyrgyz Republic
<b>World Bank (WB)</b>			
13.	Mrs. Cordula Rastogi	Senior Transport Economist	World Bank in the Kyrgyz Republic
14.	Mrs. Aidai Bayalieva	Project Specialist	World Bank in the Kyrgyz Republic
<b>Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic</b>			
15.	Mr. Mizota Yuzo	Team Leader / Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
16.	Mr. Miyauchi Hidetoshi	Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
17.	Mr. Hiroi Kazuya	Tunnel Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
18.	Mr. Watanabe Masatoshi	Data Base Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
<b>Others</b>			
19.	Ms. Abdrazakova Sabira	Assistant	Road Administration Advisor (JICA)

**MINUTES OF MEETING**  
**ON WORKSHOP FOR EFFECTIVE MAINTENANCE MANAGEMENT OF BRIDGES**  
**AND TUNNELS,**  
**AND INSTITUTIONAL DEMARCATION OF FUNCTIONS**

**October 30, 2013**

Venue	Ministry of Transport and Communications, conference-room #407
Date	October 30th, 2013 10:10 a.m. ~12:20 p.m.
Participants	Refer to attached file
<b>CONTENTS OF THE MEETING</b>	
<ol style="list-style-type: none"> <li>1. Presentation from Mr. Miyauchi on effective maintenance management of bridges in the Kyrgyz Republic</li> <li>2. Presentation from Mr. Mizota on organizational structure and demarcation of functions on maintenance management of bridges and tunnels</li> <li>3. Others</li> </ol>	
<b>RESULTS OF THE MEETING</b>	
<ul style="list-style-type: none"> <li>● The results of the meeting will be reported to Mr. Mamaev K., Director of the Project.</li> <li>● For the systematic planning and implementation of maintenance management of roads, MOTC currently needs nation-wide unified Road Passport system, and the bridges inspection sheets, proposed at the meeting, should be a part of Road inspection sheet. Assistance from JICA Expert Team is required for the development of Road Passport.</li> <li>● Establishment of Task Force, proposed by JICA Expert Team, is necessary for planning and implementation of maintenance management of bridges and tunnels.</li> <li>● Establishment of Steering Committee, proposed by JICA Expert Team is necessary for nation-wide planning of maintenance management. Appropriate staffs from other institutions like universities, Design Institute and other organizations need to be included into this Committee.</li> <li>● The staff number of DEP 9 and DEP 30 which are administrating 2 tollbooths on Bishkek-Osh road and the Kolbaev Tunnel, will be discussed and analyzed inside MOTC for appropriateness, and the results will be reported to JICA Project.</li> <li>● MOTC will need equipment, proposed at the meeting, (rebar check, infrared camera, Schmidt Hammer, tools for carbonation depth measurement) for implementation of detailed inspection of bridges.</li> <li>● Within 2 months MOTC will prepare cost estimation for repair and reconstruction, introduced by Mr. Miyauchi at the presentation by using the methods, proposed by JICA Expert Team.</li> </ul>	

**ATTENDEE LIST OF WORKSHOP ON EFFECTIVE MAINTENANCE MANAGEMENT AND DEMARCATION OF FUNCTIONS**

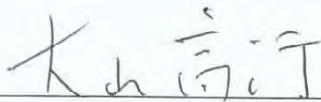
<b>№</b>	<b>Name</b>	<b>Position</b>	<b>Organization</b>
<b>Ministry of Transport and Communications (MOTC)</b>			
1.	Mr. Nurmanbetov Kadyrbek	Deputy Head	Road Maintenance Department (RMD)
2.	Mr. Alypsatarov Melis	Head	Road Management Department (RMND)
3.	Ms. Milovatskaya Nina	Chief Specialist	Road Management Department (RMND)
4.	Mr. Kaldybaev Ruslan	Lawyer	BO UAD
5.	Ms. Isabekova Astra	Leading Specialist	Road Management Department (RMND)
6.	Mr. Dubashev Nur	Chief Specialist	BO UAD
7.	Mr. Isakov Erlan	Leading Specialist	BO UAD
8.	Mr. Kuluev Nurbek	Chief Specialist	BO UAD
9.	Mr. Eraliev Nurlan	Leading specialist	Road Maintenance Department (RMD)
10.	Mr. Jumaliev Kubanychbek	Chief Specialist	Road Maintenance Department (RMD)
11.	Mr. Duyshok uulu Tolonbek	Deputy Head	Road Management Department (RMND)
<b>Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic</b>			
12.	Mr. Mizota Yuzo	Team Leader / Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
13.	Mr. Okazaki Akio	Deputy Team Leader/ Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
14.	Mr. Miyauchi Hidetoshi	Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
15.	Mr. Hiroi Kazuya	Tunnel Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic

**MINUTES OF MEETING  
BETWEEN  
JAPAN INTERNATIONAL COOPERATION AGENCY  
AND  
MINISTRY OF TRANSPORT AND COMMUNICATIONS  
OF THE KYRGYZ REPUBLIC**

**ON THE SECOND JOINT COORDINATING COMMITTEE FOR  
THE PROJECT FOR CAPACITY DEVELOPMENT  
FOR MAINTENANCE MANAGEMENT OF BRIDGES AND TUNNELS  
IN THE KYRGYZ REPUBLIC**

Bishkek

February 10, 2014



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Takayuki Oyama  
Chief Representative  
JICA Kyrgyz Office  
Japan International Cooperation  
Agency  
Japan



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Murzabekov Abdymamat  
Deputy Minister  
Ministry of Transport and  
Communications  
Kyrgyz Republic



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Yuzo Mizota  
Leader  
Expert Team  
Japan International Cooperation  
Agency  
Japan



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Mamaev Kubanychbek  
Head  
Investment Project Implementation  
Group  
Ministry of Transport and  
Communications  
Kyrgyz Republic

The second Joint Coordinating Committee (hereinafter referred to as "2<sup>nd</sup> JCC") meeting was held on January 30, 2014 at 42 Isanov Str., 4th floor, Conference Room # 407, MOTC between MOTC and JICA. Chairman of this first JCC meeting was Mr. Kubanychbek Mamaev, Project Director of the Project. Due to the absence of Mr. Kubanychbek Mamaev, Mrs. Nina Milovatskaya, Leading specialist of Road Management Department, chaired the 2<sup>nd</sup> JCC. The participants of the meeting are listed in Appendix 2.

As a result of discussions and exchanges of opinions in the meeting, JICA and MOTC came to an agreement on the following issues.

## MINUTES OF SECOND JOINT COORDINATION COMMITTEE MEETING

Agenda	<ol style="list-style-type: none"><li>1. Presentation of Progress Report, January 2014</li><li>2. Discussion</li></ol>
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### MEETING RESULTS

- Mr. Nurmanbetov K.R., Deputy Director of the Road Maintenance Department (RMD), informed during the presentation of the Progress Report, January 2014, that the new database of roads and bridges will be managed by the staff of the Road Assets Management Section. The section is to be established under RMD.
- Mr. Nurmanbetov K.R. explained that RMD had already requested the allocation of budget for one bridge reconstruction (DEP-958, Atbashy channel-Lugovoe Road) recommended under Phase 1 of the Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic (The Project). Due to the lack of MOTC budget for reconstruction and repair of other bridges, Mr. Nurmanbetov requested the JICA representatives to consider the possibility of Japanese grant aid for bridge reconstruction and repair.

#### Request for Review and Improvement of Manuals:

- Mr. Nurmanbetov K.R. informed that all of the manuals for bridges and tunnels will be verified by RMD staff, Design Institute and professors from the Kyrgyz State University of Construction and Architecture (KSUCA). It is expected that the KSUCA professors will submit their comments and proposals. They may also consider utilization of the manuals as one of the study guides in the university.
- One of the JCC Meeting observers, Sadakbaev T., Deputy Director of Interstate television and radio broadcasting company "Mir", member of the Public Supervisory Board, proposed to add the bridge destruction factor on the bridge foundation scoring. In the mountainous country of the Kyrgyz Republic, more than 80% of bridge destruction occurs due to the scouring of foundation.
- The JICA Project Team Leader explained as follows:  
In order to study two destruction factors of bridges, i.e., foundation scouring and earthquake defects, RMD staff will conduct a site survey with the assistance of Japanese experts from April 2014.
- The RMD representative explained that springtime maintenance works are the preventive measures to protect bridge foundations from scouring.
- The Road Administrative Advisor (JICA) noted the importance of Tunnel's Equipment Maintenance as one of the chapters in the Tunnel Maintenance Manual. The JICA Project Team Leader informed that several workshops/seminars on this issue have been conducted with staff of the Tunnel Service BO UAD. BO UAD has started the maintenance of tunnel equipment, which shall be instructed and monitored by a Japanese expert of the Team. The required activities for equipment maintenance will be described in the Tunnel Maintenance Manual in Phase 2.

#### Others:

- The RMD representative promised to make a provision for the PLUAD/UADs heads due to some low level of staff evaluation.
- A JCC meeting observer/member mentioned the importance of public announcement of

critical and imminent bridge problems and their condition.

- Mr. Alypsatarov M.D., Director of Road Management Department, explained the difficulties of institutional reformation of MOTC from the legal and budgetary aspects. He explained the necessity of stepwise institutional reform in consideration of actual potential of the private actors in the road sector of Kyrgyzstan.

#### Revision on Project Design Matrix (PDM):

The revised Project Design Matrix, Version 2, is shown in Appendix 1 and the revised contents are explained as follows:

#### Revision on Objectively Verifiable Indicators

Objectively Verifiable Indicators in RMD		Revised Objectively Verifiable Indicators	
2-6	[B], [T] All <b>PLUADs/UADs</b> operate and develop the database (DB) system.	2-6	[B] <b>RMD</b> operates and develop the DB system. [T] <b>BO UAD</b> operates and develops the DB system under the supervision of RMD.
3-5	[B] 100% of the results of inspection and condition rating implemented by <b>PLUADs/UADs</b> are evaluated to be accurate by RMD [by June, 2015].	3-5	[B] 100% of the results of inspection and condition rating implemented by <b>Master Trainers</b> are evaluated to be accurate by RMD [by June, 2015].
4-3	A long-term plan for maintenance management of bridges in consideration of LCC is prepared by <b>RMD/PLUADs/ UADs</b> in accordance with the nationwide management criteria [by June, 2015].	4-3	A long-term plan for maintenance management of bridges in consideration of LCC is prepared by <b>RMD</b> in accordance with the nationwide management criteria [by June, 2015].
4-4	[B] A short-term plan with cost estimation for maintenance management of bridges is prepared by <b>RMD/PLUADs/UADs</b> [by June, 2015].	4-4	[B] A short-term plan with cost estimation for maintenance management of bridges is prepared by <b>RMD</b> [by June, 2015].

#### Revision on Activities

Before Revision		After Revision	
2-7.	[B] To collect and input data of inspection, condition rating and costing of each bridge by staff members of <b>PLUADs/UADs/DEPs</b> .	2-7	[B] To collect and input data of inspection, condition rating and costing of each bridge by staff members of <b>RMD</b> .
3-4.	[B] To implement trainings by master trainers for staff members of PLUADs/UADs and DEPs for <b>inspection and condition rating</b> .	3-4	[B] To implement trainings by master trainers for inspection staff members of PLUADs/UADs and DEPs for <b>inspection</b> .
3-5.	[B] To carry out inspection and condition rating by staff members of <b>PLUADs/UADs/DEPs</b> .	3-5	[B] To carry out inspection by staff members of <b>RMD/PLUADs/UADs/DEPs</b> . To carry out condition rating by staff members of <b>RMD</b> .
4-3	[B] To implement trainings for staff of <b>RMD/PLUADs/UADs</b> on detailed survey and cost estimation for preparing a long-term plan for maintenance management of	4-3	[B] To implement trainings for staff of <b>RMD</b> on detailed survey and cost estimation for preparing a long-term plan for maintenance management of bridges.

bridges.	
4-4 [B] To prepare a long-term plan for maintenance management of bridges by staff members of <b>RMD/PLUADs/UADs</b> .	4-4 [B] To prepare a long-term plan for maintenance management of bridges by staff members of <b>RMD</b> .
4-5 [B] To implement trainings for staff members of <b>RMD/PLUADs/UADs</b> on preparing a short-term plan for maintenance management of bridges.	4-5 [B] To implement trainings for staff members of <b>RMD</b> on preparing a short-term plan for maintenance management of bridges.
4-6 [B] To prepare a short-term plan for maintenance management of bridges by staff members of <b>RMD/PLUADs/UADs</b> .	4-6 [B] To prepare a short-term plan for maintenance management of bridges by staff members of <b>RMD</b> .

**Revision on Japanese Side**

Before Revision	After Revision
9. Local Coordinator	9. <b>Bridge Maintenance Expert (4)/Assistant for Bridge Detail Inspection</b>
	10. Local Coordinator

**Revision on Equipment**

Before Revision	After Revision
1) Schmidt hammer- 3 pcs	1) Schmidt hammer- 3 pcs
2) Test hammer-10 pcs	2) Test hammer-10 pcs
3) Crack meter – 10 pcs	3) Infrared camera-1 set
4) Scaffold rent for detail inspection	4) Portable drill- 1set



## Project Design Matrix (PDM): Version 2.0

(Revised in January 2014)

**Project Title:** The Project for Capacity Development for Maintenance Management of Bridges and Tunnels

**Period (Tentative):** July 2013 – Dec. 2015

**Implementation Organizations:** Ministry of Transport and Communications (MOTC)

**Project Sites:** MOTC's HQ, Bridges on International and National Roads and 5 Tunnels in the Kyrgyz

**Target Groups:** Staff members of MOTC's HQ, RMD, PLUADs/UADs and DEPs

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><b>Overall Goal</b> Maintenance status of bridges and tunnels is improved in Kyrgyz.</p>	<p>The number of repaired bridges and tunnels in Kyrgyz is increased to 100% in [December, 2015] from the start of the Project.</p>		
<p><b>Project Purpose</b> MOTC's capacity is improved for maintenance cost estimation of bridges and tunnels on the basis of inspection results.</p>	<ol style="list-style-type: none"> <li>Maintenance budget document with breakdowns for bridges and tunnels is prepared by [June, 2015].</li> <li>Data from the newly developed database system is utilized for formulating maintenance budget for bridges and tunnels.</li> </ol>	<ol style="list-style-type: none"> <li>Maintenance budget document for bridges and tunnels</li> <li>Analysis of the quality of data for bridges and tunnels, project report</li> </ol>	<p>Level of road maintenance budget does not decrease dramatically.</p> <p>The Government of Kyrgyz secure necessary budget and personnel to continue activities.</p> <p>A drastic natural disaster such as earthquake, flood, etc. with the high risk of damages on bridges and tunnels do not occur in Kyrgyz.</p>
<p><b>Outputs</b></p> <ol style="list-style-type: none"> <li>Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs is clearly identified with necessary staffing for the maintenance management of bridges and tunnels.</li> </ol>	<ol style="list-style-type: none"> <li>Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs for maintenance management of bridges and tunnels becomes clear and approved by MOTC.</li> <li>Roles of MOTC HQ, RMD, PLUADs/UADs and DEPs in the maintenance management of bridges and tunnels are implemented.</li> </ol>	<ol style="list-style-type: none"> <li>MOTC documents for organization, project report</li> <li>Project report.</li> </ol>	<p>Technical and financial assistance from major development partners in the sector does not decrease dramatically.</p>

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>2. A database system to record information on bridges and tunnels is developed and ready for maintenance planning.</p>	<p>2-1. A database system with necessary information for maintenance planning of bridges and tunnels is developed by [July, 2015].</p> <p>2-2. A manual for data input is developed by [July, 2015].</p> <p>2-3. [B] 30 master trainers for data collection and input are trained and certified by [July, 2015].</p> <p>2-4. [B] All the master trainers hold at least three (3) workshops on data collection and input for their responsible sections.</p> <p>2-5. [T] All the staff members trained for data collection and input pass the final exam.</p> <p>2-6. [B] RMD operates and develops the DB system. [T] BO UAD operates and develops the DB system under the supervision of RMD.</p>	<p>2-1. Database system</p> <p>2-2. Project report, training reports</p> <p>2-3. Project report, master trainers' reports</p> <p>2-4. Analysis of the quality of data on the database , project report</p> <p>2-5. Track record of periodical update of the database, analysis of data, project report</p> <p>2-6 DB system operated and developed by RMD staff.</p>	
<p>3. Capacity of DEPs for routine maintenance and capacity of PLUADs/UADs for inspection and condition rating of bridges and tunnels are enhanced.</p>	<p>3-1. A routine maintenance manual is developed by [B] [November, 2014] and [T] [November, 2014].</p> <p>3-2. Through the review by all the PLUADs/UADs, more than 90% of DEPs are determined to implement routine maintenance of bridges/tunnels in accordance with a newly created routine maintenance manual.</p> <p>3-3. [B] 30 master trainers for inspection and condition rating are trained and certified by [June, 2015].</p> <p>3-4. [B] All the master trainers hold at least three (3) workshops on inspection and condition rating for their responsible sections.</p> <p>3-5. [B] 100% of the results of inspection and condition rating implemented by Master Trainers are evaluated to be accurate by RMD by [June, 2015].</p>	<p>3-1. DEPs routine maintenance reports</p> <p>3-2. Project report, training reports</p> <p>3-3. Project reports, master trainers' reports</p> <p>3-4. PLUADs/UADs' input for database system, analysis of the quality of the data</p> <p>3-5. BO UADs/DEPs' input for database system, analysis of the quality of the data</p>	

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>4. Capacity of MOTC's HQ, RMD, PLUADs/UADs and DEPs for preparing maintenance management plans on bridges and tunnels is enhanced.</p>	<p>3-6. [T] All the staff members trained for inspection and condition rating pass the final exam.</p> <p>3-7. [T] 100% of the results of inspection and condition rating implemented by BO UAD/DEPs are evaluated to be accurate by RMD by [June, 2015]</p> <p>4-1. A nation-wide management criteria is developed by [B] [November, 2013] and [T] [November, 2013].</p> <p>4-2. A repair methods manual is developed by [B] [November, 2013] and [T] [November, 2014].</p> <p>4-3. [B] A long-term plan for maintenance management of bridges in consideration of LCC is prepared by RMD in accordance with the nation-wide management criteria by [June, 2015].</p> <p>4-4. [B] A short-term plan with cost estimation for maintenance management of bridges is prepared by RMD by [June, 2015].</p> <p>4-5. [T] A short-term plan with cost estimation for maintenance management of tunnels is prepared by RMD/PLUADs/UADs by [June 2015].</p>	<p>4-1. A long-term plan for maintenance management for bridges</p> <p>4-2. A short-term plan for maintenance management for bridges</p> <p>4-3. A short-term plan for maintenance management for tunnels</p>	
<p><b>Activities</b></p> <p>1-1. To collect information regarding other partners and each section's staffing, etc.</p> <p>1-2. To identify the most suitable section to take charge of each of collection, input and analysis of data on bridges and tunnels for a database system.</p> <p>1-3. To identify the most suitable section to take charge of each of inspection, evaluation, maintenance plan preparation, and implementation of maintenance and repair of bridges and tunnels.</p>	<p><b>Inputs</b></p> <p><u>Kyrgyz side</u></p> <p>1. Counterparts for the project</p> <p>1) Project Director:</p> <p>2) Project Manager:</p> <p>3) Counterparts:</p> <p>2. Office for the Project with office furniture and utilities such as internet connectivity, telephone line, electricity, etc.</p> <p>3. Running expenses necessary for the implementation of the Project including travel expenses and allowances for the participants of the trainings with the exception for</p>		<p>MOTC coordinates the project activities of other donors and JICA properly.</p> <p>The management of MOTC is committed to the Project.</p> <p>Trained counterparts do not resign, or are transferred, too</p>

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>2-1. To collect information regarding other partners and current conditions of bridges and tunnels, etc.</p> <p>2-2. To create a database system including dimension of bridges and tunnels.</p> <p>2-3. [B] To establish the procedure for data input and reporting.</p> <p>2-4. [B] To draft, review and finalize a manual for data input.</p> <p>2-5. [B] To implement master trainers' trainings on data collection and input.</p> <p>2-6. [B] To implement trainings by master trainers for staff members of PLUADs/UADs and DEPs for data collection and input.</p> <p>2-7. [B] To collect and input data of inspection, condition rating and costing of each bridge by staff members of RMD.</p> <p>2-8. [T] To establish the procedure for data input and reporting.</p> <p>2-9. [T] To create a manual for data input.</p> <p>2-10. [T] To implement trainings for staff members of BO UAD/DEPs for data collection and input.</p> <p>2-11. [T] To collect and input data of inspection, condition rating and costing of each tunnel by staff members of BO UAD/DEPs.</p> <p>3-1. [B] To draft, review and finalize a routine maintenance manual.</p> <p>3-2. [B] To draft, review and finalize an inspection and condition rating manual.</p> <p>3-3. [B] To implement master trainers' trainings on inspection and condition rating.</p> <p>3-4. [B] To implement trainings by master trainers for staff members of PLUADs/UADs and DEPs for inspection.</p> <p>3-5. [B] To carry out inspection by staff members of RMD/PLUADs/UADs/DEPs. To carry out condition</p>	<p>some participants.</p> <p><u>Japanese side</u></p> <p>1. Experts</p> <ol style="list-style-type: none"> <li>1) Team Leader / Bridge Maintenance Expert (1)</li> <li>2) Deputy Team Leader / Bridge Maintenance Expert (2)</li> <li>3) Bridge Maintenance Expert (3)</li> <li>4) Tunnel Expert-1 (Structure)</li> <li>5) Tunnel Expert-2 (Facilities)</li> <li>6) Database Expert</li> <li>7) Cost Estimator / Detailed Bridge Inspection</li> <li>8) Coordinator / Bridge Inspection Assistant</li> <li>9) Bridge Maintenance Expert (4)/ Assistant for Detailed Bridge Inspection</li> <li>10) Local Coordinator</li> </ol> <p>2. Equipment</p> <ol style="list-style-type: none"> <li>1) Lighting Facilities</li> <li>2) Schmidt Hammers</li> <li>3) Test Hammers</li> <li>4) Infrared camera</li> <li>5) Electric drill</li> </ol> <p>3. (Trainings in Japan / third country)</p> <p>Inputs other than indicated here will be determined through mutual consultation between JICA and MOTC during the implementation of the Project, as necessary.</p>		<p>frequently.</p> <p>Kyrgyz side provides appropriate financial and personnel allocation for the Project.</p> <p>Kyrgyz and other neighboring countries do not fall into conflict or turmoil due to social, economic, political reasons or famine.</p>

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>rating by staff members of RMD.</p> <p>3-6. [T] To create a routine maintenance manual.</p> <p>3-7. [T] To create an inspection and condition rating manual.</p> <p>3-8. [T] To implement trainings for staff of BO UAD/DEPs for inspection and condition rating.</p> <p>3-9. [T] To carry out inspection and condition rating by staff members of BO UAD/DEPs.</p> <p>4-1. [B] To establish a nation-wide management criteria for bridges.</p> <p>4-2. [B] To draft, review and finalize a repair methods manual including cost estimation.</p> <p>4-3. [B] To implement trainings for staff of RMD on detailed survey and cost estimation for preparing a long-term plan for maintenance management of bridges.</p> <p>4-4. [B] To prepare a long-term plan for maintenance management of bridges by staff members of RMD.</p> <p>4-5. [B] To implement trainings for staff members of RMD on preparing a short-term plan for maintenance management of bridges.</p> <p>4-6. [B] To prepare a short-term plan for maintenance management of bridges by staff members of RMD.</p> <p>4-7. [T] To establish a management criteria for tunnels.</p> <p>4-8. [T] To create a repair method manual including cost estimation.</p> <p>4-9. [T] To prepare a short-term plan for maintenance management for tunnels through trainings for staff of RMD/BO UAD/DEPs.</p>			

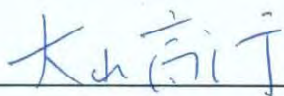
## SECOND JOINT COORDINATION COMMITTEE (JCC) MEETING

No	Name	Position	Organization
<b>JCC members</b>			
1.	Mr. Nurmanbetov Kadyrbek	Deputy Director	Road Maintenance Department (RMD)
2.	Mrs. Milovatskaya Nina	Chief Specialist	Road Management Department (RMND)
3.	Mr. Noguev Nurmat	Chief of Division	Road Maintenance Department, Preparation of Production and Acceptance of Work Division (PPAW)
4.	Mr. Jeldenov Akim	Leading Specialist	Road Maintenance Department, Preparation of Production and Acceptance of Work Division (PPAW)
5.	Mr. Esenbekov Tilek	Specialist	Road Maintenance Department, Preparation of Production and Acceptance of Work Division (PPAW)
6.	Mr. Oyama Takayuki	Chief Representative, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
7.	Mr. Takemura Yoshimasa	Program Officer, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
8.	Mr. Mizota Yuzo	Team Leader / Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
<b>JCC Observers</b>			
1.	Mr. Alypsatarov Melis	Head	UAD, MOTC
2.	Mr. Ohashi Gaku	Road Administrative Adviser	Road management, JICA
3.	Mrs. Abdrazakova Sabira	Assistant	Road management, JICA
4.	Mr. Altymyshov Esenbek	Leading Specialist	BO UAD
5.	Mr. Oruzbaev Altynbek	Leading Specialist	PLUAD-1
6.	Mr. Sadakbaev Talant	Deputy Director of TV and radio company "Mir", member of Public oversight board	MOTC Public oversight board
7.	Mr. Kuluev Nurbek	Chief Specialist	BO UAD
8.	Mr. Isakov Erlan	Leading Specialist	BO UAD

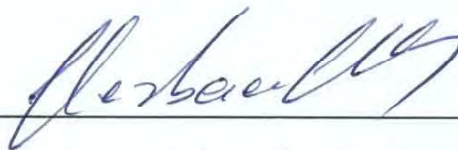
MINUTES OF MEETING  
BETWEEN  
JAPAN INTERNATIONAL COOPERATION AGENCY  
AND  
MINISTRY OF TRANSPORT AND COMMUNICATIONS  
OF THE KYRGYZ REPUBLIC  
ON THE THIRD JOINT COORDINATING COMMITTEE FOR  
THE PROJECT FOR CAPACITY DEVELOPMENT  
FOR MAINTENANCE MANAGEMENT OF BRIDGES AND TUNNELS  
IN THE KYRGYZ REPUBLIC

Bishkek

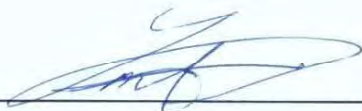
September 09, 2014



Takayuki Oyama  
Chief Representative  
JICA Kyrgyz Office  
Japan International Cooperation  
Agency  
Japan



Uezbaev Ulan  
Deputy Minister  
Ministry of Transport and  
Communications  
Kyrgyz Republic



Yuzo Mizota  
Leader  
Expert Team  
Japan International Cooperation  
Agency  
Japan



Mamaev Kubanychbek  
Head  
Investment Project Implementation  
Group  
Ministry of Transport and  
Communications  
Kyrgyz Republic

The third Joint Coordinating Committee (hereinafter referred to as “3rd JCC”) meeting was held on August 28, 2014 at 42 Isanov Str., 4th floor, Conference Room #407, MOTC, between MOTC and JICA. Chairman of 3rd JCC meeting was Mr. Kubanychbek Mamaev, Project Director of the Project. The participants of the meeting are listed in Appendix 2.

As a result of discussions and exchanges of opinions in the meeting, JICA and MOTC came to an agreement on the following issues.



Venue	Ministry of Transport and Communications, conference-room #407
Date	August 28 <sup>th</sup> , 2014 10:00 a.m. ~ 12:00 p.m.
Participants	Refer to Appendix-2

#### CONTENTS OF THE MEETING

1. Collection and Input of Bridge Data
2. Formulation of Maintenance Management Plan:
  - (1) Short-term Plan for Maintenance Management of Bridges
  - (2) Short-term Plan for Maintenance Management of Tunnels
3. Formulation of Manuals
4. Revision of Project Design Matrix

#### MEETING RESULTS

##### **Short-term Plan for Maintenance Management of Tunnels**

- Mr. Bazaraliev B., Head of Informational Department and Tunnel Service (BO UAD) introduced the short-term plan for maintenance management of tunnels.
- Mr. Nurmanbetov K.R., Deputy Director of the Road Maintenance Department (RMD), proposed to add more tunnel equipping – fire safety system installation in Kolbaev tunnel, to provide fire extinguishers next to the emergency phones inside the tunnel. Provision of a tow car to escape the damaged vehicles out of the tunnel is also essential in the view of safety aspect.
- Mr. Bazaraliev B. informed that a fire extinguisher used to be located in Sosnovka village near DEP#9 (about 70km away from the tunnel site). It took about 1.5 – 2 hours for the fire extinguisher to get to the tunnel. Now the fire extinguisher is located near the Kolbaev tunnel.
- Mr. Shalpykov Kaldar, Head of Quality Production Control (BO UAD) asked when the proposed short-term plan for tunnel maintenance will be actually conducted and if MOTC have enough capacity and sources to conduct this plan.
- Mr. Bazaraliev replied that tunnel service staff can conduct the short-term plan from 2014 to 2016.

##### **Short-term plan for Maintenance Management of Bridges**

- Mr. Nurmanbetov K.R., Deputy Director of the Road Maintenance Department (RMD), introduced the short-term plan for maintenance management of bridges. He informed about the ongoing repair works of 5 bridges planned for the year of 2014. All of the works are planned to be completed by the end of 2014.
- Standards for prioritizing repair works are needed to be developed in the view of economic importance, interstate connection capacity and international connection capacity with the neighboring countries. It is important to take into consideration the regional industries of the states, such as tourism, natural resources, agriculture etc.
- According to the RMD information, maintenance and repair works are implemented by DEPs and capital repair works including new bridge construction is conducted by the contractor under the management of PLUADs/UADs.
- The Budget request flow-chart introduced in the meeting is reasonable under the current MOTC structure. At the same time, it is of importance to monitor carefully if its system of budgeting functions as we are expecting. Hence, MOTC is requested to assess the flow of

request and budgeting and feedback to the project with countermeasures upon necessity in order to finalize it as practical at the next JCC Meeting.

#### Formulation of Manuals

- Proposed manuals are decided to be utilized practically starting from September 2014.

#### Others:

- IRI data and video records might be utilized for the maintenance/repair works planning.
- Finally Mr. Oyama, JICA Representative in Kyrgyz Republic, advised to utilize Project results for the efficient budgeting of RMD of MOTC.

#### Collection and Input of Bridge Data:

Bridge data of 98% on the international road and 81% on national roads have been collected. Collection of data on subject bridges has been approximately 90% completed at the end of July 2014. The number of bridges with data uncollected is approximately 100 bridges which is planned to be collected from September to December 2014.

**Collection Status of Bridge Data**

PLUAD/UAD	International/ National	Total Number of Bridges	Collected data by End of July 2014	Collection Rate
PLUAD No.1	International	16	16	100%
	National	76	73	96%
PLUAD No.3	International	4	4	100%
	National	81	81	100%
PLUAD No.4	International	120	120	100%
	National	57	47	82%
PLUAD No.5	International	11	11	100%
	National	38	23	61%
PLUAD No.6	International	9	0	0%(*1)
	National	70	56	80%
BO UAD	International	130	130	100%
	National	64	55	86%
BNT UAD	International	45	45	100%
	National	57	18	32%
OSI UAD	International	59	59	100%

	National	54	50	93%
OBI UAD	International	35	35	100%
	National	3	0	0%(*1)
Total	International	429 (*2)	420	98%
	National	500 (*2)	403	81%
	Total	929	823	89%

\*1 It is impossible to inspect due to the road closure;

\*2 The value is expected value at present.

### Revision on Project Design Matrix (PDM):

The revised Project Design Matrix, Version 3, is shown in Appendix 1 and the revised contents are explained as follows:

### Revision on Objectively Verifiable Indicators

Objectively Verifiable Indicators in RMD		Revised Objectively Verifiable Indicators	
4-5	[T] A short-term plan with cost estimation for maintenance management of tunnels is prepared by RMD/PLUADs/UAD by [June 2015]	4-5	[T] A short-term plan with cost estimation for maintenance management of tunnels is prepared by RMD/ <b>BO UAD</b> by [June 2015]

### Revision on Japanese Side

Before Revision	After Revision
1) Team Leader / Bridge Maintenance Expert (1) 2) Deputy Team Leader / Bridge Maintenance Expert (2) 3) Bridge Maintenance Expert (3) 4) Tunnel Expert-1 (Structure) 5) Tunnel Expert-2 (Facilities) 6) Database Expert 7) Cost Estimator / Detailed Bridge Inspection 8) Coordinator / Bridge Inspection Assistant 9) Bridge Maintenance Expert (4) / Assistant for Detailed Bridge Inspection / Assistant for International Roughness Index (IRI) Survey 10) Local Coordinator	1) Team Leader / Bridge Maintenance Expert (1) 2) Deputy Team Leader / Bridge Maintenance Expert (2) 3) Bridge Maintenance Expert (3) 4) Tunnel Expert-1 (Structure) 5) Tunnel Expert-2 (Facilities) 6) Database Expert 7) Cost Estimator / Detailed Bridge Inspection 8) Coordinator / Bridge Inspection Assistant 9) Bridge Maintenance Expert (4) / Assistant for Detailed Bridge Inspection / Assistant for International Roughness Index (IRI) Survey 10) <b>IRI Survey Expert</b> 11) <b>Local Coordinator</b>

### Revision on Equipment

Before Revision	After Revision
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1) Lighting Facilities 2) Schmidt Hammers 3) Test Hammers 4) Infrared camera 5) Electricdrill	1) Lighting Facilities 2) Schmidt Hammers 3) Test Hammers 4) Infrared camera 5) Electricdrill 6) <b>VIMS</b>
<b>Training in Japan</b>	
<b>Before Revision</b>	<b>After Revision</b>
None	<p>Training in Japan will be implemented twice during the implementation of the Project. The schedule and participants of the training in Japan are as follows:</p> <p>1) Schedule  1<sup>st</sup> training: September 2014  2<sup>nd</sup> training: September 2015</p> <p>2) Participants  5 person for each training  Participants will be chosen from the member of counterparts and master trainers of the Project.</p>

**Project Design Matrix (PDM): Version 3.0**

(Revised in August 2014)

**Project Title:** The Project for Capacity Development for Maintenance Management of Bridges and Tunnels

**Period (Tentative):** July 2013 – Dec. 2015

**Implementation Organizations:** Ministry of Transport and Communications (MOTC)

**Project Sites:** MOTC’s HQ, Bridges on International and National Roads and 5 Tunnels in the Kyrgyz

**Target Groups:** Staff members of MOTC’s HQ, RMD, PLUADs/UADs and DEPs

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Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><b>Overall Goal</b> Maintenance status of bridges and tunnels is improved in Kyrgyz.</p>	<p>The number of repaired bridges and tunnels in Kyrgyz is increased to 100% in [December, 2015] from the start of the Project.</p>		/
<p><b>Project Purpose</b> MOTC’s capacity is improved for maintenance cost estimation of bridges and tunnels on the basis of inspection results.</p>	<ol style="list-style-type: none"> <li>1. Maintenance budget document with breakdowns for bridges and tunnels is prepared by [June, 2015].</li> <li>2. Data from the newly developed database system is utilized for formulating maintenance budget for bridges and tunnels.</li> </ol>	<ol style="list-style-type: none"> <li>1. Maintenance budget document for bridges and tunnels</li> <li>2. Analysis of the quality of data for bridges and tunnels, project report</li> </ol>	<p>Level of road maintenance budget does not decrease dramatically.</p> <p>The Government of Kyrgyz secure necessary budget and personnel to continue activities.</p> <p>A drastic natural disaster such as earthquake, flood, etc. with the high risk of damages on bridges and tunnels do not occur in Kyrgyz.</p>
<p><b>Outputs</b> 1. Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs is clearly identified with necessary staffing for the maintenance management of bridges and tunnels.</p>	<ol style="list-style-type: none"> <li>1-1. Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs for maintenance management of bridges and tunnels becomes clear and approved by MOTC.</li> <li>1-2. Roles of MOTC HQ, RMD, PLUADs/UADs and DEPs in the maintenance management of bridges and tunnels are implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1-1. MOTC documents for organization, project report</li> <li>1-2. Project report.</li> </ol>	<p>Technical and financial assistance from major development partners in the sector does not decrease dramatically.</p>

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>2. A database system to record information on bridges and tunnels is developed and ready for maintenance planning.</p> <p>3. Capacity of DEPs for routine maintenance and capacity of PLUADs/UADs for inspection and condition rating of bridges and tunnels are enhanced.</p>	<p>2-1. A database system with necessary information for maintenance planning of bridges and tunnels is developed by [July, 2015].</p> <p>2-2. A manual for data input is developed by [July, 2015].</p> <p>2-3. [B] 30 master trainers for data collection and input are trained and certified by [July, 2015].</p> <p>2-4. [B] All the master trainers hold at least three (3) workshops on data collection and input for their responsible sections.</p> <p>2-5. [T] All the staff members trained for data collection and input pass the final exam.</p> <p>2-6. [B] RMD operates and develops the DB system. [T] BO UAD operates and develops the DB system under the supervision of RMD.</p> <p>3-1. A routine maintenance manual is developed by [B] [November, 2014] and [T] [November, 2014].</p> <p>3-2. Through the review by all the PLUADs/UADs, more than 90% of DEPs are determined to implement routine maintenance of bridges/tunnels in accordance with a newly created routine maintenance manual.</p> <p>3-3. [B] 30 master trainers for inspection and condition rating are trained and certified by [June, 2015].</p> <p>3-4. [B] All the master trainers hold at least three (3) workshops on inspection and condition rating for their responsible sections.</p> <p>3-5. [B] 100% of the results of inspection and condition rating implemented by Master Trainers are evaluated to be accurate by RMD by [June, 2015].</p>	<p>2-1. Database system</p> <p>2-2. Project report, training reports</p> <p>2-3. Project report, master trainers' reports</p> <p>2-4. Analysis of the quality of data on the database , project report</p> <p>2-5. Track record of periodical update of the database, analysis of data, project report</p> <p>2-6 DB system operated and developed by RMD staff.</p> <p>3-1. DEPs routine maintenance reports</p> <p>3-2. Project report, training reports</p> <p>3-3. Project reports, master trainers' reports</p> <p>3-4. PLUADs/UADs' input for database system, analysis of the quality of the data</p> <p>3-5. BO UADs/DEPs' input for database system, analysis of the quality of the data</p>	

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>4. Capacity of MOTC’s HQ, RMD, PLUADs/UADs and DEPs for preparing maintenance management plans on bridges and tunnels is enhanced.</p>	<p>3-6. [T] All the staff members trained for inspection and condition rating pass the final exam.                      3-7. [T] 100% of the results of inspection and condition rating implemented by BO UAD/DEPs are evaluated to be accurate by RMD by [June, 2015]</p> <p>4-1. A nation-wide management criteria is developed by [B] [November, 2013] and [T] [November, 2013].                      4-2. A repair methods manual is developed by [B] [November, 2013] and [T] [November, 2014].                      4-3. [B] A long-term plan for maintenance management of bridges in consideration of LCC is prepared by RMD in accordance with the nation-wide management criteria by [June, 2015].                      4-4. [B] A short-term plan with cost estimation for maintenance management of bridges is prepared by RMD by [June, 2015].                      4-5. [T] A short-term plan with cost estimation for maintenance management of tunnels is prepared by RMD/BO UAD by [June 2015].</p>	<p>4-1. A long-term plan for maintenance management for bridges                      4-2. A short-term plan for maintenance management for bridges                      4-3. A short-term plan for maintenance management for tunnels</p>	
<p><b>Activities</b></p> <p>1-1. To collect information regarding other partners and each section’s staffing, etc.                      1-2. To identify the most suitable section to take charge of each of collection, input and analysis of data on bridges and tunnels for a database system.                      1-3. To identify the most suitable section to take charge of each of inspection, evaluation, maintenance plan preparation, and implementation of maintenance and repair of bridges and tunnels.</p>	<p><b>Inputs</b></p> <p><u>Kyrgyz side</u></p> <ol style="list-style-type: none"> <li>1. Counterparts for the project                             <ol style="list-style-type: none"> <li>1) Project Director:</li> <li>2) Project Manager:</li> <li>3) Counterparts:</li> </ol> </li> <li>2. Office for the Project with office furniture and utilities such as internet connectivity, telephone line, electricity, etc.</li> <li>3. Running expenses necessary for the implementation of the Project including travel expenses and allowances for the participants of the trainings with the exception for some participants.</li> </ol>	<p>MOTC coordinates the project activities of other donors and JICA properly.</p> <p>The management of MOTC is committed to the Project.</p> <p>Trained counterparts do not resign, or are transferred, too frequently.</p>	

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>2-1. To collect information regarding other partners and current conditions of bridges and tunnels, etc.</p> <p>2-2. To create a database system including dimension of bridges and tunnels.</p> <p>2-3. [B] To establish the procedure for data input and reporting.</p> <p>2-4. [B] To draft, review and finalize a manual for data input.</p> <p>2-5. [B] To implement master trainers' trainings on data collection and input.</p> <p>2-6. [B] To implement trainings by master trainers for staff members of PLUADs/UADs and DEPs for data collection and input.</p> <p>2-7. [B] To collect and input data of inspection, condition rating and costing of each bridge by staff members of RMD.</p> <p>2-8. [T] To establish the procedure for data input and reporting.</p> <p>2-9. [T] To create a manual for data input.</p> <p>2-10.[T] To implement trainings for staff members of BO UAD/DEPs for data collection and input.</p> <p>2-11.[T] To collect and input data of inspection, condition rating and costing of each tunnel by staff members of BO UAD/DEPs.</p> <p>3-1. [B] To draft, review and finalize a routine maintenance manual.</p> <p>3-2. [B] To draft, review and finalize an inspection and condition rating manual.</p> <p>3-3. [B] To implement master trainers' trainings on inspection and condition rating.</p> <p>3-4. [B] To implement trainings by master trainers for staff members of PLUADs/UADs and DEPs for inspection.</p> <p>3-5. [B] To carry out inspection by staff members of RMD/PLUADs/UADs/DEPs. To carry out condition rating by staff members of RMD.</p>	<p><u>Japanese side</u></p> <p>1. Experts</p> <ol style="list-style-type: none"> <li>1) Team Leader / Bridge Maintenance Expert (1)</li> <li>2) Deputy Team Leader / Bridge Maintenance Expert (2)</li> <li>3) Bridge Maintenance Expert (3)</li> <li>4) Tunnel Expert-1 (Structure)</li> <li>5) Tunnel Expert-2 (Facilities)</li> <li>6) Database Expert</li> <li>7) Cost Estimator / Detailed Bridge Inspection</li> <li>8) Coordinator / Bridge Inspection Assistant</li> <li>9) Bridge Maintenance Expert (4) / Assistant for Detailed Bridge Inspection / Assistant for International Roughness Index (IRI) Survey</li> <li>10) IRI Survey Expert</li> <li>11) Local Coordinator</li> </ol> <p>2. Equipment</p> <ol style="list-style-type: none"> <li>1) Lighting Facilities</li> <li>2) Schmidt Hammers</li> <li>3) Test Hammers</li> <li>4) Infrared camera</li> <li>5) Electric drill</li> <li>6) VIMS</li> </ol> <p>3. Trainings in Japan</p> <p>Training in Japan will be implemented twice during the implementation of the Project. The schedule and participants of the training in Japan are as follows:</p> <ol style="list-style-type: none"> <li>1) Schedule <ol style="list-style-type: none"> <li>1<sup>st</sup> training: September 2014</li> <li>2<sup>nd</sup> training: September 2015</li> </ol> </li> <li>2) Participants <p>5 persons for each training</p> <p>Participants will be chosen from the member of counterparts and master trainers of the Project.</p> </li> </ol> <p>Inputs other than indicated here will be determined through mutual consultation between JICA and MOTC during the implementation of the Project, as necessary.</p>		<p>Kyrgyz side provides appropriate financial and personnel allocation for the Project.</p> <p>Kyrgyz and other neighboring countries do not fall into conflict or turmoil due to social, economic, political reasons or famine.</p>



Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>3-6. [T] To create a routine maintenance manual.</p> <p>3-7. [T] To create an inspection and condition rating manual.</p> <p>3-8. [T] To implement trainings for staff of BO UAD/DEPs for inspection and condition rating.</p> <p>3-9. [T] To carry out inspection and condition rating by staff members of BO UAD/DEPs.</p> <p>4-1. [B] To establish a nation-wide management criteria for bridges.</p> <p>4-2. [B] To draft, review and finalize a repair methods manual including cost estimation.</p> <p>4-3. [B] To implement trainings for staff of RMD on detailed survey and cost estimation for preparing a long-term plan for maintenance management of bridges.</p> <p>4-4. [B] To prepare a long-term plan for maintenance management of bridges by staff members of RMD.</p> <p>4-5. [B] To implement trainings for staff members of RMD on preparing a short-term plan for maintenance management of bridges.</p> <p>4-6. [B] To prepare a short-term plan for maintenance management of bridges by staff members of RMD.</p> <p>4-7. [T] To establish a management criteria for tunnels.</p> <p>4-8. [T] To create a repair method manual including cost estimation.</p> <p>4-9. [T] To prepare a short-term plan for maintenance management for tunnels through trainings for staff of RMD/BO UAD/DEPs.</p>			

## THIRD JOINT COORDINATING COMMITTEE (JCC) MEETING ATTENDEES LIST

No	Name	Position	Organization
<b>JCC members</b>			
1.	Mr. Mamaev Kubanychbek	Head	Investment Project Implementation Project (IPIG)
2.	Mr. Nurmanbetov Kadyrbek	Deputy Director	Road Maintenance Department (RMD)
3.	Ms. Milovatskaya Nina	Chief Specialist	Road Management Department (RMND)
4.	Mr. Eraliev Nurlan	Leading Specialist	Road Maintenance Department, Preparation of Production and Acceptance of Work Division (PPAW)
5.	Mr. Oyama Takayuki	Chief Representative, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
6.	Mr. Takemura Yoshimasa	Representative, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
<b>JCC Observers</b>			
1.	Mr. Alypsatarov Melis	Head	UAD, MOTC
2.	Mr. Shalpykov Kaldar	Head	Production-Technical Division, BO UAD
3.	Mr. Dubashev Nur	Chief Specialist	Production-Technical Division, BO UAD
4.	Mr. Tanaka Takuya	Road Administrative Adviser	Road management, JICA
5.	Ms. Abdrazakova Sabira	Assistant	Road management, JICA
6.	Ms. Suyunaliyeva Guljan	Program Officer	JICA Kyrgyz Office
7.	Mr. Mase Masanari	Staff	Japan International Cooperation Agency (JICA)
8.	Mr. Mizota Yuzo	Team Leader / Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic

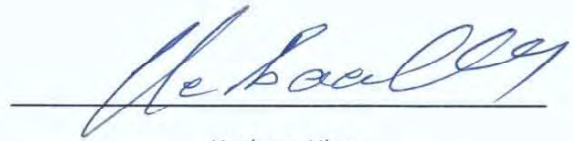
MINUTES OF MEETING  
BETWEEN  
JAPAN INTERNATIONAL COOPERATION AGENCY  
AND  
MINISTRY OF TRANSPORT AND COMMUNICATIONS  
OF THE KYRGYZ REPUBLIC  
ON THE FORTH JOINT COORDINATING COMMITTEE FOR  
THE PROJECT FOR CAPACITY DEVELOPMENT  
FOR MAINTENANCE MANAGEMENT OF BRIDGES AND TUNNELS  
IN THE KYRGYZ REPUBLIC

Bishkek

February 18, 2015



Takayuki Oyama  
Chief Representative  
JICA Kyrgyz Republic Office  
Japan International Cooperation  
Agency  
Japan



Uezbaev Ulan  
Deputy Minister  
Ministry of Transport and  
Communications  
Kyrgyz Republic



Yuzo Mizota  
Leader  
Expert Team  
Japan International Cooperation  
Agency  
Japan

The forth Joint Coordinating Committee (hereinafter referred to as "4th JCC") meeting was held on January 29, 2015 at 42 Isanov Str., 4th floor, Conference Room # 407, MOTC, between MOTC and JICA. Chairman of 4th JCC meeting was Mr. Kubanychbek Mamaev, Project Director. The participants of the meeting are listed in Appendix 1.

As a result of discussions and exchanges of opinions in the meeting, JICA and MOTC came to an agreement on the following issues.

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Venue	Ministry of Transport and Communications, conference-room # 407
Date	January 29 <sup>th</sup> , 2015 14:00 p.m. ~ 16:00 p.m.
Participants	Refer to Appendix-1
<b>CONTENTS OF THE MEETING</b>	
<p>1. Project Progress:</p> <p>(1) Bridges</p> <p>(2) Tunnels</p> <p>2. Regulation requirements for Bridge Maintenance Management Criteria Proposed</p> <p>3. Organizational Structure of Bridge Maintenance Management</p>	
<b>MEETING RESULTS</b>	
<ul style="list-style-type: none"> <li>➤ To introduce the maintenance management criteria proposed by the Project into the Road Sector Development Strategy of MOTC</li> <li>➤ To establish a new section under RMD for sustainable management of database system To introduce manuals and other materials, provided by the Project, as teaching aids to the University of KSUCTA</li> <li>➤ To illustrate the High volumes of work implemented from the proposal of Project Short-term plan for tunnels</li> <li>➤ To communicate the specific structural defects such as drainage, and cracks which still exist in tunnels</li> </ul>	
<b>Welcoming Remarks</b>	
<ul style="list-style-type: none"> <li>• Mamaev K.A., Director of the Implementation Group of Investment Projects, in his welcoming remarks, suggested to include the materials and results, provided by the Project into the Road Sector Development Strategy, in terms of monitoring bridge and tunnel analytics, as well as guidelines on budget planning, repair, and bridge and tunnel maintenance. Moreover, with the permission of the Project Team to use these materials as teaching aids in lectures at universities (KSUCTA) which will prepare specialists in relative sections.</li> </ul>	
<b>Short-term plan for Maintenance Management of Bridges</b>	
<ul style="list-style-type: none"> <li>• Mr. Nurmanbetov K.R., Deputy Director of the Road Maintenance Department (RMD), introduced the short and long-term plan for bridge maintenance management, which is formulated by prioritizing and criteria.</li> <li>• Criteria for prioritizing bridge repair work needs to be developed in the view of economic importance, interstate connection capacity and international connection capacity with neighboring countries. It is important to take into consideration the regional industries of the states, tourism, natural resources, agriculture etc.</li> <li>• Mr. Nurmanbetov K. expressed readiness to include principles of maintenance management planning, proposed by the Project into the Road Sector Development Strategy.</li> <li>• M.Alypsatarov, Head of the Road Management Department said that the priority list for maintenance of bridges, based on the survey result is of importance for MOTC, since sometimes MOTC receive many requests and pressures to maintain specific roads or bridges. The priority list is prepared by convincing and evidence-based information, accordingly we can explain clearly to stakeholders why this priority was set.</li> <li>• Mr. Nurmanbetov K.R. informed, 2 days prior, in the meeting with Deputy Minister Uezbaev</li> </ul>	

U.K., the Deputy Minister assigned a task to establish a new section of road asset management under the RMD. This section will manage the data base system. However, he noted that firstly, it is necessary to define the functional responsibilities and goals of the section.

- Mr. Nurmanbetov K. mentioned, that under the road sector optimization program the organizational structure shall be reformed. In this context, the MOTC will accept the recommendations of the JICA Project.

#### **Short-term Plan for Maintenance Management of Tunnels**

- Mr. Bazaraliev B., Head of The Informational Department and Tunnel Service (BO UAD) introduced the short-term plan for maintenance management of tunnels and presented pictures of the results of implemented work, carried out by the plan.
- Mr. Bazaraliev B. informed that a Short-term plan from 2014 to 2016 has led to good results, and has implemented a large quantity of work for a 2 year period.
- Mr. Bazaraliev, in retrospect, noticed, that tunnels still have structural issues, such as drainage defects and cracks.

#### **Database system development process**

- Mr. Nurmanbetov K. and JICA project team presented the developed database system and explained its operation. It was noted that at present the system database is in English, however, will soon be translated into Russian.

#### **Other:**

- Mr. Alypsatarov expressed doubts about the legitimacy of using the maps showing the fields of natural resources in KR. However, the project obtained this information from the published map. Hence, MOTC will confirm the possibility to use the information on geographical location of natural resources in the project materials. As for the project proposal on the organizational structure, he noted the necessity of being careful and taking into account the current situation to approach this issue. Also, he said, that the management principles of tunnels will be included in the regulations for tunnels, for its development.
- Finally Mr. Oyama, JICA Representative in Kyrgyz Republic, advised to utilize Project results for the efficient budgeting of the RMD section of MOTC and to further work on the improvement of organizational structure for Bridge and Tunnel Maintenance.

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**FORTH JOINT COORDINATING COMMITTEE (JCC) MEETING ATTENDEES LIST**

No	Name	Position	Organization
<b>JCC members</b>			
1.	Mr. Mamaev Kubanychbek	Head	Investment Project Implementation Project (IPIG)
2.	Mr. Nurmanbetov Kadyrbek	Deputy Director	Road Maintenance Department (RMD)
3.	Ms. Milovatskaya Nina	Chief Specialist	Road Management Department (RMND)
4.	Mr. Bazaraliev Beknazar	Head	Tunnel service and Informational support division (BO UAD)
5.	Mr. Eraliev Nurlan	Leading Specialist	Road Maintenance Department, Preparation of Production and Acceptance of Work Division (PPAW)
6.	Mr. Oyama Takayuki	Chief Representative, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
7.	Mr. Takemura Yoshimasa	Representative, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
<b>JCC Observers</b>			
1.	Mr. Alypsatarov Melis	Head	UAD, MOTC
2.	Mr. Tanaka Takuya	Road Administrative Adviser	Road management, JICA
3.	Ms. Abdrazakova Sabira	Assistant	Road management, JICA
4.	Ms. Suyunaliyeva Guljan	Program Officer	JICA Kyrgyz Office
5.	Mr. Abyshov Tursunbek	Leading Specialist	PLUAD 1
6.	Mr. Teniz uulu A.		RMD
7.	Mr. Mizota Yuzo	Team Leader / Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic

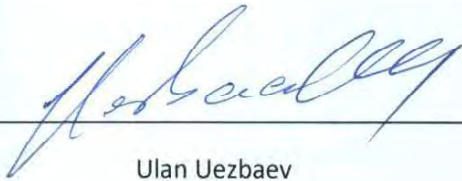




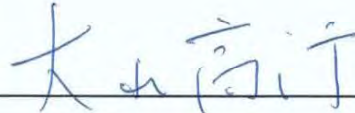
**MINUTES OF MEETING**  
**BETWEEN**  
**JAPAN INTERNATIONAL COOPERATION AGENCY**  
**AND**  
**MINISTRY OF TRANSPORT AND COMMUNICATIONS**  
**OF THE KYRGYZ REPUBLIC**  
**ON THE FIFTH JOINT COORDINATING COMMITTEE FOR**  
**THE PROJECT FOR CAPACITY DEVELOPMENT**  
**FOR MAINTENANCE MANAGEMENT OF BRIDGES AND TUNNELS**  
**IN THE KYRGYZ REPUBLIC**

Bishkek

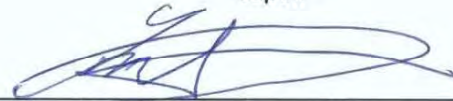
April 30, 2015



Ulan Uezbaev  
Acting Minister  
Ministry of Transport and  
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The fifth Joint Coordinating Committee (hereinafter referred to as "5th JCC") meeting was held on 15 October 2015 at 42 Isanov Str., 4th floor, Conference Room # 407, MOTC, between MOTC and JICA. Chair of the 5th JCC meeting was Mr. Kubanychbek Mamaev, the Project Director. Participants of the meeting are listed in Annex 2.

As a result of discussions and exchange of opinions in the meeting, JICA and MOTC came to an agreement on the following issues.

Venue	Ministry of Transport and Communications, conference-room # 407
Date	April 28 <sup>th</sup> , 2015 10:00 a.m. - 11:30 p.m.
Participants	Refer to Annex-2

**CONTENTS OF THE MEETING**

1. Outcome of the Project
2. Revision of Project Design Matrix

**MEETING RESULTS**

**1. Outcome of the Project:**

1) Road Sector Strategy 2015 to 2025:

Mr. Kadyrbek Nurmanbetov, RMD Deputy Director stated that within the subject Project the Road Sector Strategy 2015 to 2025 has been drafted by an interdepartmental working group based on the data collected by the MoTC experts and experienced trainers, and the final draft version will be presented by the end of May. The Strategy is expected to be approved by the Kyrgyz Government in June 2015.

As a result of bridge inspection implemented under the subject Project, 45 bridges have been evaluated as critical by the experts and experienced trainers. Thus, short and long term budget plans have been included in the draft Strategy for the improvement of bridges condition.

2) Establishment of Road Asset Management Section (RAMS):

Mr. Nurmanbetov informed that the establishment of RAMS was proposed by the Project for Capacity Development for Maintenance Management for Bridges and Tunnels in the Kyrgyz Republic under JICA's assistance, and approved by the Deputy Minister, Mr. Uezbaev. Based on this, the Road Asset Management Section was established in April 2015 as per the Order of the Minister, MoTC. Mr. Nurmanbetov introduced each of the RAMS members to the participants of the meeting, particularly noting the qualification of the RAMS Head, Mr. Istambek Seyitaliev, who is experienced in working with projects, budget planning, and soft programs as *HDM4* and *Smart*.

With regards to current activities, the two MoTC experts (Messr. Tursunbek Abyshov and Kushtarbek Amanov), who previously completed the VIMS Master Training, are conducting further trainings for RAMS staff. Mr. Nurmanbetov also mentioned that the VIMS program will remain at RMD's balance. It was complemented that functional tasks of the RAMS are currently under consideration.

3) Utilization of Bridge/Tunnel Maintenance Manual for Lecture of Kyrgyz National University of Construction, Transport and Architecture

Mr. Akylbek Musabaev informed about the presentation of the project activities on bridge and tunnel at the Kyrgyz State University of Construction, Transport and Architecture (KSUCTA), which was made in February 2015 by JICA Road Administration Advisor and JICA Project Team. As a result, KSUCTA requested utilization of the manuals developed under the Project for Capacity Development for Maintenance Management for Bridges and Tunnels in the Kyrgyz Republic for inclusion in the educational curriculum (for usage during lectures and practical laboratory exercise), which is to be developed in spring and approved by September 2015.

Mr. Musabaev also noted the recent seminar held by Mr. Kitamura in a laboratory on the visual and detailed inspection of bridges and tunnels. Based on this experience, it is now planned to involve students in field training on the detailed inspection. Mr. Nurmanbetov added that the RMD plans to multiply these manuals and distribute for usage in each of the

DEPs.

4) Preparation of the Pocket Book for Bridge Maintenance

Mr. Nurmanbetov noted that the Pocket Book for Bridge maintenance initiated by JICA experts is very comfortable for usage thanks to its compact size and contents format. He mentioned that it was a good idea to provide these pocket books to DEPs for practice, and later to add more related information on the roads, rehabilitation, etc.

5) Implementation Status of Bridge Routine Maintenance and Bridge Planned Inspection (A)

Mr. Nurlan Eraliev, RAMS Chief Specialist, informed on the implementation of bridge routine maintenance on the basis of check sheets and planned Inspection A (Visual Inspections) of bridges.

6) Utilization of the Tablet for Bridge/Tunnel Maintenance

Mr. Ruslan Davletaliev, Local Staff of the Project Team, informed on the benefits of utilizing the Tablet for the Information Collection system through sharing on free web program *Dropbox*, which allows synchronizing unlimited number of users. He also demonstrated live how to connect to the database with the help of Tablet.

7) Maintenance of Delineators in Tunnel

Mr. Beknazar Bazaraliev, Head of the Tunnel Service, GDAD "Bishkek-Osh", provided detailed information on the maintenance of delineators in tunnels. First, he mentioned the benefits of using the Tablet in the immediate data exchange, real time monitoring, recording emergencies in the tunnel, and sending the regular tunnel maintenance sheets in Word and Excell formats.

Second, with regards to the delineators, Mr. Bazaraliev talked about the maintenance of the existing delineators, planned installation of delineators at Km 427 both at the centerline and shoulders of the road, and about the plan (under consideration) to purchase from Japan 1 or 2 batches of self-clean delineators with brushes.

8) Installation of the Tunnel Monitoring System

Mr. Bazaraliev shared the plans on further improvement of the system of video monitoring. In particular, it is planned to work on the extension of video cameras installation at avalanche risky and serpentine sections of the road. In addition, he noted that the Tablet has been used actively lately, thus it is planned to purchase Tablets for 3 more tunnels.

**2. Revision on Project Design Matrix (PDM):**

The revised Project Design Matrix, Version 4, is shown in Annex 1 and the revised contents are explained as follows:

**Revision on Objectively Verifiable Indicator of "Overall Goal"**

<b>Before Revision</b>	<b>After Revision</b>
The number of repaired bridges and tunnels in Kyrgyz is increased to 100% in [December, 2015] from the start of the Project.	A bridge and a tunnel chosen by maintenance management plan based on the nation-wide management criteria which is prepared in the project are repaired / replaced.

Mr. Yuzo Mizota, Team Leader of the Project Expert Team, explained the main reason for revising the Objectively Verifiable Indicator of "Overall Goal" stating that a realistic indicator is necessary in order to meet the time and financial constraints, because MoTC needs to allocate sufficient funds for the maintenance of bridge/s. Mr. Nurmanbetov also agreed with Mr. Mizota on that the

financial matter was overlooked in the initial version of the Indicator.

During the discussions, Mr. Takayuki Oyama, JICA Representative, confirmed that the revision of the Indicator is reasonable, and Mr. Nurmanbetov confirmed that the RMD agrees on the proposed revision as well. Ms. Gouljan Suyunalieva, JICA Program Specialist, requested the RMD to keep record of bridge maintenance for the following 3-5 years after the Project completion in order to be able to provide the necessary information for the Project Terminal evaluation and Ex-Post evaluation.

In the closing remarks, Mr. Oyama thanked the participants of the meeting, and noted that based on a clear presentation of the activities completed under the Project, it may be concluded that the Project has been successful. Mr. Nurmanbetov expressed his hope in that the changes in the Ministry's management will not affect the work of the RMD, and assured that the Project will continue its work at the same pace thanks to its active team.

**Annex:**

Annex 1 : Project Design Matrix (PDM)\_Version 4.0

Annex 2 : List of Participants of the 5th JCC meeting

**Project Design Matrix (PDM): Version 4.0**

**Project Title:** The Project for Capacity Development for Maintenance Management of Bridges and Tunnels  
**Period (Tentative):** July 2013 – Dec. 2015  
**Implementation Organizations:** Ministry of Transport and Communications (MOTC)  
**Project Sites:** MOTC’s HQ, Bridges on International and National Roads and 5 Tunnels in the Kyrgyz  
**Target Groups:** Staff members of MOTC’s HQ, RMD, PLUADs/UADs and DEPs

(Revised in April 2015)

Project Summary		Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<b>Overall Goal</b> Maintenance status of bridges and tunnels is improved in Kyrgyz.	A bridge and a tunnel chosen by maintenance management plan based on the nation-wide management criteria which is prepared in the project are repaired / replaced.			
<b>Project Purpose</b> MOTC’s capacity is improved for maintenance cost estimation of bridges and tunnels on the basis of inspection results.	<ol style="list-style-type: none"> <li>Maintenance budget document with breakdowns for bridges and tunnels is prepared by [June, 2015].</li> <li>Data from the newly developed database system is utilized for formulating maintenance budget for bridges and tunnels.</li> </ol>	<ol style="list-style-type: none"> <li>Maintenance budget document for bridges and tunnels</li> <li>Analysis of the quality of data for bridges and tunnels, project report</li> </ol>	<p>Level of road maintenance budget does not decrease dramatically.</p> <p>The Government of Kyrgyz secure necessary budget and personnel to continue activities.</p> <p>A drastic natural disaster such as earthquake, flood, etc. with the high risk of damages on bridges and tunnels do not occur in Kyrgyz.</p>	
<b>Outputs</b> 1. Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs is clearly identified with necessary staffing for the maintenance management of bridges and tunnels.	<ol style="list-style-type: none"> <li>1-1. Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs for maintenance management of bridges and tunnels becomes clear and approved by MOTC.</li> <li>1-2. Roles of MOTC HQ, RMD, PLUADs/UADs and DEPs in the maintenance management of bridges and tunnels are implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1-1. MOTC documents for organization, project report</li> <li>1-2. Project report.</li> </ol>	<p>Technical and financial assistance from major development partners in the sector does not decrease dramatically.</p>	

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Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>2. A database system to record information on bridges and tunnels is developed and ready for maintenance planning.</p>	<p>2-1. A database system with necessary information for maintenance planning of bridges and tunnels is developed by [July, 2015].</p> <p>2-2. A manual for data input is developed by [July, 2015].</p> <p>2-3. [B] 30 master trainers for data collection and input are trained and certified by [July, 2015].</p> <p>2-4. [B] All the master trainers hold at least three (3) workshops on data collection and input for their responsible sections.</p> <p>2-5. [T] All the staff members trained for data collection and input pass the final exam.</p> <p>2-6. [B] RMD operates and develops the DB system. [T] BO UAD operates and develops the DB system under the supervision of RMD.</p>	<p>2-1. Database system</p> <p>2-2. Project report, training reports</p> <p>2-3. Project report, master trainers' reports</p> <p>2-4. Analysis of the quality of data on the database, project report</p> <p>2-5. Track record of periodical update of the database, analysis of data, project report</p> <p>2-6. DB system operated and developed by RMD staff.</p>	
<p>3. Capacity of DEPs for routine maintenance and capacity of PLUADs/UADs for inspection and condition rating of bridges and tunnels are enhanced.</p>	<p>3-1. A routine maintenance manual is developed by [B] [November, 2014] and [T] [November, 2014].</p> <p>3-2. Through the review by all the PLUADs/UADs, more than 90% of DEPs are determined to implement routine maintenance of bridges/tunnels in accordance with a newly created routine maintenance manual.</p> <p>3-3. [B] 30 master trainers for inspection and condition rating are trained and certified by [June, 2015].</p> <p>3-4. [B] All the master trainers hold at least three (3) workshops on inspection and condition rating for their responsible sections.</p> <p>3-5. [B] 100% of the results of inspection and condition rating implemented by Master Trainers are evaluated to be accurate by RMD by [June, 2015].</p>	<p>3-1. DEPs routine maintenance reports</p> <p>3-2. Project report, training reports</p> <p>3-3. Project reports, master trainers' reports</p> <p>3-4. PLUADs/UADs' input for database system, analysis of the quality of the data</p> <p>3-5. BO UADs/DEPs' input for database system, analysis of the quality of the data</p>	

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>4. Capacity of MOTC's HQ, RMD, PLUADs/UADs and DEPs for preparing maintenance management plans on bridges and tunnels is enhanced.</p>	<p>3-6. [T] All the staff members trained for inspection and condition rating pass the final exam.</p> <p>3-7. [T] 100% of the results of inspection and condition rating implemented by BO UAD/DEPs are evaluated to be accurate by RMD by [June, 2015]</p> <p>4-1. A nation-wide management criteria is developed by [B] [November, 2013] and [T] [November, 2013].</p> <p>4-2. A repair methods manual is developed by [B] [November, 2013] and [T] [November, 2014].</p> <p>4-3. [B] A long-term plan for maintenance management of bridges in consideration of LCC is prepared by RMD in accordance with the nation-wide management criteria by [June, 2015].</p> <p>4-4. [B] A short-term plan with cost estimation for maintenance management of bridges is prepared by RMD by [June, 2015].</p> <p>4-5. [T] A short-term plan with cost estimation for maintenance management of tunnels is prepared by RMD/BO UAD by [June 2015].</p>	<p>4-1. A long-term plan for maintenance management for bridges</p> <p>4-2. A short-term plan for maintenance management for bridges</p> <p>4-3. A short-term plan for maintenance management for tunnels</p>	
<p><b>Activities</b></p> <p>1-1. To collect information regarding other partners and each section's staffing, etc.</p> <p>1-2. To identify the most suitable section to take charge of each of collection, input and analysis of data on bridges and tunnels for a database system.</p> <p>1-3. To identify the most suitable section to take charge of each of inspection, evaluation, maintenance plan preparation, and implementation of maintenance and repair of bridges and tunnels.</p>	<p><b>Inputs</b></p> <p><u>Kyrgyz side</u></p> <p>1. Counterparts for the project</p> <p>1) Project Director:</p> <p>2) Project Manager:</p> <p>3) Counterparts:</p> <p>2. Office for the Project with office furniture and utilities such as internet connectivity, telephone line, electricity, etc.</p> <p>3. Running expenses necessary for the implementation of the Project including travel expenses and allowances for the participants of the trainings with the exception for some participants.</p>		<p>MOTC coordinates the project activities of other donors and JICA properly.</p> <p>The management of MOTC is committed to the Project.</p> <p>Trained counterparts do not resign, or are transferred, too frequently.</p>



Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>2-1. To collect information regarding other partners and current conditions of bridges and tunnels, etc.</p> <p>2-2. To create a database system including dimension of bridges and tunnels.</p> <p>2-3. [B] To establish the procedure for data input and reporting.</p> <p>2-4. [B] To draft, review and finalize a manual for data input.</p> <p>2-5. [B] To implement master trainers' trainings on data collection and input.</p> <p>2-6. [B] To implement trainings by master trainers for staff members of PLUADs/UADs and DEPs for data collection and input.</p> <p>2-7. [B] To collect and input data of inspection, condition rating and costing of each bridge by staff members of RMD.</p> <p>2-8. [T] To establish the procedure for data input and reporting.</p> <p>2-9. [T] To create a manual for data input.</p> <p>2-10. [T] To implement trainings for staff members of BO UAD/DEPs for data collection and input.</p> <p>2-11. [T] To collect and input data of inspection, condition rating and costing of each tunnel by staff members of BO UAD/DEPs.</p> <p>3-1. [B] To draft, review and finalize a routine maintenance manual.</p> <p>3-2. [B] To draft, review and finalize an inspection and condition rating manual.</p> <p>3-3. [B] To implement master trainers' trainings on inspection and condition rating.</p> <p>3-4. [B] To implement trainings by master trainers for staff members of PLUADs/UADs and DEPs for inspection.</p> <p>3-5. [B] To carry out inspection by staff members of RMD/PLUADs/UADs/DEPs. To carry out condition rating by staff members of RMD.</p>	<p><u>Japanese side</u></p> <p>1. Experts</p> <ol style="list-style-type: none"> <li>1) Team Leader / Bridge Maintenance Expert (1)</li> <li>2) Deputy Team Leader / Bridge Maintenance Expert (2)</li> <li>3) Bridge Maintenance Expert (3)</li> <li>4) Tunnel Expert-1 (Structure)</li> <li>5) Tunnel Expert-2 (Facilities)</li> <li>6) Database Expert</li> <li>7) Cost Estimator / Detailed Bridge Inspection</li> <li>8) Coordinator / Bridge Inspection Assistant</li> <li>9) Bridge Maintenance Expert (4) / Assistant for Detailed Bridge Inspection / Assistant for International Roughness Index (IRI) Survey</li> <li>10) IRI Survey Expert</li> <li>11) Local Coordinator</li> </ol> <p>2. Equipment</p> <ol style="list-style-type: none"> <li>1) Lighting Facilities</li> <li>2) Schmidt Hammers</li> <li>3) Test Hammers</li> <li>4) Infrared camera</li> <li>5) Electric drill</li> <li>6) VIMS</li> </ol> <p>3. Trainings in Japan</p> <p>Training in Japan will be implemented twice during the implementation of the Project. The schedule and participants of the training in Japan are as follows:</p> <ol style="list-style-type: none"> <li>1) Schedule <ol style="list-style-type: none"> <li>1<sup>st</sup> training: September 2014</li> <li>2<sup>nd</sup> training: September 2015</li> </ol> </li> <li>2) Participants <p>5 persons for each training</p> <p>Participants will be chosen from the member of counterparts and master trainers of the Project.</p> </li> </ol> <p>Inputs other than indicated here will be determined through mutual consultation between JICA and MOTC during the implementation of the Project, as necessary.</p>		<p>Kyrgyz side provides appropriate financial and personnel allocation for the Project.</p> <p>Kyrgyz and other neighboring countries do not fall into conflict or turmoil due to social, economic, political reasons or famine.</p>

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>3-6. [T] To create a routine maintenance manual.</p> <p>3-7. [T] To create an inspection and condition rating manual.</p> <p>3-8. [T] To implement trainings for staff of BO UAD/DEPs for inspection and condition rating.</p> <p>3-9. [T] To carry out inspection and condition rating by staff members of BO UAD/DEPs.</p> <p>4-1. [B] To establish a nation-wide management criteria for bridges.</p> <p>4-2. [B] To draft, review and finalize a repair methods manual including cost estimation.</p> <p>4-3. [B] To implement trainings for staff of RMD on detailed survey and cost estimation for preparing a long-term plan for maintenance management of bridges.</p> <p>4-4. [B] To prepare a long-term plan for maintenance management of bridges by staff members of RMD.</p> <p>4-5. [B] To implement trainings for staff members of RMD on preparing a short-term plan for maintenance management of bridges.</p> <p>4-6. [B] To prepare a short-term plan for maintenance management of bridges by staff members of RMD.</p> <p>4-7. [T] To establish a management criteria for tunnels.</p> <p>4-8. [T] To create a repair method manual including cost estimation.</p> <p>4-9. [T] To prepare a short-term plan for maintenance management for tunnels through trainings for staff of RMD/BO UAD/DEPs.</p>			

**LIST OF PARTICIPANTS OF THE 5th JOINT COORDINATING COMMITTEE (JCC) MEETING**

<b>№</b>	<b>Name</b>	<b>Position</b>	<b>Organization</b>
<b>JCC members</b>			
1.	Mr. Mamaev Kubanychbek	Head	Investment Project Implementation Project (IPIG)
2.	Mr. Nurmanbetov Kadyrbek	Deputy Director	Road Maintenance Department (RMD)
3.	Ms. Milovatskaya Nina	Chief Specialist	Road Management Department (RMND)
4.	Mr. Bazaraliev Beknazar	Head	Tunnel service and Informational support division (BO UAD)
5.	Mr. Eraliev Nurlan	Leading Specialist	Road Maintenance Department, Preparation of Production and Acceptance of Work Division (PPAW)
6.	Mr. Oyama Takayuki	Chief Representative, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
7.	Mr. Takemura Yoshimasa	Representative, JICA Kyrgyz	Japan International Cooperation Agency (JICA)
<b>JCC Observers</b>			
1.	Mr. Alypsatarov Melis	Head	UAD, MOTC
2.	Mr. Sodonbaev J	Head	RMD, MOTC
3.	Mr. Imankulov Sh. M.	Chief engineer	RMD, MOTC
4.	Mr. Seitaliev Istanbek	Head	Section of road asset management, RMD
5.	Mr. Kudaibergenov K.M.	Head	Section of production preparation and acceptance of work, RMD
6.	Mr. Aidarov Zamirbek	Chief head	UAD BO
7.	Mr. Tanaka Takuya	Road Administrative Adviser	Road management, JICA
8.	Ms. Abdrazakova Sabira	Assistant	Road management, JICA
9.	Ms. Suyunaliyeva Guljan	Program Officer	JICA Kyrgyz Office
10.	Mr. Abyshov Tursunbek	Leading Specialist	PLUAD 1
11.	Mr. Jeldenov Akim		Section of road asset management, RMD
12.	Ms. Abdyrashiz kzy Aigerim		Section of road asset management, RMD
13.	Mr. Amanov Kushtarbek	Leading Specialist	PLUAD 1
14.	Mr. Mizota Yuzo	Team Leader / Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic




**MINUTES OF MEETING**  
**BETWEEN**  
**THE MINISTRY OF TRANSPORT AND COMMUNICATIONS OF**  
**THE KYRGYZ REPUBLIC**  
**AND**  
**THE JAPAN INTERNATIONAL COOPERATION AGENCY**  
**ON**  
**THE JAPANESE TECHNICAL COOPERATION**  
**FOR THE PROJECT FOR CAPACITY DEVELOPMENT**  
**FOR MAINTENANCE MANAGEMENT OF BRIDGES AND TUNNELS**

The Japanese Terminal Evaluation Team (hereinafter referred to as “the Team”) organized by Japan International Cooperation Agency (hereinafter referred to as “JICA”) and headed by Mr. Nobuyuki Tsuneoka (Senior Advisor of JICA), visited the Kyrgyz Republic (hereinafter referred to as “Kyrgyz”) from 10 August to 21 August, 2015 for the purpose of conducting a terminal evaluation of “The Capacity Development for Maintenance Management of Bridges and Tunnels” (hereinafter referred to as “the Project”).

During its stay in Kyrgyz, the Team reviewed the progress and achievements of the Project and had a series of discussions with the Ministry of Transport and Communications (hereinafter referred to as “MOTC”).

As a result of the discussions, the Team and MOTC agreed to the matters in the documents attached hereto.

Bishkek, 21 August 2015

  
\_\_\_\_\_  
Ulan Uezbaev  
Deputy Minister  
Ministry of Transport and Communications  
The Kyrgyz Republic

  
\_\_\_\_\_  
Nobuyuki Tsuneoka  
Leader  
Terminal Evaluation Team  
Japan International Cooperation Agency  
Japan

**THE JOINT TERMINAL EVALUATION REPORT**

**ON**

**THE PROJECT FOR CAPACITY DEVELOPMENT FOR  
MAINTENANCE MANAGEMENT OF BRIDGES AND TUNNELS**

**IN THE KYRGYZ REPUBLIC**

Bishkek, August 2015



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## List of Abbreviations

ADB	Asian Development Bank
BNT UAD*	Bishkek-Naryn-Tougart Main Roads Management Unit
BO UAD*	Bishkek-Osh Main Roads Management Unit
DEP*	Local Level Roads Management Unit
GPS	Global Positioning System
HQ	Headquarter
IPIG	Investment Project Implementation Group
IRI	International Roughness Index
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
JPY	Japanese Yen
KGS	Kyrgyzstani Som
LLC	Life Cycle Cost
M/M	Minutes of Meeting
MOTC	Ministry of Transport and Communications
MT-S	Master Trainer of S Level
MT-B	Master Trainer of B Level
OBI UAD*	Osh-Batken-Isfana Main Roads Management Unit
ODA	Official Development Assistance
OSI UAD*	Osh-Sary Tash-Irkeshtam Main Roads Management Unit
PDM	Project Design Matrix
PLUAD*	Oblast Level Roads Management Unit
PO	Plan of Operation
PPAW	Preparation of Production and Acceptance of Work Division
PTD	Production Technical Division
RAMS	Road Asset Management Section
R/D	Record of Discussions
RMD	Road Maintenance Department
RMND	Road Management Department
UAD*	Main Roads Management Unit
VIMS	Vehicle Intelligent Monitoring System

- Abbreviations are in Russian Language





# **1. Introduction**

## **1-1 Background of the Joint Terminal Evaluation**

The Project for Capacity Development for Maintenance Management of Bridges and Tunnels (hereinafter referred to as the “Project”) is a bilateral technical cooperation Project between the Government of Japan (through the Japan International Cooperation Agency: JICA) and the Government of Kyrgyz Republic (hereinafter referred to as “Kyrgyz”) through the Ministry of Transport and Communications (MOTC). The Project was launched in July 2013 for the duration of two and half (2.5) years. As the end of the Project is approaching in December 2015, as laid out in the Record of Discussions (R/D) signed on 14 February 2013 between the concerned authorities of Kyrgyz and JICA, the Joint Terminal Evaluation of the Project was conducted from 10 to 21 August 2015 (see Annex 1 for the Schedule for the Joint Terminal Evaluation).

## **1-2 Objectives of the Joint Terminal Evaluation**

The objectives of the Joint Terminal Evaluation are summarized as follows:

- (1) To confirm the achievement levels of Outputs, and the prospect for the Project purpose to be achieved by the end of the Project, and the Overall Goal within three years after the completion of the Project, based on the Project Design Matrix (PDM) Version 4.0 (see Annex 2 for the PDM Version 4.0 Dated April 2015 for the Joint Terminal Evaluation);
- (2) To identify factors or issues that have promoted or hindered the implementation of Project activities;
- (3) To conduct a comprehensive evaluation from the viewpoints of five evaluation criteria namely, Relevance, Effectiveness, Efficiency, Impact, and Sustainability (see 1-3 (2) for the definitions of “Five Evaluation Criteria”);
- (4) To draw up recommendations of measures that should be taken to further improve the Project and to identify lessons learned to JICA for the formulation and implementation of future similar projects; and
- (5) To summarize evaluation results in the Joint Terminal Evaluation report.

## **1-3 Methodology of the Joint Terminal Evaluation**

### **(1) Evaluation Method**

In accordance with the New JICA Guidelines for Project Evaluation (First Edition, 2010), the Joint Terminal Evaluation Team (hereinafter referred to as the “Evaluation Team”) evaluated the Project by taking the following steps:

- Step 1. Prepare an evaluation grid that lists evaluation questions, data/information necessary for evaluation, information sources and data collection methods (see Annex 3 for the Evaluation Grid for the Joint Terminal Evaluation);

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- Step 2. Prepare questionnaire for the JICA Expert Team, the Counterparts, and the development partners and sent the questionnaire in advance before starting the field work.
- Step 3. Collect data and information necessary for the evaluation;
- Step 4. Assess the Project's achievements in reference to the PDM and the Plan of Operation (PO) (see Annex 4 for the PO Version 2.0 for the Joint Terminal Evaluation);
- Step 5. Analyze the factors that promoted or hindered the Project's achievements, including factors relating to the Project design and the Project implementation process;
- Step 6. Analyze the Project from the viewpoints of five evaluation criteria;
- Step 7. Draw up recommendations and lessons learned from the evaluation results;
- Step 8. Share the evaluation results with stakeholders and discuss the future directions of the Project; and
- Step 9. Reach an agreement on the evaluation results between the Japanese and Kyrgyz sides.

## (2) Evaluation of Performance

For the evaluation of performance of the Project, the Evaluation Team used three categories of **Very Satisfactory**, **Satisfactory**, and **Unsatisfactory** with the following definitions.

<b>Very Satisfactory</b>	The Project produced extraordinary results for all indicators for Outputs and Project purpose designed in the PDM.
<b>Satisfactory</b>	The Project produced acceptable results for all indicators for Outputs and Project purpose as designed in the PDM.
<b>Unsatisfactory</b>	The Project could not produce acceptable results for all indicators for Outputs and Project purpose as designed in the PDM.

## (3) Five Evaluation Criteria

The five evaluation criteria used in the joint terminal evaluation are defined as follows:

<b>Relevance:</b>	Relevance is assessed in terms of Project's validity in relation to the development policy of the Government of the recipient country at the time of evaluation, Japan's Official Development Assistance (ODA) policy for the recipient country, and the needs of the Project's beneficiaries, as well as the appropriateness of the Project's approach to address the needs.
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- Effectiveness:** Effectiveness is assessed based on the prospect of the Project purpose being achieved by the end of the Project period and whether this is due to the Project's Outputs.
- Efficiency:** Efficiency is assessed by focusing on the relationship between Outputs and Inputs in terms of timing, quality, and quantity of Inputs. It measures to what extent Project Inputs have efficiently been converted into Outputs.
- Impact:** Impact is assessed based on the prospect of the Overall Goal being achieved within three years after the Project completion and the positive and negative changes that have been produced, directly or indirectly as a result of Project implementation.
- Sustainability:** Sustainability is assessed in terms of institutional, organizational, financial, and technical aspects by examining the extent to which the achievements of the Project will be maintained or further expanded by the Counterparts after the completion of the Project.

For the evaluation of the Project in light of five evaluation criteria of Relevance, Effectiveness, Efficiency, Impact, and Sustainability the Evaluation Team used the following categories.

For the evaluation of Relevance of the Project, the Evaluation Team used five categories of **Excellent, Good, Average, Below Average, and Poor.**

For the evaluation of Effectiveness of the Project, the Evaluation Team used five categories of **Excellent, Good, Average, Below Average, and Poor.**

For the evaluation of Efficiency of the Project, the Evaluation Team used five categories of **Excellent, Good, Average, Below Average, and Poor.**

For the evaluation of Impact of the Project, the Evaluation Team used two categories of **Positive or Negative.**

For the evaluation of Sustainability of the Project, the Evaluation Team used three categories of **Expected, Expected to Some Extend, and Unexpected.**

#### **(4) Data/Information Sources**

The following sources of data/information were used in the Joint Terminal Evaluation:

- 1) Interviews with stakeholders and/or answers to questionnaires completed by stakeholders (see Annex 5 for the List of Interviewees for the Joint Terminal Evaluation);
- 2) Documents agreed upon by Kyrgyz and Japanese sides prior to and/or during the course of the Project implementation;
- 3) Records of Inputs from Kyrgyz and Japanese sides and activities of the Project;

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- 4) Visit to Project sites;
- 5) Documents that provide data/information indicating the degree of achievements of the Outputs, Project purpose, and Overall Goal; and
- 6) Policy documents that show the Project's relevance and sustainability.

#### 1-4 Members of the Joint Terminal Evaluation Team

##### (1) Japanese Side

Name	Job Title	Position and Organization
Dr. Nobuyuki TSUNEOKA	Team Leader	Senior Advisor Infrastructure and Peace Building Department JICA
Mr. Yasuhiro WATANABE	Cooperation Planning Expert	Planning Coordinator Transportation and ICT Group, Team 1 Infrastructure and Peace Building Department JICA
Dr. Mahmood Ul Zaman KHAN	Evaluation Analysis Expert	President Japan Soft Tech Consultants, Japan

##### (2) Kyrgyz Side

Name	Title	Position and Organization
Mrs. UZAKBAEVA Jakshylyk	Evaluator	Chief specialist, BO UAD, MOTC
Mr. ISAKOV Zamir	Evaluator	Road engineer, IPIG, MOTC
Mr. OSOEV Erkin	Evaluator	Road engineer, IPIG, MOTC
Mr. BAZARALIEV Beknazar	Observer	Head of informational support and tunnel service, BO UAD, MOTC

#### 1-5 Schedule of the Joint Terminal Evaluation

The Joint Terminal Evaluation was conducted from 10 to 21 August 2015. The detailed schedule is given in Annex 1.

#### 1-6 Limitations of the Joint Terminal Evaluation

The main limitations of the Joint Terminal Evaluation were the relatively small sample size and an extensive target area of the Project. To minimize the influence of the limitations to the possible level, the Evaluation Team reviewed in detail various Project reports and sent questionnaire to all stakeholders and the JICA Expert Team in advance before starting the field work.

## 2. Outline of the Project

### 2-1 Background of the Project

Kyrgyz has the road network of about 34,000 km, accounting up to 95% of passengers and freight traffic. MOTC is responsible for the operation and management of international, national and load roads of 18,803 km, including around 3,000 bridges and five (5) tunnels located nearby to each other on the Bishkek-Osh international road.

Most of the road network in Kyrgyz was constructed during the Soviet era and after the independence on 25 December 1991, road maintenance activities have not been carried out adequately, due to the fact that many Russian technicians left Kyrgyz and funds provided for road sector were also not adequate for the routine maintenance of the road network. The low level of financing for road repair and maintenance has led to an annual loss of approximately 200 km of road surface and the worsening road conditions are hindering smooth trade with neighboring counties as well as the smooth passing of passenger and freight traffic.

In addition, no plan exists for the maintenance management of bridges and tunnels, and there is also no plan established with respect to periodical inspection system of bridges and tunnels. In response to this situation, JICA and other development partners, particularly the World Bank, have been supporting the road sector of Kyrgyz with a focus on road maintenance. Through these supports, the capacity of MOTC for road maintenance has significantly improved.

In order to further improve the maintenance management of road network, Government of Kyrgyz requested a technical cooperation with the Government of Japan. Upon receipt of the request, JICA has implemented “The Project for the Capacity Building of Road Maintenance in the Kyrgyz Republic” (hereinafter referred to as “prior project”) from March 2008 to March 2010 (3 years) as a Technical Cooperation Project.

After the successful implementation of the prior project, the Government of Kyrgyz requested this Project to the Government of Japan. Upon receipt of this request, JICA dispatched the Detailed Planning Survey Team from 7 to 24 October 2012 for preparing the Project and the R/D for the Project was signed between MOTC and JICA on 14 February 2013. The Project was launched in July 2013 to be implemented for two and a half years.



## 2-2 Summary of the Project

The framework of the Project as summarized in PDM Version 4.0 is given in the following table.

<b>&lt;Overall Goal&gt;</b>
Maintenance status of bridges and tunnels is improved in Kyrgyz.
<b>&lt;Project Purpose&gt;</b>
MOTC's capacity is improved for maintenance cost estimation of bridges and tunnels on the basis of inspection results.
<b>&lt;Expected Outputs&gt;</b>
(1) Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs is clearly identified with necessary staffing for the maintenance management of bridges and tunnels.
(2) A database system to record information on bridges and tunnels is developed and ready for maintenance planning.
(3) Capacity of DEPs for routine maintenance and capacity of PLUADs/UADs for inspection and condition rating of bridges and tunnels are enhanced.
(4) Capacity of MOTC's HQ, RMD, PLUADs/UADs and DEPs for preparing maintenance management plans on bridges and tunnels is enhanced.
<b>&lt;Project Implementation Period&gt;</b>
From July 2013 to December 2015 (2.5 Years)
<b>&lt;Implementing Organizations&gt;</b>
MOTC
<b>&lt;Project Sites&gt;</b>
MOTC's HQ, Bridges on International and National Roads and Five (5) Tunnels in Kyrgyz
<b>&lt;Target Groups&gt;</b>
Staff members of MOTC's HQ, RMD, PLUADs/UADs and DEPs

### **3. Achievements and Implementation Processes of the Project**

#### **3-1 Allocation of Inputs**

##### **(1) Allocation of Inputs by the Japanese side**

###### **1) Assignment of Japanese Experts**

The Japanese side has assigned a total of 12 Japanese Experts to the Project as one long-term expert and 11 short-term experts (See Annex 6 of List of Japanese Experts and their Schedules for details).

Major changes for the Japanese experts from the initial plan of the Project were to include two (2) Japanese experts for Vehicle Intelligence Monitoring System (VIMS) operation on the measurement of road surface conditions including bridge surface damages. One expert was a developer of the VIMS from Tokyo University and the other expert was expert on the bridge routine maintenance including the operation of VIMS.

###### **2) Provision of Training to Counterpart Personnel in Japan**

The Japanese side has provided training to Counterpart personnel on maintenance management of bridges and tunnels in Japan (See Annex 7 of List of Counterpart Personnel Training in Japan).

Major changes in the trainings provided by the Project were to conduct the additional training as follows: VIMS operation training, tablet data collection training, and bridge/tunnel training in two (2) universities in Kyrgyz.

###### **3) Provision of Machinery, Equipment, and Materials**

The Japanese side has provided machinery, equipment and materials that are necessary for the implementation of the Project (See Annex 8 of List of Machinery, Equipment and Materials Provided by the Project for details).

Additional equipment for the training was VIMS equipment.

###### **4) Operational Expenses**

From the beginning of the Project to the Joint Terminal Evaluation, the Japanese side has spent a total amount of approximately 107,846,487 JPY for the operational expenses of the Project (see Annex 9 of Operational Expense by the Japanese and Kyrgyz Sides for details).

##### **(2) Allocation of Inputs by the Kyrgyz side**

###### **1) Assignment of the Counterpart Personnel**

Kyrgyz side has assigned the following Counterpart Personnel (See Annex 10 of List of Counterpart Personnel for details).

- a) Project Director: Director of Investment Project Implementation Group (IPIG)



- b) Project Manager: Chief Engineer of RMD
- c) Counterpart Personnel

**2) Major Facilities for the Implementation of the Project**

The major facilities provided by Kyrgyz side for the Project implementation are summarized in the following table.

Facilities		Functions
a)	Project Office in Bishkek with basic facilities and internet service	Administration and Management of the Project
b)	Workshop / Training Venues	Organization of Workshops and Trainings

Source: JICA Expert Team

**3) Operational Expenses**

From the beginning of the Project to the Joint Terminal Evaluation, the Kyrgyz side spent a total amount of approximately 700,500 KGS for the operational expenses of the Project (see Annex 9 of Operational Expense by the Japanese and Kyrgyz Sides for details).

**3-2 Achievements of Activities**

The Project activities have been carried out according to the PDM and PO. A number of achievements have been materialized as a result of the Project planned activities. The Project activities have been conducted mostly as planned without significant delay and all activities are either already completed or expected to be completed within the Project period.





### 3-3 Achievements of Outputs

The achievement level of Output 1 is given in the following table.

Output 1:	Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs is clearly defined with necessary staffing for the maintenance management of bridges and tunnels.	
	Objectively Verifiable Indicators	Achievement Level and Progress
1-1	Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs for maintenance management of bridges and tunnels becomes clear and approved by MOTC.	<ul style="list-style-type: none"> <li>Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs for maintenance management of bridges and tunnels are proposed in December 2014 and expected to be approved by RMD in September or October 2015.</li> <li><b>100% will be achieved in September or October 2015.</b></li> </ul>
1-2	Roles of MOTC HQ, RMD, PLUADs/UADs and DEPs in the maintenance management of bridges and tunnels are implemented.	<ul style="list-style-type: none"> <li>Roles of MOTC HQ, RMD, PLUADs/UADs and DEPs in the maintenance management of bridges and tunnels are being implemented.</li> <li><b>100% Achieved.</b></li> </ul>

#### Progress and Overall Assessments of Output 1

##### Establishment of Road Asset Management Section (RAMS) under RMD

The JICA Expert Team reviewed the staffing structure of the RMD under the MOTC and proposed the amendments in the staffing structure of the RMD and helped in the establishment of the RAMS under the RMD. The Minister of Transport and Communication issued the order for the establishment of RAMS on 11 March 2015, however, the RAMS was established on 3 April 2015. The main function of RAMS is road asset management and development programming for strategic development of highways. There are four members of RAMS: one member is the head of the section, two members are responsible for managing the data collection, and one member is responsible for managing the database system.

##### Demarcation of Responsibilities on Maintenance Management of Bridges and Tunnels in MOTC HQ, RMD, PLUAD/UAD and DEP

Government Resolution No. 188 (Positions in the Department of Roads of MOTC of the Kyrgyz Republic, September 3, 2010) stipulates the main functions of RMD and PLUAD/UAD as well as DEP. The JICA Expert Team reviewed the functions of RMD, PLUAD/UAD and DEP and identified issues in the existing functions regulated in the Government Resolution and proposed the demarcation of responsibilities on maintenance management of bridges and tunnels in MOTC HQ, RMD, PLUAD/UAD and DEP.

The demarcation of responsibilities on maintenance management of bridges and tunnels in MOTC HQ, RMD, PLUAD/UAD and DEP are expected to be approved by MOTC in September or October 2015.

**The Progress and Overall Assessments of Output 1 is satisfactory.**

The achievement level of Output 2 is given in the following table.

Output 2:	A database system to record information on bridges and tunnels is developed and ready for maintenance planning.	
	Objectively Verifiable Indicators	Achievement Level and Progress
2-1	A database system with necessary information for maintenance planning of bridges and tunnels is developed by [July 2015].	<ul style="list-style-type: none"> <li>A database system with necessary information for maintenance planning of bridges and tunnels is developed in March 2015.</li> <li><b>100% Achieved.</b></li> </ul>
2-2	A manual for data input is developed by [July 2015].	<ul style="list-style-type: none"> <li>A manual for data input is developed in November 2013 and finalized in July 2015.</li> <li><b>100% Achieved.</b></li> </ul>
2-3	[B] 30 master trainers for data collection and inputs are trained and certified by [July 2015].	<ul style="list-style-type: none"> <li>30 master trainers for data collection and inputs for bridges are trained and certified by the Japanese Expert in April 2015.</li> <li><b>100% Achieved.</b></li> </ul>
2-4	[B] All the master trainers hold at least three (3) workshops on data collection and input for their responsible sections.	<ul style="list-style-type: none"> <li>All the master trainers held more than three (3) workshops on data collection and input for their responsible sections.</li> <li><b>100% Achieved.</b></li> </ul>
2-5	[T] All staff members trained on data collection and input passes the final exam.	<ul style="list-style-type: none"> <li>All staff members concerned with the maintenance management of tunnels trained on data collection and input passed the final exam.</li> <li><b>100% Achieved.</b></li> </ul>
2-6	[B] RMD operates and develops the database system; [T] BO UAD operates and develops the database system under the supervision of RMD.	<ul style="list-style-type: none"> <li>RMD developed and operating the database system for formulation of the maintenance management plan for bridges. BO UAD developed and operating the database system for formulation of the maintenance management plan for tunnels.</li> <li><b>100% Achieved.</b></li> </ul>

## Progress and Overall Assessments of Output 2

### Development of Database System with Necessary Information for Maintenance Planning of Bridges and Tunnels

For the effective and efficient maintenance management of bridges and tunnels, a comprehensive database with necessary information of bridges and tunnels is an essential requirement. However, there was no information available to know the overview of bridges in Kyrgyz before the implementation of the Project. The recording format for inspection and bridge inventory was not integrated among each office. Consequently, accuracy of data could not be verified. Similarly, no database on tunnels was existed before the implementation of the Project and the information about five tunnels is kept by the BO UAD which is responsible for the maintenance management of all five tunnels. No information on tunnel inspection has been recorded and only the person in-charge of each tunnel possessed the data. In this situation, the staff of RMD with the assistance of Japanese Experts developed the database system with necessary information (e.g. inspection record, damage record, etc.) for maintenance management of bridges and tunnels. The purpose of the database development is to understand the condition of bridges and tunnels and to make use of information for the preparation of short-term/long-term maintenance and budget plans for bridges and tunnels.

## **Development of Manual for the Input and Operation of the Database System for Bridges and Tunnels**

A Manual for the Input and Operation of the Database System for Bridges and Tunnels was developed by the staff of RMD and master trainers trained by the Project with the assistance of Japanese Experts in November 2013 and finalized in July 2015 and disseminated to staff of RAMS. The manual contains manual for the input of data in the data system and manual for database system operation.

The staff of RAMS is very much satisfied with the contents, quality, and usefulness of the manual for the input and operation of the database system. The reasons for the satisfaction of staff of RAMS for the manual for the input and operation of the database can be summarized as follow: In the preparation of the manual, various illustrations, pictures, presentations and videos were used to deepen the knowledge of the users. The manual for the input and operation of the database system for bridges and tunnels contains step-by-step explanation of every procedure, demonstrating necessary operation by screenshots made directly from the real database which allows staff of RAMS to have an idea of the database system functions even before actually operating it.

## **Training for Data Collection and Input for the Database System**

Training of master trainers for data collection and input started in July 2013. 30 master trainers were trained in bridge data collection and input. After training, master trainers carried out basic bridge data collection in their respective PLUAD/UAD. Japanese Expert certified the capacity of the master trainers regarding data collection and input of bridge inspection based on attendance of workshops, level of understanding and actual performance through the activities on bridge maintenance cycle.

The participants of training of master trainers for data collection and input are very much satisfied with the curriculum, methodology of theoretical and practical training, duration, and expertise and skills of the Japanese trainers. The participants of training of master trainers for data collection and input reported that the trainings have significantly improved their knowledge and skills regarding data collection and data input in the database system. The reasons for the satisfaction of participants of master training for data collection and input can be summarized as follow: Practical training contained field work at the bridge site including demonstration and practice; every master trainer had an opportunity to operate equipment for inspection by themselves. Even though the data collection is a difficult process RMD staff requested JICA Experts to assist in the process for efficient results. RMD was asked to prepare several orders obliging DEP staff to continue data collection. Finally all of the bridge data on International and National roads were collected and input into database system.

## **Workshops Conducted by the Master Trainers on Data Collection and Input for their Responsible Sections**

11 workshops on data collection and input were held by six master trainers for their responsible sections.

The participants of workshops on data collection and input are very much satisfied with the contents, methodology, duration, and expertise and skills of the master trainers. The participants of workshops reported that the workshops have significantly improved their

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knowledge and skills regarding data collection and data input.

The reasons for the satisfaction of participants of workshops can be summarized as follow: In the workshops, various illustrations, pictures, presentations and videos were used to deepen the knowledge of the participants; participants have opportunities to discuss each other with the technical assistance of Japanese experts to understand the maintenance technique in deep; and practical maintenance methods in Kyrgyz were understood in the view of technical and procurement aspects.

### **Improvement in Capacity of RAMS of RMD for the Operation of Database System**

The staff of RAMS of RMD are operating the database system and using the database for the formulation of the short-term/long-term bridge maintenance management plans for 871 bridges.

The staff of RAMS is very much satisfied with the quality, accurateness, and usefulness of the database system. They are also very much satisfied with the quality and usefulness of the manual for the input and operation of database system. They reported that the training on data input and operation of the database system provided by the Japanese Experts significantly improved their capacity for the operation and maintenance of the database system. The reason for the satisfaction of the staff of RAMS for operating the database system for the formulation of the short-term/long-term maintenance management plans for bridges can be summarized as follow: Several meetings were organized to reconsider the database and demonstrate utilization of electronic tablet. Clarifications on the utilization of the database and tablet were provided by the Japanese experts at the site. Detailed demonstration using tablet and computers was performed in order to respond on any demand of RAMS staff regarding the database system operation. Pictures, schemas, visual materials have been used.

### **Improvement in Capacity of BO UAD for the Operation and Maintenance of Database System for Tunnels**

Staff of BO UAD are operating the database system for tunnels and using the database for the formulation of the short-term maintenance management plan for five tunnels.

The head of tunnel service section of BO UAD who is responsible for the operation of the database system for tunnels is very much satisfied with the quality, accurateness, and usefulness of the database system for tunnels. The main reason for the improved capacity of BO UAD staff for the operation and maintenance of the database system for tunnels, because of multiple trainings and workshops conducted by JICA Experts periodically with demonstration of the electronic tablet utilization for the data collection at the site and rapid transition of the collected data to the MOTC HQ. The head of tunnel service section of BO UAD and chief of Kolbaev tunnel in DEP 9 that is responsible for the maintenance management of Kolbaev tunnel are also very much satisfied with the quality and usefulness of the manual for the input and operation of database system, because previously no repair history was recorded due to the lack of the database system in case of the Kolbaev tunnel. They reported that the training on data input and operation of the database system provided by the Japanese Experts significantly improved their capacity for the operation of the database system for tunnels.

**The Progress and Overall Assessments of Output 2 is satisfactory.**



The achievement level of Output 3 is given in the following table.

Output 3:	Capacity of DEPs on routine maintenance and capacity of PLUADs/UADs on inspection and condition rating of bridges and tunnels are enhanced.	
	Objectively Verifiable Indicators	Achievement Level and Progress
3-1	A routine maintenance manual is developed by [B] [November 2014] and [T] [November 2014].	<ul style="list-style-type: none"> <li>The Bridge Maintenance Manual is developed in July 2014 and a routine maintenance manual for tunnels is developed in October 2013.</li> <li><b>100% Achieved.</b></li> </ul>
3-2	Through the review by all the PLUADs/UADs, more than 90% of DEPs are determined to implement routine maintenance of bridges/tunnels in accordance with a newly created routine maintenance manual.	<ul style="list-style-type: none"> <li>Through the review by all the PLUADs/UADs, all 55 DEPs started implementing routine maintenance of bridges/tunnels in accordance with the newly developed routine maintenance manuals for bridges/tunnels.</li> <li><b>100% Achieved.</b></li> </ul>
3-3	[B] 30 master trainers on inspection and condition rating are trained and certified by [June 2015].	<ul style="list-style-type: none"> <li>30 master trainers on inspection and condition rating of bridges are trained and were certified by Japanese Experts in April 2015.</li> <li><b>100% Achieved.</b></li> </ul>
3-4	[B] All the master trainers hold at least three (3) workshops on inspection and condition rating for their responsible sections.	<ul style="list-style-type: none"> <li>All the master trainers held more than three (3) workshops on inspection and condition rating for their responsible sections.</li> <li><b>100% Achieved.</b></li> </ul>
3-5	[B] 100% of the results of inspection and condition rating implemented by master trainers are evaluated to be accurate by RMD [June 2015].	<ul style="list-style-type: none"> <li>100% of the results of inspection and condition rating of 871 bridges implemented by master trainers are evaluated accurate by RMD in July 2015.</li> <li><b>100% Achieved.</b></li> </ul>
3-6	[T] All the staff members trained on inspection and condition rating of tunnels pass the final exam.	<ul style="list-style-type: none"> <li>All the staff members trained on inspection and condition rating of tunnels passed the final exam.</li> <li><b>100% Achieved.</b></li> </ul>
3-7	[T] 100% of the results of inspection and condition rating implemented by BO UAD/DEPs are evaluated to be accurate by RMD by [June 2015].	<ul style="list-style-type: none"> <li>100% of the results of inspection and condition rating of tunnels implemented by BO UAD/DEPs were evaluated accurate by RMD in 2014.</li> <li><b>100% Achieved.</b></li> </ul>

### Progress and Overall Assessments of Output 3

#### Development of the Bridge Maintenance Manual

The Bridge Maintenance Manual was prepared in July 2014 and disseminated to staff of RMD, PLUADs/UADs and DEPs and expected to be approved by RMD in October 2015. The manual contains manual for routine maintenance of road, manual for inspection, manual for condition rating, manual for repair method, manual for short-term maintenance management, and manual for long-term maintenance management of bridges.

The staff of PLUADs/UADs and DEPs is very much satisfied with the contents, quality, and usefulness of the bridge maintenance manual.

#### Development of the Tunnel Maintenance Manual

The Tunnel Maintenance Manual was prepared in October 2013 and disseminated to staff of BO UAD and expected to be approved by RMD in October 2015. The manual contains routine maintenance manual for tunnel, manual for inspection and condition rating, manual

for repair method, and manual for short-term maintenance management of tunnels.

The head of tunnel service section of BO UAD and chief of Kolbaev tunnel are very much satisfied with the quality and usefulness of the tunnel maintenance manual.

### **Training of Master Trainers for Inspection and Condition Rating of Bridges and Tunnels**

30 master trainers were selected from RMD and PLUADs/UADs and divided into two categories of MT-S and MT-B in accordance with their knowledge and experience for inspection and condition rating of bridges. MT-S are trained by the Japanese Experts to the same level of Japanese Experts to conduct training of other master trainers for inspection and condition rating of bridges. After the training, the master trainers achieved the level to carry out inspection and condition rating of bridges that can be certified by the Japanese Experts.

Master trainers of MT-S category conducted training for master trainers in MT-B category for inspection and condition rating of bridges. The training was focused on (i) Techniques to conduct primary inspection, (ii) Techniques to make inspection sketches, (iii) Input of inspection data into Excel formats, and (iv) Techniques about three types of detailed inspections using equipments, such as infrared camera, Schmidt hammer and portable drills. Trainings (i) to (iii) are about Planned Inspection A (Visual Inspection) and training (iv) is about Planned Inspection B (Detailed Inspection). Four staff members of BO UAD were trained on inspection and condition rating of five tunnels.

The participants of training of master trainers for inspection and condition rating of bridges and tunnels are very much satisfied with the curriculum, methodology of theoretical and practical training, duration, and expertise and skills of the Japanese trainers. The participants of training of master trainers for inspection and condition rating of bridges and tunnels reported that the trainings have significantly improved their knowledge and skills regarding inspection and condition rating of bridges and tunnels. The participants of the training reported that the expertise of the Japanese trainers varies, but in general, most of them were experts on their respective fields. The ratio of attendance of master trainers those were living near the venue of training was high as compared to the ratio of attendance of master trainers those reside away from the venue of training.

### **Workshops Conducted by the Master Trainers on Inspection and Condition Rating of Bridges and Tunnels for their Responsible Sections**

11 workshops on planned Inspection A (Visual Inspection) and condition rating were carried out by master trainers from September to October 2013. Nine Workshops on Planned Inspection B (Detailed Inspection) and condition rating were carried out by master trainers from September to November 2014.

The participants of workshop on inspection and condition rating of bridges and tunnels are very much satisfied with the contents, methodology and duration of the workshops. The participants of workshops reported that the workshops have significantly improved their knowledge regarding the inspection and condition rating of bridges and tunnels.



### **Improvement in the Capacity of DEPs for the Maintenance Management of Bridges and BO UAD for the Maintenance Management of Tunnels**

The staff of DEP 9, 30 and 38 is responsible for the maintenance of five tunnels started routine maintenance from January 2014 by using the routine maintenance manual of tunnels prepared by the Project and started submitting the report of routine maintenance of five tunnels to BO UAD. However, there were occasions when the report of the routine maintenance of tunnels was not thoroughly prepared by the responsible DEPs and therefore, the Director-General of BO UAD has issued an obligatory order on 27 February 2015 to the heads of DEPs to perform routine maintenance of five tunnels and submit the report to BO UAD on time. After the issuance of the obligatory order from the Director-General of BO UAD to the head of DEPs responsible for the routine maintenance of five tunnels, the situation for routine maintenance of five tunnels has drastically improve as follow:

- Tunnel routine maintenance conducted on time
- The monthly routine maintenance sheet and control sheet submitted on time
- Tunnel equipment inspection carried out frequently
- The quality of maintenance works improved

The Deputy Director of RMD has issued an obligatory order on 16 March 2015 to the heads of PLUADs/UADs to perform routine maintenance of all bridges and submit the report to RMD on time. After the issuance of the obligatory order from the Deputy Director of RMD, all 55 DEPs started routine maintenance of 871 bridges in April 2015 in accordance with the newly developed routine maintenance manual for bridges prepared by the Project and started to submit the report to their respective PLUAD/UAD on time. There are total 57 DEPs in Kyrgyz, but two DEPs have no bridge to maintain.

**The Progress and Overall Assessments of Output 3 is satisfactory.**

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The achievement level of Output 4 is given in the following table.

Output 4:	Capacity of MOTC's HQ, RMD, PLUADs/UDAs and DEPs on the preparation of maintenance management plans of bridges and tunnels is enhanced.	
	Objectively Verifiable Indicators	Achievement Level and Progress
4-1	A nationwide management criteria is developed [B] [November 2013] and [T] [November 2013].	<ul style="list-style-type: none"> <li>Nationwide management criteria are developed for bridges in January 2014 and for tunnels in October 2013.</li> <li><b>100% Achieved.</b></li> </ul>
4-2	A repair methods manual is developed by [B] [November 2013] and [T] [November 2014].	<ul style="list-style-type: none"> <li>A repair methods manual is developed for bridges in June 2014 and finalized in July 2015 and for tunnels in June 2014 and finalized in June 2015.</li> <li><b>100% Achieved.</b></li> </ul>
4-3	[B] A long-term plan for maintenance management of bridges in consideration of LCC is prepared by RMD in accordance with the nationwide management criteria by [June 2015].	<ul style="list-style-type: none"> <li>A long-term plan for maintenance management of bridges in consideration of LCC is prepared in accordance with the nationwide management criteria in November 2014 and expected to be certified by RMD in September or October 2015.</li> <li><b>100% is expected to be achieved in September or October 2015.</b></li> </ul>
4-4	[B] A short-term plan with cost estimation for maintenance management of bridges is prepared by RMD by [June 2015].	<ul style="list-style-type: none"> <li>A short-term plan with cost estimation for maintenance management of bridges is prepared in November 2014 and was certified by RMD in July 2015.</li> <li><b>100% Achieved.</b></li> </ul>
4-5	[T] A short-term plan with cost estimation for maintenance management of tunnels is prepared by RMD/PLUADs/UDAs by [June 2015].	<ul style="list-style-type: none"> <li>A short-term plan with cost estimation for maintenance management of tunnels is prepared in September 2013.</li> <li><b>100% Achieved.</b></li> </ul>

### Development of Nationwide Management Criteria for Bridges and Tunnels

The nationwide management criteria for bridges is developed in January 2014 and incorporated in short-term/long-term maintenance management plans of bridges. Management criteria for tunnels is developed in October 2013 and incorporated in short-term maintenance management plan of tunnels.

Bridge maintenance level is classified into three categories according to importance of location of each bridge on international roads, major national roads and local roads. Bridges on international roads and major national roads are given highest priority to maintain the sound condition by the preventive maintenance. Bridges on other national roads are maintained by the corrective maintenance and bridges on local roads are given lowest priority and maintained by observation/monitoring. Tunnel maintenance level is not classified for all of five tunnels, while priority for rehabilitation is defined according to the condition of defects.

### Development of Repair Methods Manual including Cost Estimation for Bridges and Tunnels

A repair methods manual for bridges is developed in June 2014 and finalized in July 2015 and disseminated to staff of RMD, PLUADs/UDAs and DEPs. A repair methods manual for tunnels is developed in June 2014 and finalized in June 2015 and disseminated to staff of BO UAD.



The staff of PLUADs/UADs and DEPs are very much satisfied with the quality and usefulness of the repair methods manual for bridges. The head of tunnel service section of BO UAD and chief of Kolbaev tunnel are very much satisfied with the quality and usefulness of the repair methods manual for tunnels.

### **Development of Short-Term Maintenance Management Plan with Cost Estimation of Bridges**

A short-term maintenance management plan (2015-2017) with cost estimation for bridges was prepared in accordance with the nationwide management criteria for bridges for three (3) years in November 2014 and was certified by RMD in July 2015. Next short-term plan for three (3) years will be prepared by October 2015 and will be certified by RMD. The short-term maintenance management plan of bridges was prepared on the basis of the condition rating of the respective bridges and required road maintenance level and the budget conditions. In addition, in the preparation of the short-term maintenance management plan of bridges, safety of the motorists was considered as the top priority. The short-term maintenance management plan of bridges is prepared for the bridges in serious condition such as “critical condition” and “imminent condition” in order to execute “Corrective Maintenance”.

### **Development of Long-Term Maintenance Management Plan with Cost Estimation of Bridges**

A long-term maintenance management plan (2015-2024) with cost estimation of bridges was prepared in accordance with the nationwide management criteria of bridges for ten (10) years in November 2014 and expected to be certified by RMD in September or October 2015. The long-term maintenance management plan of bridges was prepared on the basis of the condition rating of the respective bridges and required road maintenance level and the budget conditions. In addition, in the preparation of the long-term maintenance management plan of bridges, minimization of maintenance budget and prolonging the service life of the bridges was considered as the top priority. In the preparation of long-term maintenance management plan of bridges, estimation of the maintenance cost and comparison of the effect of introducing Life Cycle Cost (LCC) concept are also calculated.

### **Development of Short-Term Maintenance Management Plan with Cost Estimation of Tunnels**

A short-term maintenance management plan (2014-2016) with cost estimation for tunnels was prepared in accordance with the nationwide management criteria for tunnels for three (3) years in September 2013.

**Improvement in the capacity of RMD for Preparing Short-Term/Long-Term Maintenance Management Plans of Bridges and BO UAD for Preparing Short-Term Maintenance Management Plan of Tunnels**

The staff of RMD reported that the development of database system of bridges is helping them significantly for the preparation of short-term/long-term maintenance management plans of 871 bridges. The head of tunnel service section of BO UAD reported that the development of database system of tunnels is helping them significantly for the preparation of short-term maintenance management plan for five tunnels.

**The Progress and Overall Assessments of Output 4 is satisfactory.**

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### 3-4 Prospect for Achieving the Project Purpose

The prospect for achieving the Project Purpose is given in the following table.

Project Purpose:	MOTC's capacity is improved for maintenance cost estimation of bridges and tunnels on the basis of inspection results.	
	Objectively Verifiable Indicators	Achievement Level and Progress
1	Maintenance budget document with breakdowns for bridges and tunnels is prepared by [June 2015].	<ul style="list-style-type: none"> <li>Maintenance budget documents with breakdowns for bridges (2015-2017) were prepared in November 2014. Maintenance budget documents with breakdowns for tunnels (2014-2016) were prepared in October 2013.</li> <li><b>100% Achieved.</b></li> </ul>
2	Data from the newly developed database system is utilized for formulating maintenance budget for bridges and tunnels.	<ul style="list-style-type: none"> <li>Data from the newly developed database system is utilized for formulating maintenance budget for bridges and tunnels for 2016.</li> <li><b>100% Achieved.</b></li> </ul>

#### Progress and Overall Assessments for Achieving the Project Purpose

##### Maintenance Budget Documents with Breakdowns for Bridges (2016-2018)

The maintenance budget document with breakdowns for bridges (2014-2016) was prepared in July 2014 and was approved by RMD. The maintenance budget document with breakdowns for bridges (2016-2018) was prepared in July 2015 and is expected to be approved by RMD in September 2015.

The maintenance budget document with breakdowns for tunnels (2014-2016) was prepared in July 2014 and was approved by BO UAD/RMD. The maintenance budget document with breakdowns for tunnels (2015-2017) is under preparation and is expected to be approved by BO UAD/RMD in September 2015.

##### Formulation of Maintenance Budget for Bridges and Tunnels for 2016

Maintenance budget for bridges for 2016 is under preparation by RMD and maintenance budget for tunnels for 2016 is under preparation by BO UAD. The data from the newly developed data system is utilized for formulating maintenance budget for bridges and tunnels for 2016.

##### Improvement in the Capacity of MOTC on Maintenance Cost Estimation of Bridges and Tunnels on the Basis of Inspection Results

The JICA Expert Team has informed that during the implementation of the Project, technical capacity of the individual staff of MOTC on maintenance cost estimation of bridges and tunnel on the basis of inspection results has significantly improved. The Project created an enabling environment within RMD of MOTC to establish the bridges and tunnels maintenance management system comprising database formulation, routine maintenance, inspection and condition rating and planning.

**The Progress and Overall Assessments for Achieving the Project Purpose is satisfactory and it is likely that the Project purpose will be achieved at the completion of the Project.**

### **3-5 Project Implementation Process**

#### **(1) Progress of Project Activities**

The JICA Expert Team is carrying out day-to-day activities in close collaboration with the Counterparts. The consensus for the Project policy and direction among the Counterparts is built in the Joint Coordination Committee (JCC) meetings. The Project is carrying out several activities for its four Outputs. Most of the activities have been implemented as planned.

It has been confirmed that the Project has implemented its activities without significant delays.

#### **(2) Monitoring and Reporting**

The progress of Project activities is continuously monitored by the JCC. The 1<sup>st</sup> JCC meeting was held on 22 August 2013, 2<sup>nd</sup> on 30 January 2014, 3<sup>rd</sup> on 28 August 2014, 4<sup>th</sup> on 29 January 2015; and 5<sup>th</sup> on 28 April 2015, and 6<sup>th</sup> is scheduled in the end of November 2015.

The reporting mechanisms are quite satisfactory as the JICA Expert Team is reporting all Project activities in seminars (almost once in a month) and or as the need arise during the implementation of the Project.

There have not been any significant obstacles in the management of the Project because the JCC has kept its function of monitoring and revising the PDM and PO as need rose during the implementation of the Project. The monitoring and reporting system of the Project is established and it is appropriate and effective.

#### **(3) Communication between the JICA Expert Team and Counterparts**

As for the day-to-day operations, the JICA Expert Team is having daily meetings, consultations, and discussions with the Counterparts. As it was not feasible to have frequent meetings with the Counterparts those are stationed at the distant locations, the JICA Expert Team is making efforts to keep frequent contacts through emails and mobile telephone calls. The Counterparts have reported that they did not encounter any notable problems in communicating with the JICA Expert Team.

#### **(4) Ownership/Participation of the Counterparts**

Some of the Counterpart personnel have reported that their day-to-day duties in their respective organizations limited their proactively involvement in the Project activities. Even though the Counterpart personnel are facing difficulties to allocate sufficient time to Project activities, they have strong ownership/participation toward the Project activities and recognize the significance of Project purpose.

#### **(5) Allocation of Counterparts**

The allocation of Counterpart personnel is satisfactory. However, RMD has not enough staff to conduct data collection in time and, therefore, the Project proposed to set up the Task Force under RMD which is in the process to be officially approved by the RMD. It would be better if the Counterparts would allocate more personnel for the smooth implementation of

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the Project. However, the allocated Counterpart personnel are involved in the Project activities and working closely with the JICA Expert Team.

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## 4. Evaluation by Five Criteria

### 4-1 Relevance

Overall relevance is Excellent according to the following reasons:

#### (1) Consistency with the National Road Sector Policy and Development Policy of Kyrgyz

The Project purpose “MOTC’s capacity is improved for maintenance cost estimation of bridges and tunnels on the basis of inspection results” and Overall Goal of the Project “Maintenance status of bridges and tunnels is improved in Kyrgyz” remained relevant with the Road Sector Development Strategy 2015 – 2025 of the Government of Kyrgyz which aims to promote economic development by providing access to markets for goods, labor and social services and sustainability of the road sector. The strategy specifically aims at rehabilitation of international, national and local roads, improvement of the road management system and involvement of private sector in road maintenance. The strategy is expected to be approved in October 2015.

The Project purpose and Overall Goal of the Project are still in consistency with the National Sustainable Development Strategy for the Kyrgyz Republic (2013 – 2017) which described transport sector as very important sector for the sustainable economic growth of the country and placed high priority on the enhancement of economic potential through the construction and rehabilitation of roads.

#### (2) Consistency with the Japanese Policy

“Maintenance Management of Transport Infrastructure and Correction of Regional Disparities” and “Restructuring of Social Infrastructure” are the two priority areas of the Japan’s Country Assistance Policy for Kyrgyz prepared in December 2012. The overall aim of the Japan’s ODA Policy for Kyrgyz is to support the sustainable and balanced economic growth driving the democratic consolidation. Japan’s Country Assistance Policy for Kyrgyz focusing on the development of transport infrastructure for achieving the overall goal of poverty reduction through economic development based on the transition to a market economy.

The Project has been implementing as one of “Program for Promotion of Physical Distribution for Strengthening Export Competitiveness” under Development Issues of “Development of Transport Infrastructure” under Priority Areas “Maintenance Management of Transport Infrastructure and Correction of Regional Disparities” in Rolling Plan for Kyrgyz prepared in May 2014.

#### (3) Appropriateness of Selection of Target Groups and Consistency with the Needs of the Target Groups

The main target groups of the Project are the staff members of MOTC HQ, RMD, PLUADs/UADs and DEPs. The maintenance management of bridges and tunnels is the main responsibility of the target groups. Furthermore, the capacity building for the staff of the target groups for the effective and efficient maintenance management of bridges and tunnels is an urgent need. Therefore, the selection of the target groups is appropriate and the Project

is still in consistency with the needs of the target groups.

#### **(4) Comparative Advantage of Technical Assistance Provided by the Japanese Side**

JICA has implemented numerous projects in transport sector throughout the world, and has necessary technical competence and experience. The Project aims to achieve its Project purpose “MOTC’s capacity is improved for maintenance cost estimation of bridges and tunnels on the basis of inspection results” by using advanced technical expertise and extensive experience of the Japanese Experts, organizing trainings/workshops for the Counterpart personnel, and provision of necessary equipment and materials. Thus the cooperation by Japan is very relevant to support the capacity development of Counterparts for the effective and efficient maintenance management of bridges and tunnels.

#### **4-2 Effectiveness**

**Overall effectiveness is good according to the following reasons:**

##### **(1) Degree of Achievement for the Project Purpose**

The four Outputs of the Project: (1) Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs is clearly identified with necessary staffing for the maintenance management of bridges and tunnels; (2) A database system to record information on bridges and tunnels is developed and ready for maintenance planning; (3) Capacity of DEPs for routine maintenance and capacity of PLUADs/UADs for inspection and condition rating of bridges and tunnels are enhanced; and (4) Capacity of MOTC’s HQ, RMD, PLUADs/UADs and DEPs for preparing maintenance management plans on bridges and tunnels is enhanced are contributing to achieve the Project purpose “MOTC’s capacity is improved for maintenance cost estimation of bridges and tunnels on the basis of inspection results”. The Project has been on track and the Project purpose is very likely to be achieved at the completion of the Project through the combination of activities of all four Outputs.

##### **(2) Relationship of Outputs and the Project Purpose**

The logical relationship of Outputs and the Project purpose is relevant. The Outputs are designed to achieve the Project purpose and Outputs are contributing to achieve the Project purpose. It is expected that the Project purpose will be achieved at the completion of all Outputs of the Project.

##### **(3) Major Achievements of the Project in Accordance with the PDM**

- a) Establishment of RAMS under RMD
- b) Establishment of demarcation of responsibilities of major stakeholders on maintenance management of bridges and tunnels
- c) Capacity building of the Counterpart personnel for the maintenance management of bridges and tunnels through different seminars, workshops and trainings in Kyrgyz and in Japan
- d) Major Products Prepared by the Project
  - 1) Database system for maintenance management of bridges and tunnels
  - 2) Nationwide management criteria for bridges and tunnels
  - 3) Short-term maintenance management plan for bridges



- 4) Long-term maintenance management plan for bridges
- 5) Short-term maintenance management plan for tunnels
- 6) Different manuals, such as manual for the data input and operation of the database system, manual for the maintenance of bridges, manual for the maintenance of tunnels.

#### **(4) Achievements of the Project Beyond the PDM**

##### a) Incorporation of Manuals Prepared by the Project in the Syllabus of the Universities

There is a severe shortage of young professional in the road sector and, therefore, the JICA Expert Team and officials of MOTC have decided to deliver lectures regarding maintenance management of roads, bridges, and tunnels in the Kyrgyz State University of Construction, Transport and Architecture and Automobile Roads College in Bishkek. The Japanese Experts and officials of MOTC have used several manuals prepared by the Project in their lectures to the students. This practice is well received by the students as well as the faculty members at the universities and they recommended for the continuation of the practice. Both universities decided to incorporate the manuals prepared by the Project in their syllabus.

##### b) Contribution for the Road Sector Development Strategy 2015-2025 of the Government of Kyrgyz

The Project has contributed in the preparation of the strategy. The status of bridge condition and maintenance management cost for three years estimated by the Project are incorporated in the strategy. The short-term maintenance management plan for bridges prepared by the Project is also incorporated in the strategy. It is expected that the strategy will be approved by the Government of Kyrgyz in October 2015.

##### c) Introduction of VIMS for Understanding the Real-Time Situation of Roads

The Project helped the Counterparts for the introduction of VIMS for knowing the real-time situation of roads. The system can assess the pavement condition at a low-cost in real time which is very necessary for the effective and efficient maintenance management of roads. The system has been developed by the engineers of the University of Tokyo those introduced the system to the concerned authorities of Kyrgyz.

##### d) Inspection and Condition Rating of Bridges in Osh City

The Project has conducted the inspection of all bridges and condition rating of three bridges in Osh City and concluded that the Nurmatov Street Bridge is in imminent condition and, therefore, should be replaced as early as possible. Furthermore, the Project has also inspected five intersections in Osh City and identified issues which are hindering smooth passage of traffic at the intersections.

##### e) Preparation of Bridge Inspection Pocket Book

The Project has prepared Bridge Inspection Pocket Book summarizing information on the structural defects and damages of bridge to improve the technical capacity of inspectors to conduct inspection and condition rating of bridge. The pocket book will be provided to



each staff of the DEP involved in inspection and condition rating of bridges.

f) Introduction of Global Positioning System (GPS)-Trackers for the Maintenance Management of Tunnels

Introduction of GPS-trackers for the maintenance management of tunnels have long been discussed between the officials of the MOTC and the JICA Expert Team. After carefully examining the advantages and disadvantages of the technology, it was decided to install the technology for the maintenance management of tunnels. The usage of technology proved to be very useful for the maintenance management of tunnels, especially in winter season for snow cleaning. The usage of technology further improved the toll tax collection at the tunnels.

g) Promotion of Safety Measures in the Tunnels

The Project has taken several measures for the traffic safety in tunnels, particularly in the Kolbaev tunnel. Additional road signs were installed including (1) speed limit signs at both portals of the tunnel and (2) direction signs indicating the remaining distance to both portals of the tunnels. Tunnel walls were painted white, curbs were painted in combination of yellow and red and reflectors were installed. In addition, delineators were installed in Tunnel No. 1 and 2 in December 2014. These measures improve the safety measures in the tunnels and are contributing for the safety of motorists in the tunnels.

**(5) Effects of Important Assumptions for the Outputs and the Project Purpose in the PDM**

The PDM has stated an important assumption for the Outputs as “technical and financial assistance from major development partners in the sector does not decrease dramatically”, as well as important assumptions for the Project purpose as “level of road maintenance budget does not decrease dramatically”, “Kyrgyz secure necessary budget and personnel to continue activities”, and “a drastic natural disaster such as earthquake, flood, etc. with the high risk of damages on bridges and tunnels do not occur in Kyrgyz”. The important assumptions of Outputs or the Project Purpose in the PDM did not occurred and, therefore, did not affect the achievement of any Outputs or the Project purpose.

**(6) Contributing and Hampering Factors for the Implementation of the Project**

The main contributing factors during the progress of implementation of the Project are the following:

- 1) Close working relationship between the JICA Expert Team and the Counterparts.
- 2) Provision of the office space with basic facilities for the Project Office in the MOTC HQ.
- 3) High motivation of Counterparts for the participation in the Project activities.
- 4) Establishment of RAMS under the RMD.
- 5) High enthusiasm for the application of advanced technology by the Counterpart personnel, especially by the head of tunnel services section of BO UAD.



The main hampering factors during the progress of implementation of the Project are the following:

- 1) Low experience of Counterparts in maintenance management technologies of bridges and tunnels.
- 2) Frequent transfer of Counterpart personnel during the implementation of the Project.
- 3) Resignation of Project Director and Deputy Director during the implementation of the Project.
- 4) Nationwide scattered location of Counterparts.
- 5) Limited human, financial, physical, and materials resources of Counterparts.

### **4-3 Efficiency**

**Overall efficiency is good according to the following reasons:**

#### **(1) Appropriateness of Inputs from the Japanese and Kyrgyz Sides**

The inputs are appropriately provided from both Japanese side and Kyrgyz side as planned and all inputs are fully utilized to generate the intended Outputs. The quality, quantity, and timing of inputs are also appropriate. However, the issues of allocation of necessary Counterparts and their frequent replacements and resignations adversely affect the implementation of the Project.

The allocation of Counterpart personnel and provision of the office space with basic facilities for the Project Office have significantly contributed to the smooth implementation of the Project activities.

#### **(2) Appropriateness of the Japanese Experts**

The long-term and short-term Japanese experts are competent and have extensive experience in their respective fields and are playing their expected roles in the implementation of the Project.

#### **(3) Appropriateness of Machinery, Equipment and Materials Provided by the Project**

The machinery, equipment and materials required for the Project activities have been provided. The machinery, equipment and materials provided by the Project are utilized for the implementation of Project activities throughout the implementation of the Project. The JICA Expert Team is regularly monitoring the maintenance of the machinery, equipment and materials provided by the Project.

#### **(4) Response of Counterpart Personnel Involved in Project Activities**

Project activities are well received by the Counterpart personnel. Several kinds of trainings/seminars/workshops for Counterpart personnel are welcomed by the participants.

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Most participants are satisfied with the contents, methodology, duration and skills and expertise of trainers of the trainings.

However, some of the Counterpart personnel sometimes faced difficulties in attending all Project activities due to their engagement in their routine assignments in their respective organizations.

#### **4-4 Impact**

**Overall impact is positive according to the following reasons:**

##### **(1) Prospects of Achieving the Overall Goal of the Project**

The impact on the Overall Goal of the Project is positive since one bridge was replaced and some facilities were introduced in some tunnels by the maintenance management plan during the Project, therefore the the indicator “A bridge and a tunnel chosen by maintenance management plan based on the nationwide management criteria which is prepared in the project are repaired / replaced.” is partially achieved and expected to be done in the future as well.

##### **(2) Positive Impacts**

It was found out through the interviews with staff of MOTC HQ, RMD, PLUADs/UADs and DEPs that they appreciate the Project activities which improved their knowledge and skills for the effective and efficient maintenance management of bridges and tunnels. The Project has contributed for the preparation of the Road Sector Development Strategy 2015-2025 of the Government of Kyrgyz which can be considered as one of the important positive impacts of the Project. So far the impact on the Overall Goal of the Project is positive.

##### **(3) Negative/Indirect/Unexpected Impacts**

No negative/indirect/unexpected impact has been reported.

##### **(4) Sustainability of Positive Impacts Generated by the Project**

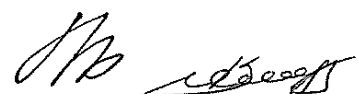
The proper allocation of human, financial, and physical resources will be required to sustain the positive impacts of the Project after the completion of the Project. Several other development partners are also involved in the improvement of transport sector in Kyrgyz and it is expected that the other development partners will continue to provide required resources, particularly financial resources, for the strengthening of transport sector in Kyrgyz.

#### **4-5 Sustainability**

**Sustainability is expected to some extent according to the following reasons:**

##### **(1) Policy Aspects**

The rehabilitation of international, national and local roads and improvement of the road management system is one of the major priorities guided by the Road Sector Development Strategy 2015 – 2025 of the Government of Kyrgyz. The National Sustainable Development



Strategy for the Kyrgyz Republic (2013 – 2017) described transport sector as very important sector for the sustainable economic growth of the country and high priority has been placed on the enhancement of economic potential through the construction and rehabilitation of roads. It is expected that the strategies and policies in transport sector of the Government of Kyrgyz will remain favorable for the Project effects to be sustained after the completion of the Project.

## **(2) Organizational Aspects**

The roles and responsibilities of Counterparts (MOTC HQ, RMD, PLUADs/UADs and DEPs) for the Project implementation were clearly defined and shared among the Counterparts. The staff of Counterparts reported that their capacity for the maintenance management of bridges and tunnels has been strengthened by the Project activities. The Project also fostered the capacity and relationship between relevant stakeholders for future backstopping of managerial and administrative capacity building. It is expected that the Counterparts could pursue relevant activities to keep Project effects after the completion of the Project.

## **(3) Financial Aspects**

It is noted that the financial resources of the Counterparts are not very sound. In order to keep continuing the Project activities after the completion of the Project, the Counterparts have to make serious efforts to secure proper funding from the concerned authorities. Therefore, financial aspects are a matter of concerns for the sustainability of Project effects after the completion of the Project.

## **(4) Technical Aspects**

To ensure the technical sustainability of the Project, it would be necessary to continue the technical assistance by the RMD, particularly organization of different kinds of trainings and periodical updating of different products, such as database system for maintenance management of bridges and tunnels, nationwide management criteria for bridges and tunnels, short-term/long terms maintenance management plans for bridges and tunnels, several kind of manuals for maintenance management of bridges and tunnels, etc. prepared by the Project.

The Counterparts have deepened their understanding for the Project purpose and Overall Goal through various Project activities. Most of staff of the Counterparts expressed that the technical transfer has been conducted very effectively and efficiently through various Project activities.

## **4-6 Conclusion**

### **(1) Relevance: Excellent**

The Project is still in consistency with the National Transport Sector Policy and Development Policy of the Government of Kyrgyz, the Japan's ODA Policy for Kyrgyz, and with the needs of the target groups. The selection of target groups is appropriate and cooperation by Japan is relevant.

### **(2) Effectiveness: Good**

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The Project purpose is likely to be achieved at the completion of the Project.

**(3) Efficiency: Good**

Quality, quantity, and timing of inputs are appropriate and all inputs are fully utilized to generate intended Outputs.

**(4) Impact: Positive**

So far the impact on the Overall Goal of the Project is positive since the the indicator of Overall Goal “A bridge and a tunnel chosen by maintenance management plan based on the nationwide management criteria which is prepared in the project are repaired / replaced.” is partially achieved and expected to be done in the future as well.

No negative/indirect/unexpected impact has been reported.

**(5) Sustainability: Expected to Some Extent**

The sustainability of the Project is expected to be assured in terms of policy, organizational, financial, and technical aspects. Appropriate financial and human resources from the Counterparts will be necessary to continue the Project effects after the completion of the Project.

**(6) Overall Project Performance: Satisfactory**

Based on review of relevant documents of the Project, such as Detailed Planning Survey Report, Minutes of Meetings (M/M), R/D, PDM, PO, Project Progress Reports, etc.; questionnaire to relevant stakeholders; a series of meetings and discussions with Counterparts, other development partners, and Japanese Experts; site visits as well as results of discussion by the Evaluation Team, the Evaluation Team concluded that the so far Project performance is satisfactory.

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## 5. Recommendations and Lessons Learned

### 5-1 Recommendations

In order to achieve the Overall Goal of “Maintenance status of bridges and tunnels is improved in Kyrgyz” and to further improve the sustainability of the positive impacts of the Project after the completion of the Project, the Evaluation Team prepared the following recommendations for the JICA Expert Team and for the Counterparts.

#### Recommendations for the JICA Expert Team

##### (1) Finalization of Products Prepared by the Project Before the Completion of the Project

The JICA Expert Team should finalize and get approval for all products, such as database system for maintenance management of bridges and tunnels, nationwide management criteria for bridges and tunnels, short-term/long terms maintenance management plans for bridges and tunnels, several kind of manuals for maintenance management of bridges and tunnels, etc. prepared by the Project before the completion of the Project.

##### (2) Sharing Products of the Project with Other Development Partners for Further Improvement

The JICA Expert Team should share various products prepared by the Project with other development partners to get their opinions and cooperation for further improvement.

##### (3) Improvement of Communication with the new establishment, RAMS

The JICA Expert Team should further improve the communication with the RAMS which was established on 11<sup>th</sup> March 2015 and important section for the sustainability, because it will be one of the sections which take responsibilities for maintenance management of bridges and tunnels. The newly established RAMS hasn't have enough time to be trained compared with other C/P, therefore, the JICA Expert Team need to train and communicate with RAMS by the period of the Project.

##### (4) Supporting internal technical transfer plan by C/P

The JICA Expert Team should propose the internal technical transfer plan from master trainers to other staff. The seminars or workshops are recommended to be implemented by master trainers some times a year.

##### (5) Considering the indicators of Overall goal for clearer evaluation in the future

The indicator of Overall goal is “A bridge and a tunnel chosen by maintenance management plan based on the nationwide management criteria which is prepared in the project are repaired / replaced.” Other indicators should be considered to add so as to monitor and evaluate more clearly the Overall goal. For example, the continuously updated data of routine maintenance could be the indicator to evaluate the maintenance status of bridges and tunnels.

##### (6) Prompt Actions for the Realization of Recommendation, Monitoring and Follow-Up Activities



The JICA Expert Team should help the Counterparts to take prompt actions for the realization of each recommendation, monitor the progress for each recommendation, and conduct necessary follow-up activities for the realization of each recommendation.

### **Recommendations for the Counterparts**

#### **(1) Formulation of Monitoring and Evaluation System for the Maintenance Management of Bridges and Tunnels**

The Project has transferred the knowledge and skills for the maintenance management of bridges and tunnels. However, it is strongly recommend that the MOTC should formulate an effective and efficient monitoring and evaluation system for the maintenance management of bridges and tunnels.

#### **(2) Strong Commitment to the Maintenance Management of Bridges and Tunnels**

Methodology and knowledge on maintenance management for bridges and tunnels was transferred through various Project activities. It is strongly recommended that the MOTC should show a strong commitment to the maintenance management of bridges and tunnels according to the short-term and long-term maintenance management plans of bridges and tunnels prepared by the Project. Particularly, the MOTC should give top priority for the implementation of short-term maintenance management plan of bridges which is focusing on replacement of very dangerous bridges to ensure traffic safety.

The Routine Maintenance Manual for Tunnels prepared by the Project has not been fully utilized for the routine maintenance of all five tunnels because of the frequent replacement of concerned staff in DEPs responsible for the routine maintenance management of five tunnels. It is strongly recommended that concerned staff of DEPs should conduct routine maintenance of all five tunnels in accordance with the Routine Maintenance Manual for Tunnels prepared by the Project.

#### **(3) Improvement of Products Prepared by the Project**

The Project has prepared several products and these products should be utilized and improved time to time in accordance with the collected data for the effective and efficient maintenance management of bridges and tunnels.

#### **(4) Institutional Strengthening and Networking of the Counterparts**

The MOTC HQ, RMD, PLUADs/UADs and DEPs should continue to enhance their technical and organizational capabilities in order to ensure the effective and efficient maintenance management of bridges and tunnels. It is recommended that the master trainers should be distributed in appropriate sections for smooth implementation of technical transfer to other staffs. It is also recommend that the MOTC HQ, RMD, PLUADs/UADs and DEPs should establish an effective and efficient network to share the information in time for smooth implementation of maintenance management of bridges and tunnels.

(5) Enhancement of Partnership with other Development Partners

MOTC should share various products prepared by the Project with other development partners and further enhance the partnership with other development partners for effective and efficient maintenance management of bridges and tunnels.

(6) Secure Necessary Resources to Keep Positive Impacts of the Project After Completion of the Project

It is strongly recommended that the Counterparts should secure required financial and human resources to sustain the positive impacts of the Project.

(7) Prompt Actions for the Realization of Recommendation, Monitoring and Follow-Up Activities

It is strongly recommended that the Counterparts shall take prompt actions for the realization of each recommendation, monitor the progress for each recommendation, and conduct necessary follow-up activities for the realization of each recommendation.

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## 5-2 Lessons Learned

The Evaluation Team has drawn the following lessons learned. JICA should consider Project achievements and lessons learned into future formulation and implementation of similar technical cooperation projects.

### (1) Multi-faceted coordination approach

A successful project must have its own clear scope. Focusing on such a scope and achieving its purpose are utmost important. At the same time, the Project should have any flexibility of inviting and using outside resources such as the road administration advisor and equipment provided by other Japan grant aid projects as well as local and donors' contributions. Since maintenance and management of bridges and tunnels is a multi-component and multi-player activity, one of the factors of the Project's success is that the Project has taken this kind of multi-faceted coordination approach. This approach has been producing collaborated spillover effects and more fruitful results.

### (2) Introduction of bridge and tunnel data inventory systems and their manuals/guidelines versus assignment of clear authorities

The Project has introduced bridge and tunnel data inventory systems together with their manuals/guidelines. MOTC has been employing those systems and manuals for a better provision of maintenance and management of bridges and tunnels. Introduction of those systems and manuals has also helped initiate reviewing their way of work and daily business. Efforts in effective use of those systems and manuals also lead to assignment of clear authorities among RMD and PLUADs/UADs/DEPs with a necessary restructuring of its current organizational function and vice versa.

### (3) Formulation of Quality Control System for the Maintenance Management of Bridges and Tunnels

Small initial defects will have a large impact on the durability of a bridge or tunnel that will cause an increase of maintenance management cost. In this Project, initial defects are one of the causes of the damage of bridges and tunnels. Therefore, it is strongly recommended that the formulation of the effective and efficient quality control system for the maintenance management of bridges and tunnels. The following steps are recommended for formulating the quality control system for the maintenance management of bridges and tunnels.

- Periodically review the maintenance management criteria for bridges and tunnels to improve and decrease initial defects in bridges or tunnels.
- Develop the quality control standards prior to the repair, reconstruction or construction of bridges or tunnels.

### (4) Provision of systems and manuals for variety of counterparts' needs

It is important to provide systems and manuals in accordance with needs and technical level of the counterparts. It is also important how to improve the current situation. The multi-faceted coordination is useful for covering a variety of counterparts' needs and improving their way of work and daily business as well as an appropriate provision of maintenance and management of bridges and tunnels.

(5) Motivation and ownership enhanced by the adaptation of Japanese technologies

The training in Japan and introduction of Japanese technology helped C/P to raise the motivation and ownership. BO UAD made some facilities by themselves for traffic safety in tunnels after the introduction of Japanese technology. Such a locally adapted technology might be an incentive of C/P since it matches their need.

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## Annexes

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### Annex 1: Schedule for the Joint Terminal Evaluation

Date	Day	Time	Item/ Itinerary	Place of Stay
08 Aug. 2014	Sat.	10:00 18:55	<ul style="list-style-type: none"> <li>Departure from Okayama, Japan for Bishkek, Kyrgyz (Evaluation Expert)</li> <li>Arrival in Bishkek (Evaluation Expert)</li> </ul>	Bishkek
09 Aug. 2014	Sun.	13:00 – 15:00	<ul style="list-style-type: none"> <li>Meeting with the Team Leader of the JICA Expert Team</li> </ul>	
10 Aug. 2014	Mon.	10:00 – 10:15	<ul style="list-style-type: none"> <li>Meeting with the JICA Kyrgyz Office</li> </ul>	
		10:30 – 12:00	<ul style="list-style-type: none"> <li>Meeting with the Staff of RAMS</li> </ul>	
		14:00 – 15:00		
11 Aug. 2014	Tue.	10:00 – 12:00	<ul style="list-style-type: none"> <li>Meeting with the Staff of BO UAD and DEP 9</li> </ul>	
12 Aug. 2014	Wed.	10:00 – 12:00	<ul style="list-style-type: none"> <li>Meeting with the Assistant to the Minister of Transportation and Communication and Staff of the PLUAD No. 1</li> </ul>	
13 Aug. 2014	Thu.	15:00 – 16:00	<ul style="list-style-type: none"> <li>Meeting with the World Bank</li> </ul>	
		16:30 – 17:30	<ul style="list-style-type: none"> <li>Meeting with the Asian Development Bank (ADB)</li> </ul>	
14 Aug. 2014	Fri.		<ul style="list-style-type: none"> <li>Preparation of the Joint Terminal Evaluation Report</li> </ul>	
15 Aug. 2014	Sat.		<ul style="list-style-type: none"> <li>Preparation of the Joint Terminal Evaluation Report</li> </ul>	
16 Aug. 2014	Sun.	13:55	<ul style="list-style-type: none"> <li>Departure from Narita for Bishkek (Team Leader and Cooperation Planning Expert)</li> </ul>	
17 Aug. 2014	Mon.	02:40	<ul style="list-style-type: none"> <li>Arrival in Bishkek (Team Leader and Cooperation Planning Expert)</li> </ul>	
		09:00 – 10:30	<ul style="list-style-type: none"> <li>Meeting with the Staff of the IPIG IDB</li> </ul>	
		13:00 – 17:00	<ul style="list-style-type: none"> <li>Internal Meeting among the Japanese Evaluation Team</li> </ul>	
18 Aug. 2014	Tue.	10:00 – 12:00	<ul style="list-style-type: none"> <li>Meeting with the Management Staff of the RMD</li> </ul>	
		16:30 – 17:30	<ul style="list-style-type: none"> <li>Meeting with the World Bank</li> </ul>	
19 Aug. 2014	Wed.	10:00 – 12:00	<ul style="list-style-type: none"> <li>Meeting with the Management Staff of the RMD</li> </ul>	
		07:00 – 18:00	<ul style="list-style-type: none"> <li>Site Visit</li> </ul>	
20 Aug. 2014	Thu.	10:00 – 12:00	<ul style="list-style-type: none"> <li>JCC Meeting</li> </ul>	
21 Aug. 2014	Fri.	11:00 – 11:30	<ul style="list-style-type: none"> <li>Signing of the Joint Terminal Evaluation Report</li> </ul>	
		14:00 – 15:00	<ul style="list-style-type: none"> <li>Report to the JICA Kyrgyz Office</li> </ul>	
22 Aug. 2014	Sat.	06:40	<ul style="list-style-type: none"> <li>Departure from Bishkek (Team Leader and Cooperation Planning Expert)</li> </ul>	
		14:35	<ul style="list-style-type: none"> <li>Departure from Bishkek (Evaluation Expert)</li> </ul>	

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**Annex 2: Project Design Matrix (PDM) Version 4.0 dated April 2015 for the Joint Terminal Evaluation**

Project Name: The Project for Capacity Development for Maintenance Management of Bridges and Tunnel  
 Period (Tentative): July 2013 – December 2015  
 Implementation Organizations: Ministry of Transport and Communications (MOTC)  
 Project Sites: MOTC's HQ, Bridges on International and National Roads and 5 Tunnels in the Kyrgyz  
 Target Groups: Staff members of MOTC's HQ, RMD, PLUADs/UADs and DEPs

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<b>Overall Goal</b>			
Maintenance status of bridges and tunnels is improved in Kyrgyz.	A bridge and a tunnel chosen by maintenance management plan based on the nationwide management criteria which is prepared in the project are repaired / replaced.		
<b>Project Purpose</b>			
MOTC's capacity is improved for maintenance cost estimation of bridges and tunnels on the basis of inspection results	1. Maintenance budget document with breakdowns for bridges and tunnels is prepared by [June 2015].	1. Maintenance budget document for bridges and tunnels	Level of road maintenance budget does not decrease dramatically. The Government of Kyrgyz secure necessary budget and personnel to continue activities. A drastic natural disaster such as earthquake, flood, etc. with the high risk of damages on bridges and tunnels do not occur in Kyrgyz.
	2. Data from the newly developed database system is utilized for formulating maintenance budget for bridges and tunnels.	2. Analysis of the quality of data for bridges and tunnels, project report	
<b>Outputs</b>			
1. Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs is clearly identified with necessary staffing for the maintenance management of bridges and tunnels.	1-1 Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs for maintenance management of bridges and tunnels becomes clear and approved by MOTC.	1-1 MOTC documents for organization, project report.	Technical and financial assistance from major development partners in the sector does not decrease dramatically.
	1-2 Roles of MOTC HQ, RMD, PLUADs/UADs and DEPs in the maintenance management of bridges and tunnels	1-2 Project report.	

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<p>2. A database system to record information on bridges and tunnels is developed and ready for maintenance planning.</p>	<p>are implemented.</p> <p>2-1 A database system with necessary information for maintenance planning of bridges and tunnels is developed by [July 2015].</p> <p>2-2 A manual for data input is developed by [July 2015].</p> <p>2-3 [B] 30 master trainers for data collection and input are trained and certified by [July 2015].</p> <p>2-4 [B] All the master trainers hold at least three (3) workshops on data collection and input for their responsible sections.</p> <p>2-5 [T] All the staff members trained for data collection and input pass the final exam.</p> <p>2-6 [B] RMD operates and develops the DB system [T] BO UAD operates and develops the DB system under the supervision of RMD.</p>	<p>2-1 Database system.</p> <p>2-2 Project report, training reports.</p> <p>2-3 Project report, master trainers' reports.</p> <p>2-4 Analysis of the quality of data on the database, project report.</p> <p>2-5 Track record of periodical update of the database, analysis of data, project report.</p> <p>2-6 DB system operated and developed by RMD staff.</p>	
<p>3. Capacity of DEPs for routine maintenance and capacity of PLUADs/UADs for inspection and condition rating of bridges and tunnels are enhanced.</p>	<p>3-1 A routine maintenance manual is developed by [B] [November 2014] and [T] [November 2014]</p> <p>3-2 Through the review by all the PLUADs/UADs, more than 90% of DEPs are determined to implement routine maintenance of bridges/tunnels in accordance with a newly created routine maintenance manual</p> <p>3-3 [B] 30 master trainers for inspection and condition rating are trained and certified by [June 2015]</p> <p>3-4 [B] All the master trainers hold at least three (3) workshops on inspection and condition rating for their responsible sections</p> <p>3-5 [B] 100% of the results of inspection and condition rating implemented by Master Trainers are evaluated to be accurate by RMD by [June 2015]</p>	<p>3-1 DEPs routine maintenance reports.</p> <p>3-2 Project report, training reports.</p> <p>3-3 Project reports, master trainers' reports.</p> <p>3-4 PLUADs/UADs' input for database system, analysis of the quality of the data.</p> <p>3-5 BO UADs/DEPs' input for database system, analysis of the quality of the</p>	




			data.	
	3-6	[T] All the staff members trained for inspection and condition rating pass the final exam		
	3-7	[T] 100% of the results of inspection and condition rating implemented by BO UAD/DEP are evaluated to be accurate by RMD by [June 2015]		
4. Capacity of MOTC's HQ, RMD, PLUADs/UADs and DEPs for preparing maintenance management plans on bridges and tunnels is enhanced.	4-1	A nationwide management criteria is developed by [B] [November 2013] and [T] [November 2013]	4-1	A long-term plan for maintenance management for bridges.
	4-2	A repair methods manual is developed by [B] [November 2013] and [T] [November 2014]	4-2	A short-term plan for maintenance management for bridges.
	4-3	[B] A long-term plan for maintenance management of bridges in consideration of LCC is prepared by RMP in accordance with the nationwide management criteria by [June 2015]	4-3	A short-term plan for maintenance management for tunnels.
	4-4	[T] A short-term plan with cost estimation for maintenance management of tunnels is prepared by RMD/BO UAD by [June 2015]		
	4-5	[T] A short-term plan with cost estimation for maintenance management of tunnels is prepared by RMD/BO UAD by [June 2015]		
Activities		Inputs		Pre-conditions
		Kyrgyz Side	Japanese Side	
1-1	To collect information regarding other partners and each section's staffing, etc.	1) Counterparts for the project 1) Project Director 2) Project Manager 3) Counterparts	1) Experts 1) Team Leader / Bridge Maintenance Expert (1) 2) Deputy Team Leader / Bridge Maintenance Expert (2) 3) Bridge Maintenance Expert (3) 4) Tunnel Expert-1 (Structure) 5) Tunnel Expert-2 (Facilities) 6) Database Expert 7) Cost Estimator / Detailed Bridge Inspection 8) Coordinator / Bridge Inspection	MOTC coordinates the project activities of other donors and JICA properly.
1-2	To identify the most suitable section to take charge of each of collection, input and analysis of data on bridges and tunnels for a database system.	2) Office for the Project with office furniture and utilities such as internet connectivity, telephone line, electricity, etc.		The management of MOTC is committed to the Project.
1-3	To identify the most suitable section to take charge of each of inspection, evaluation, maintenance plan preparation, and implementation of maintenance and repair of bridges and tunnels.	3) Running Expenses necessary for the implementation of the Project including travel expenses and allowances for the		Trained counterparts do not resign, or are transferred, too




2-1	To collect information regarding other partners and current conditions of bridges and tunnels, etc.	participants of the trainings with the exception for some participants.	Assistant 9) Bridge Maintenance Expert (4) / Assistant for Detailed Bridge Inspection / Assistant for International Roughness Index (IRI) Survey 10) IRI Survey Expert 11) Local Coordinator	frequently.  Kyrgyz side provides appropriate financial and personnel allocation for the Project.  Kyrgyz and other neighboring countries do not fall into conflict or turmoil due to social, economic, political reasons or famine.
2-2	To create a database system including dimension of bridges and tunnels.			
2-3	[B] To establish the procedure for data input and reporting.			
2-4	[B] To draft, review and finalize a manual for data input.			
2-5	[B] To implement master trainers' trainings on data collection and input.			
2-6	[B] To implement trainings by master trainers for staff members of PLUADs/UADs and DEPs for data collection and input.			
2-7	[B] To collect and input data of inspection, condition rating and costing of each bridge by staff members of RMD.			
2-8	[T] To establish the procedure for data input and reporting.			
2-9	[T] To create a manual for data input.			
2-10	[T] To implement trainings for staff members of BO UAD/DEPs for data collection and input.			
2-11	[T] To collect and input data of inspection, condition rating and costing of each tunnel by staff members of BO UAD/DEPs.			
3-1	[B] To draft, review and finalize a routine maintenance manual.	Inputs other than indicated here will be determined through mutual consultation between JICA and MOTC during the implementation of the Project, as necessary.		
3-2	[B] To draft, review and finalize an inspection and condition rating manual.			
3-3	[B] To implement master trainers' trainings on inspection and condition rating.			
3-4	[B] To implement trainings by master trainers for staff members of PLUADs/UADs and DEPs for inspection.			
3-5	[B] To carry out inspection by staff members of RMD/PLUADs/UADs/DEPs. To carry out condition rating by staff members of RMD.			






3-6	[T] To create a routine maintenance manual.			
3-7	[T] To create an inspection and condition rating manual.			
3-8	[T] To implement trainings for staff of BO UAD/DEPs for inspection and condition rating.			
3-9	[T] To carry out inspection and condition rating by staff members of BO UAD/DEPs.			
4-1	[B] To establish a nationwide management criteria for bridges.			
4-2	[B] To draft, review and finalize a repair methods manual including cost estimation.			
4-3	[B] To implement trainings for staff of RMD on detailed survey and cost estimation for preparing a long-term plan for maintenance management of bridges.			
4-4	[B] To prepare a long-term plan for maintenance management of bridges by staff members of RMD.			
4-5	[B] To implement trainings for staff members of RMD on preparing a short-term plan for maintenance management of bridges.			
4-6	[B] To prepare a short-term plan for maintenance management of bridges by staff members of RMD.			
4-7	[T] To establish a management criteria for tunnels.			
4-8	[T] To create a repair method manual including cost estimation.			
4-9	[T] To prepare a short-term plan for maintenance management for tunnels through trainings for staff of RMD/BO UAD/DEPs.			




### Annex 3: Evaluation Grid for the Joint Terminal Evaluation

#### Achievement and Implementation Process

Items to be checked		Objectively Verifiable Indicators (Criteria/Method for Assessment)	Necessary Information/Data	Information Sources	Data Collection Method
Main Points	Specific Questions				
<b>Achievement/Performance</b>					
Progress of achieving outputs	1. The extent to which demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs is clearly identified with necessary staffing for the maintenance management of bridges and tunnels	1-1 Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs for maintenance management of bridges and tunnels becomes clear and approved by MOTC	- Project documents and reports - Workshop reports on institutional demarcation	- C/P - JICA Experts	- Document Review - Questionnaire - Interview
		1-2 Roles of MOTC HQ, RMD, PLUADs/UADs and DEPs in the maintenance management of bridges and tunnels are implemented	- MOTC document for organization		
	2. The extent to which a database system to record information on bridges and tunnels is developed and ready for maintenance planning	2-1 A database system with necessary information for maintenance planning of bridges and tunnels is developed by [July 2015]	- Project documents and reports - Manual for data input - Training reports on data collection and input	- C/P - JICA Experts	- Document Review - Questionnaire - Interview
		2-2 A manual for data input is developed by [July 2015]	- Workshop reports on data collection and input		
		2-3 [B] 30 master trainers for data collection and input are trained and certified by [July 2015]	- Workshop reports on database development		
		2-4 [B] All the master trainers hold at least three (3) workshops on data collection and input for their responsible sections	- Track records for periodical update of database		
		2-5 [T] All the staff members trained for data collection and input pass the final exam			
		2-6 [B] RMD operates and develops the DB system [T] BO UAD operates and develops the DB system under the supervision of RMD			
	3. The extent to which capacity of DEPs for routine maintenance and capacity of PLUADs/UADs for inspection and condition rating of bridges and tunnels are enhanced	3-1 A routine maintenance manual is developed by [B] [November 2014] and [T] [November 2014]	- Project documents and reports - Routine maintenance manual of bridges/tunnels	- C/P - JICA Experts	- Document Review - Questionnaire - Interview
		3-2 Through the review by all the PLUADs/UADs, more than 90% of DEPs are determined to implement routine maintenance of bridges/tunnels in accordance with a newly created routine maintenance manual	- Inspection and condition rating manual of bridges and tunnels		
		3-3 [B] 30 master trainers for inspection and condition rating are trained and certified by [June 2015]	- Training reports on inspections and condition rating		
		3-4 [B] All the master trainers hold at least three (3) workshops on inspection and condition rating for their responsible sections	- Workshops reports on inspection and condition rating		
		3-5 [B] 100% of the results of inspection and condition rating implemented by Master Trainers are evaluated to be accurate by RMD by [June 2015]	- DEPs routine maintenance reports		
3-6 [T] All the staff members trained for inspection and condition rating pass the final exam					
3-7 [T] 100% of the results of inspection and condition rating implemented by BO UAD/DEP are evaluated to be accurate by RMD by [June 2015]					
4. The extent to which capacity of	4-1 A nationwide management criteria is developed by [B]	- Project documents and reports	- C/P	- Document Review	

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Items to be checked		Objectively Verifiable Indicators (Criteria/Method for Assessment)	Necessary Information/Data	Information Sources	Data Collection Method
Main Points	Specific Questions				
	MOTC's HQ, RMD, PLUADs/UADs and DEPs for preparing maintenance management plans on bridges and tunnels is enhanced	[November 2013] and [T] [November 2013]	<ul style="list-style-type: none"> <li>- Repair methods manual for bridges and tunnels</li> <li>- Long-term maintenance management plan for bridges</li> <li>- Short-term maintenance management plan for bridges</li> <li>- Short-term maintenance management plan for tunnels</li> </ul>	- JICA Experts	<ul style="list-style-type: none"> <li>- Questionnaire</li> <li>- Interview</li> </ul>
		4-2 A repair methods manual is developed by [B] [November 2013] and [T] [November 2014]			
		4-3 [B] A long-term plan for maintenance management of bridges in consideration of LCC is prepared by RMP in accordance with the nationwide management criteria by [June 2015]			
		4-4 [T] A short-term plan with cost estimation for maintenance management of tunnels is prepared by RMD/BO UAD by [June 2015]			
		4-5 [T] A short-term plan with cost estimation for maintenance management of tunnels is prepared by RMD/BO UAD by [June 2015]			
Prospect of achieving Project Purpose	The extent to which the project purpose of "MOTC's capacity is improved for maintenance cost estimation of bridges and tunnels on the basis of inspection results" is likely to be achieved	<ol style="list-style-type: none"> <li>1. Maintenance budget documents with breakdowns for bridges and tunnels is prepared by [June 2015]</li> <li>2. Data from the newly developed database system is utilized for formulating maintenance budget for bridges and tunnels</li> </ol>	<ul style="list-style-type: none"> <li>- Project documents and reports</li> <li>- Maintenance budget documents for bridges and tunnels</li> </ul>	<ul style="list-style-type: none"> <li>- C/P</li> <li>- JICA Experts</li> </ul>	<ul style="list-style-type: none"> <li>- Document Review</li> <li>- Questionnaire</li> <li>- Interview</li> </ul>
<b>Implementation Process</b>					
Progress of activities	Whether the project activities have been taken as planned to date	- Comparison between the plan and the actual performance	<ul style="list-style-type: none"> <li>- Data of the plan PO and actual PO</li> <li>- Project Reports</li> <li>- Opinions</li> </ul>	<ul style="list-style-type: none"> <li>- C/P</li> <li>- JICA Experts</li> </ul>	<ul style="list-style-type: none"> <li>- Document Review</li> <li>- Questionnaire</li> <li>- Interview</li> <li>- Observations</li> </ul>
Monitoring	Whether the monitoring system of the project is appropriate and effective	- Whether the monitoring system for project management is established	<ul style="list-style-type: none"> <li>- Project Reports</li> <li>- Opinions</li> </ul>	<ul style="list-style-type: none"> <li>- C/P</li> <li>- JICA Experts</li> </ul>	<ul style="list-style-type: none"> <li>- Document Review</li> <li>- Questionnaire</li> <li>- Interview</li> </ul>
	Whether the results of monitoring have been reflected to the project management	- Whether the monitoring system is effective to check the progress of project activities	<ul style="list-style-type: none"> <li>- Project Reports</li> <li>- Opinions</li> </ul>	<ul style="list-style-type: none"> <li>- C/P</li> <li>- JICA Experts</li> </ul>	<ul style="list-style-type: none"> <li>- Document Review</li> <li>- Questionnaire</li> <li>- Interview</li> </ul>
Communication among related organizations	Whether the communication among related organizations have been established well to manage the project	- The same as mentioned in left column	<ul style="list-style-type: none"> <li>- Opinions</li> </ul>	<ul style="list-style-type: none"> <li>- C/P</li> <li>- JICA Experts</li> </ul>	<ul style="list-style-type: none"> <li>- Questionnaire</li> <li>- Interview</li> </ul>
Ownership/ Participation of relevant stakeholders	Whether the cooperation among the executing agency and related organizations has been strengthened during the project implementation	- Degree of cooperation among related organizations	<ul style="list-style-type: none"> <li>- Opinions</li> </ul>	<ul style="list-style-type: none"> <li>- C/P</li> <li>- JICA Experts</li> </ul>	<ul style="list-style-type: none"> <li>- Questionnaire</li> <li>- Interview</li> </ul>
	The extent to which the designated management officials of the targeted country have participated in the project management	- Degree of participation in management by the responsible persons	<ul style="list-style-type: none"> <li>- Meeting Records</li> <li>- Opinions</li> </ul>	<ul style="list-style-type: none"> <li>- C/P</li> <li>- JICA Experts</li> </ul>	<ul style="list-style-type: none"> <li>- Document Review</li> <li>- Questionnaire</li> <li>- Interview</li> </ul>
	The extent to which the counterparts have been involved in project activities	- Attitude of the counterparts	<ul style="list-style-type: none"> <li>- Meeting Records</li> <li>- Opinions</li> </ul>	<ul style="list-style-type: none"> <li>- C/P</li> <li>- JICA Experts</li> </ul>	<ul style="list-style-type: none"> <li>- Document Review</li> <li>- Questionnaire</li> <li>- Interview</li> </ul>
	Whether the counterparts are self-motivated toward the project activities	- Attitude of the counterparts	<ul style="list-style-type: none"> <li>- Meeting Records</li> <li>- Opinions</li> </ul>	<ul style="list-style-type: none"> <li>- C/P</li> <li>- JICA Experts</li> </ul>	<ul style="list-style-type: none"> <li>- Document Review</li> <li>- Questionnaire</li> <li>- Interview</li> </ul>

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Items to be checked		Objectively Verifiable Indicators (Criteria/Method for Assessment)	Necessary Information/Data	Information Sources	Data Collection Method
Main Points	Specific Questions				
Allocation of Counterparts	Whether the counterparts have been allocated appropriately (quality, quantity and timing)	- Situation of counterparts' allocation	- Project Reports - Opinions	- C/P - JICA Experts	- Document Review - Questionnaire - Interview

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### Five Evaluation Criteria of Relevance, Effectiveness, Efficiency and Sustainability

Items to be checked		Criteria/Method for Assessment	Necessary Information/Data	Information Source	Data Collection Method
Main Points	Specific Questions				
<b>Relevance</b>					
Consistency with the development policies of the targeted country	Whether the project is still in line with the development plans and sector policy of the targeted country	<ul style="list-style-type: none"> <li>- To check the project purpose still keeps the consistency with the development plans and sector policy</li> <li>- To check the overall goal of the project still keeps the consistency with the development plans and sector policy</li> </ul>	- Development Plans and Sector Policy of the targeted country	- C/P	<ul style="list-style-type: none"> <li>- Document Review</li> <li>- Questionnaire</li> <li>- Interview</li> </ul>
Consistency with the Japanese policy	Whether the project is still in line with the Japanese policy	- To check the strengthening of targeted sector in the targeted country is prioritized in Japanese policy	- Assistance Policy of Ministry of Foreign Affairs (MOFA) of Japan for the targeted country	- MOFA Japan - JICA Field Office	- Document Review
Appropriateness of selection of target group	Whether the selection of target group was appropriate	- To check the target group received the benefits from the project directly	- Opinions	- JICA Experts - C/P	<ul style="list-style-type: none"> <li>- Questionnaire</li> <li>- Interview</li> </ul>
Consistency with the needs of the target group	Whether the project meets the needs of the target group	- To check the target group received (or will receive) benefits from the project	- Opinions	- JICA Experts - C/P	<ul style="list-style-type: none"> <li>- Questionnaire</li> <li>- Interview</li> </ul>
Comparative advantage of technology provided by the Japanese side	Whether the cooperation by Japan was relevant to support the capacity development in the targeted sector	- To confirm whether Japanese side had the knowledge to achieve the project purpose	- Opinions	- C/P	<ul style="list-style-type: none"> <li>- Questionnaire</li> <li>- Interview</li> </ul>
<b>Effectiveness</b>					
Probability of achieving the project purpose	Whether the project purpose is likely to be achieved by the end of the project completion	- To verify the degree of achievement based on the indicators of the project purpose in PDM	<ul style="list-style-type: none"> <li>- PDM</li> <li>- PO</li> <li>- Project Reports</li> <li>- Actual data of each indicator to date</li> <li>- Opinions</li> </ul>	- JICA Experts - C/P	<ul style="list-style-type: none"> <li>- Document Review</li> <li>- Questionnaire</li> <li>- Interview</li> </ul>
Contribution of the outputs to the project purpose	Whether the effects (project purpose) will be likely to be generated by the achievement of project outputs	- To check the logic of PDM	- Opinions	- JICA Experts - C/P	<ul style="list-style-type: none"> <li>- Questionnaire</li> <li>- Interview</li> </ul>
Influence of the important assumptions	Whether the important assumptions in the PDM affects the project achievement	- Trained personnel continue to work in the executing agency and related organizations	- Opinions	- JICA Experts - C/P	<ul style="list-style-type: none"> <li>- Questionnaire</li> <li>- Interview</li> </ul>
Promoting/ hampering factors	Promoting factors contributing to the progress of the project implementation	- To check which factors contributing to the progress of the project implementation	- Opinions	- JICA Experts - C/P	<ul style="list-style-type: none"> <li>- Questionnaire</li> <li>- Interview</li> </ul>
	Hampering factors disturbing the progress of the project implementation	- To check which factors hampering the progress of the project implementation	- Opinions	- JICA Experts - C/P	-
<b>Efficiency</b>					
Conversion of the inputs into outputs	Whether the outputs are reasonable for the amount of inputs (resources)	- Comparison of plan and actual	<ul style="list-style-type: none"> <li>- Project Reports</li> <li>- PO</li> <li>- Opinions</li> </ul>	- C/P - JICA Experts	<ul style="list-style-type: none"> <li>- Document Review</li> <li>- Questionnaire</li> <li>- Interview</li> </ul>
	Whether the inputs are fully used to generate so far intended outputs	- Comparison of plan and actual	<ul style="list-style-type: none"> <li>- Project Reports</li> <li>- PO</li> <li>- Opinions</li> </ul>	- C/P - JICA Experts	<ul style="list-style-type: none"> <li>- Document Review</li> <li>- Questionnaire</li> <li>- Interview</li> </ul>

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Items to be checked		Criteria/Method for Assessment	Necessary Information/Data	Information Source	Data Collection Method
Main Points	Specific Questions				
Promoting/ hampering factors	Whether the timing, amount, quality of inputs was appropriate	- Comparison of plan and actual	- Project Reports - Opinions	- C/P - JICA Experts	- Document Review - Questionnaire - Interview
	Whether important assumptions influenced the conversion of inputs into outputs	- To check whether important assumptions actually occurred	- Project Reports - Opinions	- C/P - JICA Experts	- Document Review - Questionnaire - Interview
<b>Impact</b>					
Probability of achieving the overall goal	Whether the overall goal is achievable	- To check the logic of PDM - To check important assumptions affecting the overall goal	- Project Reports - Opinions	- C/P - JICA Experts - Development Partners	- Document Review - Questionnaire - Interview
Other impacts	Whether there will be / are other impacts (direct or indirect, positive or negative, intended or unintended) generated by the project implementation	- To check other impacts (direct or indirect, positive or negative, intended or unintended) generated by the project implementation	- Opinions	- C/P - JICA Experts - Development Partners	- Questionnaire - Interview
<b>Sustainability</b>					
Prospect of the effects generated by the project	Whether the effects generated by the project will be kept after the project completion	- Whether project activities will be continued at the executing agency and related organizations after the project completion - Whether the executing agency is capable to sustain and manage the project activities after the project completion	- Opinions	- C/P - JICA Experts - Development Partners	- Questionnaire - Interview
Policy/ Institutional Aspects	Whether the targeted sector or subsector will remain high priority of the government	- Targeted sector and subsector policies of the government	- Opinions	- C/P - JICA Experts - Development Partners	- Questionnaire - Interview - Document Review
	Whether the roles of the executing agency and related organizations clearly defined and shared among concerned organizations	- The same as mentioned in left column	- Opinions	- C/P - JICA Experts	- Questionnaire - Interview
Organizational/ Financial Aspects	Whether the executing agency and related organizations will have sufficient financial support from the government	- The same as mentioned in left column	- Opinions - Budgets of the executing agency and related organizations	- C/P - JICA Experts - Development Partners	- Questionnaire - Interview - Document Review
	Whether the executing agency and related organizations will have sufficient capacity of pursuing relevant activities to keep project effects after project completion (human resources, financial resources, institutional capacity, etc.)	- Future Plans of the executing agency and related organizations	- Opinions - Future Plan	- C/P - JICA Experts - Development Partners	- Questionnaire - Interview - Document Review
Technical Aspects	Whether the skills/techniques which the project introduced and has been enhancing are accepted by the executing agency and related organizations	- Results of training	- Opinions	- C/P - JICA Experts	- Interview - Questionnaire
	Whether the maintenance of equipment is appropriately carried out	- Condition of equipment	- Opinions - Observations	- C/P - JICA Experts	- Interview - Questionnaire - Observations

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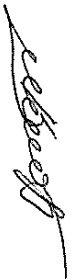
APPENDIX 3: Summary of DCPs to realize maintenance and capacity of PS (MAD/DEPs for inspection and condition rating of bridges and tunnels) as a schedule											
3-1	[R] To draft, review and finalize a routine maintenance manual										
3-1.1	To draft, review and finalize the Manual	Mizota / Okazaki / Sawada	Plan / Actual								
3-1.2	To conduct Workshop for the Manual	Mizota / Okazaki / Sawada	Plan / Actual								
3-2	[R] To draft, review and finalize an inspection and condition rating manual										
3-2.1	To draft, review and finalize the Manual	Kamamura / Miyasuchi	Plan / Actual								
3-2.2	To conduct Workshop for the Manual	Miyasuchi	Plan / Actual								
3-3	[R] To implement MT's trainings on inspection and condition rating										
3-3.1	To implement MT's training for inventory survey and photo shooting	Kamamura	Plan / Actual								
3-3.2	To implement MT's training for primary inspection and condition rating	Miyasuchi / Kamamura	Plan / Actual								
3-3.3	To implement MT's training for secondary inspection and condition rating	Miyasuchi / Kamamura	Plan / Actual								
3-4	[R] To implement trainings by master trainers for staff members of PLMAD/ADs and DEPs for inspection										
3-4.1	To conduct 1st Workshop by MT	Miyasuchi / Kamamura	Plan / Actual								
3-4.2	To conduct 2nd Workshop by MT	Miyasuchi / Kamamura	Plan / Actual								
3-4.3	To conduct 3rd Workshop by MT	Miyasuchi / Kamamura	Plan / Actual								
3-5	[R] To carry out inspection by staff members of PLMAD/ADs and DEPs. To carry out condition rating by staff										
3-5.1	To carry out inventory survey by staff members	Kamamura	Plan / Actual								
3-5.2	To carry out Primary inspection by staff members	Kamamura	Plan / Actual								
3-5.3	To conduct Secondary inspection by staff members	Kamamura	Plan / Actual								
3-6	[I] To create a routine maintenance manual										
3-6.1	To draft, review and finalize the routine maintenance manual	Hiro / Mura/Abe	Plan / Actual								
3-6.2	To carry out Workshop for the Manual	Hiro	Plan / Actual								
3-7	[I] To create an inspection and condition rating manual										
3-7.1	To create an structural inspection and condition rating manual for tunnels	Hiro	Plan / Actual								
3-7.2	To create an inspection and condition rating manual for the services of tunnels	Mura/Abe	Plan / Actual								
3-8	[I] To implement trainings for staff of BO (MAD/DEPs) for inspection and condition rating										
3-8.1	To implement trainings on inspection and condition rating of structures	Hiro / Mura/Abe	Plan / Actual								
3-8.2	To implement trainings on inspection and condition rating of service facility	Hiro / Mura/Abe	Plan / Actual								
3-9	[I] To carry out inspection and condition rating by staff members of BO (MAD/DEPs)										
3-9.1	To carry out inspection and condition rating of structures by staff members	Hiro / Mura/Abe	Plan / Actual								
3-9.2	To carry out inspection and condition rating of service facility by staff members	Hiro / Mura/Abe	Plan / Actual								
APPENDIX 4: Summary of DCPs, PLMAD/ADs and DEPs for preparing maintenance management plans on bridges and tunnels as a schedule											
4-1	[R] To establish a nation-wide management criteria for bridges										
4-1.1	To confirm existing management criteria	Mizota	Plan / Actual								
4-1.2	To confirm existing traffic volume data	Okazaki	Plan / Actual								
4-1.3	To conduct Workshop for the management criteria	Mizota / Okazaki	Plan / Actual								
4-2	[R] To draft, review and finalize a repair methods manual including cost estimation										
4-2.1	To draft a repair methods manual	Miyasuchi	Plan / Actual								
4-2.2	To review the repair methods manual	Miyasuchi	Plan / Actual								
4-2.3	To finalize a repair methods manual	Miyasuchi	Plan / Actual								
4-3	[R] To implement trainings for staff of RMD on detailed survey and cost estimation for preparing a long term plan										
4-3.1	To conduct 1st Workshop for Preparation of long term plan	Mizota / Okazaki	Plan / Actual								
4-3.2	To conduct 2nd Workshop for Preparation of long term plan	Mizota / Okazaki	Plan / Actual								
4-4	[R] To prepare a long term plan for maintenance management of bridges by staff members of RMD										
4-4.1	To prepare draft of the long term plan	Mizota / Okazaki	Plan / Actual								
4-4.2	To prepare the long term plan	Mizota / Okazaki	Plan / Actual								
4-5	[R] To implement trainings for staff members of RMD on preparing a short term plan										
4-5.1	To conduct 1st Workshop for Preparation of short term plan	Mizota / Okazaki	Plan / Actual								
4-5.2	To conduct 2nd Workshop for Preparation of short term plan	Mizota / Okazaki	Plan / Actual								
4-6	[R] To prepare a short term plan for maintenance management of bridges by staff members of RMD										
4-6.1	To prepare the short term plan for the year of 2015-2017	Miyasuchi	Plan / Actual								
4-6.2	To review and prepare the short term plan for the year of 2015-2017	Miyasuchi	Plan / Actual								
4-7	[I] To establish a management criteria for tunnels										
4-7.1	To confirm existing management criteria	Hiro	Plan / Actual								
4-7.2	To confirm existing traffic volume	Mizota / Okazaki	Plan / Actual								
4-7.3	To conduct Workshop for the management criteria	Hiro	Plan / Actual								
4-8	[I] To create a repair methods manual including cost estimation										
4-8.1	To create a repair methods manual	Hiro / Mura/Abe	Plan / Actual								
4-9	[I] To prepare a short term plan for RMA for tunnels through trainings for staff of RMD/BO/AD/DEPs										
4-9.1	To prepare short term plan for structural maintenance	Hiro	Plan / Actual								
4-9.2	To prepare short term plan for the service facility's maintenance	Mura/Abe	Plan / Actual								
ADMINISTRATIVE ACTIVITIES											
	Joint Coordinating Committee										
	Revision of PDII from Version zero to one										
	Progress Report										
	Final Report										
	Terminal Evaluation										
	* including the estimated DCPs for tunnels										



**Annex 5: List of Interviewees for the Joint Terminal Evaluation**

Date/ Day/ Time	Name	Position / Position in the Project	Current Organization / Previous Organization
10 Aug. 2015/ Monday/ 10:30 – 12:00 14:00 – 15:00	Mr. Musabaev Akylbek	Head / Counterpart	PPAW
	Ms. Abdyrashim Kyzy Aigerim	Database Specialist / Counterpart	RAMS
	Mr. Eraliev Nurlan	Lead Specialist / MT-S	RAMS
	Mr. Jeldenov Akim	Lead Specialist / MT-S	RAMS
	Mr. Seitaliev Istanbek	Head of Section / Counterpart	RAMS
11 Aug. 2015/ Tuesday/ 10:00 – 12:00	Mr. Bazaraliev Beknazar	Head of Tunnel Service Section / Counterpart	BO UAD
	Mr. Shopokov Erjan	Tunnel Chief / Counterpart	DEP 9 (Too-Ashuu Pass)
12 Aug. 2015/ Wednesday/ 10:00 – 12:00	Mr. Abyshov Tursunbek	Lead Specialist / MT-S	PLUAD No. 1
	Mr. Esenbekov Tilek	Assistant to the Minister of Transportation and Communication	MOTC
13 Aug. 2015/ Thursday/ 15:00 – 16:00 16:30 – 17:30	Ms. Aidai Bayalieva	Operations Officer, Transport & ICT, Urban Development, Water	World Bank Kyrgyz Republic Country Office
	Mr. Mirdin Eshenaliev	Senior Project Officer	ADB Kyrgyz Resident Mission
17 Aug. 2015/ Monday/ 09:00 – 10:30	Mr. Dubashev Nur	Civil Engineer / Ex-Chief Specialist and Ex-MT	IPIG IDB / BO UAD
18 Aug. 2015/ Tuesday/ 10:00 – 12:00 16:30 – 17:30	Mr. Mamaev Kubanychbek	Director / Project Director	IPIG
	Mr. Nurmanbetov Kadyrbek	Deputy Director / Ex-Project Manager (July 2013 to 20 July 2015)	RMD
	Mr. Kayinbaev Nurlan	Deputy Director / Project Manager (From 22 July 2015 to date)	RMD
	Ms. Milovatskaya Nina	Chief Specialist / Counterpart	RMND
	Mr. Bazaraliev Beknazar	Head of Tunnel Service Section / Counterpart	BO UAD
	Ms. Aidai Bayalieva	Operations Officer, Transport & ICT, Urban Development, Water	World Bank Kyrgyz Republic Country Office

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**Annex 6: List of Japanese Experts and their Schedules**

No.	Name	Position
<b>Long-Term Expert</b>		
1	TANAKA Takuya	Road Administration Advisor, MOTC
<b>Short-Term Expert</b>		
2	MIZOTA Yuzo	Team Leader/Bridge Maintenance Expert (1)
3	OKAZAKI Akio	Deputy Team Leader/Bridge Maintenance Expert (2)
4	MIYAUCHI Hidetoshi	Bridge Maintenance Expert (3)
5	HIROI Kazuya	Tunnel Expert (1) (Structure)
6	MIURA Kentaro	Tunnel Expert (2) (Facilities)
7	ABE Shintaro	Tunnel Expert (2) (Facilities)
8	WATANABE Masatoshi	Database Expert/Assistant for Detailed Bridge Inspection
9	KITAMURA Takayoshi	Cost Estimator/Detailed Bridge Inspection
10	OGAWA Junichiro	Coordinator/Bridge Inspection Assistant/Assistant for International Roughness Index (IRI) Survey
11	SAWADA Kentaro	Bridge Maintenance Expert (4)
12	NAGAYAMA Tomonori	IRI Survey Expert

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**Annex 7: List of Counterpart Personnel Training in Japan**

No.	Name	Period of Participation		Field / Title of the Training	Contents of the Training	Implementing Institution in Japan	Position of the Trainee at that Time of Training	Current Position of the Trainee
		From	To					
1	Nurmanbetov Kadyrbek	Sep.12, 2014	Sep.24, 2014	1 <sup>st</sup> Counter Part Training	Bridge and Tunnel Maintenance	JICA	Deputy Director, RMD	Resigned
2	Nogoev Nurmat	Sep.12, 2014	Sep.24, 2014	1 <sup>st</sup> Counter Part Training	Bridge and Tunnel Maintenance	JICA	Head PPAW, RMD	Head, DEP 34
3	Esenbekov Tilek	Sep.12, 2014	Sep.24, 2014	1 <sup>st</sup> Counter Part Training	Bridge and Tunnel Maintenance	JICA	Specialist, PPAW, RMD	Specialist, PPAW, RMD
4	Dubashev Nur	Sep.12, 2014	Sep.24, 2014	1 <sup>st</sup> Counter Part Training	Bridge and Tunnel Maintenance	JICA	Specialist BO UAD	IPIG
5	Sadralliev Nurkan	Sep.12, 2014	Sep.24, 2014	1 <sup>st</sup> Counter Part Training	Bridge and Tunnel Maintenance	JICA	Leading Specialist PLUAD#5	Leading Specialist PLUAD#5

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**Annex 8: List of Machinery, Equipment and Materials Provided by the Project**

No.	Purpose of Use	Arrival Date	Name of Machinery, Equipment and Material	Maker	Price	Procurement Place	Installation Place	Current Condition	Remarks
1	IRI Measurement	April 2014	Dynamic Response Intelligent Monitoring System (DRIMS)	JIP Techno Science Corporation	915,840 JPY	Japan	Bishkek, Kyrgyzstan	In operation	2 sets
2	Detailed Inspection	Aug 2014	Schmidt Hammer	Original SCHMIDT proceeq	201,043 JPY	Japan	Bishkek, Kyrgyzstan	In operation	1 sets
3	Detailed Inspection	Aug 2014	InfraRed Camera	Nippon Avionics Co, Ltd.	1,581,120 JPY	Japan	Bishkek, Kyrgyzstan	In operation	1 set
4	Detailed Inspection	Aug 2014	Electric drill	Makita	52,323 JPY	Japan	Bishkek, Kyrgyzstan	In operation	1 set

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**Annex 9: Operational Expenses by the Japanese and Kyrgyz Sides**

**Japanese Side**

**Unit: Japanese Yen (JPY)**

Items	2013	2014	2015 (as of July 2015)	Total
Air Tickets	8,062,000	12,232,000	4,976,200	25,270,200
Local Travelling	7,744,740	11,750,640	4,780,374	24,275,754
Overall Administration	9,748,060	14,790,160	6,016,906	30,555,126
Others	8,851,670	13,430,120	5,463,617	27,745,407
<b>Total</b>	<b>34,406,470</b>	<b>52,202,920</b>	<b>21,237,097</b>	<b>107,846,487</b>

**Kyrgyz Side**

**Unit: Kyrgyzstani Som (KGS)**

Items	2013	2014	2015 (as of July 2015)	Total
Equipment	64,000	64,000	16,000	144,000
Business Trip	273,000	121,500	162,000	556,500
<b>Total</b>	<b>337,000</b>	<b>185,500</b>	<b>178,000</b>	<b>700,500</b>

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**Annex 10: List of Counterpart Personnel**

No.	Name	Position/Position in the Project	Field of Specialization	Period	Remarks
1	Mamaev Kubanychbek Abdrahmanovich	IPIG, Director			
2	Nurmanbetov Kadyrbek Rakymbekovich	RMD, Deputy Director		July 2013 ~ 20 July 2015)	
3	Kayinbaev Nurlan	RMD, Deputy Director		20 July 2015~	
4	Nogoev Nurmat	RMD, PPAW, Head		July 2013~ Nov.2014	
5	Milovatskaya Nina	RMND, Chief Specialist		July 2013~	
6	SEITALIEV Istambek	Chief Specialist, Head of Section		July 2013~	
7	Abdyrashim Kyzy Aigerim	RMD, RAMS, Database Specialist	Database Management	July 2013~	
8	Bazaraliyev Beknazar Toktosunovich	BO UAD, Head of Tunnel Service Section	Tunnel	July 2013~	
9	Shopokov Erjan	BO UAD, DEP#9, Head of Kolbaev Tunnel	Inspection & Evaluation (T)	July 2013~	
10	Chynaliyev Erlanbek	BO UAD, DEP#30, Head of Tunnel Service	Inspection & Evaluation (T)	July 2013~	
11	Kojobekov Nasyr	BO UAD, DEP#38, Head of Road Repair Section	Inspection & Evaluation (T)	July 2013~	
12	Eraliev Nurlan	RMD, RAMS, Lead Specialist	Inspection, data collection	July 2013~	MT-S
13	Jeldenov Akim	RMD, RAMS, Lead Specialist	Inspection, data collection	July 2013~	MT-S
14	Amanov Kushtarbek	PLUAD#1, Chief Mechanic		July 2013~	MT-S
15	Dubashev Nur	BO UAD, Lead Specialist		July 2013~	MT-S
16	Abyshev Tursunbek	PLUAD#1, Lead Specialist		July 2013~	MT-S
17	Ashyrbaev Bakai	PLUAD#1, DEP#43, Chief Specialist		July 2013~	MT-S
18	Chengelov Baktybek	BNT UAD, DEP-34, Chief Specialist	Inspection & Evaluation (B)	July 2013~	MT-B
19	Toktonaliyev Chyngyz	PLUAD #1, DEP-42, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B
20	Seitkaziev Baktybek	PLUAD #1, DEP #954, Lead Specialist	Inspection & Evaluation (B)	July 2013~	MT-B
21	Kulanbaev Askat	PLUAD #3, DEP#20, Chief Specialist	Inspection & Evaluation (B)	July 2013~	MT-B
22	Nurbaev Farhat	PLUAD #3, DEP #8, Master	Inspection & Evaluation (B)	July 2013~	MT-B
23	Suranbaev Munarbek	PLUAD #3, DEP#18, Leading Specialist	Inspection & Evaluation (B)	July 2013~	MT-B
24	Aralbaev Zamir	BNT UAD, DEP #957, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B

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25	Askarbek uulu Kurmanbek	BNT UAD, DEP #955, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B
26	Bektemirov Nurlan	BNT UAD, DEP-32, Foreman	Inspection & Evaluation (B)	July 2013~	MT-B
27	Imanalieva Anara	BNT UAD, DEP-34, Head of Technical Section	Inspection & Evaluation (B)	July 2013~	MT-B
28	Samakov Taalaibek	PLUAD #4, DEP-35, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B
29	Omurov Altynbek		Inspection & Evaluation (B)	July 2013~	MT-B
30	Omukeev Azamat	PLUAD #4, DEP#4, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B
31	Sadraliev Nurkan	PLUAD#5, Leading Specialist	Inspection & Evaluation (B)	July 2013~	MT-B
32	Joldoshev Shadybek	PLUAD #6, DEP#50, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B
33	Janseitov Almaz	PLUAD #6, DEP#52, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B
34	Junusov Toktogul	OSI UAD, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B
35	Joroev Janybek	OSI UAD, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B
36	Turdubaev Alimbek	OSI UAD, DEP#21, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B
37	Usenov Rajap	OSI UAD, DEP-45, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B
38	Maksutov Sulaiman	OSI UAD, DEP-959, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B
39	Akmatov Ikramali	OBI UAD, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B
40	Shaibekov Mustafa	OBI UAD, DEP#13, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B
41	Anarbaev Erkin	OBI UAD, DEP #46, Chief Engineer	Inspection & Evaluation (B)	July 2013~	MT-B

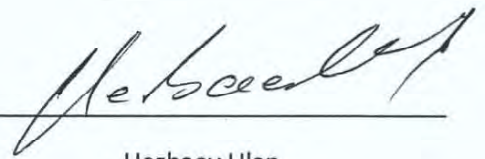


MINUTES OF MEETING  
BETWEEN  
JAPAN INTERNATIONAL COOPERATION AGENCY  
AND  
MINISTRY OF TRANSPORT AND COMMUNICATIONS  
OF THE KYRGYZ REPUBLIC  
ON THE SEVENTH JOINT COORDINATING COMMITTEE  
FOR THE PROJECT FOR CAPACITY DEVELOPMENT  
FOR MAINTENANCE MANAGEMENT OF BRIDGES AND TUNNELS  
IN THE KYRGYZ REPUBLIC

November 19, 2015



Takayuki Oyama  
Chief Representative  
JICA Kyrgyz Office  
Japan International Cooperation Agency  
Japan



Uezbaev Ulan  
Deputy Minister  
Ministry of Transport and Communications  
Kyrgyz Republic



Yuzo Mizota  
Leader  
Expert Team  
Japan International Cooperation Agency  
Japan

The seventh Joint Coordinating Committee (hereinafter referred to as "7th JCC") meeting was held on November 19, 2015 at the Conference Hall of the Golden Tulip Hotel, 37 Isanov street, between Ministry Transport and Communications (hereinafter MOTC) and Japan International Cooperation Agency (hereinafter JICA). Chairman of the 7th JCC meeting was Mr. Nurlan Kaiynbaev, Project Manager. The revised Project Design Matrix (PDM) is shown in the **Annex 1** and the participants of the meeting are listed in the **Annex 2**.

As a result of discussions and exchanges of opinions in the meeting, JICA and MOTC came to an agreement on the following issues.

Venue	Conference Hall of the Golden Tulip Hotel, 37 Isanov street
Date	November 19 <sup>th</sup> , 2015 10:00 a.m. - 12:00 p.m.
Participants	Refer to <b>Annex-2</b>

#### **CONTENTS OF THE MEETING**

1. Achievement of the Project including of Recommendations of Terminal Evaluation
2. Submission of the Draft Completion Report of the Project
3. Final Seminar (Future Requirements on the Maintenance)
4. Presentation on the Japanese Experience on the Maintenance

#### **MEETING RESULTS**

##### **1. Comment/Conclusion of Discussion during the Meeting**

###### 1-1. Achievement of the Project including of Recommendations of Terminal Evaluation

In the opening remarks, Mr. Kaiynbaev, Acting Director of the Road Maintenance Department (hereinafter RMD) briefly introduced the Project background, mentioning the necessity to note that before the realization of the subject Project, no systematic approach was applied in the maintenance of bridges and tunnels. In particular, he stated that planning was based solely on the recommendations from DEPs, and no planning was made based on monitoring and analysis. Mr. Kaiynbaev informed the participants of the meeting on the achievements of the Project including a summary of the Project outputs, performance of the Overall Goal, and Countermeasures taken to meet the recommendations of the Joint Terminal Evaluation Team for the Counterparts and JICA Expert Team.

During the discussion, with regards to the recommendations for the Counterparts on the "Enhancement of partnership with other Development Partners" and to the JICA Expert Team on the "Sharing products of the Project with other Development Partners for further improvement", Mr. Eshenaliev, Senior Project Officer of the ADB Kyrgyz Republic Resident Mission, requested to consider the inclusion of the ADB into the list of partners, because ADB projects also have components on Road Assets Management. In particular, Mr. Eshenaliev stated that ADB plans to start a technical assistance project that provides for the development of a database for 250 km section of the North-South Alternative Road.

With regards to the recommendations to the Counterparts on the "Improvement of the products prepared by the Project", Mr. Takemura, Deputy Representative of the JICA Kyrgyz Republic Office, noting the importance of the MOTC in coordination as a primary contact entity, suggested the Counterparts to establish close cooperation with the related educational institution/s by introducing practical trainings in order to facilitate the improvement of these educational institutions for the future generation of specialists.

In reply, Mr. Kaiynbayev stated that an Order was issued by the Minister of Transport and Communications to recommend the Manuals developed under the Project for utilization at the related educational institutions. He also added that the RMD met with the instructors from the Kyrgyz State University of Construction, Transport and Architecture (KSUCTA) and Bishkek Automobile Roads College (BARC) to discuss incorporation of the Manuals into the curricula, and confirmed that starting from the current academic year these materials are fully utilized in the study process.

Mr. Takemura emphasized the importance of qualified education for future MOTC staff, which is essential for the country's road maintenance and expressed his hope that MOTC continues this activity.

Mr. Kurbanbaev, Head of the Automobile Roads, Bridges and Tunnels Department of the KSUCTA, informed about the seminars and practical trainings organized by the experts within the framework of the subject Project, and complemented that the students and the instructors found these seminars interesting and useful. He also mentioned that the educational materials provided by the Project are now being utilized in the related three disciplines. Mr. Kurbanbaev explained that out of the total 30 academic hours, 6 hours of lectures and additional 6 hours of practical seminars may require utilization of the materials for reference.

#### 1-2. Submission of the Draft Completion Report of the Project

During the Final Seminar, Draft Completion Report of the Project was submitted to the MOTC. JICA Expert Team requested the MOTC to provide comments on the report before 4 December 2015. Based on these comments the JICA Expert Team will revise and prepare the final version of the report.

#### 1-3. Final Seminar (Future Requirements on the Maintenance)

Mr. Seyitbekov, Head of the RAMS, made a presentation on the Short-term and Long-term planning for bridges including the criteria for prioritization of countermeasures; short/long-term budget distribution plans for bridges in critical, imminent and poor condition; concept of the Life Cycle Cost (LCC) and cost reduction under preventive maintenance. Next, he talked about the institutional demarcation at the MOTC, specifying institutional roles for bridge maintenance works under the RMD with staffing for the Task Force for maintenance management. Mr. Seyitbekov demonstrated the Monitoring Form developed under the Monitoring System on maintenance management for bridges and tunnels in the Kyrgyz Republic to ensure the Project's sustainability. In conclusion, the speaker provided detailed explanation on the problematic design of bridges in the Kyrgyz Republic, visually demonstrating the structural defects in Gerber slab technology.

Mr. Kaiynbayev added that the RMD informed the Minister of Transport and Communications about the problems with the Gerber Slab type bridges, and mentioned that the Ministry approved the prohibition of future application of such structures in the design of bridges.

Next presentations were made by Mr. Eraliev on database development, and by Ms. Abdrashimova on the distribution of information on the Project. Mr. Eraliev demonstrated how the database is operated and the main data collected. Ms. Abdrashimova explained that a brief information on the Project as well as its main products will be shared through the MOTC website allowing access to download all of the manuals in pdf format. She also shared RMD plans on conducting further practical trainings for the MOTC staff to complement the theoretical knowledge provided in the materials.

#### 1-4. Presentation on the Japanese Experience on the Maintenance

Final presentation was made by Mr. Muranaka, representative of NEXCO Central Japan company,

on the bridge maintenance system of the company. Mr. Muranaka demonstrated the maintenance and management structure in Japan, highlighting the Japanese experience of preventive maintenance during the construction.

During the discussions it was stated that the technology of strengthening of cut slopes could be applied to the conditions in the Kyrgyz Republic, however at this time no exact data is available on the Contractors experienced in constructing this type of structures.

Mr. Takemura addressed a question to the representatives of the ADB Kyrgyz Republic Resident Mission on whether they have any plans to consider the application of such special strengthening technologies in the construction of the North-South Alternative Road that the ADB is involved in.

Mr. Eshenaliev from ADB replied that the design has not yet started, and that ADB shall arrange a meeting with the JICA to share a valuable Japanese experience. Mr. Takemura confirmed that the Japanese companies are ready to collaborate.

Mr. Kaiynbayev asked the representatives of the NEXCO Central Japan company, if any other strengthening methods exist to replace the mentioned method of strengthening of cut slopes. Mr. Miyachi, a member of the Project Expert Team, replied that RC frame (reinforcing concrete) can be applied to protect the surface without anchor.

In the closing remarks, Mr. Oyama, JICA Representative, thanked participants of the meeting, and noted that the Project implemented all planned activities timely by its completion date, and highlighted that a significant work has been done in capacity building for MOTC staff in maintenance of bridges and tunnels. He expressed his hope that the results of this Project will contribute to the effective and efficient maintenance of the Kugart bridge, construction of which was completed last summer, and the three bridges in the Chui oblast constructed in 2011: Alamedin, Ala-Archa and Ken-Bulun.

Mr. Oyama stated the Importance of further monitoring of the Project by the RMD staff, and recommended the MOTC to consider measures for ensuring the Project's sustainability, which, along with the impact, is considered the most important among five criteria for the Ex-Post Evaluation to be conducted by JICA three years after the Project's completion. In conclusion, Mr. Oyama expressed his hope in that the MOTC will utilize the Project outputs and ensure its further sustainability including the utilization of the manuals and operation of the database and other project outputs after its completion.

## 2. Revision of Project Design Matrix (PDM):

The revised Project Design Matrix, Version 5, is shown in **Annex 1** and the revised contents are explained as follows:

### Revision on Objectively Verifiable Indicators of "Overall Goal"

Before Revision	After Revision
A bridge and a tunnel chosen by maintenance management plan based on the nation-wide management criteria which is prepared in the project are repaired / replaced.	<ol style="list-style-type: none"> <li>1. Routine maintenance of bridges and tunnels is reported and updated at least twice a year by the RMD.</li> <li>2. Maintenance management plan for bridges and tunnels is formulated annually by the RMD.</li> <li>3. Budgetary allocation from the maintenance management plan for bridges and tunnels is prepared annually by the RMD.</li> <li>4. A bridge and a tunnel chosen by maintenance management plan based on the nation-wide management criteria which is prepared in the project are repaired / replaced.</li> </ol>

**Annex:**

Annex 1 : Project Design Matrix (PDM)\_Version 5.0

Annex 2 : List of Participants of the 7th JCC meeting

## Project Design Matrix (PDM): Version 5.0

(Revised on 19 November 2015)

**Project Title:** The Project for Capacity Development for Maintenance Management of Bridges and Tunnels**Period (Tentative):** July 2013 – Dec. 2015**Implementation Organizations:** Ministry of Transport and Communications (MOTC)**Project Sites:** MOTC's HQ, Bridges on International and National Roads and 5 Tunnels in the Kyrgyz**Target Groups:** Staff members of MOTC's HQ, RMD, PLUADs/UADs and DEPs

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><b>Overall Goal</b> Maintenance status of bridges and tunnels is improved in Kyrgyz.</p>	<ol style="list-style-type: none"> <li>1. Routine maintenance of bridges and tunnels is reported and updated at least twice a year by the RMD.</li> <li>2. Maintenance management plan for bridges and tunnels is formulated annually by the RMD.</li> <li>3. Budgetary allocation from the maintenance management plan for bridges and tunnels is prepared annually by the RMD.</li> <li>4. A bridge and a tunnel chosen by maintenance management plan based on the nation-wide management criteria which is prepared in the project are repaired / replaced.</li> </ol>		
<p><b>Project Purpose</b> MOTC's capacity is improved for maintenance cost estimation of bridges and tunnels on the basis of inspection results.</p>	<ol style="list-style-type: none"> <li>1. Maintenance budget document with breakdowns for bridges and tunnels is prepared by [June, 2015].</li> <li>2. Data from the newly developed database system is utilized for formulating maintenance budget for bridges and tunnels.</li> </ol>	<ol style="list-style-type: none"> <li>1. Maintenance budget document for bridges and tunnels</li> <li>2. Analysis of the quality of data for bridges and tunnels, project report</li> </ol>	<p>Level of road maintenance budget does not decrease dramatically. The Government of Kyrgyz secure necessary budget and personnel to continue activities. A drastic natural disaster such as earthquake, flood, etc. with the high risk of damages on bridges and</p>

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
			tunnels do not occur in Kyrgyz.
<p><b>Outputs</b></p> <p>1. Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs is clearly identified with necessary staffing for the maintenance management of bridges and tunnels.</p> <p>2. A database system to record information on bridges and tunnels is developed and ready for maintenance planning.</p> <p>3. Capacity of DEPs for routine maintenance and capacity of PLUADs/UADs for inspection and condition rating of bridges and tunnels are enhanced.</p>	<p>1-1. Demarcation of MOTC HQ, RMD, PLUADs/UADs and DEPs for maintenance management of bridges and tunnels becomes clear and approved by MOTC.</p> <p>1-2. Roles of MOTC HQ, RMD, PLUADs/UADs and DEPs in the maintenance management of bridges and tunnels are implemented.</p> <p>2-1. A database system with necessary information for maintenance planning of bridges and tunnels is developed by [July, 2015].</p> <p>2-2. A manual for data input is developed by [July, 2015].</p> <p>2-3. [B] 30 master trainers for data collection and input are trained and certified by [July, 2015].</p> <p>2-4. [B] All the master trainers hold at least three (3) workshops on data collection and input for their responsible sections.</p> <p>2-5. [T] All the staff members trained for data collection and input pass the final exam.</p> <p>2-6. [B] RMD operates and develops the DB system. [T] BO UAD operates and develops the DB system under the supervision of RMD.</p> <p>3-1. A routine maintenance manual is developed by [B] [November, 2014] and [T] [November, 2014].</p>	<p>1-1. MOTC documents for organization, project report</p> <p>1-2. Project report.</p> <p>2-1. Database system</p> <p>2-2. Project report, training reports</p> <p>2-3. Project report, master trainers' reports</p> <p>2-4. Analysis of the quality of data on the database, project report</p> <p>2-5. Track record of periodical update of the database, analysis of data, project report</p> <p>2-6. DB system operated and developed by RMD staff.</p> <p>3-1. DEPs routine maintenance reports</p> <p>3-2. Project report, training reports</p>	<p>Technical and financial assistance from major development partners in the sector does not decrease dramatically.</p>

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>4. Capacity of MOTC's HQ, RMD, PLUADs/UADs and DEPs for preparing maintenance management plans on bridges and tunnels is enhanced.</p>	<p>3-2. Through the review by all the PLUADs/UADs, more than 90% of DEPs are determined to implement routine maintenance of bridges/tunnels in accordance with a newly created routine maintenance manual.</p> <p>3-3. [B] 30 master trainers for inspection and condition rating are trained and certified by [June, 2015].</p> <p>3-4. [B] All the master trainers hold at least three (3) workshops on inspection and condition rating for their responsible sections.</p> <p>3-5. [B] 100% of the results of inspection and condition rating implemented by Master Trainers are evaluated to be accurate by RMD by [June, 2015].</p> <p>3-6. [T] All the staff members trained for inspection and condition rating pass the final exam.</p> <p>3-7. [T] 100% of the results of inspection and condition rating implemented by BO UAD/DEPs are evaluated to be accurate by RMD by [June, 2015]</p> <p>4-1. A nation-wide management criteria is developed by [B] [November, 2013] and [T]. [November, 2013].</p> <p>4-2. A repair methods manual is developed by [B] [November, 2013] and [T] [November, 2014].</p> <p>4-3. [B] A long-term plan for maintenance management of bridges in consideration of LCC is prepared by RMD in accordance with the nation-wide management criteria by [June, 2015].</p> <p>4-4. [B] A short-term plan with cost estimation for maintenance management of bridges is prepared by</p>	<p>3-3. Project reports, master trainers' reports</p> <p>3-4. PLUADs/UADs' input for database system, analysis of the quality of the data</p> <p>3-5. BO UADs/DEPs' input for database system, analysis of the quality of the data</p> <p>4-1. A long-term plan for maintenance management for bridges</p> <p>4-2. A short-term plan for maintenance management for bridges</p> <p>4-3. A short-term plan for maintenance management for tunnels</p>	



Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
	RMD by [June, 2015]. 4-5. [T] A short-term plan with cost estimation for maintenance management of tunnels is prepared by RMD/BO UAD by [June 2015].		
<b>Activities</b>  1-1. To collect information regarding other partners and each section's staffing, etc. 1-2. To identify the most suitable section to take charge of each of collection, input and analysis of data on bridges and tunnels for a database system. 1-3. To identify the most suitable section to take charge of each of inspection, evaluation, maintenance plan preparation, and implementation of maintenance and repair of bridges and tunnels.  2-1. To collect information regarding other partners and current conditions of bridges and tunnels, etc. 2-2. To create a database system including dimension of bridges and tunnels. 2-3. [B] To establish the procedure for data input and reporting. 2-4. [B] To draft, review and finalize a manual for data input. 2-5. [B] To implement master trainers' trainings on data collection and input. 2-6. [B] To implement trainings by master trainers for staff members of PLUADs/UADs and DEPs for data collection and input. 2-7. [B] To collect and input data of inspection, condition rating and costing of each bridge by staff members of RMD. 2-8. [T] To establish the procedure for data input and reporting.	<b>Inputs</b>  <u>Kyrgyz side</u> 1. Counterparts for the project 1) Project Director: 2) Project Manager: 3) Counterparts: 2. Office for the Project with office furniture and utilities such as internet connectivity, telephone line, electricity, etc. 3. Running expenses necessary for the implementation of the Project including travel expenses and allowances for the participants of the trainings with the exception for some participants.  <u>Japanese side</u> 1. Experts 1) Team Leader / Bridge Maintenance Expert (1) 2) Deputy Team Leader / Bridge Maintenance Expert (2) 3) Bridge Maintenance Expert (3) 4) Tunnel Expert-1 (Structure) 5) Tunnel Expert-2 (Facilities) 6) Database Expert 7) Cost Estimator / Detailed Bridge Inspection 8) Coordinator / Bridge Inspection Assistant 9) Bridge Maintenance Expert (4) / Assistant for Detailed Bridge Inspection / Assistant for International Roughness Index (IRI) Survey 10) IRI Survey Expert 11) Local Coordinator  2. Equipment 1) Lighting Facilities 2) Schmidt Hammers 3) Test Hammers 4) Infrared camera 5) Electric drill 6) VIMS		MOTC coordinates the project activities of other donors and JICA properly.  The management of MOTC is committed to the Project.  Trained counterparts do not resign, or are transferred, too frequently.  Kyrgyz side provides appropriate financial and personnel allocation for the Project.  Kyrgyz and other neighboring countries do not fall into conflict or turmoil due to social, economic, political reasons or famine.

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>2-9. [T] To create a manual for data input.</p> <p>2-10. [T] To implement trainings for staff members of BO UAD/DEPs for data collection and input.</p> <p>2-11. [T] To collect and input data of inspection, condition rating and costing of each tunnel by staff members of BO UAD/DEPs.</p> <p>3-1.[B] To draft, review and finalize a routine maintenance manual.</p> <p>3-2.[B] To draft, review and finalize an inspection and condition rating manual.</p> <p>3-3.[B] To implement master trainers' trainings on inspection and condition rating.</p> <p>3-4.[B] To implement trainings by master trainers for staff members of PLUADs/UADs and DEPs for inspection.</p> <p>3-5.[B] To carry out inspection by staff members of RMD/PLUADs/UADs/DEPs. To carry out condition rating by staff members of RMD.</p> <p>3-6.[T] To create a routine maintenance manual.</p> <p>3-7.[T] To create an inspection and condition rating manual.</p> <p>3-8.[T] To implement trainings for staff of BO UAD/DEPs for inspection and condition rating.</p> <p>3-9.[T] To carry out inspection and condition rating by staff members of BO UAD/DEPs.</p> <p>4-1.[B] To establish a nation-wide management criteria for bridges.</p> <p>4-2.[B] To draft, review and finalize a repair methods manual including cost estimation.</p> <p>4-3.[B] To implement trainings for staff of RMD on detailed survey and cost estimation for preparing a long-term plan for maintenance management of bridges.</p> <p>4-4.[B] To prepare a long-term plan for maintenance management of bridges by staff</p>	<p>3. Trainings in Japan</p> <p>Training in Japan will be implemented twice during the implementation of the Project. The schedule and participants of the training in Japan are as follows:</p> <p>1) Schedule</p> <p>1<sup>st</sup> training: September 2014</p> <p>2<sup>nd</sup> training: September 2015</p> <p>2) Participants</p> <p>5 persons for each training</p> <p>Participants will be chosen from the member of counterparts and master trainers of the Project.</p> <p>Inputs other than indicated here will be determined through mutual consultation between JICA and MOTC during the implementation of the Project, as necessary.</p>		

Project Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>members of RMD.</p> <p>4-5.[B] To implement trainings for staff members of RMD on preparing a short-term plan for maintenance management of bridges.</p> <p>4-6.[B] To prepare a short-term plan for maintenance management of bridges by staff members of RMD.</p> <p>4-7.[T] To establish a management criteria for tunnels.</p> <p>4-8.[T] To create a repair method manual including cost estimation.</p> <p>4-9.[T] To prepare a short-term plan for maintenance management for tunnels through trainings for staff of RMD/BO UAD/DEPs.</p>			

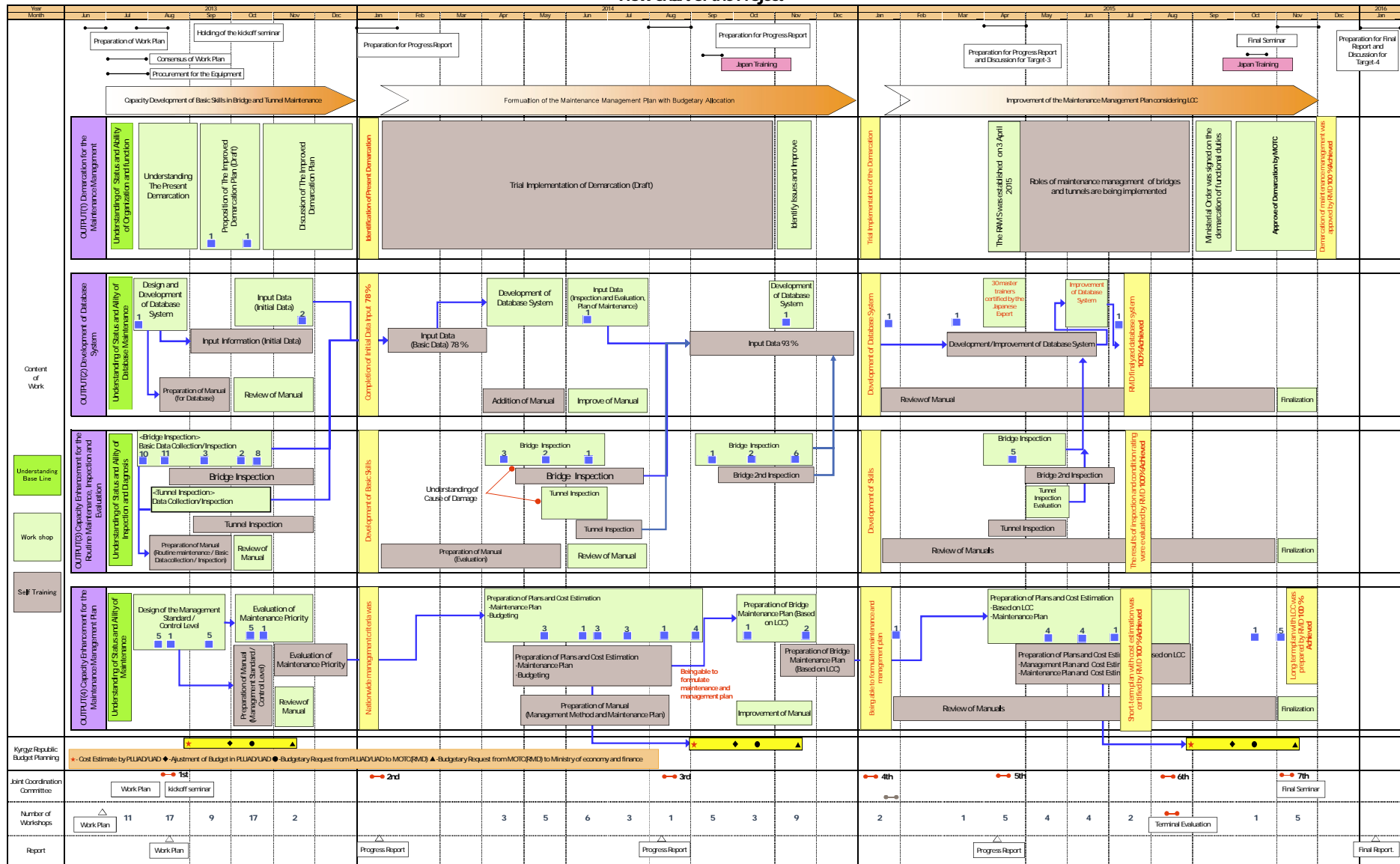
## LIST OF PARTICIPANTS OF THE 7th JOINT COORDINATING COMMITTEE (JCC) MEETING

No	Name	Position	Organization
<b>JCC members</b>			
1.	Mr. Kayinbaev Nurlan	Acting Director	Road Maintenance Department (RMD) MOTC
2.	Mr. Bazaraliev Beknazar	Head of Division	Tunnel Service and Informational Support Division (BO UAD) MOTC
3.	Mr. Eraliev Nurlan	Leading Specialist	Road Maintenance Department, Preparation of Production and Acceptance of Work Division (PPAW) MOTC
4.	Mr. Oyama Takayuki	Chief Representative,	Japan International Cooperation Agency (JICA) in Kyrgyz Republic
5.	Mr. Takemura Yoshimasa	Representative	Japan International Cooperation Agency (JICA) in Kyrgyz Republic
<b>JCC Observers</b>			
1.	Mr. Seitbekov Istanbek	Head	Road Asset Management Section, RMD
2.	Mr. Musabaev AkyI	Chief Specialist	Preparation of Production and Acceptance of Work Division (PPAW), RMD
3.	Mr. Bekmurzaev Nurgazy	Specialist	Investment Project Implementation Project (IPIG), MOTC
4.	Mr. Aidarov Zamirbek	Deputy of Director	UAD BO
5.	Mr. Tanaka Takuya	Road Administrative Adviser	Road management, JICA
6.	Ms. Maruyama Hitomi	Deputy Representative	Japan International Cooperation Agency (JICA) in Kyrgyz Republic
7.	Ms. Abdrazakova Sabira	Assistant of Project	Road management, JICA
8.	Ms. Suyunaliyeva Guljan	Program Officer	JICA Kyrgyz Office
9.	Mr. Abyshov Tursunbek	Leading Specialist	PLUAD 1
10.	Ms. Abdyrashim kyzy Aigerim	Specialist	Road Asset Management Section, RMD
11.	Mr. Amanov Kushtarbek	Leading Specialist	PLUAD 1
12.	Ms. Rie Hiraoka	ADB Country Director	Asian Development Bank
13.	Mr. Eshenaliev Mirdin	Senior Project Officer	Asian Development Bank
14.	Ms. Kolbaeva Gulya	Interpreter	Asian Development Bank
15.	Ms. Bayaliyeva Aiday	Operations Officer	World Bank
16.	Mr. Kurbanbaev Alaibek	Lecture	Kyrgyz State University of Construction Transport and Architecture KSUCTA (KGUSTA)
17.	Mr. Usualiyev Marat	Leading Specialist	Ministry of Finance
18.	Mr. Taalaibek uulu Nurbek	Lecture	Bishkek Moto Road College
19.	Mr. Makoto Muranaka	Engineer	NEXCO
20.	Mr. Miyauchi Hidetoshi	Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic
21.	Mr. Mizota Yuzo	Team Leader / Bridge Maintenance Expert	Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic

*Appendix 9 Flow Chart of the Project*



# FlowChart of the Project



\* The Master Trainer will be selected by line with getting a nod from MOIC  
 \* Workshop will be held monthly in consideration of the normal work.

5 Number of Workshops  
 Workshops / Trainings





*Appendix 10 MOTC Orders under the Project*



## ***List of MOTC Orders under the Project***

	<b>Order</b>	<b>Issued date</b>
1.	<i>BO UAD Order on Tunnel Maintenance Obligation</i>	<i>2015.02.27</i>
2.	<i>MOTC Order on Section Establishment</i>	<i>2015.03.11</i>
3.	<i>RMD Order on Bridge Inspection</i>	<i>2015.03.16</i>
4.	<i>RMD order on Section Establishment Road Asset Management Section</i>	<i>2015.04.03</i>
5.	<i>RMD order on the Approval of the Regulations on RAMS</i>	<i>2015.04.13</i>
6.	<i>MOTC Order on Manual Approval</i>	<i>2015.08.20</i>
7.	<i>BO UAD Order on Sustainability of Results</i>	<i>2015.09.16</i>
8.	<i>RMD Order on Approval of Project Products</i>	<i>2015.08.10</i>
9.	<i>RMD-Universities on Manuals Submission</i>	<i>2015.10.12</i>
10.	<i>MOTC Order on Institutional Demarcation</i>	<i>2015.10.16</i>
11.	<i>RMD Order on Institutional Demarcation and Monitoring System</i>	<i>2015.11.10</i>



## **Instruction**

### **"On the implementation of the requirements of Routine Maintenance Manual of Tunnels"**

Routine maintenance on the Bishkek-Osh road must be conducted as per the Tunnel Routine Maintenance Manual, and the timely completion of developed forms on performed maintenance work. In this order I hereby

### **Oblige:**

1. The heads of DEP-9, DEP-30 Toktomambetov N., E. Seitaliev are to require tunnel staff to implement Routine Tunnel Maintenance as specifically defined and described in The Routine Tunnel Maintenance Manual. In addition, the tunnel staff is to be required to provide completed monthly maintenance forms and attached photographs of executed work.
2. Appoint persons responsible for record keeping in the Kolbaev tunnel and other tunnels, to ensure the submission of the required documents (routine maintenance reports and control lists) in BO UAD on time.
3. In the event of this Instruction being ignored and breaking the work collaboration agreement with the JICA experts, action will be taken against the chiefs and management personnel of the Kolbaeva and all other tunnels.
4. I hereby order this Instruction to be properly disseminated to the management, supervisors and other tunnel maintenance staff by way of a signed memorandum.
5. Control of execution of this Order shall lay on the Information provision and tunnel service division chief Bazaraliev BT

The Director-General J. Aliyazov

**“On the establishment of the Road Asset Management Section under the Road Maintenance Department of MOTC of the KR”**

Within the framework of the “Project for Capacity Development for Maintenance Management of Bridges and Tunnels” financed by JICA, the inspection of 861 bridges has been initiated, and the data base system for bridge maintenance has been developed.

For the further effective data base system management and timely monitoring of roads, bridges, tunnels and other facilities I hereby order:

1. To Sodombaev Zh.A., the Director of RMD under the MOTC of the Kyrgyz Republic to impose the following directives by March 10, 2015:

- Make the necessary amendments in the staffing structure of the RMD under the MOTC and establish the Road Asset Management Section within the existing staff structure;
- Develop the Statute for the Road Asset Management Section and define its functions and tasks;
- Equip the section fully with sufficient material and technical resources.

2. Control over the execution of this order lay on the Head of RMND under the MOTC Alypsatarov M.J.

Minister

K.I.Sultanov

MINISTRY OF TRANSPORT AND COMMUNICATIONS OF THE KYRGYZ REPUBLIC

ROAD MAINTENANCE DEPARTMENT

Outgoing No. 04-12/ 548

Date: 16 March 2015

To: Heads of PLLADs No. 1, 3, 4, 5 and 6  
UADs "OS", "OB", "BN" and GDAD "B0"

**ORDER**

**on the Planned Inspection A and Routine Maintenance of bridges in the Kyrgyz Republic**

With the purposes to clarify, correct and complement data collected during the years 2013-2014 for the database developed within the framework of the JICA's Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic, the staff of DEPs are required to carry out Planned Inspection A of their related bridges within March and April 2015. Inspection schedule by PLLADs/ UADs and DEPs is given in Appendix 1. In addition, routine maintenance of bridges in accordance with the form attached as Appendix 2 is required. Electronic copies of the completed attachments are to be provided to the e-mail address of the PLLAD and UAD, and not by fax. A short description of the appendices is as follows:

Appendix 1: General information on the Planned Inspection A and the schedule for the year 2015;

Appendix 2: Excel Form for input of the data collected on the Planned Inspection A. All of the collected data must be entered into Excel form;

Appendix 3: Sample on how to fill up the Form;

Appendix 4: Calculation scheme of the estimate to be prepared by the PLLADs/ UADs and DEPs based on the Planned Inspection A;

Appendix 5: List of the bridges with conditions from critical to good and the roads these bridges are located on; and the 5 year plan;

Appendix 6: General information on the on the bridge routine maintenance and the form for filling up.

K. Nurmanbetov

[signed]

Deputy Director

Road Maintenance Department

Responsible: N. Eraliev

ROAD MAINTENANCE DEPARTMENT  
UNDER THE  
MINISTRY OF TRANSPORT AND COMMUNICATIONS OF THE KYRGYZ REPUBLIC

No. 30-OD  
Date: 3 April 2015

**ORDER**

**“On the establishment of the Road Asset Management Section”**

In realization of the Order of the Ministry of Transport and Communications of the Kyrgyz Republic “On the establishment of the Road Asset Management Section under the Road Maintenance Department of MOTC of the KR” dated 11 March 2015, #62, I herewith order to:

1. Make the necessary amendments in the staffing structure of the RMD under the MOTC and establish the Road Asset Management Section within the existing staff of 4 persons;
2. Develop the Statute for the Road Asset Management Section and define its functions and tasks;
3. Equip the section fully with sufficient material and technical resource;
4. Control over the execution of this order lay on me.

J. Sodombaev  
[signed]

Director



MINISTRY OF TRANSPORT AND COMMUNICATIONS OF THE KYRGYZ REPUBLIC

No.: 235

Code (OKPO): 00036512

Date: 20 August 2015

**ORDER**

**on the approval of the Manuals on the maintenance of bridges and tunnels developed under the JICA Project**

In order to ensure effective work on the enhancement of the capacity for maintenance management of bridges and tunnels in the Kyrgyz Republic, I hereby order:

1. To approve the attached:
  - Database System Manual
  - Manual for Bridge Maintenance
  - Manual for Tunnel Maintenance
  
2. To the Director of the RMD/ MoTC Duishonkul Sultanov to:
  - administer the above listed manuals for the management
  - recommend the above listed manuals to the educational institutions for utilization in the curriculum
  
3. To make the Deputy Minister of Transport and Communications of the Kyrgyz Republic Ulan Uezbaev responsible for control of the implementation of this Order

A. Malabaev

[signed]

Minister

ROAD MAINTENANCE DEPARTMENT  
UNDER THE MINISTRY OF TRANSPORT AND COMMUNICATIONS OF THE KYRGYZ REPUBLIC

Outgoing No.: 35/1-OD

Date: 13 April 2015

**ORDER**

**“On the approval of the Regulations on Road Assets Management Section”**

In realization of the Order No.62 of the Ministry of Transport and Communications of the Kyrgyz Republic dated 11 March 2015, as well as for the implementation of the Order No. 30-OD of the Road Maintenance Department under the Ministry of Transport and Communications dated 3 April 2015 “on the establishment of the Road Assets Management Section”, I herewith order to:

1. Approve the attached Regulations and functional duties of the personnel of the Road Assets Management Section of the Road Maintenance Department under the Ministry of Transport and Communications of the Kyrgyz Republic.
2. The Head of the Road Assets Management Section of the Road Maintenance Department to introduce the Regulations on the abovementioned Section and functional duties to the employees under their signature, and to strictly observe the rules set forth.
3. Assign Deputy Director of the Road Maintenance Department, Mr. Kadyr Nurmanbetov, to take control of the implementation of the given Order.

[signed]

J. Sodombayev

Director

Approved

by the Order No.35/1-02 of the Road Maintenance Department  
under the Ministry of Transport and Communications of the Kyrgyz Republic  
dated 13 March 2015

**REGULATIONS**  
**ON THE ROAD ASSETS MANAGEMENT SECTION (RAMS)**  
**OF THE ROAD MAINTENANCE DEPARTMENT**  
**UNDER THE MINISTRY OF TRANSPORT AND COMMUNICATIONS**  
**OF THE KYRGYZ REPUBLIC**

1. General Provisions

The Section is a structural subdivision of the Road Maintenance Department under the Ministry of Transport and Communications of the Kyrgyz Republic;

The Section in its activity reports directly to the Deputy Director of the RMD;

As a rule, a person with a higher technical education in construction or other specialty corresponding to the profile of the RMD, and an experience in road construction, is appointed to the post of the Head of RAMS;

The appointment of the Head of RAMS of the RMD, reappointment and dismissal are made in accordance with the norms set forth in the Regulations on the RMD;

In realizing its work, RAMS is guided by the current legislation, Construction norms and regulations (SNIP), GOST and other normative documents in the preparation of estimates for the routine repair and maintenance of highways, as well as the given Regulations;

Changes in the structure and personnel of RAMS are designed by the Head of Section based on the conditions and specificities of the Section's activities; agreed with the immediate supervisor, as well as with the planning and economic department, the human resources department and legal department; and is approved by the order of the Director of the RMD;

Duties of the RAMS employees are assigned based on the provisions of these Regulations.

2. Main Tasks

The main tasks of the RAMS include planned inspection of works, data collection and input into the database.

3. Functions

In accordance with the main tasks, the RAMS has the following functions:

- development of strategic objectives

- inventory of assets
- evaluation of assets
- establishment of quality standards and performance characteristics
- prediction of road conditions
- database operation
- cyclic monitoring of the condition of roads and bridges
- decision making

#### 4. Rights

RAMS within its competence has the right to:

- represent the RMD in accordance with the established procedure at other organizations on the issues related to the production activities of RAMS;
- be in correspondence with organizations on the issues within the competence of RAMS in coordination with the RMD management in the prescribed manner.

#### 5. Responsibility

RAMS, including the head of the department, is responsible for the material assets and funds received under the decision of RMD management for the performance of official duties;

RAMS is accountable to administrative responsibility for the failure to meet deadlines, poor performance of their duties, which were provided to the employee for familiarization in compliance with the recruitment procedure during application for employment and final enrollment;

RAMS bears administrative responsibility for the disuse of the rights granted, violation of internal regulations of the RMD and official subordination, disclosure of trade secrets and official secrets.

#### 6. The rights and obligations of staff

##### Rights and duties of the Head of RAMS

1. Participation in the provision of plans (long-term and short-term plans for reconstruction and planning of project works).
2. Analysis and inspection of roads and bridges.
3. Involvement in the decision-making on issues related to the project's design change in connection with the introduction of more advanced processes and constructive solutions.
4. Correspondence with the subordinate enterprises on the operational issues.
5. Issuance and implementation of orders, letters, and instructions of higher authorities related to RAMS. Collection of information and responses from subordinate enterprises on the implementation status of orders and instructions of superior bodies.

##### Rights and duties of the Chief Specialist of RAMS

1. Inspection of roads, bridges and collection of data.
2. Correspondence with the subordinate enterprises on the operational issues.
3. Issuance and implementation of orders, letters, and instructions of higher authorities; delivery of these instructions to the subordinate enterprises; collection of information and responses from subordinate enterprises on the implementation status of orders and instructions of superior bodies.
4. Preparation and submission of the report to a higher authority.

#### Rights and obligations of the Leading Specialist of RAMS

1. Inspection of roads, bridges and collection of data.
2. Correspondence with the subordinate enterprises on the operational issues.
3. Issuance and implementation of orders, letters, and instructions of higher authorities; delivery of these instructions to the subordinate enterprises; collection of information and responses from subordinate enterprises on the implementation status of orders and instructions of superior bodies.
4. Preparation and submission of the report to a higher authority.

#### The rights and obligations of the Specialist of RAMS

1. Involvement in the preparation and verification of the annual volume of work on routine repair and maintenance of roads by PLUADs taking into consideration the cyclical factor.
2. Analysis of the provided data and input into the database.

Istambek Seyitbekov

Head of Department

AGREED by:

Head of organizational and legal department

T. Moldobisaev [signed]

2015

Familiar with the document:

N. Eralliev [signed]

A. Jeldenov [signed]

A. Abdyrashym kyzy [signed]

« \_\_\_\_ » \_\_\_\_\_ 2015

ROAD MAINTENANCE DEPARTMENT  
UNDER THE  
MINISTRY OF TRANSPORT AND COMMUNICATIONS OF THE KYRGYZ REPUBLIC

Nb. 95-OD  
Date: 8 October 2015

**ORDER**

**"on the approval of the products developed under the Project for Capacity Building for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic"**

For the purposes of effective work on the capacity building for maintenance management of bridges and tunnels in the Kyrgyz Republic, as well as for the formulation of the Title List for the repair of roads and road structures, I herewith order:

1. to the Road Assets Management Section, Production Preparation and Work Acceptance Section, and Planning and Economic Section, to utilize the Database system, Nationwide criteria for management of bridges and tunnels, and Short/long-term maintenance management plans for bridges and tunnels developed under the JICA Project in the formulation of the Title List for the repair of roads and road structures.
2. to make the Deputy Director of the RMD M/TCKR, N. Kaiynbaev, responsible for control of the implementation of this Order.

D. Sultanov

[signed]

Director

MINISTRY OF TRANSPORT AND COMMUNICATIONS OF THE KYRGYZ REPUBLIC  
STATE DIRECTORATE OF THE “BISHKEK-OSH” AUTOMOBILE ROAD

## ORDER

No.: 165/01

Date: 16 September 2015

**Re: Ensuring the sustainability of results achieved under the “Capacity Building for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic” Project**

Due to the necessity to take further actions on the implementation of the recommendations prepared as a result of JICA’s Mission’s work, as well as to ensure the sustainability of the achieved results, I herewith order:

1. To the Heads of DEP 9 and DEP 30, N. Toktomambetov and E. Seytaliev accordingly, to ensure the following with regards to the completion of the “Capacity Building for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic” Project:
  - The observance of the requirements set forth in the Tunnel Maintenance Manuals developed under the subject Project and approved by the Order of the MoTC KR No.235 dated 20 August 2015;
  - Utilization of the developed and approved Tunnel Maintenance Manuals.
2. To the Tunnel Chief of the State Directorate of the “Bishkek-Osh” Automobile Road, B. Bazaraliev, to carefully study the recommendations provided for the Project Counterparts, and take necessary measures to implement these recommendations in order to ensure the sustainability of the achieved results.
3. To make the Deputy Director of the State Directorate of the “Bishkek-Osh” Automobile Road, Z. Aidarov, responsible for control of the implementation of this Order.

I. Toktomambetov

[signed]

Director General

MINISTRY OF TRANSPORT AND COMMUNICATIONS OF THE KYRGYZ REPUBLIC

ROAD MAINTENANCE DEPARTMENT

No.06-12/2096

Date: 12 October 2015

**To:** Akymbek ABDYKALYKOV

(Principal of the Kyrgyz State University of Construction,  
Transport and Architecture named after N. Isanov);

Asylbek ALYMKULOV

(Director of the Bishkek Motor Road College named after K.Kolbaev);

**CC:** OYAMA Takayuki (Permanent Representative of JICA)

**Subject:** Transfer of the soft copy of the Manuals

As you may know, within the framework of implementation of the JICA's Project for "Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic", MoTC KR with the support of the Japanese Expert Team has prepared manuals for bridges and tunnels maintenance and database operation manual. Hard copies of the abovementioned manuals have been already handed over to the Kyrgyz State University of Construction, Transport and Architecture and to the Bishkek Motor Road College. In response to the request from the institutions, we provide herewith the soft copies of the Manuals. We hope that our materials prove useful in the preparation process of the new specialists.

Yours respectfully,

N. Kayinbaev

[signed]

Acting Director of RMD



MINISTRY OF TRANSPORT AND COMMUNICATIONS OF THE KYRGYZ REPUBLIC

ROAD MAINTENANCE DEPARTMENT

Date: 10 November 2015

No. 112-OD

## ORDER

“ON THE DEMARCATION OF THE ORGANIZATIONAL STRUCTURE OF MANAGEMENT, AND ON THE CREATION OF A PERMANENT TASK FORCE ON MONITORING AND PLANNING”

With the purposes of organization and planning of maintenance works for bridges and tunnels, as well as for the successful application of the outputs achieved under the Japan International Cooperation Agency's (JICA) Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic, I herewith order:

1. to create a permanent Task Force consisting of the following staff:
  - I. Seyitbekov – Leader of the Task Force, Head of RAMS,
  - N. Eraliev – Chief specialist of RAMS,
  - A. Jeldenov – Leading specialist of RAMS,
  - B. Ashirbaev – Head of Production and Technical Section, PLUAD No.1,
  - J. Arykov - Head of Production and Technical Section, PLUAD No.3,
  - O. Dakiev - Head of Production and Technical Section, PLUAD No.4,
  - B. Nazarkulov - Head of Production and Technical Section, PLUAD No.5,
  - A. Akhunov - Head of Production and Technical Section, PLUAD No.6,
  - J. Joroev - Head of Production and Technical Section, UAD OSI,
  - M. Temirbaev - Head of Production and Technical Section, UAD OBI,
  - Ch. Akhmatova - Head of Production and Technical Section, UAD BNT,
  - K. Shalpykov - Head of Production and Technical Section, GDAD BO;
2. to the Heads of PLUADs No.: 1, 3, 4, 5 and 6; UADs: OSI, OBI, BNT and GDAD BO, to nominate related responsible staff in DEPs for coordination with the Task Force;
3. to share responsibilities in the Task Force and responsibilities of the RMD, PLUAD and DEP staff in accordance with the attached Annex 1 (sharing of responsibilities of the Task Force);
4. to report annually on the work of the Task Force in accordance with the attached Annex 2.
5. I reserve the responsibility to control the implementation of this Order.

**Acting Director**      [signed]      **N. Kayinbayev**

MINISTRY OF TRANSPORT AND COMMUNICATIONS OF THE  
KYRGYZ REPUBLIC

No. 09-6/8947

Date: 16 October 2015

**Ministerial Order**

For the purposes of effective distribution of funds allocated from the state budget and formulation of plan of construction, repair and maintenance of bridges and tunnels under the balance of the Ministry of Transport and Communications of the Kyrgyz Republic, as well as their timely maintenance, I herewith

order to oblige:

the Head of the Road Management Department, M. Alypsatarov, to prepare before 20 October 2015 the draft decision of the Government of the Kyrgyz Republic on the demarcation of functional duties between the RMD, PLUAD and DEP in accordance with the recommendations of JICA provided within the framework of the Project for Capacity Building for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic.

I reserve the responsibility to control the implementation of this Order.

**Deputy Minister**

**U. Uyezbayev**