

## *Appendix 2 Work Break Structure*



<b>Overall Goal</b>
Maintenance status of bridges and tunnels is improved in Kyrgyz.

<b>Project Purpose</b>
MOTC's capacity is improved for maintenance cost estimation of bridges and tunnels on the basis of inspection results

Project Goal and Purpose
Output
Activity for General Issue
Activity for Bridges
Activity for Tunnels
Completed Activity

Output-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	1-2	1-3
To collect information regarding other partners and each section's staffing, etc.	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.	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.
1-1-1	1-2-1	1-3-1
To collect information on the staff number and functions.	To prepare guidelines for roles and responsibility on the DB.	To prepare guidelines for roles and responsibility on MM.
1-1-2	1-2-2	1-3-2
To verify the concerned activities of other donors.	To conduct workshop for the guideline.	To conduct workshop for the guideline.
		1-3-3
		To propose role of organization for preparation of maintenance and management plan and implementation of detailed survey.

Output-2: A database system to record information on bridges and tunnels is developed and ready for maintenance planning.

2-1	2-2	2-3	2-4	2-5	2-6	2-7	2-8	2-9	2-10	2-11
To collect information regarding other partners and current conditions of bridges and tunnels, etc.	To create a database system including dimension of bridges and tunnels.	[B] To establish the procedure for data input and reporting.	[B] To draft, review and finalize a manual for data input.	[B] To implement MTs' trainings on data collection and input.	[B] To implement trainings by MTs for staff members for data collection and input.	[B] To collect and input data of inspection, condition rating and cost of each bridge by staff members of RMD.	[T] To establish the procedure for data input and reporting	[T] To create a manual for data input.	[T] To implement trainings for staff members of BO UAD/DEPs for data collection and input.	[T] To collect and input data of inspection, condition rating and cost of each tunnel by staff members of BOUAD/DEPs.
2-1-1	2-2-1	2-3-1	2-4-1	2-5-1	2-6-1	2-7-1	2-8-1	2-9-1	2-10-1	2-11-1
To collect existing data/information on a database system in MOTC.	To collect existing data of Bridges and Tunnels.	To prepare the data input and reporting format.	To draft a manual for data input.	To input the data on primary inspection.	To carry out 1st-3rd Workshop	To collect and input data based on primary inspection.	To prepare the input and reporting format.	To draft, review and finalize a manual for data input.	To carry out 1st Workshop	To input the data based on draft of the manual.
2-1-2	2-2-2	2-3-2	2-4-2	2-5-2		2-7-2	2-8-2	2-9-2	2-10-2	2-11-2
To confirm other donors activities for the database management.	To discuss the framework and data format of the DB System.	To conduct 1st Work Shop for the data input and reporting.	To review a manual for data input.	To input the data on secondary inspection.		To collect and input data based on secondary inspection.	To conduct Work Shop for the data input and reporting	To carry out workshop for the manual .	To carry out 2nd Workshop	To input the data based on the revised manual.
	2-2-3	2-3-3	2-4-3	2-5-3		2-7-3				
	To input the existing data.	To conduct 2nd Work Shop for the data input and reporting.	To finalize a manual for data input.	To input the data on routine maintenance of road.		To review the data considering the LCC aspect.				

Output-3: Capacity of DEPs for routine maintenance and capacity of PLUADs/UADs for inspection and condition rating of bridges and tunnels are enhanced.

3-1	3-2	3-3	3-4	3-5	3-6	3-7	3-8	3-9
[B] To draft, review and finalize a routine maintenance manual.	[B] To draft, review and finalize an inspection and condition rating manual.	[B] To implement MTs' trainings on inspection and condition rating	[B] To implement trainings by master trainers for staff members of PLUADs/UADs and DEPs for inspection.	[B] To carry out inspection by staff members of RMD/PLUADs/UADs/DEPs. To carry out condition rating by staff members of RMD.	[T] To create a routine maintenance manual.	[T] To create an inspection and condition rating manual.	[T] To implement trainings for staff of BO UAD/DEPs for inspection and condition rating.	[T] To carry out inspection and condition rating by staff members of BO UAD/DEPs.
3-1-1	3-2-1	3-3-1	3-4-1	3-5-1	3-6-1	3-7-1	3-8-1	3-9-1
To draft, review and finalize the Manual.	To draft, review and finalize the Manual.	To implement MT's training for inventory survey and photo shooting.	To conduct 1st Workshop by MT.	To carry out inventory survey by staff members.	To draft, review and finalize the routine maintenance manual.	To create an structural inspection and condition rating manual for tunnels.	To implement trainings on inspection and condition rating of structures.	To carry out inspection and condition rating of structures by staff members.
3-1-2	3-2-2	3-3-2	3-4-2	3-5-2	3-6-2	3-7-2	3-8-2	3-9-2
To conduct Workshop for the Manual.	To conduct Workshop for the Manual.	To implement MT's training for primary inspection and condition rating.	To conduct 2nd Workshop by MT.	To carry out Primary Inspection by staff members.	To carry out Workshop for the Manual.	To create an inspection and condition rating manual for the services of tunnels.	To implement trainings on inspection and condition rating of service facility.	To carry out inspection and condition rating of service facility by staff members.
		3-3-3	3-4-3	3-5-3				
		To implement MT's training for secondary inspection and condition rating.	To conduct 3rd Workshop by MT.	To conduct Secondary Inspection by staff members.				

Output-4: Capacity of MOTC HQ, RMD, PLUADs/UADs and DEPs for preparing maintenance management plans on bridges and tunnels is enhanced.

4-1	4-2	4-3	4-4	4-5	4-6	4-7	4-8	4-9
[B] To establish a nation-wide management criteria for bridges	[B] To draft, review and finalize a repair methods manual including cost estimation.	[B] To implement trainings for staff of RMD on detailed survey and cost estimation for preparing a long-term plan.	[B] To prepare a long-term plan for maintenance management of bridges by staff members of RMD.	[B] To implement trainings for staff members of RMD on preparing a short-term plan.	[B] To prepare a short-term plan for maintenance management of bridges by staff members of RMD.	[T] To establish a management criteria for tunnels.	[T] To create a repair methods manual including cost estimation.	[T] To prepare a short-term plan for MM for tunnels through trainings for staff of RMD/BOUAD/DEPs.
4-1-1	4-2-1	4-3-1	4-4-1	4-5-1	4-6-1	4-7-1	4-8-1	4-9-1
To confirm existing management criteria.	To draft a repair methods manual.	To conduct 1st Workshop for Preparation of long-term plan.	To prepare draft of the long term plan.	To conduct 1st Workshop for Preparation of short term plan.	To prepare the short term plan for the year of 2015-2017.	To confirm existing management criteria.	To create a repair methods manual.	To prepare short term plan for structural maintenance.
4-1-2	4-2-2	4-3-2	4-4-2	4-5-2	4-6-2	4-7-2		4-9-2
To confirm existing traffic volume data.	To review the repair methods manual.	To conduct 2nd Workshop for Preparation of long-term plan.	To prepare the long term plan.	To conduct 2nd Workshop for Preparation of short term plan.	To review and prepare the short term plan for the year of 2016-2017.	To confirm existing traffic volume.		To prepare short term plan for the service facility's maintenance.
4-1-3	4-2-3					4-7-3		
To conduct Workshop for the management criteria.	To finalize a repair methods manual.					To conduct Workshop for the management criteria.		

A2-1



*Appendix 3 Plan of Operation*



Plan of Operation Ver.2

ACTIVITIES	Expert in charge	Plan/Actual	2013					2014					2015							
			7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
OUTPUT 1: Demarcation of MOJC, RMD, PLUADs/UADs and DEPs is clearly identified with necessary staffing for the maintenance management of bridges and tunnels.																				
1-1	To collect information regarding other partners and each section's staffing, etc.																			
1-1-1	To collect information on the staff number and functions.	Okazaki	Plan																	
			Actual																	
																				(Completed)
1-1-2	To verify the concerned activities of other donors.	Okazaki	Plan																	
			Actual																	
																				(Completed)
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.																			
1-2-1	To prepare guidelines for roles and responsibility on the DB.	Mizota	Plan																	
			Actual																	
																				(Completed)
1-2-2	To conduct workshop for the guideline.	Mizota	Plan																	
			Actual																	
																				(Completed)
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.																			
1-3-1	To prepare guidelines for roles and responsibility on MM.	Mizota	Plan																	
			Actual																	
																				(Completed)
1-3-2	To conduct workshop for the guideline.	Mizota	Plan																	
			Actual																	
																				(Completed)
1-3-3	To propose role of organization for preparation of maintenance and management plan and implementation of detailed survey.	Mizota	Plan																	
			Actual																	
																				(Completed)

A3-7

ACTIVITIES		Expert in charge	Plan/Actual	2013					2014					2015						
				7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11
OUTPUT 2: A database system to record information on bridges and tunnels is developed and regularly updated.																				
2-1	To collect information regarding other partners and current conditions of bridges and tunnels, etc.																			
2-1-1	To collect existing data/ information on a database system in MOTC.	Watanabe	Plan Actual																	
2-1-2	To confirm other donors activities for the database management.	Watanabe	Plan Actual																	
2-2	To create a database system including dimension of bridges and tunnels.																			
2-2-1	To collect existing data of Bridges and Tunnels.	Watanabe	Plan Actual																	
2-2-2	To discuss the framework and data format of the DB System.	Watanabe	Plan Actual																	
2-2-3	To input the existing data.	Watanabe	Plan Actual																	
2-3	[B] To establish the procedure for data input and reporting.																			
2-3-1	To prepare the data input and reporting format.	Watanabe	Plan Actual																	
2-3-2	To conduct 1st Work Shop for the data input and reporting.	Watanabe	Plan Actual																	
2-3-3	To conduct 2nd Work Shop for the data input and reporting.	Watanabe	Plan Actual																	
2-4	[B] To draft, review and finalize a manual for data input.																			
2-4-1	To draft a manual for data input.	Watanabe	Plan Actual																	
2-4-2	To review a manual for data input.	Watanabe	Plan Actual																	
2-4-3	To finalize a manual for data input.	Watanabe	Plan Actual																	
2-5	[B] To implement MTs' trainings on data collection and input.																			
2-5-1	To input the data on primary inspection.	Watanabe	Plan Actual																	
2-5-2	To input the data on secondary inspection.	Watanabe	Plan Actual																	
2-5-3	To input the data on routine maintenance of road.	Watanabe	Plan Actual																	









ACTIVITIES		Expert in charge	Plan/Actual	2013												2014												2015											
				7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12						
OUTPUT 4: Capacity of MOTC, RMD, PLUADs/UADs and DEPs for preparing maintenance management plans on bridges and tunnels is enhanced.																																							
4-1	[B] 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	[B] To draft, review and finalize a repair methods manual including cost estimation.																																						
4-2-1	To draft a repair methods manual.	Miyauch	Plan Actual																																				
4-2-2	To review the repair methods manual.	Miyauch	Plan Actual																																				
4-2-3	To finalize a repair methods manual.	Miyauch	Plan Actual																																				
4-3	[B] 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	[B] 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	[B] 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																																				

ACTIVITIES		Expert in charge	Plan/Actual	2013												2014												2015											
				7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12						
4-6	[B] 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.	Miyauchi	Plan Actual																																				
4-6-2	To review and prepare the short term plan for the year of 2016-2017.	Miyauchi	Plan Actual																																				
4-7	[T] To establish a management criteria for tunnels.																																						
4-7-1	To confirm existing management criteria.	Hiroi	Plan Actual																																				
4-7-2	To confirm existing traffic volume.	Mizota/ Okazaki	Plan Actual																																				
4-7-3	To conduct Workshop for the management criteria.	Hiroi	Plan Actual																																				
4-8	[T] To create a repair methods manual including cost estimation.																																						
4-8-1	To create a repair methods manual.	Hiroi / Miura(ABE)	Plan Actual																																				
4-9	[T] To prepare a short-term plan for MM for tunnels through trainings for staff of RMD/ BOUAD/DEPs.																																						
4-9-1	To prepare short term plan for structural maintenance.	Hiroi	Plan Actual																																				
4-9-2	To prepare short term plan for the service facility's maintenance.	Miura(ABE)	Plan Actual																																				
ADMINISTRATIVE ACTIVITIES																																							
Joint Coordinating Committee																																							
Revision of PDM from Version zero to one.																																							
Progress Report																																							
Final Report																																							
Terminal Evaluation																																							

\* Including the concerned DEPs for tunnels.



*Appendix 4 Assignment Record/Schedule of Experts*









*Appendix 5 Record of Training in Japan*



## 1<sup>st</sup> Training in Japan (September 12, 2014~ September 24, 2015)

### 1. Participants

Organization	Name	Department / Title
Ministry of Transport and Communications (MOTC)	Nurmanbetov Kadyrbek	Road Management Department Deputy Director
	Nogoev Nurmat	Road Management Department Head of Production preparation and work acceptance unit
	Esenbekov Tilek	Road Management Department Main specialist
	Dubashev Nur	UAD Bishkek-Osh Leading specialist
	Sadraliev Nurkan	PLUAD #5 Leading Engineer

### 2. Itinerary

Date	Time	Contents	Training Organization
12 Sep. (Fri.)	9:00 - 12:00	Briefing	Tokyo International Center (JICA)
	12:00 - 13:00	Lunch	
	13:00 - 14:00	Program orientation	
	14:00 - 15:00	Travel	
	15:00 - 16:30	Maintenance policy and the Road Law in Japan	
13 Sep. (Sat.)	10:00 - 12:00	Introduction of bridge status in Kyrgyz	CTI Engineering International Co., Ltd.
	12:00 - 15:35	Lunch and Travel	
	15:35 - 16:15	Tour for seeing bridges from Sumida river	Tokyo
14 Sep. (Sun.)	9:00 - 17:00	Organization of training materials	
15 Sep. (Mon.)	10:00 - 14:00	Travel (Tokyo to Nagoya)	
16 Sep. (Tue.)	9:30 - 11:00	Training of bridge inspection techniques (N2U Bridge)	Central Nippon Expressway Co., Ltd.
	11:00 - 13:00	Lunch and Travel	
	13:00 - 16:00	Visit for bridge construction site	
17 Sep. (Wed.)	9:30 - 12:00	Concrete girder fabrication technology	ABE NIKKO KOGYO CO.,LTD.
	12:00 - 13:30	Lunch and Travel	
	13:30 - 16:30	Bridge maintenance by industry, government and academia	Gifu University
18 Sep. (Thu.)	7:30 - 14:00	Travel (Nagoya to Hokkaido)	Civil Engineering Research Institute for Cold Region
	14:00 - 14:30	Courtesy call	
	14:30 - 15:30	Damage, design and repair work for road pavement in cold region	
	15:30 - 16:00	Facility tour	
19 Sep. (Fri.)	10:00 - 12:00	Efforts for road maintenance in cold region	Hokkaido Government Office

	12:00 - 13:00	Lunch and Travel	
	13:00 - 16:00	Site visit	Hokkaido
20 Sep. (Sat.)	9:00 - 15:00	Travel (Hokkaido to Tokyo)	
21 Sep. (Sun.)	9:00 - 17:00	Organization of training materials	
22 Sep. (Mon.)	10:00 - 12:00	Maintenance for social infrastructure using information communication technology	Tokyo Metropolitan Public Corporation for Road Improvement and Management
	12:00 - 14:00	Lunch and Travel	
	14:00 - 16:00	Efforts for bridge maintenance in local government	Machida city office
23 Sep. (Tue.)	9:30 - 12:00	Asset management for bridges	CTI Engineering Co., Ltd.
	12:00 - 14:00	Lunch and Travel	
	14:00 - 17:00	Preparation of material for evaluation meeting	Tokyo International Center (JICA)
24 Sep. (Wed.)	9:30 - 12:00	Evaluation meeting	Tokyo International Center (JICA)

## 2<sup>nd</sup> Training in Japan (October 14, 2015~ October 23, 2015)

### 1. Participants

Organization	Name	Department / Title
Ministry of Transport and Communications (MOTC)	Seitbekov Istanbek	Road Asset Management Division, Head
	Abdyrashym kyzy Aigerim	Road Asset Management Division, Specialist
	Zhanseiitov Almazbek	PLUAD 6, DEP 52 Chief Engineer
	Arykov Janybai	PLUAD 3, Head
	Shopokov Erzhan	BO UAD, Kolbaev Tunnel chief
	Chynaliev Erlanbek	Tunnel Service, Head

### 2. Itinerary

Date	Time	Contents	Training Organization
10/14(Wed)	10:00 ~ 12:00	Briefing	JICA Kansai
	12:00 ~ 13:30	Lunch	
	13:30 ~ 15:30	Program orientation	
10/15(Thu)	10:00 ~ 12:15	Outline of expressway in Japan	Hanshin Expressway
	12:15 ~ 13:00	Lunch	
	13:00 ~ 15:00	Bridge inspection of expressway	
	15:00 ~ 17:00	Bridges maintenance of expressway	
10/16(Fri)	10:00 ~ 12:00	Outline of large-scale maintenance	Hanshin Expressway
	12:00 ~ 14:00	Lunch	
	14:00 ~ 16:30	Visit to the maintenance work site	
10/17(Sat)	13:15 ~ 16:10	Visit to Akashi-kaikyo Bridge	Akashi-kaikyo Bridge World
10/18(Sun)		Holiday	
10/19(Mon)	10:00 ~ 13:00	Training of bridge inspection technique	NEXCO Central
	13:00 ~ 14:00	Lunch	
	14:00 ~ 15:30	Visit to Repairing and Reinforcing work site	
10/20(Tue)	10:00 ~ 12:00	Training of tunnel maintenance	Central Nippon Highway Engineering
	12:00 ~ 13:30	Lunch	
	13:30 ~ 16:00	Visit to Meiko-Higashi Ohashi Bridge	NEXCO Central
10/21(Wed)	9:00 ~ 13:00	Lunch	MLIT
	13:00 ~ 15:30	Maintenance policy and the Road Law in Japan	
10/22(Thu)	10:00 ~ 12:00	Efforts for bridge maintenance in local government	Machida City Office
	12:00 ~ 14:00	Lunch	
	14:00 ~ 16:00	Preparation for evaluation meeting	JICA Headquarter
10/23(Fri)	9:30 ~ 12:00	Evaluation meeting	JICA Headquarter





*Appendix 6 List of Equipment with hand over Certificate*



**List of Equipment and Materials Provided by the Project**

No.	Purpose of Use	Name of Machinery	Maker	Price/JPY	Procurement Place	Installation Place	Remarks
1	IRI Measurement	Dynamic Response Intelligent Monitoring System (DRIMS)	JIP Techno Science Corporation	848000	Japan	Bishkek, Kyrgyzstan	2 sets
2	Detailed Inspection	Schmidt Hammer	Original SCHMIDT proceeq	186151	Japan	Bishkek, Kyrgyzstan	1 set
3	Detailed Inspection	InfraRed Camera	Nippon Avionics Co, Ltd.	1464000	Japan	Bishkek, Kyrgyzstan	1 set
4	Detailed Inspection	Electric Drill	Makita	48448	Japan	Bishkek, Kyrgyzstan	1 set
5	Visual Inspection	Test Hammer	DOGYU	17400	Japan	Bishkek, Kyrgyzstan	10 sets

**КЫРГЫЗ РЕСПУБЛИКАСЫНЫН  
ТРАНСПОРТ ЖАНА  
КОММУНИКАЦИЯЛАР  
МИНИСТРЛИГИНИН АЛДЫНДАГЫ  
ЖОЛ ЧАРБА ДЕПАРТАМЕНТИ**



**ДЕПАРТАМЕНТ ДОРОЖНОГО  
ХОЗЯЙСТВА ПРИ МИНИСТЕРСТВЕ  
ТРАНСПОРТА И  
КОММУНИКАЦИЙ КЫРГЫЗСКОЙ  
РЕСПУБЛИКИ**

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Исходящий № 06-12/1873

Дата « 07 » 09 2015г.

**JICA Kyrgyz Republic Office**

This is to certify that within the framework of the JICA Project for Capacity Development for Maintenance Management of Bridges and Tunnels in the Kyrgyz Republic, the equipment listed under the Attachment 1 was handed over to the Road Maintenance Department under the MoTC, KR.

**Director Road Maintenance Department**

**Sultanov Dyishon**

Zheldenov A.

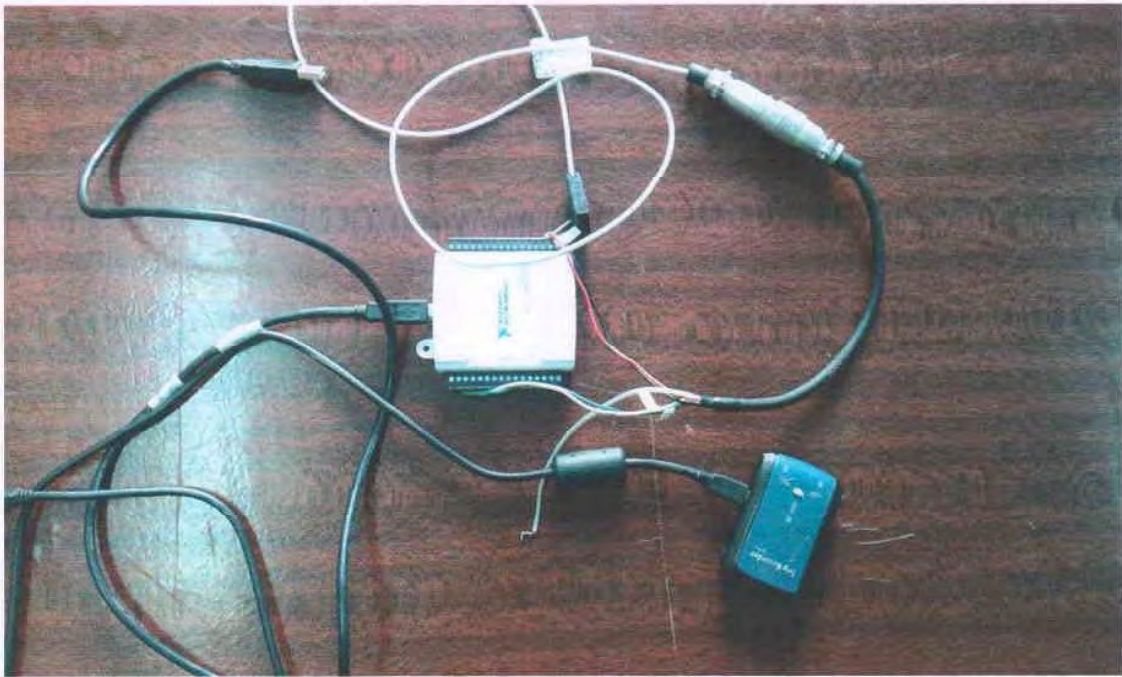
66-18-32

**ATTACHMENT 1**

**List of Equipment and Materials Provided by the Project**

No.	Purpose of Use	Name of Machinery	Maker	Price/JPY	Procurement Place	Installation Place	Remarks
1	IRI Measurement	Dynamic Response Intelligent Monitoring System (DRIMS)	JIP Techno Science Corporation	848000	Japan	Bishkek, Kyrgyzstan	2 sets
2	Detailed Inspection	Schmidt Hammer	Original SCHMIDT proceeq	186151	Japan	Bishkek, Kyrgyzstan	1 set
3	Detailed Inspection	InfraRed Camera	Nippon Avionics Co, Ltd.	1464000	Japan	Bishkek, Kyrgyzstan	1 set
4	Detailed Inspection	Electric Drill	Makita	48448	Japan	Bishkek, Kyrgyzstan	1 set
5	Visual Inspection	Test Hammer	DOGYU	17400	Japan	Bishkek, Kyrgyzstan	10 sets

1. Dynamic Response Intelligent Monitoring System (DRIMS)





## 2. Schmidt Hammer



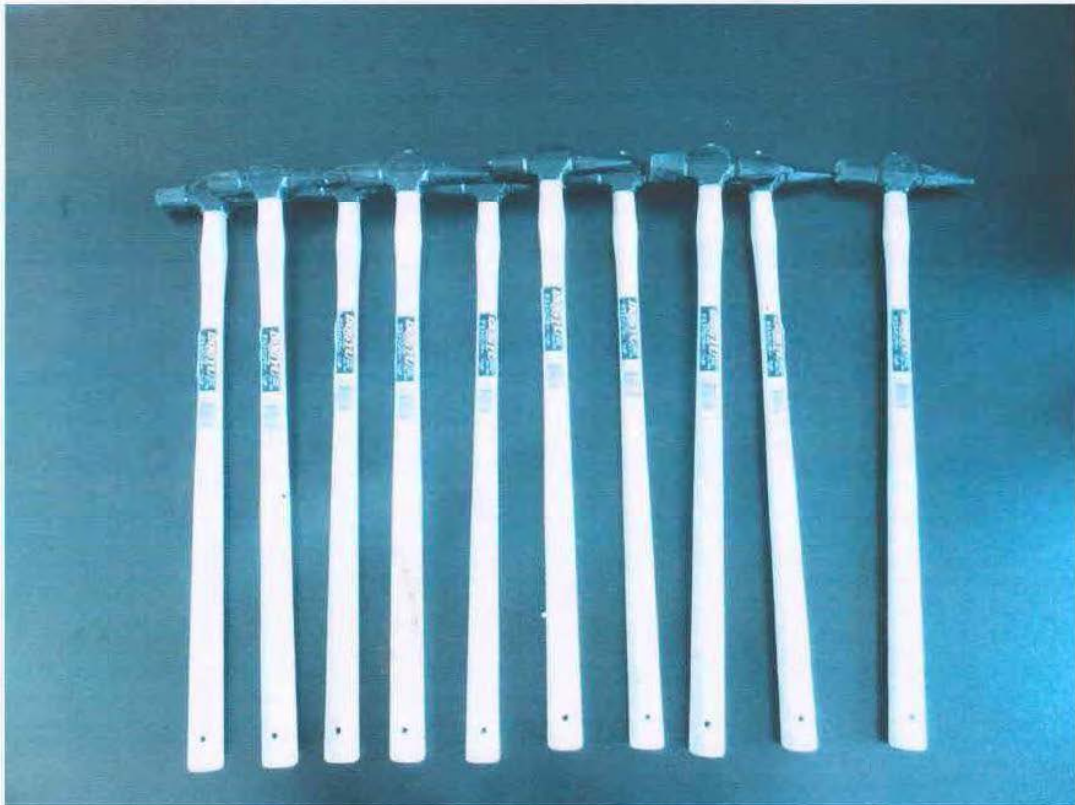
## 3. InfraRed Camera



4. Electric Drill



5. Test Hammer





*Appendix 7 Record of Seminars and Workshops*



## Record of Seminars and Workshops

Name of Activity	Date	Contents
2013		
Kick-off Meeting	8 July	Confirmation of the Project Implementation Schedule; Confirmation of the availability of Master Trainer
Workshop on Database Development	15 July	Design and Development of Database System
Workshop on Bridge Maintenance	1) 16 July 2) 17 July 3) 18 July 4) 19 July 5) 22 July 6) 23 July 7) 24 July 8) 25 July 9) 26 July 10) 29 July	Preventive Maintenance and Operation of Bridges; Bridge soundness evaluation; Prioritization of Repair; Bridge repair works.
Workshop on Bridge Maintenance	1) 5 August 2) 6 August 3) 7 August 5) 8 August 6) 9 August 7) 12 August 8) 13 August 9) 14 August 10) 15 August 11) 16 August	Preventive Maintenance and Operation of Bridges; Types of defects
1 <sup>st</sup> JCC Meeting	22 August	Confirmation of Work Plan; Amendment of Record of Discussion
Workshop for fact finding	27 August	Discussion of Fact-Finding results of: - Tunnel Maintenance Management - Bridge Maintenance Management
Workshop on Institutional Demarcation	12 September 15 October	Discussion of organizational structure
Workshop for Bridge Inspection (Planned Inspection A) led by MTs (*1)	1) 13 September 2) 20 September 3) 25 September 4) 3 October 5) 8 October 6) 9 October 7) 11 October 8) 12 October 9) 16 October 10) 17 October 11) 18 October	Primary inspection for Bridge - Damage of Bridges in Kyrgyz - Dimension Measurement of bridge member - Sketch Drawing - Photographing Data Input to Database (Excel form)
Kick-off Seminar	16 October	Discussion with donors: - Outline of the Project Main existing issues on maintenance of bridges and tunnels
Workshop	28 October 30 October	Analysis of Maintenance Management of Bridges in Kyrgyz Republic, organizational structure and maintenance management of bridges and tunnels
Workshop on Database Development	4 November 5 November	Development of Database System Input Data

2014		
2 <sup>nd</sup> JCC Meeting	30 January 2014	Revision of project design matrix
Training on VIMS	1) 28 April 2) 29 April 3) 30 April 4) 6 May 5) 7 May	VIMS mechanism Equipment installation and speed calibration Road surface measurement Data analysis
Workshop on Bridge Maintenance at Site	1) 8 May in Bishkek 2) 21 May in Osh 3) 10 June in Karakol	Condition rating of imminent and critical bridges
Workshop on Bridge Inspection	1) 29 May 2) 25 June	Bridge inspection Rating evaluation Repair method
Workshop on Database Development	9 June	Development of Database System Input Data
Workshop on Cost Estimation	1) 3 July 2) 9 July	Cost Estimation on: Replacement Bridge repair: <ul style="list-style-type: none"> <li>• Crack injection method</li> <li>• Cross-sectional repair method</li> <li>• Steel plate installation method</li> </ul>
Workshop on Short-Term Bridge Maintenance Plan	16 July	1) Prioritizing of bridge maintenance by: <ul style="list-style-type: none"> <li>• Condition rating</li> <li>• Required maintenance level</li> </ul> 2) Short-Term budget request: <ul style="list-style-type: none"> <li>• Calculation of repair and replacement costs</li> </ul> 3) Leveling of budget for each year
3 <sup>rd</sup> JCC Meeting	28 August	Collection and input of bridge data Formulation of maintenance management plan <ul style="list-style-type: none"> <li>• Short-term plan for maintenance management of bridges</li> <li>• Short-term plan for maintenance management of tunnels</li> </ul> Formulation of Manuals Revision of Project Design Matrix
Workshop on Detailed Inspection in Bishkek	1) 29 August 2) 2 September 3) 3 September	1) Introduction of equipment for detailed inspection <ul style="list-style-type: none"> <li>• Infrared camera</li> <li>• Portable drill for carbonation test</li> <li>• Schmidt hammer</li> </ul> 2) Intended use of each equipment 3) Demonstration of how to use each equipment
Workshop on Detailed Inspection in Osh	6 September	Ditto
Workshop on Detailed Inspection in Naryn	12 September	Ditto
Workshop for Bridge Inspection (Planned Inspection B) led by MTs (*2)	1) 26 September 2) 1 October 3) 2 October 4) 5 November 5) 6 November 6) 10 November	Detailed inspection for Bridge <ul style="list-style-type: none"> <li>- Infrared Camera</li> <li>- Schmidt Hammer</li> <li>- Carbonation Test</li> <li>- How to Use of Testing Equipment</li> </ul> Purpose of each Test

	7) 11 November 8) 13 November 9) 14 November	
Workshop on Long term plan	1) 17 October 2) 14 November	1) Introduction of the concept of Life Cycle Cost (LCC) and Life Cycle Design (LCD) 2) Calculation of maintenance costs of bridges for ten and fifty years
Workshop on Database Development	19 November	Development of Database System Input Data
Workshop on Long-Term Plan and Short-Term Plan	20 November	1) Integrity of long-term planning and short-term planning
2015		
4 <sup>th</sup> JCC Meeting	29 January 2015	Organizational structure of bridge maintenance management
Workshop on Database Development	30 January	Development/Improvement of Database System
Workshop on Database Development	10 March	Development/Improvement of Database System
Workshop for Detailed Inspection in Osh	April 15 April 16	Detailed inspection and Final Examination
Workshop for Detailed Inspection in RAMS	April 24	Detailed Inspection
Workshop for Detailed Inspection in RAMS	April 27	Site Training for Detailed Inspection
5 <sup>th</sup> JCC Meeting	28 April 2015	Revision of Project Design Matrix
Workshop for VIMS	April 30 May 5 to 8	Lecture for VIMS Site Training for VIMS
Workshop on Inspection B, and Long-term Plan	10 July	1) Discussion and training by the result of Planed Inspection B (trial) 2) LCC concept and how to use the result of Inspection B for Long-term Plan
Workshop on Database Development	15 July	Development/Improvement of Database System
6 <sup>th</sup> JCC Meeting	20 August 2015	The Joint Terminal Evaluation Report
Workshop on Bridge Maintenance in RAMS	29 October	1) Long-term and Short-term budget planning for bridge 2) Monitoring system after Project
Workshop on Long-term and Short-term budget planning for bridge in RAMS	2 November	1) Long-term and Short-term budget planning for bridge in practice 2) Problematic design of bridges in Kyrgyz Republic

Workshop on Bridge Maintenance in RMD	4 November 3 November	<ol style="list-style-type: none"> <li>1) Long-term and Short-term budget planning for bridge</li> <li>2) Approval of the institutional demarcation and staffing demarcation</li> <li>3) Monitoring system after Project</li> <li>4) Problematic design of bridges in Kyrgyz Republic</li> <li>5) Posting information about the project on the website of MOTC</li> </ol>
Final Seminar 7 <sup>th</sup> JCC Meeting	19 November	<ol style="list-style-type: none"> <li>1) Achievement of the Project including of Recommendations of Terminal Evaluation</li> <li>2) Handover of the Draft Completion Report to the MOTC</li> <li>3) Final Seminar (Future Requirements on the Maintenance) <ul style="list-style-type: none"> <li>-Long-term and Short-term Planning for Bridge</li> <li>-Institutional Demarcation</li> <li>-Monitoring after Project</li> <li>-Problematic Design of Bridges in Kyrgyz Republic</li> <li>-Information of the Project on the website of MOTC</li> </ul> </li> <li>4) Presentation on the Japanese Experience on the Maintenance</li> </ol>
Workshop on Bridge Maintenance	25 November	<ol style="list-style-type: none"> <li>1) Institutional Demarcation</li> <li>2) Database system (Forms for inspection)</li> <li>3) Problematic Design of Bridges in Kyrgyz Republic</li> <li>4) Long-term and Short-term Planning for Bridge</li> <li>5) Monitoring after Project</li> <li>6) Information of the Project on the website of MoTC</li> </ol>
Workshop on Bridge Maintenance in Osh	27 November	<ol style="list-style-type: none"> <li>1) Institutional Demarcation</li> <li>2) Database system (Forms for inspection)</li> <li>3) Problematic Design of Bridges in Kyrgyz Republic</li> <li>4) Long-term and Short-term Planning for Bridge</li> <li>5) Monitoring after Project</li> <li>6) Information of the Project on the website of MoTC</li> </ol>

Name of Activity	Date	Contents	Participants
2013			
Workshop on Tunnel Database	August 16	<ul style="list-style-type: none"> <li>Development of Database Information</li> </ul>	BO UAD
Workshop on Tunnel Database	August 19~20	<ul style="list-style-type: none"> <li>Data Collection for Database</li> <li>Data Collection for Maintenance Management</li> </ul>	BO UAD
Workshop on Daily Maintenance Manual for Tunnel	August 30	<ul style="list-style-type: none"> <li>Preparation of Daily Maintenance Manual (Draft)</li> </ul>	BO UAD
Workshop on Daily Maintenance Manual for Tunnel	September 5	<ul style="list-style-type: none"> <li>Preparation of Daily Maintenance Manual (Draft)</li> <li>Preparation of Inspection and Evaluation Manual (Draft)</li> </ul>	BO UAD
Workshop on Tunnel Inspection Manual	September 11	<ul style="list-style-type: none"> <li>Development of Database</li> <li>Preparation of Daily Maintenance Manual (Draft)</li> <li>Preparation of Inspection and Evaluation Manual (Draft)</li> </ul>	BO UAD
Workshop for Site Inspection	September 17-18	<ul style="list-style-type: none"> <li>Confirmation of Current Condition</li> <li>Periodic Inspection and Evaluation</li> <li>Recording of Periodic Inspection</li> <li>Rehabilitation Measures</li> </ul>	DEP 30
Workshop for Rehabilitation Measures	September 25	<ul style="list-style-type: none"> <li>Study on Rehabilitation Measures</li> </ul>	BO UAD
Workshop on Rehabilitation Manual	October 3	<ul style="list-style-type: none"> <li>Preparation of Rehabilitation Manual</li> </ul>	BO UAD
Workshop for Site Inspection (2nd)	October 9	<ul style="list-style-type: none"> <li>Confirmation of Current Condition</li> <li>Periodic Inspection and Evaluation</li> <li>Recording of Periodic Inspection</li> </ul>	BO UAD
Workshop on Daily maintenance Manual for Tunnel Facility (1)	October 12	<ul style="list-style-type: none"> <li>Preparation of Daily Maintenance Manual for Tunnel Facility</li> <li>Formulation of Tunnel Maintenance Management Plan</li> </ul>	BO UAD
Workshop on Daily maintenance Manual for Tunnel Facility (2)	October 17	<ul style="list-style-type: none"> <li>Preparation of Daily Maintenance Manual for Tunnel Facility</li> <li>Formulation of Tunnel Maintenance Management Plan</li> </ul>	BO UAD
Workshop on Tunnel Maintenance Manuals	October 23	<ul style="list-style-type: none"> <li>Confirmation of Tunnel Maintenance Manuals</li> </ul>	RMD
2014			
Workshop on Revision of Tunnel Maintenance Manual	June 18	Frequency of cleaning works of Kolbaev Tunnel's drainage system revised to "when required".	1) Bazaraliev B. 2) Shopokov E. 3) Abduldaev A. 4) Amamatov A. 5) Kadyraliev J.
Workshop on Maintenance of Tunnel Facilities	June 24	1) Importance of maintenance of facilities 2) Fire safety consciousness	
Workshop on Tunnel Maintenance Plan	June 30	1) Principles of maintenance plan formulation 2) Maintenance prioritization 3) Budget planning	
2015			
Workshop on Tunnel Inspection	June 10	Confirmation on Current Condition of Tunnels	DEP 9

Workshop on Daily Maintenance Manual for Tunnel Facility	June 15	Revision of Daily Maintenance Manual for Tunnel Facility Maintenance Planning	BO UAD
Workshop on Daily Maintenance	June 17	Daily Maintenance for Tunnel Facility Improvement of Daily Maintenance for Tunnel	DEP 9
Workshop for Tunnel Inspection	June 22	Periodic Inspection Daily Inspection	DEP 30, DEP 38

Source: JICA Expert Team

\*1 Pertinent to achievement of Indicator-4 in Output-2 and Indicator-4 in Output-3.

\*2 Pertinent to achievement of Indicator-4 in Output-3.