

**E U R O P E A N U N I O N - T A C I S**

**Technical Assistance to the Southern Republics of the CIS  
and Georgia - TRACECA**

**TRADE AND TRANSPORT SECTORS**

**IMPLEMENTATION OF PAVEMENT MANAGEMENT SYSTEMS**

**PROJECT NO.: TELREG 9305**

**PROGRESS REPORT NO. 3**

**FOR THE PROJECT PERIOD OCTOBER TO DECEMBER 1996**

**JANUARY 1997**

**KOCKS CONSULT GMBH  
Consulting Engineers  
Koblenz / Germany**

**in association with**

**TECNECON, Economic  
and Transport Consultants  
London / U. K.**

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Pavement Consultants  
Vejen / Denmark**

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05.02.1997

Dear Sir,

**TRACECA Project: Implementation of Pavement Management Systems**  
**Project Number. TELREG 9305**  
**Progress Report No. 3**

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We take pleasure in submitting to you the progress report no. 3 for the period October to December 1996. The report includes data and information about the activities for

- (i) Implementation of Pavement Management Systems in the 8 recipient states
- (ii) Addendum No. 1
  - Transit Roads - Armenia, Azerbaijan & Georgia
  - Tedjen - Mary Road Improvement in Turkmenistan
  - Purchase of Equipment and Training (PMS/BMS)

The report is submitted in six copies, five bound and one loose leaf. An advance copy has been forwarded by E-Mail to the Tacis Coordinating Units in the eight recipient states as well as to the Tacis Monitoring & Evaluation Central Asia in Almaty.

The Russian version is presently under translation and will be submitted together with the diskette as soon as completed.

Yours faithfully

KOCKS CONSULT GMBH  
Consulting Engineers



Ulrich Sprick



Ulrich Willems

**Copies to: Tacis CU, all 8 recipient states**

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REPORT COVER PAGES

Project Title	: Traceca Project - Implementation of Pavement Management Systems
Project Number	: TELREG 9305
Country	: The Southern Republics of the CIS and Georgia

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PROGRESS REPORT NO. 3

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PROGRESS REPORT NO. 3

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PROGRESS REPORT NO. 3

Date of report : 31. January 1997

Reporting period : October 1996 to December 1996

Author of report: Ulrich Willems, Highway Engineer & Team Leader (Kocks Consult GmbH)

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Lists of Seminar Participants (Kyrgyzstan)



## 1. PROJECT SYNOPSIS

Project Title	:	Traceca Project - Implementation of Pavement Management Systems
Project Number	:	TELREG 9305
Country	:	The Southern Republics of the CIS and Georgia

### **(i) Implementation of Pavement Management Systems**

Project Objective[s] : The project aims to introduce Regional roads maintenance authorities to the latest Western pavement management techniques. It is to promote a reduction in road maintenance backlogs. The focus of this project will be on international transit routes with the specific objectives under the three main headings.

#### Technical

- Establishment of database (road and bridge conditions, traffic intensity/axle-loadings, forecasts of future traffic)
- Formulation, testing and refining technical pavement maintenance strategies. Establishment of Pavement Management Systems in each Regional state
- Implementation of local authorities in Western road and bridge maintenance techniques and specifications as well as road safety standards
- Review of roads design standards

#### Economic

Expand the resources available for road maintenance by:

- demonstrating the real costs of road utilisation, by users who at present pay little, and thus reinforce arguments for recurrent collections of revenue by charges (taxes) on users
- Description and economic analysis of road maintenance projects and programmes susceptible to attract IFI interest.

#### Transfer of Technology

Local personnel will be involved in all project tasks and trained in the techniques introduced with the aim to continue the activities after completion of the project.

- Planned outputs :
- Mobilization and commencement of services
  - Study of existing reports and available road and bridge data
  - Preparation/procurement of equipment
  - Introduction of equipment to counterparts of the recipient States
  - Field works and data collection for establishment of data base including on-the-job training of counterparts
  - Provision of hardware and software for the Pavement Management System (PMS) and Bridge Management System (BMS) and training
  - Seminars on and review of bitumen bound products, road safety and road design aspects
  - Study of the cost and financing of road usage
  - Study tour to Western Europe
- Project activities since start :
- Project Preparation, co-ordinating meetings with TACIS/Brussels, mobilization of Consultant's staff and equipment, commencement meetings with the TACIS CU and the recipient institutions in all 8 recipient states
  - Arrangement of logistics (accommodation, office, garage for equipment, transport)
  - Seminars for introduction of the equipment
  - Provision of computers and programme system for PMS and BMS, comprehensive training of counterparts including data entry, preparation of data base and data evaluation .
  - Collection and evaluation of road surface/road pavement and bridge condition data together with counterparts (on-the-job training)
  - Collection of transport economic, road use cost data incl. traffic counts, axle load survey, study and analysis
  - Seminars on and review of
    - bitumen bound materials and related technology (pavement design, quality control, recycling techniques).
    - road safety and road design aspects (road geometry, signalisation, winter maintenance).
    - study tour to Western Europe in November 1996.

**(ii) Addendum No. 1**

- Component 1: Transit Roads - Armenia, Azerbaijan & Georgia
- TA-AR**, Armenia, technical assistance for road and bridge maintenance  
**FS-AZ**, Azerbaijan, feasibility study for rehabilitation of transit roads  
**FS-GE**, Georgia, feasibility study for rehabilitation of transit roads
- Component 2: **TM-TM**, Turkmenistan, Preparation of a road improvement project, Ashgabat to Mary (Section Tedjen to Mary)
- Component 3: **PMS**, Purchase of equipment and training (PMS/BMS)

Project starting date: 20 December 1995, delayed to 12 March 1996 due to winter conditions

Project duration : 12 months + 9 months (Addendum 1) = 21 months

## **2. SUMMARY OF PROJECT PROGRESS SINCE START**

### **2.1 Commencement of Services**

#### **(i) Implementation of Pavement Management Systems**

The effective date of the Contract was 7 December 1995 and the planned starting date for the provision of the consultancy services was 20 December 1995. As described in previous reports the commencement of the consultancy services was delayed to middle of March 1996 due to the cold winter weather in the southern CIS states.

On 13 March 1996 the Consultant's staff arrived in the project area, set up the logistics and commenced with the activities of the field works. In order to catch up the lost time a second/additional group of specialists commenced in the Caucasus area middle of April 1996.

#### **(ii) Addendum No. 1**

##### TM - TM

The project activities for the Tedjen - Mary road in Turkmenistan commenced with the arrival of the Consultant's staff in Ashgabat on 12 November 1996. After setting up the logistics the field investigations and surveys commenced in co-operation with the Concern Turkmenautoellari and the Institute Turkmendorproyekt. Details of the preparations and commencement are summarised in the Inception Report (TM-TM) of January 1997.

##### FS-AZ

Middle of December 1996 commencement meetings in Baku were held to prepare the activities for the feasibility study. Details of the preparations and commencement will be described in the Inception Report (FS-AZ) in February 1997.

##### PMS

The approach for further development of the PMS/BMS programme system were discussed with the recipient institute in Kazakhstan.

### **2.2 Activities and Project Progress**

#### **(i) Implementation of Pavement Management Systems**

The project part for implementation of the PMS/BMS has almost been completed besides some field works in Tadjikistan, the handing over of equipment and the final report.

All activities were carried out together with the counterparts of the respective recipient states as on-the-job training in addition to seminars and class room training:

***Field Works and Data Collection***

- seminars for introduction of the equipment
- translations of equipment description into Russian
- preparation of forms and guidelines for the data collection
- collection and evaluation of road surface and road pavement condition data using the equipment provided under the Project
- collection and evaluation of bridge condition data

***Computers and PMS/BMS Programme Systems***

- one set of computer equipment and programme system each was delivered to the 8 recipient states
- optimisation (HDM IV modules, Windows '95) and translation into Russian of the PMS/BMS programme system
- seminars for introduction of PMS/BMS followed by comprehensive training

***Transport Economics and Road Use Cost Aspects***

- available reports were studied
- collection of traffic data and data for estimation of vehicle operating cost
- axle load surveys
- estimation of traffic growth
- collection of information on expenditure on road maintenance and rehabilitation

***Seminars***

- bitumen bound products
- road safety aspects and road design aspects
- study tour to Europe in November 1996

**(ii) Addendum No. 1****TM - TM**

Commencement of field works including topographical survey, geotechnical investigations, Falling Weight Deflectometer (FWD) survey, road surface/pavement and bridge condition survey. The existing soils & materials laboratory was inspected and additional equipment has been ordered. Further details of the progress are described in the project progress report.

### **3. SUMMARY OF PROJECT PLANNING FOR THE REMAINDER OF THE PROJECT**

#### **(i) Implementation of Pavement Management Systems**

In Tadjikistan the field works and one seminar which could not be carried out due to the described constraints in 1996 are planned to be completed in spring 1997. The field works will include Falling Weight Deflectometer (FWD), roughness measurements and surface distress recording of the existing pavement for the 30 km pilot road section.

On advise of Tacis the equipment (FWD, axle weigh bridge, bump integrator, tripmeter) will be handed over to the final recipient.

In early 1997 the report on REVIEW OF ROAD DESIGN STANDARDS will be completed and submitted. Upon comments on the draft final report of the STUDY OF THE COST AND FINANCING OF ROAD USAGE the final study report will be prepared. After completion of the field works and data collection the final project report will be prepared, which is planned for the middle of 1997.

#### **(ii) Addendum No. 1**

##### TM - TM

Based on the data of the field investigations and surveys the detailed engineering designs and tender documents will be prepared for improvement of the 145 km Tedjen - Mary road. Procurement services will be provided for tendering and bid evaluation. Technical assistance to Turkmenautoellari will be provided for strengthening road maintenance capability.

##### FS-AZ and FS-GE

Field works and data collection will be carried out for 450 km and 465 km transit roads in Azerbaijan and Georgia respectively. For the feasibility studies the engineering/technical solutions for rehabilitation of the transit roads will be studied and determined and their economy will be evaluated.

##### TA-AR

The present system for execution of road and bridge maintenance in Armenia will be reviewed including the organisational set up, the equipment, standards for implementation and the financing. After review and evaluation proposals/recommendation for improvement will be prepared including possibilities for privatisation.

##### PMS

One set of FWD equipment complying with the requirements of the previously introduced software of the PMS will be provided and handed over to the final recipient.

Further training in data collection and the use of the PMS and BMS programme system will be provided to the TRACECA states.

## **4. PROJECT PROGRESS IN REPORTING PERIOD**

### **4.1 Introduction**

#### **4.1.1 Implementation of Pavement Management Systems**

The commencement of the services for the Project was delayed due to unfavourable weather conditions in the project area and the field works commenced in middle of March 1996. One month later in middle of April 1996 a second/additional group of the Consultant's specialists commenced activities in the Caucasus area and the lost time has been caught up.

The Consultant's activities from October to December 1996 can be summarised as follows:

- (i) Continuation and completion of activities in
  - Armenia
  - Azerbaijan
  - Georgia
  - Uzbekistan
  - Turkmenistan
  
- (ii) Continuation and completion of activities as far as constraints allowed in
  - Tadjikistan
  
- (iii) Follow up visit where activities previously were completed
  - Kyrgyzstan
  - Kazakhstan

The respective administration of the recipient states made available the required number of counterpart staff for each of the activities of the Project. A big and highly interested audience participated in the various seminars and training courses, as a sample lists of seminar participants of one recipient state are attached in the Appendix.

The kind assistance of the Tacis Co-ordinating Units in all administrative and technical questions is gratefully noted.

#### **4.1.2 Addendum No. 1**

The contract for the Addendum No. 1 was notified on 21 October 1996 and included a 9 months increase of the duration of the contract resulting in a total duration of 21 months.

The Consultant's activities commenced for the Tedjen - Mary road improvement project in Turkmenistan (TM-TM) on 12 November 1996.

Middle of December 1996 commencement meetings were held with the recipient institute in Baku/Azerbaijan for preparation of the activities for the feasibility study of transit roads (FS-AZ).

## 4.2 Mobilisation

### 4.2.1 Implementation of Pavement Management Systems

#### *Consultant's Personnel*

The Consultant's organisation with two teams, one in the Centralasian and the other in the Caucasus area, proved to be advantageous for all project needs and the decision was made to continue with this set-up even after lost time had been caught up. To harmonise project approaches and to synchronise project activities the two team leaders were keeping close contact by telecommunication and arranged meetings in:

- Kyrgyzstan, May 1996
- Kazakhstan, June 1996
- Germany, July 1996
- Georgia, September 1996
- Germany, October 1996
- Turkmenistan, November 1996
- Germany, December 1996

The Consultant's personnel in the project area during the progress period included:

Project Manager	Werner P. Weiler	KOCKS CONSULT GMBH
Highway Engineer & Team Leader 1 (Central Asia)	Ulrich Willems	KOCKS CONSULT GMBH
Highway Engineer & Team Leader 2 (Caucasus area)	Carsten Griese	KOCKS CONSULT GMBH
Transport Economist & Traffic Engineer	Robert A. Smith	TECNECON
PMS/BMS (Home Office) Support	Per Støvring	Phønix PPC
FWD/PMS Engineer	Kimo Karini	Phønix PPC
PMS/FWD Engineer	Jens P. Pedersen	Phønix PPC
Asphalt Specialist	Hans U. Zimmermann	KOCKS CONSULT GMBH
Bridge/BMS Engineer	Peter Poitzsch	KOCKS CONSULT GMBH
Structural Engineer	Andris Melecis	KOCKS CONSULT GMBH
Engineering Co-ordinator	Johann Rogalski	KOCKS CONSULT GMBH

#### *Local Experts*

Local Experts are provided by the recipient institutions and paid for by the Project. For the particular purpose of this project the local expertise is available in the recipient institutions only, with perhaps very few exceptions. The participation of the institution's experts is considered more beneficial to the Project, because the expertise will be available to the PMS/BMS Unit also in the future.

***Equipment for Field Works*****(i) Road Condition Survey**

The one set of equipment provided for the Project during the previous progress period including

- Falling Weight Deflectometer (FWD)
- axle weight bridge incl. dunning pads for weighing up to triple axle trucks
- Bump Integrator Unit
- MERLIN
- longitudinal sensor (tripmeter)
- various small measuring devices and office equipment

was transported to the next recipient state when activities were completed in the one before.

**(ii) Bridge Condition Survey**

The Consultant used his own measurement/testing equipment for the inspection of bridges including

- concrete test hammer
- rebar locator
- laser distance meter
- crack measuring lens.

***Transportation***

Locally acquired transport was used to commute between and in the states, vehicles for the field works and data collection respectively were rented through local contracts from the respective recipient department.

**4.2.2 Addendum No. 1**

Details of the mobilisation in Turkmenistan are summarised in the Inception Report (TM-TM) of January 1997, which will be submitted to Turkmenautoellari in Ashgabat and the European Bank for Reconstruction and Development (EBRD) in London according to the Terms of Reference.

The activities in Azerbaijan will be described in an Inception Report (FS-AZ) which will be prepared in February 1997.



### **4.3 Activities during the Reporting Period October to December 1996**

#### **4.3.1 Implementation of Pavement Management Systems**

##### ***Field Works and Data Collection***

The field works and data collection for the project roads continued and were completed respectively as detailed in the previous progress reports including

- seminars for introduction of the equipment attended by the counterparts as well as interested participants of other departments and institutes
- collection and evaluation of road surface and road pavement condition data

Due to confusions concerning new regulations for foreign currency the Uzbekistan border police did not permit the Consultant's highway engineer to cross the border on the A 377 west of Samarkand to travel to Tadjikistan on 06 November 1996. Travelling on the A 377 was determined since it is one of the selected TRACECA roads to be investigated and to take across the vehicle with the installed and calibrated bump integrator. Time lost by this event, other project activities not possible to re-schedule and the approaching winter led to the conclusion to postpone the activities for

- FWD survey and evaluation
- roughness measurement
- seminar on road safety and road design aspects.

The recipient institute Tadjikiprotransstroy and the Tacis CU in Dushanbe were informed accordingly

Bridge inspections were carried out for evaluation of possible deficiencies and determination of the bridge condition class. Form sheets for inspection and guidelines were used for collection of data and information to be entered into the Bridge Management System (BMS). The equipment used for bridge testing as well as the above form and guidelines were demonstrated on sample bridges, after which the counterparts did own testing and condition evaluation.

##### ***Computers and PMS/BMS Programme Systems***

The project includes the supply of hardware and software for the Pavement Management System (PMS) and the Bridge Management System (BMS).

During the present reporting period 2 further sets of computer equipment were delivered and handed over to the recipient institutes (Tadjikistan and Turkmenistan).

The programme system supplied under the TRACECA Project, the Phønix - RoSy - PMS/BMS, was finalised including translation into Russian, on-line manuals and the BMS cost module. The programme has been installed in all 8 recipient states, followed by a comprehensive training.

### ***Transport Economics and Road Use Cost Aspects***

Fieldwork and data collection was completed and consequently data was analysed including:

- Classified volume count data
- Historical traffic count data, where available
- International truck origin-destination survey data
- Axle load survey data
- Input data for the analysis of vehicle operating costs
- Information on trends in expenditure on road maintenance and rehabilitation
- Road network conditions and road use costs

All data, information and analysis has been compiled in the draft final report of the Study of the Cost and Financing of Road Usage which was submitted in December 1996.

### ***Seminars***

Besides the aforementioned seminars for the introduction of equipment seminars were held and site visits were carried out concerning

- Bitumen bound products comprising the main topics
  - Materials: existing situation of bitumen, aggregates, asphalt production and necessary improvements
  - Pavement designs: existing design standards for asphalt concrete (AC) pavements, European and North American standards/design methods
  - Quality control, soils & material laboratory requirements
  - Rehabilitation/reinforcement/strengthening of AC pavements, pavement placing techniques and equipment
  - Recycling techniques and equipment for AC
- Road safety and road design aspects comprising the main topics
  - road geometry: horizontal and vertical alignment, cross section (road/lane width), junctions/intersections
  - signalisation: traffic signs, road marking
  - winter maintenance
  - public promotion/information programmes
  - enforcement of regulations

- Study Tour to Europe

In the framework of the current Project a study tour for staff of the recipient institutes was organised from 18.11. to 22.11.1996 in Koblenz, Germany.

The objective of the study tour was to give the participants an overview over the actual Western European

- organisation of road administration
- organisation of road and bridge maintenance
- road maintenance methods/techniques
- bridge maintenance methods/techniques
- winter maintenance
- road safety measures including construction sites

A special report on the Study Tour to Europe including all details of the background, organisation, participants and the course of the tour programme was prepared and submitted in English as well as Russian language to EC/Tacis in Brussels and the Tacis CUs in all eight recipient states.

#### 4.3.2 Addendum No. 1

##### TM-TM

Details of the activities for the Tedjen - Mary road improvement project are described in the relevant project reports.

##### FS-AZ

The activities for the feasibility study for rehabilitation of transit roads in Azerbaijan will be summarised in the respective project reports.

##### PMS

Further training of the PMS/BMS system will be carried out in the TRACECA states. However, for Kazakhstan a different activity instead was discussed and agreed with the recipient institute KAZDORNII:

##### (i) Background

In Kazakhstan the counterpart/recipient institute KAZDORNII has an existing Road Data Bank & Evaluation Programme (RD&E) which comprises about 17,000 km of road.

During the project activities KAZDORNII introduced the RD&E to the Consultant, who took a sample of data for first analysis to Europe in September 1996. The analysis of the Consultant's specialists showed that there are good possibilities for an interlink between RD&E and the RoSy-PMS provided under the Project. End of October 1996 a meeting was held in Almaty between KAZDORNII and the Consultant to discuss the possibilities for further development of the PMS programme system.

**(ii) Proposed Approach**

The idea is to develop a link between the two systems so that RoSy-PMS can access and import data from the existing data bank for the calculation of the optimum maintenance strategy.

The Consultant's programmer will travel to Almaty and analyse together with specialists of KAZDORNII the data base structure. The required set up and details for development of an interface between RD&E and RoSy-PMS will be described which may include the following:

- Open a request window (could be in the existing RD&E or RoSy) and select oblast, road names/numbers, traffic data, etc. for the roads to be calculated/planned
- Data are extracted from data base and stored in an ASCII file with defined format
- The file is copied to the RoSy PMS computer
- Data are imported into RoSy data base
- Calculation for the optimum maintenance strategy
- Print the calculated reports

The result of activities of the Consultant's programmer will be a report describing the details for the further programme development.

**4.4 Implementation of the BMS/PMS**

The previous Progress Report No. 2 included information about existing organisational/administrative structures and ongoing re-organization for the implementation of PMS/BMS in six of the recipient states.

During the present progress period further information has been collected for the remaining two recipient states and is listed in the tables below.

Region: Central Asia State 4, Turkmenistan			
	REQUIREMENT	ASSESSMENT	RECOMMENDATION
1. Institutional Issues	<p>1.1 Decision by administration for implementation of PMS/BMS</p> <p>1.2 Definition of responsible institute/department</p> <p>1.3 Organizational structure for data collection and maintenance of centralized data base</p> <p>1.4 Provision of budget for PMS/BMS unit</p>	<p>1.1 No confirmation yet due to uncertain budget situation</p> <p>1.2 During project activities temporary formation of a PMS/BMS unit in Concern TURKMENAUTOELLARI</p> <p>1.3 Bridge passports are available only</p> <p>1.4 No budget available</p>	<p>1.1 to 1.4</p> <p>Not yet adequate, technical assistance for institutional strengthening strongly recommended</p>
2. Staff Issues	<p>2.1 Provision of qualified staff</p> <p>2.2 Training in data collection, data evaluation and PMS/BMS programme system</p>	<p>2.1 PMS/BMS unit with 1 to 3 Engineers</p> <p>2.2 Training in all aspects has been provided under the present TRACECA project</p>	<p>2.1 Not yet adequate</p> <p>2.2 Further training for setting up of data collection system + maintaining of data base, optimization of programme system and preparation of maintenance recommendation is recommended.</p> <p>2.3 Further monitoring recommended.</p>
3. Technical Issues	<p>2.3 Personnel Development</p> <p>3.1 Provision of office accommodation for PMS/BMS unit</p> <p>3.2 Hardware and software for PMS/BMS</p> <p>3.3 Transport for field works and data collection</p> <p>3.4 Equipment for road and pavement condition survey</p>	<p>2.3 No information available.</p> <p>3.1 In the building of TURKMEN-AUTOELLARI</p> <p>3.2 Has been provided under the present TRACECA project</p> <p>3.3 No vehicles available</p> <p>3.4 No equipment available (only 1 set of equipment under the present TRACECA project for all 8 recipient states)</p>	<p>3.1 adequate</p> <p>3.2 adequate</p> <p>3.3 &amp; 3.4 Provision of equipment after completion of re-organization (item 1.1 to 1.4 above)</p>

<b>Region: Central Asia State 5, Tadjikistan</b>			
	<b>REQUIREMENT</b>	<b>ASSESSMENT</b>	<b>RECOMMENDATION</b>
1. Institutional Issues	<p>1.1 Decision by administration for implementation of PMS/BMS</p> <p>1.2 Definition of responsible institute/department</p> <p>1.3 Organizational structure for data collection and maintenance of centralized data base</p> <p>1.4 Provision of budget for PMS/BMS unit</p>	<p>1.1 Confirmed by TADJIKIPROTRANSSTROY</p> <p>1.2 Commenced formation of a PMS/BMS unit in TADJIKIPRO-TRANSSTROY</p> <p>1.3 Few data in files available only.</p> <p>1.4 No budget available</p>	<p>1.1 adequate</p> <p>1.2 adequate</p> <p>1.3 Not yet adequate, technical assistance for institutional strengthening recommended</p> <p>1.4 as 1.3 above</p>
2. Staff Issues	<p>2.1 Provision of qualified staff</p> <p>2.2 Training in data collection, data evaluation and PMS/BMS programme system</p>	<p>2.1 PMS/BMS unit with 2 to 5 Engineers</p> <p>2.2 Training in all aspects has been provided under the present TRACECA project</p>	<p>2.1 adequate</p> <p>2.2 Further training for setting up of data collection system + maintaining of data base, optimization of programme system and preparation of maintenance recommendation is recommended.</p>
3. Technical Issues	<p>2.3 Personnel Development</p> <p>3.1 Provision of office accommodation for PMS/BMS unit</p> <p>3.2 Hardware and software for PMS/BMS</p> <p>3.3 Transport for field works and data collection</p> <p>3.4 Equipment for road and pavement condition survey</p>	<p>2.3 No information available.</p> <p>3.1 In the building of TADJIKIPRO-TRANSSTROY</p> <p>3.2 Has been provided under the present TRACECA project</p> <p>3.3 No vehicles available</p> <p>3.4 No equipment available (only 1 set of equipment under the present TRACECA project for all 8 recipient states)</p>	<p>2.3 Further monitoring recommended.</p> <p>3.1 adequate</p> <p>3.2 adequate</p> <p>3.3 &amp; 3.4 Provision of equipment after completion of re-organization (item 1.1 to 1.4 above)</p>

#### 4.5 Tables

The achieved progress in the states under the Project is summarised in the tables (forms 2.2, 2.3 and 2.4) below. All activities were carried out as on-the-job training by the counterparts together with the Consultant's specialists and/or on individual tasks after training.

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**PROJECT PROGRESS REPORT**

Project title: Traceca Project - Implementation of Pavement Management Systems		Project number: TELREG 9305		Country: The Southern Republics of the CIS and Georgia		Form 2.2, Page: 1					
Planning period: 10/1996 - 12/1996		Prepared on: 01/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz / Germany							
Project objectives: <b>Implementation of Pavement and Bridge Management Systems</b>											
No		ACTIVITIES IMPLEMENTED		INPUTS							
		TIME FRAME 1996 (for the project period October 1996 to December 1996)		PERSONNEL EC Consultant		PERSONNEL Counterpart		EQUIPMENT AND MATERIAL		OTHER	
		Months		Planned		Utilised		Planned		Utilised	
		10		11		12					
<b>4.</b> 4.1		<b>Road Cond. Survey + Stand. Def.</b> Rough. measurement + cond. survey		X X				1 week 1 week		0.5 wks	
<b>14.</b> 14.2		<b>Training + Seminars</b> Road safety and design		X				0.2 wks 1 week		0.2 wks 1 week	
14.5		Study Tour to Europe		X X				1 week		1 week	
<b>28.</b> 28.5		<b>State 2, Kyrgyzstan</b> Training + Seminars Study Tour to Europe		X X				1 week		1 week	
<b>42.</b> 42.5		<b>State 3, Kazakhstan</b> Training + Seminars Study Tour to Europe		X X				1 week		1 week	
		<b>TOTAL</b>						4.2 wks 4.2 wks		3.7 wks	



**PROJECT PROGRESS REPORT**

Project title: Traceca Project - Implementation of Pavement Management Systems		Project number: TELREG 9305		Country: The Southern Republics of the CIS and Georgia		Form 2.2, Page: 2						
Planning period: 10/1996 - 12/1996		Prepared on: 01/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz / Germany								
Project objectives: <b>Implementation of Pavement and Bridge Management Systems</b>												
No	ACTIVITIES IMPLEMENTED	TIME FRAME 1996 (for the project period October 1996 to December 1996)						INPUTS				
		Months		PERSONNEL EC Consultant		PERSONNEL Counterpart		EQUIPMENT AND MATERIAL		OTHER		
		10	11	12	Planned	Utilised	Planned	Utilised	Planned	Utilised	Planned	Utilised
<b>44.</b>	<b>Logistics, Data Collection</b>				0.5 wks	0.5 wks						
44.1	Arranging local expertise, office, etc.	X			1 week	1 week						
44.2	Review existing data bases	X X			0.5 wks	1.5 wks						
<b>45.</b>	<b>Road Network Location</b>				0.5 wks	0.5 wks						
<b>46.</b>	<b>Road Cond.Survey+Standard Def</b>				3 weeks	3 weeks						
46.1	Rough. measurement+ cond. survey		X X X X	X	1 week	1 week						
46.2	Establish existing design standards			X	1 week	1 week						
<b>47.</b>	<b>Traffic Survey + Evaluation</b>				1 week	1 week						
47.1	Analysis of existing traffic data	X X			0.5 wks	0.5 wks						
47.2	Traffic survey + axle weighing		X		1.5 wks	1 week						
47.3	Traffic forecast			X	0.5 wks	0.5 wks						
<b>48.</b>	<b>FWD Survey + Evaluation</b>				0.5 wks	0.5 wks						
48.1	Select representative road sections	X			1 week	1 week						
48.2	Measure + store FWD survey data		X X X		1 week	1 week						
48.3	Pavement analysis			X	0.5 wks	0.5 wks						
<b>49.</b>	<b>Maintenance Strategy</b>				0.5 wks	0.5 wks						
49.1	Establish exist. maintenance proced.		X		0.5 wks	0.5 wks						
49.2	Propose maintenance strategy				0.5 wks	0.5 wks						
<b>50.</b>	<b>Road + Usage Costing</b>				1 week	0.5 wks						
50.1	Evaluate maintenance costs			X	0.5 wks	0.5 wks						
<b>51.</b>	<b>VOC's (HDM)</b>				0.5 wks	0.5 wks						
51.1	Vehicle classification to suit HDM		X		1.5 wks	1.5 wks						
51.2	Economic + financial cost of VOC's		X X X		0.2 wks	0.2 wks						
51.3	Calculation of VOC's			X	0.5 wks	0.5 wks						
<b>52.</b>	<b>Bridge Cond. Survey + Stand.Def.</b>				0.5 wks	0.5 wks						
52.1	Collect bridge data		X		1.5 wks	1.5 wks						
52.2	Inspect bridges		X		0.5 wks	0.5 wks						
52.3	Establish existing bridge standard			X	1 week	1 week						
					17.7	17.2					17.5	16.5
				<b>TOTAL</b>								

## PROJECT PROGRESS REPORT

Project title: Traceca Project - Implementation of Pavement Management Systems		Project number: TELREG 9305		Country: The Southern Republics of the CIS and Georgia				Form 2.2., Page: 3							
Planning period: 10/1996 - 12/1996		Prepared on: 01/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz / Germany											
Project objectives: Implementation of Pavement and Bridge Management Systems															
No	ACTIVITIES IMPLEMENTED	TIME FRAME 1996 (for the project period October 1996 to December 1996)								INPUTS					
		PERSONNEL													
		EC Consultant		Personnel Counterpart		EQUIPMENT AND MATERIAL		OTHER							
		Planned		Utilised		Planned		Utilised		Planned		Utilised			
		Months													
		10		11		12									
53. Bridge Maintenance Strategy		X		X											
53.1 Assess exist. maintenance methods															
53.2 Discussion of mainten. methods															
53.3 Evaluate maintenance + repair costs															
54. Adoption PMS + BMS															
54.1 Install the system															
54.2 Enter relevant data into PMS/BMS															
55. PMS Model Optimisation															
56. Training + Seminars															
56.1 Seminar bit. bound products tech.															
56.2 Seminar road safety and design															
56.3 Training + Seminars PMS/BMS															
56.4 Seminar bridge maintenance tech.															
56.5 Study Tour to Europe															
TOTAL		7.4		7.4		7.4		7.4		7.4		7.4		7.4	

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**PROJECT PROGRESS REPORT**

Project title: Traceca Project - Implementation of Pavement Management Systems		Project number: TELREG 9305		Country: The Southern Republics of the CIS and Georgia		Form 2.2, Page: 4				
Planning period: 10/1996 - 12/1996		Prepared on: 01/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz / Germany						
Project objectives: Implementation of Pavement and Bridge Management Systems										
No	ACTIVITIES IMPLEMENTED	TIME FRAME 1996			INPUTS					
		(for the project period October 1996 to December 1996)			PERSONNEL EC Consultant		PERSONNEL Counterpart		EQUIPMENT AND MATERIAL	
		Months			Planned	Utilised	Planned	Utilised	Planned	Utilised
		10	11	12						
<b>58.</b>	<b>Region: Central Asia</b>									
58.1	State 5, Tadjikistan									
58.2	Logistics, Data Collection	X			0.5 wks	0.5 wks	2 weeks	1.5 wks		
	Arranging local expertise, office, etc.	X			1 week	1 week	2 weeks	1 week		
	Review existing data bases				0.5 wks	0.5 wks	0.5 wks	0.5 wks		
<b>59.</b>	Road Network Location									
<b>60.</b>	Road Cond.Survey+Standard Def									
60.1	Rough. measurement+ cond. survey	X	X X X		3 week.s	2 weeks	3 weeks	2 weeks		
60.2	Establish existing design standards		X		1 week	1 week	--	1 week	Bump Intergrator	Tripmeter, Car, MERLIN
<b>61.</b>	Traffic Survey + Evaluation									
61.1	Analysis of existing traffic data	X X			1 week	1 week	1 week	1 week		
61.2	Traffic survey + axle weighing				0.5 wks	--	1 week	--		
61.3	Traffic forecast	X			1 week	1 week	0.5 wks	--		
<b>63.</b>	Maintenance Strategy									
63.1	Establish exist. maintenance proced.				0.5 wks	0.5 wks	0.5 wks	0.5 wks		
63.2	Propose maintenance strategy				0.5 wks	0.5 wks	0.5 wks	0.5 wks		
<b>64.</b>	Road + Usage Costing									
64.1	Evaluate maintenance costs	X			1 week	0.5 wks	1 week	0.5 wks		
<b>65.</b>	VOC's (HDM)									
65.1	Vehicle classification to suit HDM		X		0.5 wks	0.5 wks	0.5 wks	0.5 wks		
65.2	Economic + financial cost of VOC's		X X X		1.5 wks	1.5 wks	1.5 wks	1.5 wks		
65.3	Calculation of VOC's		X		0.2 wks	0.2 wks	0.2 wks	0.2 wks		
<b>66.</b>	Bridge Cond. Survey + Stand.Def.									
66.1	Collect bridge data	X			0.5 wks	0.5 wks	1 week	1 week		
66.2	Inspect bridges	X X			1.5 wks	1.5 wks	1.5 wks	1.5 wks	Bridge Testing Equipment	
66.3	Establish existing bridge standard	X			0.5 wks	0.5 wks	0.5 wks	0.5 wks		
		TOTAL			15.2	13.2	13.0	10.5		

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**PROJECT PROGRESS REPORT**

Project title: Traceca Project - Implementation of Pavement Management Systems		Project number: TELREG 9305		Country: The Southern Republics of the CIS and Georgia		Form 2.2, Page: 5		
Planning period: 10/1996 - 12/1996		Prepared on: 01/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz / Germany				
Project objectives: <b>Implementation of Pavement and Bridge Management Systems</b>								
No	ACTIVITIES IMPLEMENTED	TIME FRAME 1996 (for the project period October 1996 to December 1996)			INPUTS			
		Months			EQUIPMENT AND MATERIAL			
		10	11	12	Planned	Utilised	Planned	Utilised
67.	<b>Bridge Maintenance Strategy</b>	X			0.5 wks	0.5 wks		
67.1	Assess exist. maintenance methods	X			0.5 wks	0.5 wks		
67.2	Discussion of mainten. methods			X	0.5 wks	0.5 wks		
67.3	Evaluate maintenance + repair costs				0.5 wks	0.5 wks		
68.	<b>Adoption PMS + BMS</b>				0.5 wks	0.5 wks		
68.1	Install the system			X	1 week	1 week		
68.2	Enter relevant data into PMS/BMS			X X	1 week	1 week		
69.	<b>PMS Model Optimisation</b>		X		0.5 wks	0.5 wks		
70.	<b>Training + Seminars</b>				1 week	1 week		
70.1	Seminar bit. bound products tech.			X X	1 week	1 week		Teaching mat.
70.3	Training + Seminars PMS/BMS			X X	1 week	1 week		Teaching mat.
70.4	Seminar bridge maintenance tech.	X			0.2 wks	0.2 wks		
70.5	Study Tour to Europe		X X		1 week	1 week		Information Mat.
		TOTAL			6.7	6.7	6.7	6.7

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**PROJECT PROGRESS REPORT**

Project title: Traceca Project - Implementation of Pavement Management Systems		Project number: TELREG 9305		Country: The Southern Republics of the CIS and Georgia		Form 2.2, Page: 6								
Planning period: 10/1996 - 12/1996		Prepared on: 01/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz / Germany										
Project objectives: Implementation of Pavement and Bridge Management Systems														
No	ACTIVITIES IMPLEMENTED	TIME FRAME 1996						INPUTS						
		(for the project period October 1996 to December 1996)			MONTHS			PERSONNEL EC Consultant		PERSONNEL Counterpart		EQUIPMENT AND MATERIAL		OTHER
		10	11	12	Planned	Utilised	Planned	Utilised	Planned	Utilised	Planned	Utilised	Planned	Utilised
	<b>Region: Caucasus</b>													
	<b>State 1, Azerbaijan</b>													
78.	<b>Road Usage + Costing</b>													
78.1	Evaluate maintenance costs	X			0.2 wks	02. wks	1 week	1 week	1 week					
80.	<b>Bridge Cond. Survey + Stand.Def.</b>													
80.1	Collect bridge data		X		0.5 wks	0.5 wks	1 week	1 week	1 week					
80.2	Inspect bridges		X X		2 wks	2 wks	3 wks	3 wks	2.5 wks					
80.3	Establish existing bridge stand.		X		0.5 wks	0.5 wks	1 week	1 week	1 week					
81.	<b>Bridge Maintenance Strategy</b>													
81.1	Assess exist. maintenance method		X		1 week	1 week	1 week	1 week	1 week					
81.2	Discussion of mainten. methods		X		0.5 wks	0.5 wks	0.5 wks	0.5 wks	0.5 wks					
81.3	Evaluate maintenance + repair cost		X		0.5 wks	0.5 wks	0.5 wks	0.5 wks	0.5 wks					
82.	<b>Adoption PMS + BMS</b>													
82.1	Install the system		X		0.5 wks	0.5 wks	0.5 wks	0.5 wks	0.5 wks					
82.2	Enter relevant data into PMS/BMS		X		1.5 wks	1.5 wks	1.5 wks	1.5 wks	1.5 wks					
83.	<b>Model Optimization</b>													
			X		1 week	1 week	2 wks	2 wks	1 week					
84.	<b>Training + Seminars</b>													
84.1	Seminar bit. bound products tech.				1 week	1 week	1 week	1 week	1 week					
84.2	Seminar road safety and design	X			0.2 wks	0.2 wks	0.2 wks	0.2 wks	0.2 wks					
84.3	Training + Seminar PMS/BMS		X		1 week	1 week	1 week	1 week	1 week					
84.4	Seminar bridge maintenance tech.			X	0.5 wks	0.5 wks	0.5 wks	0.5 wks	0.5 wks					
84.5	Study Tour to Europe		X X		1 week	1 week	1 week	1 week	1 week					
					11.9	11.9	15.7	14.2	14.2					

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**PROJECT PROGRESS REPORT**

Project title: Traceca Project - Implementation of Pavement Management Systems		Project number: TELREG 9305		Country: The Southern Republics of the CIS and Georgia		Form 2.2, Page: 7				
Planning period: 10/1996 - 12/1996		Prepared on: 01/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz / Germany						
Project objectives: Implementation of Pavement and Bridge Management Systems										
No	ACTIVITIES IMPLEMENTED	TIME FRAME 1996						INPUTS		
		(for the project period October 1996 to December 1996)			Months			EQUIPMENT AND MATERIAL		
		10	11	12	Planned	Utilised	Planned	Utilised	Planned	Utilised
<b>Region: Caucasus</b>										
<b>State 2, Georgia</b>										
94.	<b>Bridge Cond. Survey + Stand. Def.</b>									
94.1	Collect bridge data	X			0.5 wks	0.5 wks	1 week	1 week		
94.2	Inspect bridges	X X			1.5 wks	1.5 wks	1.5 wks	1.5 wks		
94.3	Establish existing bridge standard	X			0.5 wks	0.5 wks	0.5 wks	0.5 wks		
95.	<b>Bridge Maintenance Strategy</b>									
95.1	Assess exist. maintenance methods		X X		1 week	1 week	1 week	1 week		
95.2	Discussion of mainten. methods		X		0.5 wks	0.5 wks	0.5 wks	0.5 wks		
95.3	Evaluate maintenance + repair costs		X		0.5 wks	0.5 wks	0.5 wks	0.5 wks		
96.	<b>Adoption PMS + BMS</b>									
96.1	Install the system	X			0.5 wks	0.5 wks	0.5 wks	0.5 wks		
96.2	Enter relevant data into PMS/BMS	X X		X	1.5 wks	1.5 wks	1.5 wks	1.5 wks	PMS/BMS software	
97.	<b>Model Optimization</b>									
97.	Model Optimization	X X			1 week	1 week	1.5 wks	1 week		
98.	<b>Training + Seminars</b>									
98.1	Seminar bit. bound products tech.				1 week	1 week	1 week	1 week		
98.2	Seminar road safety and design				0.2 wks	0.2 wks	0.2 wks	0.2 wks	teaching mat.	
98.3	Training + Seminar PMS/BMS	X			1 week	1 week	1 week	1 week		
98.4	Seminar bridge maintenance tech.				0.5 wks	0.5 wks	0.5 wks	0.5 wks		
98.5	Study Tour to Europe				1 week	1 week	1 week	1 week	information mat.	
<b>State 3, Armenia</b>										
102.	<b>Road Cond. Survey + Stand. Def.</b>									
102.2	Establish exist. design standards				1 week	1 week	1 week	1 week		
105.	<b>Maintenance Strategy</b>									
105.2	Propose maintenanc strategy	X			0.5 wks	0.5 wks	0.5 wks	0.5 wks		
107.	<b>VOCs (HDM)</b>									
107.1	Vehicle classification to suit HDM	X			0.5 wks	0.5 wks	1 week	0.5 wks		
107.2	Economic + financial cost of VOCs	X			1.5 wks	1.5 wks	2 wks	1.5 wks		
107.3	Calculation of VOCs	X			1 week	1 week	1 week	1 week		
<b>TOTAL</b>					15.7	15.2	16.7	15.2		15.2

**PROJECT PROGRESS REPORT**

Project title: Traceca Project - Implementation of Pavement Management Systems		Project number: TELREG 9305		Country: The Southern Republics of the CIS and Georgia		Form 2.2, Page: 8				
Planning period: 10/1996 - 12/1996		Prepared on: 01/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz / Germany						
Project objectives: <b>Implementation of Pavement and Bridge Management Systems</b>										
No	ACTIVITIES IMPLEMENTED	TIME FRAME 1996 (for the project period October 1996 to December 1996)		INPUTS						
		10	11	12	PERSONNEL EC Consultant	PERSONNEL Counterpart	EQUIPMENT AND MATERIAL	OTHER		
		Months			Planned	Utilised	Planned	Utilised	Planned	Utilised
108.	<b>Bridge Cond. Survey + Stand.Def.</b>									
108.1	Collect bridge data		X		0.5 wks	0.5 wks				
108.2	Inspect bridges		X X		1.5 wks	1.5 wks				
108.3	Establish existing bridge standard		X		0.5 wks	0.5 wks				
109.	<b>Bridge Maintenance Strategy</b>									
109.1	Assess exist. maintenance methods			X	1 week	1 week				
109.2	Discussion of mainten. methods			X	0.5 wks	0.5 wks				
109.3	Evaluate maintenance + repair costs			X	0.5 wks	0.5 wks				
110.	<b>Adoption PMS + BMS</b>									
110.1	Install the system	X			0.5 wks	0.5 wks				
110.2	Enter relevant data into PMS/BMS		X		1.5 wks	1.5 wks			PMS/BMS software	
111.	<b>Model Optimization</b>									
111.	<b>Training + Seminars</b>									
112.1	Seminar bit. bound products techn.		X		1 week	1 week				
112.2	Seminar road safety and design	X			1 week	0.2 wks			teaching mat.	
112.3	Training + Seminar PMS/BMS		X		1.5 wks	1.5 wks				
112.4	Seminar bridge maintenance tech.			X	1 week	1 week				
112.5	Study Tour to Europe			X X	1 week	1 week			information mat.	
				TOTAL	12.2	12.2	12.7	11.7		

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**RESOURCE UTILISATION REPORT**

Project title : Implementation of Pavement Management Systems		Project number : TELREG 9305		Country : The Southern Republics of the CIS and Georgia		Form 2.3, Page : 1	
Planning period : 10/1996 - 12/1996		Prepared on : 01/1997		EC Consultant : KOCKS CONSULT GMBH, Koblenz/Germany			
Project objectives : Implementation of Pavement and Bridge Management Systems							
RESOURCES/INPUTS	TOTAL PLANNED	PERIOD PLANNED	PERIOD REALISED	TOTAL REALISED	AVAILABLE FOR REMAINDER		
<b>PERSONNEL</b>							
Project Manager	20 man-days	5 man-days	5 man-days	20 man-days			0 man-days
Team-Leader (Central Asia + Caucasus)	10.18 man-months	2.68 man-months	2.68 man-months	12.68 man-months			- 2.5 man-months
Transport Economist	8.00 man-months	1.50 man-months	1.50 man-months	8.00 man-months			0 man-months
Traffic Engineer	15 man-days	0 man-days	0 man-days	0 man-days			15 man-days
FWD and PMS/BMS Specialists	9.62 man-months (7.27 months + 56 days)	1.50 man-months	1.50 man-months	9.50 man-months			0.32 man-months
Engineering Coordinator	10.18 man-months	2.88 man-months	2.88 man-months	10.18 man-months			0 man-months
Structural Engineer and Bridge Specialist	12.00 man-months (10.18 months + 40 days)	3.85 man-months	3.85 man-months	7.35 man-months			4.65 man-months
Asphalt Specialist	24 man-days	1.75 man-months	1.75 man-months	39 man-days + 1.75 man-months			-15 man-days and - 1.75 man-months
PMS/BMS Home Office Support	24 man-days	4 man-days	4 man-days	24 man-days			0 man-days
PMS/BMS Programmer Software	88 man-days	0 man-days	0 man-days	88 man-days			0 man-days
Sub-total	50.18 man-months and 171 man-days	14.16 man-months and 9 man-days	14.16 man-months and 9 man-days	49.46 man-months and 171 man-days			0.72 man-months and 0 man-days
<b>EQUIPMENT AND MATERIAL</b>							
Phoenix Falling Weight Deflectometer	1	1	1	1			0
Portable Axle Weighbridge System	1	1	1	1			0
Bump Integrator	1	1	2	2			0
Trimeter	1	1	2	2			0
Personnel Computers incl. Ancillaries	8	2	2	8			0
Laser Printers incl. Ancillaries	8	2	2	8			0
Software „Windows 95“ package	8	2	2	8			0
Software „RoSy - PMS/BMS“	8	5	5	8			0
Sub-total	36	15	17	38			0
<b>OTHER INPUTS</b>							
MERLIN	--	--	1	1			0
Bridge Testing Equipment	--	--	1 set	1 set			0
Sub-total	--	--	2	2			0
<b>TOTAL</b>							



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**OUTPUT PERFORMANCE REPORT**

Project title : Traceca Project - Implementation of Pavement Management Systems Prepared on: 01/1997	Project number: TELREG 9305	Country : The Southern Republics of the CIS and Georgia EC Consultant: KOCKS CONSULT GMBH, Koblenz/Germany	Form 2.4, Page : 1
Output results	Deviation original plan + or - %	Reason for deviation	Comment on constrains & assumptions
<p><b><u>REGION: CENTRAL ASIA</u></b></p>			
<p><b>STATE 1, UZBEKISTAN</b>  <b>(i) Implementation of PMS/BMS</b>                      Pavement Condition Survey                      Assessment of Traffic                      Economic Evaluation and VOC's                      Bridge Condition Survey                      Install and Adoption PMS + BMS                      Recommend Improvements                      Training and Seminars                      Provision of PMS + BMS hardware and software                      Study Tour to Europe</p>	<p>COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      ON SCHEDULE</p>		
<p><b>(ii) Addendum 1</b>                      Training</p>	<p>ON SCHEDULE</p>		
<p><b>STATE 2, KYRGYZSTAN</b>  <b>(i) Implementation of PMS/BMS</b>                      Pavement Condition Survey                      Assessment of Traffic                      Economic Evaluation and VOC's                      Bridge Condition Survey                      Install and Adoption PMS + BMS                      Recommend Improvements                      Training and Seminars                      Provision of PMS + BMS hardware and software                      Study Tour to Europe</p>	<p>COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      COMPLETED                      ON SCHEDULE</p>		
<p><b>(ii) Addendum 1</b>                      Training</p>	<p>ON SCHEDULE</p>		

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**OUTPUT PERFORMANCE REPORT**

Project title : Traceca Project - Implementation of Pavement Management Systems	Project number: TELREG 9305	Country : The Southern Republics of the CIS and Georgia	Form 2.4, Page : 2
Prepared on: 01/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz/Germany		
Output results	Deviation original plan + or - %	Reason for deviation	Comment on constrains & assumptions
<b>REGION: CENTRAL ASIA</b>			
<b>STATE 3, KAZAKHSTAN</b> <b>(i) Implementation of PMS/BMS</b> Pavement Condition Survey Assessment of Traffic Economic Evaluation and VOC's Bridge Condition Survey Install and Adoption PMS + BMS Recommend Improvements Training and Seminars Provision of PMS + BMS hardware and software Study Tour to Europe	COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED		
<b>(ii) Addendum 1</b>	COMPLETED		
Definition of Interface	ON SCHEDULE		
<b>STATE 4, TURKMENISTAN</b>			
<b>(i) Implementation of PMS/BMS</b> Pavement Condition Survey Assessment of Traffic Economic Evaluation and VOC's Bridge Condition Survey Install and Adoption PMS + BMS Recommend Improvements Training and Seminars Provision of PMS + BMS hardware and software Study Tour to Europe	COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED		
<b>(ii) Addendum 1</b>	COMPLETED		
Tedjen - Mary Road Improvement Training	ON SCHEDULE ON SCHEDULE		

**OUTPUT PERFORMANCE REPORT**

Project title : Traceca Project - Implementation of Pavement Management Systems Prepared on: 01/1997	Project number: TELREG 9305	Country : The Southern Republics of the CIS and Georgia EC Consultant: KOCKS CONSULT GMBH, Koblenz/Germany	Form 2.4, Page : 3
Output results	Deviation original plan + or - %	Reason for deviation	Comment on constrains & assumptions
<p><b>REGION: CENTRAL ASIA</b> <b>STATE 5, TADJIKISTAN</b> <b>(i) Implementation of PMS/BMS</b> Pavement Condition Survey Assessment of Traffic Economic Evaluation and VOC's Bridge Condition Survey Install and Adoption PMS + BMS Recommend Improvements Training and Seminars  Provision of PMS + BMS hardware and software Study Tour to Europe</p>	<p>- 40 % COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED - 5 %  COMPLETED  COMPLETED  COMPLETED</p>	<p>Problem at Uzbekistan border post          Problem at Uzbekistan border post</p>	<p>FWD and roughness measurement in spring 1997          Seminar on road design and road safety aspects in spring 1997</p>
<p><b>REGION CAUCASUS</b> <b>STATE 1, AZERBAIJAN</b> <b>(i) Implementation of PMS/BMS</b> Pavement Condition Survey Assessment of Traffic Economic Evaluation and VOC's Bridge Condition Survey Install and Adoption PMS + BMS Recommend Improvements Training and Seminars Provision of PMS + BMS hardware and software Study Tour</p>	<p>COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED</p>		
<p><b>(ii) Addendum 1</b> Training</p>	<p>COMPLETED</p>		
<p><b>(ii) Addendum 1</b> Feasibility Study for Rehabilitation of Transit Roads Training</p>	<p>ON SCHEDULE  ON SCHEDULE</p>		

**OUTPUT PERFORMANCE REPORT**

Project title : Traceca Project - Implementation of Pavement Management Systems Prepared on: 01/1/1997	Project number: TELREG 9305	Country : The Southern Republics of the CIS and Georgia EC Consultant: KOCKS CONSULT GMBH, Koblenz/Germany	Form 2.4, Page : 4
Output results	Deviation original plan + or - %	Reason for deviation	Comment on constrains & assumptions
<p><b>REGION: CAUCASUS</b> <b>STATE 2, GEORGIA</b> <b>(i) Implementation of PMS/BMS</b> Pavement Condition Survey Assessment of Traffic Economic Evaluation and VOC's Bridge Condition Survey Install and Adoption PMS + BMS Recommend Improvements Training and Seminars Provision of PMS + BMS hardware and software Study Tour to Europe</p>	<p>COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED</p>		
<p><b>(ii) Addendum 1</b> Feasibility Study for Rehabilitation of Transit Roads Training</p>	<p>ON SCHEDULE ON SCHEDULE</p>		
<p><b>STATE 3, ARMENIA</b> <b>(i) Implementation of PMS/BMS</b> Pavement Condition Survey Assessment of Traffic Economic Evaluation and VOC's Bridge Condition Survey Install and Adoption PMS + BMS Recommend Improvements Training and Seminars Provision of PMS + BMS hardware and software Study Tour to Europe</p>	<p>COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED</p>		
<p><b>(ii) Addendum 1</b> Technical Assistance for Road and Bridge Maintenance Training</p>	<p>ON SCHEDULE ON SCHEDULE</p>		

## **5. PROJECT PLANNING FOR NEXT REPORTING PERIOD**

### **5.1 Planned Activities**

The main activities for the next reporting period from January to March 1997 will be

- continuation of the Tedjen - Mary road improvement project in Turkmenistan (TM-TM)
- commencement of the feasibility study for rehabilitation of transit roads in Azerbaijan (FS-AZ)
- commencement of the feasibility study for rehabilitation of transit roads in Georgia (FS-GE)
- commencement of the technical assistance for road and bridge maintenance in Armenia (TA-AR)
- preparation for provision of one further set of road testing equipment and commencement of further/advanced training for PMS/BMS

### **5.2 Tables**

The proposed activities for the next progress period are shown for each of the eight recipient states in the tables (form 1.6) below.

**PLAN OF OPERATIONS FOR THE NEXT PERIOD (Work programme)**

Project title: Traceca Project - Implementation of Pavement Management Systems		Project number: TELREG 9305		Country: The Southern Republics of the CIS and Georgia		Form 1.6, Page: 1	
Planning period: 01/1997 - 03/1997		Prepared on: 01/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz/Germany			
Project objectives: <b>Implementation of Pavement and Bridge Management Systems</b>							
No.	ACTIVITIES	TIME FRAME			INPUTS		
		1997 Months			PERSONNEL	EQUIPMENT AND MATERIAL	OTHER
	<b>Region: Central Asia</b>	01	02	03	EC Consultant	Counterpart	
<b>14.</b> 14.6	<b>Training + Seminars</b> PMS/BMS Training (Addendum 1)	in next planning period			4.5 weeks	4.5 weeks	FWD, Tripmeter, Bump Integrator
<b>28.</b> 28.6	<b>State 2, Kyrgyzstan</b> <b>Training + Seminars</b> PMS/BMS Training (Addendum 1)	in next planning period			4.5 weeks	4.5 weeks	FWD, Tripmeter, Bump Integrator
<b>41.</b> 41.1	<b>State 3, Kazakhstan</b> <b>Model Optimization</b> Definition of Interface (Addendum 1)	in next planning period			3 weeks	3 weeks	
<b>TM-TM</b>	<b>State 4, Turkmenistan</b> Preparation of a Road Improvement Project 'Ashgabat to Mary Road, Section Tedjen - Mary' (Addendum 1)	Details are included in the particular project reports X X X X X X X X X X X X X X X X					
<b>TOTAL</b>				12 weeks	12 weeks	12 weeks	

**PLAN OF OPERATIONS FOR THE NEXT PERIOD (Work programme)**

Project title: Traceca Project - Implementation of Pavement Management Systems		Project number: TELREG 9305		Country: The Southern Republics of the CIS and Georgia		Form 1.6, Page: 2	
Planning period: 01/1997 - 03/1997		Prepared on: 01/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz/Germany			
Project objectives: Implementation of Pavement and Bridge Management Systems							
No.	ACTIVITIES	TIME FRAME			INPUTS		
		1997 Months			PERSONNEL	EQUIPMENT AND MATERIAL	OTHER
		01	02	03	EC Consultant	Counterpart	
<b>Region: Central Asia</b>							
<b>State 5, Tadjikistan</b>							
60.	Road Cond. Survey + Stand. Def.				1 week	1 week	Bump Integrator, MERLIN, Tripmeter
60.1	Roughness measurement	in next planning period					
62.	FWD Survey + Evaluation				0.5 weeks	0.5 weeks	FWD
62.1	Select representative road sections				1 week	1 week	
62.2	Measure + store FWD survey data	in next planning period			0.5 weeks	0.5 weeks	
62.3	Pavement analysis						
70.	Training + Seminars				0.2 weeks	0.2 weeks	
70.2	Seminar road safety and design	in next planning period			2 weeks	2 weeks	
70.6	PMS/BMS Training (Addendum 1)	in next planning period					
<b>Region: Caucasus</b>							
<b>State 1, Azerbaijan</b>							
FS-AZ	Feasibility study for rehabilitation of transit roads (Addendum 1)	X	X	X	X	X	Details are included in the particular project reports
<b>State 2, Georgia</b>							
FS-GE	Feasibility study for rehabilitation of transit roads (Addendum 1)	X	X	X	X	X	Details are included in the particular project reports
<b>State 3, Armenia</b>							
42.6	PMS/BMS Training (Addendum 1)			X	2 weeks	2 weeks	
TA-AR	Technical assistance for road and bridge Maintenance (Addendum 1)			X	X	X	Details are included in the particular project reports
<b>TOTAL</b>					<b>7.2 weeks</b>	<b>7.2 weeks</b>	

## APPENDIX



# Т Р А С Е К А - С У П , К И Р Г И З С Т А Н

## Список участников семинаров

Т R A S E C A - P M S , K Y R G Y Z S T A N

Lists of Seminar Participants

К И Р Г И З Д О Р Т Р А Н С П Р О Е К Т

State Institute of Road Design (KYRGHYZDORTRANSPROJEKT)

### 1. СЕМИНАР ПО БИТУМО - ВЯЖУЩИМ МАТЕРИАЛАМ

### SEMINAR ON BITUMEN BOUND PRODUCTS

ДАТА / DATE: 27.05 - 01.06.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Акунов Кубан Акунович	начальник управления автодорог	Министерства Транспорта
Эсенгулов Арстанбек Максutowич	ведущий инженер управления автодорог	Министерства Транспорта
Солдаткина Лидия Ивановна	начальник ПТО	АО "Полибетон"
Алымкулов Эмиль Мырзаканович	главный инженер	АО "Полибетон"
Ямпольски Эмилия Марковна	главный специалист ГИР	ПИ "Кыргыздортранспроект"
Кокинос Василий Ваилиевич	ГИП	ПИ "Кыргыздортранспроект"
Рокина Ирина Алексеевна	старший инженер ГИР	ПИ "Кыргыздортранспроект"
Масютенко Анатолий Никанорович	главный специалист	ПИ "Кыргыздортранспроект"
Мамаев Кубанычбек Абдрахманович	главный инженер	НПО "Кыргыздортранстехника"
Ханс У. Циммерман	специалист по асфальту	KOCKS CONSULT
Akunov Kuwan Akunovich	Head of Road Department	Ministry of Transport
Esenkulov Arstanbek Maksytovich	Head engineer of Road Department	Ministry of Transport
Soldatkina Lidya Ivanovna	Head of PTO	Join Stock Company "Polybeton"
Alymkulov Emil Myrzakanovich	Chief engineer	Join Stock Company "Polybeton"
Yampolskay Emilia Markovna	Chief specialist of GIR	DI "Kyrgyzdortransproject"
Kokynos Vasili Vasilievich	Chief engineer	DI "Kyrgyzdortransproject"
Rokina Irina Aleksevna	Heading engineer of GIR	DI "Kyrgyzdortransproject"
Masytenko Anatoly Niconorovich	Chief specialist of Road Department	DI "Kyrgyzdortransproject"
Mamayev Kubanychbeck Abdrakhmanovich	Chief engineer	NPO "Kyrgyzdortranstekhnika"
Hans U. Zimmermann	Asphalt Specialist	KOCKS CONSULT

## 2. СЕМИНАР ПО ОЗНАКОМЛЕНИЮ С ОБОРУДОВАНИЕМ ДЛЯ ПОЛЕВЫХ РАБОТ

- дефлектометр с падающим грузом (FWD)
- мост для измерения осевой нагрузки, а также подставные подушки для взвешивания грузовиков с числом осей до трех
- толчкомер
- МЕРЛИН
- продольный датчик (измеритель пробега)

## SEMINAR FOR THE INTRODUCTION OF THE EQUIPMENT FOR FIELD WORKS

- Falling Weight Deflectometer (FWD)
- axle weight bridge incl. dunning pads for weighing up to triple axle trucks
- Bump Integrator Unit
- MERLIN
- longitudinal sensor (tripmeter)

ДАТА / DATE: 14.05.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Акунов Кубан Акунович Ишеналиев Рустам Искендерович Голубев Василий Николаевич Каиков Салы Мамырбаевич Исраилов Асан Исраилович Дооронбеков Алым Даирович Аалиев Жумакадыр Эсенгулов Арстанбек Максutowич Торопов Сергей Владимирович Масютенко Анатолий Никанорович Алибегашвили Леван Маркович Мамбеталиев Маматбек Токтобекович Ямпольская Эмилия Марковна Лубяных Сергей Николаевич Рокина Ирина Алексеевна Изибаев Аскар Абубакирович Кузнецов Геннадий Файтович Самохин Александр Артемович Уильрих Виллемс Йохан Рогаальский Кимо Карини	начальник отдела автодорог инженер дорожного отдела главный специалист главный инженер начальник ПТО начальник главный инженер ведущий инженер отдела автодорог прораб главный специалист дорожного отдела директор начальник дорожного отдела главный специалист ГИР начальник ГИР старший инженер ГИР ГИП дорожного отдела ГИП дорожного отдела ГИП дорожного отдела руководитель группы 1 координатор инженерных работ инженер по FWD/ PMS	Министерства Транспорта ПИ "Кыргыздортрансproject" ПИ "Кыргыздортрансproject" ПЛУАД - 1 ПЛУАД - 1 ДЭУ - 1 ДЭУ - 958 Министерства Транспорта ДЭУ - 39 ПИ "Кыргыздортрансproject" ПИ "Кыргыздортрансproject" ПИ "Кыргыздортрансproject" ПИ "Кыргыздортрансproject" ПИ "Кыргыздортрансproject" ПИ "Кыргыздортрансproject" ПИ "Кыргыздортрансproject" ПИ "Кыргыздортрансproject" ПИ "Кыргыздортрансproject" КОCKS CONSULT КОCKS CONSULT ФЕНИКС ПС
Akunov Kuwan Akunovich Ishenaliev Rustam Iskenderovich Golubev Vasil Nickolaevich Kaikov Saly Mamyrbavovich Israilov Asan Israilovich Douronbekov Alym Dayrovich Alyev Jumakadyr Esenkulov Arstanbek Maksytovich Tوروبov Sergei Vladimirovich Masytenko Anatoly Niconorovich Alibegashvili Levan Markovich Mambetaliev Mamatbek Toktobekovich Yampolskay Emilia Markovna Lubynykh Sergei Nicolaevich Rokina Irina Aleksevna Izybaev Askar Abubakirovich Kyznetsov Genady Faytovich Samokhin Aleksandr Artemovich Ulrich Willems Johann Rogalski Kimo Karini	Head of Road Department Engineer of Road Department Chief specialis Chief engineer Chief of PTO Chief Chief engineer Head engineer of Road Department Foreman Chief specialist of Road Department Director Chief of Road Department Chief specialist of GIR Head of GIR Heading engineer of GIR Chief engineer of Road Department Chief engineer of Road Department Chief engineer of Road Department Team Leader 1 Engineering Co-ordinator FWD/PMS Engineer	Ministry of Transport DI "Kyrgyzdortransproject" DI "Kyrgyzdortransproject" Maintenance Department PLUAD - 1 Maintenance Department PLUAD - 1 Maintenance Department DEU - 1 Maintenance Department DEU - 958 Ministry of Transport Maintenance Department DEU - 39 DI "Kyrgyzdortransproject" DI "Kyrgyzdortransproject" DI "Kyrgyzdortransproject" DI "Kyrgyzdortransproject" DI "Kyrgyzdortransproject" DI "Kyrgyzdortransproject" DI "Kyrgyzdortransproject" DI "Kyrgyzdortransproject" DI "Kyrgyzdortransproject" KOCKS CONSULT KOCKS CONSULT Phonix PPC

### 3. СЕМИНАР ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ ПОКРЫТИЕМ (СУП)

#### SEMINAR FOR THE INTRODUCTION OF THE PAVEMENT MANAGEMENT PROGRAMM SYSTEM (PMS)

ДАТА / DATE : 06.09.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Ишеналиев Р	Инженер	Киргиздортранспроект
Голубев В	Главный специалист	Киргиздортранспроект
Ямпольская Э	Главный специалист ГИР	Киргиздортранспроект
Лубяных С	Начальник ГИР	Киргиздортранспроект
Рокина И	Старший инженер ГИР	Киргиздортранспроект
Бобенко И	Нач цеха ИВЦ	Киргиздортранспроект
Клаус В. Нилсен	Инженер по сист. управ- ления покрытием/дефект.	ФЕНИКС ПС
Ishenaliev R	Engineer	Kyrgyzdortransprojekt
Golubev V	Chief specialist	Kyrgyzdortransprojekt
Yampolskay E	Chief specialist GIR	Kyrgyzdortransprojekt
Lubanich S	Head of GIR	Kyrgyzdortransprojekt
Rokina I	Heading engineer of GIR	Kyrgyzdortransprojekt
Bobenko I	Chief engineer	Kyrgyzdortransprojekt
Klaus V. Nielsen	PMS/FWD Engineer	PhØnix PPC

### 4. СЕМИНАР ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ МОСТАМИ (СУМ)

#### SEMINAR FOR THE INTRODUCTION OF THE BRIDGE MANAGEMENT PROGRAMM SYSTEM (BMS)

ДАТА / DATE : 13.09.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Ишеналиев Р	Инженер	Киргиздортранспроект
Голубев В	Главный специалист	Киргиздортранспроект
Ямпольская Э	Главный специалист ГИР	Киргиздортранспроект
Лубяных С	Начальник ГИР	Киргиздортранспроект
Рокина И	Старший инженер ГИР	Киргиздортранспроект
Бобенко И	Нач цеха ИВЦ	Киргиздортранспроект
Ульрих Виллемс	Руководитель группы 1	KOCKS CONSULT
Петер Поич	Инженер по мостам /BMS	KOCKS CONSULT
Андрис Мелецис	Инженер по конструкциям	KOCKS CONSULT
Ishenaliev R	Engineer	Kyrgyzdortransprojekt
Golubev V	Chief specialist	Kyrgyzdortransprojekt
Yampolskay E	Chief specialist GIR	Kyrgyzdortransprojekt
Lubanich S	Head of GIR	Kyrgyzdortransprojekt
Rokina I	Heading engineer of GIR	Kyrgyzdortransprojekt
Bobenko I	Chief engineer	Kyrgyzdortransprojekt
Ulrich Willems	Team Leader 1	KOCKS CONSULT
Peter Poitsch	Bridge/BMS Engineer	KOCKS CONSULT
Andris Melecis	Structural Engineer	KOCKS CONSULT

**5. СЕМИНАР ПО ЗАПАДНЫМ ТЕХНОЛОГИЯМ ПО ОБСЛУЖИВАНИЮ И  
РЕМОНТУ МОСТОВ.**
**SEMINAR ON WESTERN TECHNOLOGY FOR  
BRIDGE MAINTENANCE AND REHABILITATION**

ДАТА / DATE : 13.09.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Проненко Валентина Павловна	главный специалист	Киргиздортранспроект
Дариенко Эльвира Григорьевна	ведущий инженер	Киргиздортранспроект
Торопов Сергей Владимирович	инженер ДЭУ-39	Киргиздортранспроект
Тен Климентий Николаевич	главный специалист	Киргиздортранспроект
Мамбеталиев Маматбек	начальник дорожного отдела	Киргиздортранспроект
Токтобекович	ведущий инженер	Киргиздортранспроект
Горшкова Татьяна Федоровна	ведущий инженер	Киргиздортранспроект
Диденко Наталья Ивановна	инженер	Киргиздортранспроект
Высоцкий Сергей Васильевич	директор института	Киргиздортранспроект
Алибегашвили Ливан Маркович		Киргиздортранспроект
Петер Поич	Инженер по мостам /BMS	KOCKS CONSULT
Андрис Мелецис	Инженер по конструкциям	KOCKS CONSULT
Alibegashwili Liwan	Director	Kyrgyzdortransprojekt
Mambetaliew Mamatbek	Head of Road Department	Kyrgyzdortransprojekt
Pronenko Valentina	Chief Specialist	Kyrgyzdortransprojekt
Darienko Elvira	Spezialist	Kyrgyzdortransprojekt
Toropow Sergei	Engineer	Kyrgyzdortransprojekt
Ten Klimenty	Chief Specialist	Kyrgyzdortransprojekt
Gorshkowa Tatijana	Chief Engineer	Kyrgyzdortransprojekt
Didenko Natalia	Chief Engineer	Kyrgyzdortransprojekt
Vysotsky Sergei	Engineer	Kyrgyzdortransprojekt
Peter Poitsch	Bridge/BMS Engineer	KOCKS CONSULT
Andris Melecis	Structural Engineer	KOCKS CONSULT

**6. СЕМИНАР ПО ДОРОЖНОЙ БЕЗОПАСНОСТИ  
И ДОРОЖНОМУ ПРОЕКТИРОВАНИЮ**  
**SEMINAR ON ROAD SAFETY AND  
ROAD DESIGN ASPECTS**

DATA / DATE: 31.05. and 26.09.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Эсенгулов Арстанбек Максutowич Исраилов Асан Исраилович Галиулин Надиш Габидулович Аалиев Жумакадыр Чыбыев Бекмурза	ведущий инженер отдела автодорог начальник ПТО главный инженер главный инженер главный специалист	Министерства Транспорта ПЛУАД - 1 ДЭУ - 39 ДЭУ - 958 Генеральная дирекция по Автодороге Бишкек - Ош Генеральная дирекция по Автодороге Бишкек - Ош
Шакеев Омурбек	главный специалист	Генеральная дирекция по Автодороге Бишкек - Ош
Уильрих Виллемс Карстен Гризe	руководитель группы 1 руководитель группы 2	KOCKS CONSULT KOCKS CONSULT
Esenkulov Arstanbek Maksytovich	Head engineer of Road Department	Ministry of Transport
Israilov Asan Israilovich Galiulin Nadish Gabidulovich Alyev Jumakadyr	Chief of PTO Chief engineer Chief engineer	Maintenance Departm. PLUAD 1 Maintenance Departm. DEU - 39 Maintenance Departm DEU - 958
Chybyev Bekmurza	Chief specialis	General Directorate for Bishkek- Torugart Road
Shakeev Omurbek	Chief specialis	General Directorate for Bishkek- Torugart Road
Ulrich Willems Carsten Griese	Team Leader 1 Team Leader 2	KOCKS CONSULT KOCKS CONSULT
Изибаев А. А. Самохин А. А. Кокинос В.В. Мещерякова Т. Н. Потехина Н. Д. Иванченко Е. И. Новикова И. В. Атаскаров А. Мамбетониев М. Т. Масютенко А. Н. Ульрих Виллемс Карстен Гризe	Главный инженер проекта Автор проекта Главный инженер проекта Начальник группы Ведущий инженер Ведущий инженер Инженер Начальник группы Начальник отдела Главный специалист руководитель группы 1 руководитель группы 2	Киргиздортранспроект Киргиздортранспроект Киргиздортранспроект Киргиздортранспроект Киргиздортранспроект Киргиздортранспроект Киргиздортранспроект Киргиздортранспроект Киргиздортранспроект Киргиздортранспроект KOCKS CONSULT KOCKS CONSULT
Izibaev F Samochin A Kokinos W Mesheraikova T Potechina N Ivonchenko E Novikova i Atashkov A Mambetoniv M Masutenco A Ulrich Willems Carsten Griese	Chief engineer Author of Project Chief engineer Groupleader Head engineer Head engineer Engineer Groupleader Head of Road Department Chief specialist Team Leader 1 Team Leader 2	Kyrgyzdortransprojekt Kyrgyzdortransprojekt Kyrgyzdortransprojekt Kyrgyzdortransprojekt Kyrgyzdortransprojekt Kyrgyzdortransprojekt Kyrgyzdortransprojekt Kyrgyzdortransprojekt Kyrgyzdortransprojekt Kyrgyzdortransprojekt KOCKS CONSULT KOCKS CONSULT

**7. СЕМИНАР ПО СИСТЕМЕ УПРАВЛЕНИЯ СОСТОЯНИЕМ ДОРОЖНОГО  
 ПОКРЫТИЕМ (СУП) И СИСТЕМА УПРАВЛЕНИЯ МОСТАМИ (СУМ).**
**SEMINAR ON PAVEMENT MANAGEMENT SYSTEM (PMS)  
 AND BRIDGE MANAGEMEN SYSTEM (BMS)**

ДАТА / DATE : 18.10.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Самохин А. А.	Главный инженер проекта	Киргиздортранспроект
Лубяных С. Н.	Главный специалист	Киргиздортранспроект
Ямпольская Э. М.	Главный специалист	Киргиздортранспроект
Рокина И. А.	Инженер	Киргиздортранспроект
Гриева Л. В.	Ведущий инженер	Киргиздортранспроект
Кузнецов Г. Ф.	Главный инженер проекта	Киргиздортранспроект
Масютенко А. Н.	Главный инженер проекта	Киргиздортранспроект
Солошенко В. И.	Главный специалист	Киргиздортранспроект
Изибаев О.	Начальник тех. отдела	Киргиздортранспроект
Шабданов И.	Главный инженер проекта	Киргиздортранспроект
Ишеналиев Р.	Инженер - геолог	Киргиздортранспроект
Ишениалиев Р.	Инженер	Киргиздортранспроект
Кокинос В. В.	Главный инженер проекта	Киргиздортранспроект
Мамбеталиев М. Т.	Начальник отдела	Киргиздортранспроект
Цачепина Л.	Программист	ТАСИС Коо-центр
Стовринг П.	инженер по сист.управления покрытием/дефект.	ФЕНИКС ПС
Виллемс У.	Руководитель группы	KOCKS CONSULT
Samokhin A. A.	Head engineer of the project	Kyrgyzdortransprojekt
Lubyanikh S. N.	Leading specialist	Kyrgyzdortransprojekt
Yampolskaya E. M.	Leading specialist	Kyrgyzdortransprojekt
Rokina I. A.	Engineer	Kyrgyzdortransprojekt
Grieva L. V.	Leading engineer	Kyrgyzdortransprojekt
Kuznetsov G. V.	Head engineer of the project	Kyrgyzdortransprojekt
Samoshenko V. I.	Head of technical department	Kyrgyzdortransprojekt
Izibaev O.	Head engineer of the project	Kyrgyzdortransprojekt
Shabdanuv I.	Engineer - geologist	Kyrgyzdortransprojekt
Ishenaliyev R.	Road engineer (PMS)	Kyrgyzdortransprojekt
Kokinos V. V.	Head engineer of the project	Kyrgyzdortransprojekt
Mambetaliev M. T.	Head of the department	Kyrgyzdortransprojekt
Zatsepina L.	Programme Officer	TACIS CU Kyrgyzstan
Per Stovring	PMS/FWD Engineer	PhØnix PPC
Ulrich Willems	Team Leader	KOCKS CONSULT