Tacis

TRACECA - Project

Trade and Transport Sectors

Implementation of Pavement Management Systems

Project Completion Report

- Implementation of Pavement Management Systems
- Transit Roads in Armenia, Azerbaijan and Georgia
- Pavement Management System Purchase of Equipment and Training
- Preparation of a Road Improvement Project Ashgabat - Mary (Turkmenistan)

DECEMBER 1997

KOCKS CONSULT GMBH
Consulting Engineers
Koblenz / Germany

in association with

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

PHØNIX
Pavement Consultants
Vejen / Denmark

COVER PAGE 1

PROJECT COMPLETION REPORT

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

	Local Operator	EC Consultant
Name :	Concern **UZAVTOYUL**	KOCKS CONSULT GMBH Consulting Engineers
Address :	68 'a' Pushkin Street 700000 Tashkent UZBEKISTAN	Stegemannstraße 32 - 38 56068 Koblenz GERMANY
Tel. number :	(3712) 682526 and 361595	xx49 - 261 - 1302-0 (operat.) xx49 - 261 - 1302-143 (direct)
Fax number :	(3712) 682711	xx49 - 261 - 1302 - 152
Telex number :	--	862807
E-mail :	--	kocks@t-online.de
Contact person :	Vohid Normatovich Azamov, State Road Inspector	Werner P. Weiler, Project Director
Signatures :		

Name :	Ministry of Transport (MoT), State Institute of Road Design **KYRGYZDORTRANSPROJEKT** (K)	KOCKS CONSULT GMBH Consulting Engineers
Address :	42 Isanov Street (MoT) Bishkek 720079 KYRGYZSTAN	
Tel. number :	(3312) 216674 (MoT) or 444187 (K)	
Fax number :	(3312) 213667 (MoT) or 444193 (K)	
Telex number :	--	
Contact person :	Akunov Kuwan Akunowitsch, Head of Roads Department (MoT) Levan M. Alibegashvili, Director (K)	
Signatures :		

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PROJECT COMPLETION REPORT

	Local Operator	EC Consultant
Name :	Ministry of Transport & Communications, Department of Highways (DoH), Joint-stock company **KAZDORNII** (K)	KOCKS CONSULT GMBH Consulting Engineers
Address :	9 Emtsov Street Almaty, 480061 KAZAKHSTAN	
Tel. number :	(3272) 324769 (DoH) or 411312 (K)	
Fax number :	(3272) 324449 (DoH) or 400819 (K)	
Telex number :	--	
Contact person :	Amangeldy N. Yelgonov, Dept.Director (DoH) Oleg A. Krasikov, Deputy Director (K)	
Signatures :		

Name :	Ministry of Economy, Department of Transport and Communication (DoT&C) State Concern **AZERAVTOYOL**	KOCKS CONSULT GMBH Consulting Engineers
Address :	72 A, Hadjihekov Street 370010 Baku AZERBAIJAN	
Tel. number :	(99412) 933556	
Fax number :	(99412) 930045	
Telex number :	142272 YOL	
Contact person :	Icram M. Sadykhow, Head of Department of Transport and Communication (DoT&C) Shahin H. Hasanov, Vice President and Project Manager for TRACECA-PMS	
Signatures :		

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COVER PAGE 3

PROJECT COMPLETION REPORT

	Local Operator	EC Consultant

Name	:	Concern **TURKMENAUTOELLARI**	KOCKS CONSULT GMBH Consulting Engineers
Address	:	744000 Ashgabat TURKMENISTAN	
Tel. number	:	(99312) 360280	
Fax number	:	(99312) 255379 and 511678	
Telex number	:	--	
Contact person	:	Mr. Sukhanberdiyev, 1. Vice President	
Signatures	:		

Name	:	State Concern of Roads, **SAKAVTOGSA**	KOCKS CONSULT GMBH Consulting Engineers
Address	:	29a Gagarin Street 380060 Tbilisi GEORGIA	
Tel. number	:	(99532) 370666	
Fax number	:	(99532) 931177 or 942618	
Telex number	:	212189	
Contact person	:		
Signatures	:	Tamaz A. Shilakadze, Vice Chairman of the State Concern SAKAVTOGSA and Director of the Institute SAKGZAMETSNIEREBA	

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COVER PAGE 4

PROJECT COMPLETION REPORT

	Local Operator	EC Consultant

Name	:	**Armenian Road Directorate** (ARD)	KOCKS CONSULT GMBH Consulting Engineers
Address	:	21 Koriun St. Yerevan 375009 ARMENIA	
Tel. number	:	(3742) 582712 or 583106	
Fax number	:	(3742) 151830	
Telex number	:	212189	
Contact person	:	Nikolai Elarian, Director (ARD)	
Signatures	:		

Name	:	Ministry of Transport and Roads **TADJIKGIPROTRANSSTROY**	KOCKS CONSULT GMBH Consulting Engineers
Address	:	Ayni Street 14 734042 Dushanbe TADJIKISTAN	
Tel. number	:	(3772) 215380 or 212020	
Fax number	:	(3772) 212020	
Telex number	:		
Contact person	:	Mirzoev Timur Dodojenovia	
Signatures	:		

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COVER PAGE 5

PROJECT COMPLETION REPORT

Date of report : 06 December 1997

Reporting period : January 1996 - December 1997

Author of report: Ulrich Willems, Co-ordinator (Kocks Consult GmbH)

EC M & E Team			
	(name)	(signature)	(date)
EC Delegation			
	(name)	(signature)	(date)
TACIS Bureau (Task Manager)			
	(name)	(signature)	(date)

TABLE OF CONTENTS

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

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

Project duration: 12 months + 9 months (Addendum 1) + 3 months (extension of time) = 24 months
From 20 December 1995 to 07 December 1997

(1) Implementation of Pavement Management Systems

Project Objective[s] : The project aimed to introduce Regional roads maintenance authorities to the latest Western pavement management techniques. It was to promote a reduction in road maintenance backlogs. The focus of this project was 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 should 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 :

- Mobilisation 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 :

- Project Preparation, co-ordinating meetings with TACIS/Brussels, mobilisation 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.
- Reporting.

Project Schedule :

- starting date of project activities delayed to 12 March 1996 due to winter conditions
- duration of project part 1 was 12 months

(2.1) Addendum No. 1, Component 1, Module A:

- **Feasibility study for rehabilitation of transit roads in Azerbaijan (FS-AZ)**
- **Feasibility study for rehabilitation of transit roads in Georgia (FS-GE)**

Project objective[s]:

FS-AZ

The objective of the Project was to prepare a feasibility study for rehabilitation works on the road Alyat - Gjandza - Georgian border for definitive negotiations between Azerbaijan and International Financial Institutions.

This objective was achieved principally by the following main components:

- review existing reports
- preliminary definition of the improvement and rehabilitation works
- quantity calculation and cost estimate for the proposed works
- economic evaluations for financing and prioritisation of the road section

FS-GE

The objective of the Project was to prepare a feasibility study for rehabilitation works on the road sections

- Tbilisi - Kashuri
- Tbilisi - Taltari - Azerbaijan border
- Tbilisi - Marneuli - Guguti - Armenian border
- Marneuli - Sadakhlo - Armenian border
- Tbilisi - bypass
- Samtrelia - Lanchkuti - Ureki (shortening the route Tbilisi - Batoumi)

for definitive negotiations between Georgia and International Financing Institutions. This objective was achieved principally by the following main components:

- review of existing reports
- preliminary definition of the improvement and rehabilitation works
- quantity calculation and cost estimate for the proposed works
- economic evaluations for financing and prioritisation of the road section

Planned outputs :

- mobilisation and commencement of services
- study of existing reports and available road and bridge data
- field works and data collection of road surface/pavement and bridge condition
- geotechnical investigation
- assessment of traffic demand
- definitions of technical solutions for improvements and rehabilitation
- economic evaluation

Project activities :

- project preparation
- mobilisation of Consultant's staff and equipment
- commencement meetings with the TACIS CU and the recipient institute
- arrangement of logistics (accommodation, office, transport)
- preparation of contract for co-operation
- field works (geotechnical investigations, traffic surveys, collection of road surface/pavement and bridge condition data
- evaluation of field data including laboratory testing of soils and materials

- preparation of feasibility studies (FS-AZ and FS-GE) describing the technical as well as economic requirements and recommendation for the rehabilitation of the project roads

Project schedule :

FS-AZ

- start of project activities on 13 January 1997
- duration of project component 6 months

FS-GE

- start of project activities on 30 January 1997
- duration of project component 6 months

(2.2) Addendum No. 1, Component 1, Module B: Assistance to the Armenian Road Directorate (ARD), Development of a Routine Maintenance Contract System (TA-AR)

Wider project objective[s]: An improved road transport system..

Specific project objective[s]:

Basic principles for 'routine maintenance by contract' has been agreed on by ARD;

The preparations for pilot project 'routine maintenance by contract' have been completed and accepted by the Armenian Road Directorate, Tacis and World Bank;

Armenian Road Directorate agrees with the restructuring plan.

Planned outputs:

- Pre-study for routine maintenance by contract;
- Detailed plan for pilot project "routine maintenance by contract";
- Manuals, guidelines and reference texts for maintenance standards, contract forms, bills of quantities, bid evaluation, and quality assurance;
- Staff of ARD trained in maintenance standards, contract forms and QA.

Project activities:

1. Mobilisation of Consultant's team, introductory visit at ARD and arrangement of logistics;

2. Management Development and Documentation
   a) Routine maintenance standards and service level
   b) Incorporate PMS in 'maintenance by contract'
   c) Drafting of tender documents for routine maintenance – Contract forms - Bill of Quantities - Bid evaluation model
   d) Organisation, management and resources
   e) Manuals and guidelines for internal routines
   f) Quality Assurance (QA)
   g) Legislation

3. Planning Pilot Study
   a) Selection and inventory of the pilot section
   b) Work programme for the pilot section
   c) Preliminary tender documents

Project schedule:

- start of project activities 09 September 1997
- duration of project component until 07 December 1997

(2.3) Addendum No. 1, Component 2:
Preparation of a Road Improvement Project Ashgabat to Mary Road (Section Tedjen - Mary), Turkmenistan (TM-TM)

Project objective[s]: The objective of the Project was to assist Turkmenautoellari in maintaining and improving the road system in Turkmenistan, with a specific focus on the M 37 TRACECA road corridor between Ashgabat and Mary. This objective was to be achieved principally by the following main components:

- preparation of engineering designs and tender documents
- assistance with tendering including bid evaluation
- study of design capacity and safety issues where the M 37 road passes through urban areas
- assistance to Turkmenautoellari with strengthening road maintenance capability

The local personnel should be involved in all project tasks and trained in the techniques introduced.

Planned outputs :

- mobilisation and commencement of services
- study of existing reports and available road and bridge data
- preparation/procurement of laboratory equipment
- field works and data collection of road surface/pavement and bridge condition
- topographical survey
- geotechnical investigation and designs
- environmental investigation and assessment
- detailed design and tender documents
- procurement services

Project activities :

- project preparation
- mobilisation of Consultant's staff and equipment
- commencement meetings with the TACIS CU and the recipient institute
- arrangement of logistics (accommodation, office, garage for equipment, transport)
- preparation and signing of contract for co-operation with Turkmenautoellari and Institute Turkmendorproyekt (Ashgabat and Mary)
- field works (geotechnical works, topographical survey, environmental assessment)
- field works for collection of road/pavement and bridge condition data and traffic surveys including axle load weighing
- purchase of equipment for the soils and materials laboratory
- commencement of engineering design works
- evaluation of field data including laboratory testing, mapping etc.
- preparation of detailed engineering designs and preparation of tender documents
- presentation of designs and tender documents
- reporting

Project schedule :

- start of project activities on 12 November 1996
- duration of project component 8 months

(2.4) Addendum No. 1, Component 3:
Purchase of road testing equipment and training (PMS)

Project objective[s]: The objective of the provided second Falling Weight Deflectometer (FWD) including training was to fully familiarise the Counterparts with the requirements of the data collection system for the PMS software.

Planned outputs :

- Delivery of one FWD
- FWD measurement, engineering training comprising installation, operating and maintenance of the FWD and collection of road surface condition data.
- PMS/BMS software training comprising evaluation of field data, preparation of data base and calculation of road maintenance/rehabilitation measures/scenarios using the RoSy Pavement Management System.

Project activities :

- Mobilisation of Consultant's staff and equipment
- Arrangement of logistics (accommodation, office, garage for equipment, transport, visa)
- Training for installation, operating and maintenance of FWD
- Field works for collection of road surface condition data
- Transmission and evaluation of field data into pavement management system
- Preparation of data base
- Calculation of road maintenance/rehabilitation measures/scenarios

Project schedule :

- Start of project activities: 28. July 1997
- End of project activities: 12. September 1997

2. SUMMARY OF PROJECT PROGRESS

2.1 Commencement of Services

(i) Implementation of Pavement Management Systems

Under the terms of the Contract, the Consultant shall commence the implementation of the tasks within two weeks from the effective date of the contract. 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 the Consultant's Inception Report of February 1996 the commencement of the consultancy services was delayed to middle of March 1996 due to the cold winter weather in the southern CIS states. Even Uzbekistan and Turkmenistan, the low lying countries had extended periods of frost and snow, Kazakhstan experienced an extreme cold winter, and so were the mountainous countries Kyrghyzstan and Tadjikistan. However, preparations for the start of the services were carried out by personnel planning, contacting the recipient states' project representatives, obtaining visa, preparation/procurement of equipment etc.

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 for road condition survey, pavement deflection measurement and pavement survey which are key activities to be done prior to evaluation, data entry, assessments etc. In order to catch up the lost time a second/additional group of specialists commenced in the Caucasus area middle of April 1996.

Commencement meetings with the recipient institutes were held prior to the start of the project activities.

(ii) Addendum No. 1

FS-AZ

Middle of December 1996 commencement meetings in Baku were held to prepare the activities for the feasibility study and consequently activities started in co-operation with Azeravtoyul in beginning of January 1997. Details of the preparations and commencement are described in the Inception Report (FS-AZ) of March 1997.

FS-GE

After commencement meetings in January 1997 the start of the Consultant's activities and the field works respectively were delayed by winter conditions. Details of the commencement are summarised in the Inception Report (FS-GE) of March 1997.

TA-AR

Technical assistance was provided to the Armenian Road Directorate (ARD), for preservation of the Armenian road network. The technical assistance is closely linked to a loan package from the World Bank. The Bank had expressed interest in the preparation of the TA, and a meeting was held in Jerewan on 18 March 1997 in the ARD to prepare a working proposal on the basis of the TOR. The project activities commenced on 09 September 1997. Details of the preparation and commencement are summarised in the Inception Report (TA-AR) of October 1997.

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 consultancy services 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.

PMS

The training activities were provided to the 8 recipient states after a second Falling Weight Deflectometer equipment had been delivered to Uzbekistan.

Commencement of training:

Country	PMS	BMS
Azerbaidjan	28. July 1997	30. July 1997
Georgia	06. August 1997	06. August 1997
Armenia	11. August 1997	11. August 1997
Uzbekistan	13. August 1997	04. September 1997
Kyrghyzstan	20. August 1997	11. September 1997
Kazakhstan	25. August 1997	09. September 1997
Tadjikistan	30. August 1997	01. September 1997
Turkmenistan	09. September 1997	19. August 1997

The activities were started in close co-operation with the recipient institutes and considered variation from state to state.

2.2 Activities and Project Progress

(i) Implementation of Pavement Management Systems

All activities for implementation of the PMS/BMS 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
- 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, PMS/BMS Programme Systems and Equipment
- one set of computer equipment and programme system each was delivered to the 8 recipient states
- seminars for introduction of PMS/BMS followed by comprehensive training
- equipment for road condition survey (Falling Weight Deflectometer, Bump Integrator Unit etc.) was delivered to different recipient institutes

Transport Economics and Road Use Cost Aspects
- 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
- organisational/administrative requirements & methodology, components and structure of PMS
- study tour to Europe in November 1996

(ii) Addendum No. 1

FS-AZ, FS-GE

The activities commenced in January 1997, with collection of data, consultations, traffic surveys, road condition and bridge condition surveys, geotechnical surveys. These field works were interrupted several times by inclement weather, frost and snow. On several occasions, the field teams had to abandon works to return to the office because of snow, which also caused closure of the main road from Azerbaijan to Georgia. Frosty and snowy conditions lasted into early April 1997. It was therefore not possible to conduct the Falling Weight Deflectometer Survey before April 10, because the ground temperature in the pavement layers must be above 5°C. The FWD survey commenced on 10 April, and measurement in Azerbaijan was completed on 20 April 1997, and the survey continued in Georgia on 21. April 1997. By 20 April all field surveys in Azerbaijan were completed. Testing of soils and pavement samples continued.

In order to expedite the service to make-up from time lost due to inclement weather, we enforced the field team by delegating one additional geotechnical expert to Georgia during the month of April 1997.

TA-AR

The project activities commenced on 09.09.1997. The team's work sessions in Armenia are shown in the table.

Name	Visit no.	Date, from to	
Project Director Mr. Werner P. Weiler	1	09.09.1997	19.09.1997
Project Manager Mr. Frank Granberg	1	20.09.1997	04.10.1997
	2	15.11.1997	06.12.1997
Road Maintenance Expert Mr. Carsten Griese	1	20.09.1997	25.10.1997
	2	10.11.1997	06.12.1997
PMS Specialist Mr. Carsten Griese	1	23.09.1997	06.12.1997
Maintenance Management Expert Mr.Sven Odén	1	15.11.1997	06.12.1997

Throughout the project there have been frequent creative discussions with Mr. P. Kartchikian, Deputy Director of ARD, Mr. N. Elarian, Head of PIU and the Project Co-ordinator, Mr. Hakob Petrosyan and other persons within PIU and the ARD, as well as some inspection tours. During the stay at the home office, the Consultant's experts collected and discussed supplementary base material for the study. The Inception Report, English version, was submitted 10 October 1997. The Russian version was presented 18 November.

Seminars were arranged to discuss important aspects of routine maintenance by contract and the pilot project. Recommendations and content of final report and of other findings were presented at a seminar - 26 November. Based on the discussions at the seminars and discussions with the management of ARD and PIU, the programme for the pilot study was detailed and draft tender documents were produced.

For the pilot project is chosen a 170-km section of the important main highway M2, from Yerevan to the Iran border, km 187+130 to km 356+990. Supplementary inventory work for the pilot section has been done and is reported as a part of Bidding Documents. Draft bidding documents - Standard Bidding Documents, General Specifications and Bill of Quantities -based on Highway Rehabilitation Project documents to the extent possible, were prepared.

TM - TM

Field works including topographical survey, geotechnical investigations, Falling Weight Deflectometer (FWD) survey, traffic survey, road surface/pavement and bridge condition survey were carried out. Equipment for the soils & materials laboratory was purchased and laboratory testing including on-the-job training of local staff was carried out. The Consultant's CARD (**C**omputer **A**ided **R**oad **D**esign) system was installed and road designs prepared. Further details of the progress and the project activities are described in the project progress reports and the ENGINEERING REPORT respectively.

PMS

The activities of training commenced on 28 July 1997. The training was divided into two parts. Training for Pavement Management System (PMS) and Bridge Management System (BMS). Commencement is shown in item 2-1 (ii).

The additional FWD was delivered to Tashkent (Uzbekistan). To secure that PMS and FWD training could be given simultaneously additional staff was employed.

A progress of training was very difficult as in some countries the participants have changed. In some cases knowledge of the English language and of electronic data processing was insufficient. Sometimes it was necessary to repeat training of the first part of the contract. During the visit in the recipient states a new RoSy PMS version 7.12. was delivered and implemented and the FWD was handed-over in Uzbekistan.

3. OVERALL REPORT ON THE TOTAL PROJECT

3.1 Introduction

3.1.1 Implementation of Pavement Management Systems

As described above as well as in the Consultant's Inception Report of February 1996 the commencement of the services for the Project was considerably delayed due to unfavourable weather conditions in the project area. All necessary preparations were done and as soon as the weather condition allowed the activities for the first project phase, the field works and data collection phase, commenced with the arrival of the of the Consultant's personnel in Tashkent/Uzbekistan in middle of March 1996. All efforts were made to catch up the lost time and a second/additional group of specialists commenced in the Caucasus area middle of April 1996. Until September/October 1996 the lost time was caught and the Project was running on its original schedule.

Commencement meetings with the recipient institutions in the eight (8) project states were held in:

- Armenia, July 1996
- Azerbaijan, April 1996
- Georgia, July 1996
- Kazakhstan, May 1996
- Kyrghyzstan, April 1996
- Uzbekistan, March 1996
- Tadjikistan, September 1996
- Turkmenistan, June 1996

The project described in this report and the other TRACECA projects running at the same time as other duties and responsibilities put a high workload on the counterpart departments in the recipient countries. It should be mentioned that for the Consultant's activities carried out in the eight recipient states the respective administration made available the required number of counterpart staff and furthermore a big and highly interested audience participated in the various seminars.

The Tacis Co-ordinating Units (TCU) assisted wherever possible the Consultant and the Project respectively which is gratefully acknowledged.

3.1.2 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. Further an extension of time was granted for 3 months resulting in a total project duration of 24 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 and the activities for the feasibility study of transit roads (FS-AZ) commenced in January 1997.

In February 1997 heavy snowfall hampered the start of the Consultant's activities and the field works respectively for the feasibility study of transit roads in Georgia (FS-GE). However, efforts were made to overcome this initial difficulties and no delays in the project schedule arose.

The Consultant's activities for technical assistance in Armenia (TA-AR) commenced on 09.09.1997.

3.2 Mobilisation

3.2.1 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
PMS/FWD Engineer	Klaus V. Nielsen	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 were provided by the recipient institutions and paid for by the Project. For the particular purpose of this project the local expertise was available in the recipient institutions only, with perhaps very few exceptions. The participation of the institution's experts was 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

The following equipment was sent to the project area and used for the field works and data collection:

(i) Road Condition Survey

According to the Contract Agreement one set of equipment was provided for the Project including

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

The 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.

After completion of axle load surveys and approval of Tacis/Brussels the axle weigh bridge was handed over to the recipient institute in Turkmenistan. Turkmenistan was recommended because on the one hand the axle weigh bridge provided with the funds of the Project should remain in Central Asia (one axle weigh bridge provided by another project is available in the Caucasus area) and on the other hand most of the international traffic which goes to the northern TRACECA states (Uzbekistan, Kazakhstan, Kyrghyzstan) passes through Turkmenistan as the traffic surveys proved. Therefore an effective control and monitoring can be carried out by locating the equipment in Turkmenistan.

After completion of Falling Weight Deflectometer (FWD) measurement in the Caucasus Region the equipment was handed over to the recipient institute in Azerbaidjan. The Bump Integrator Unit, the MERLIN and the Longitudinal Sensor were handed-over to the recipient institute in Georgia upon completion of road condition surveys.

A complete list of equipment handed over to the recipient institutes in the project states is attached in APPENDIX 1.

Transportation

At the beginning of the field works activities transportation was provided through car rental only. From end of April 1996 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.

3.2.2 Addendum No. 1

Details of the mobilisation in Turkmenistan are summarised in the Inception Report (TM-TM) of January 1997, which was submitted to Turkmenautoellari in Ashgabat and the European Bank for Reconstruction and Development (EBRD) in London according to the Terms of Reference. Further complementary copies were forwarded to Tacis/Brussels as well as to Tacis CU in Ashgabat.

The activities in Azerbaijan are described in an Inception Report (FS-AZ) of March 1997.

An Inception Report (FS-GE) dated March 1997 summarised the mobilisation for the feasibility study in Georgia.

The activities in Armenia are described in the INCEPTION REPORT (TA-AR) of October 1997. Seminars and Training for the PMS/BMS Programme system are summarised in Appendix 6.

3.3 Activities for the Implementation of Pavement Management Systems (January to December 1996)

Preparation and Commencement

As described above the commencement of the consultancy services was delayed to middle of March 1996 due to the cold winter weather in the southern CIS states.

For the purposes of the first phase of this part of the project, the field works and data collection phase, the roads were required to be inspected, condition surveys and inventories needed to be taken, and pavement deflection measurements and pavement surveys were required which were key activities to be done prior to evaluation, data entry, assessments etc. For this tasks, the road surface needed to be free of snow and ice, and there had to be not any frost in the ground. Deflection measurements can effectively be carried out when ground temperatures are above + 5°C. This effectively prevented the services to commence until winter conditions were over.

On 12 March 1996 the first group of the Consultant's specialists departed from Europe and arrived the following day in Tashkent / Uzbekistan. Further specialists followed a few days later. Time consuming procedures for customs clearing of the airfreighted equipment as well as for police registration of the personnel hampered the progress initially.

TRACECA Roads

The basis for the Consultant's activities were the TRACECA roads as shown on the colour printed TRACECA map (THE SILK ROAD FOR THE 21st CENTURY).

During the course of the Project requests for additional roads of important international routes were made by members of the recipient institutions. The Consultant's team investigated/studied those additional roads as well as alternatives to the TRACECA roads.

(i) Uzbekistan
An alternative to the M 39 Samarkand - Guzar was investigated from Samarkand on the A 380 and A 378 via Karsi to Guzar

(ii) Kyrgyzstan
The international road link to China concerning the A 365 Bishkek - Issyk Kul - Naryn - Torugatt was investigated.

(iii) Kazakhstan
Coming on the M 39 from Tashkent the at Merke (shortly before the Kyrghyz border) branching of A 359, which forms a by-pass of Kyrgyzstan for traffic directly going to Almaty, was investigated.

Field Works and Data Collection for the Project Roads

Prior to the activities of the data collection seminars for introduction of the equipment were held attended by the counterparts as well as interested participants of other departments and institutes. For the various equipment it was demonstrated

- how to set it up / to install it
- how to start it
- how and which data are collected
- and how to record data.

The demonstration was followed by intensive discussion about existing/previous and demonstrated data collection procedures, demonstrating/explaining further details of the equipment, etc.

Translations into Russian were prepared describing the equipment and its use as demonstrated in the seminar

- axle weigh bridge
- Phønix Falling Weight Deflectometer (FWD)
- quick start and stop for FWD
- bump integrator
- MERLIN.

Forms and guidelines for the data collection were prepared, introduced to the counterparts and used in the actual field works. Samples of

- Origin/destination survey of international truck movements (Russian/English version prepared for Uzbekistan)
- Classified counts of trucks >3 tons (Russian/English version for Kazakhstan)

- Values and guidelines (road roughness/road unevenness) for visual road inspection of paved roads are attached in the APPENDIX 2.

Road surface and road pavement condition data were collected and evaluated using the above described equipment:
- calibration of equipment
- visual road inspection
- roughness measurements
- FWD measurements
- measurement of thickness of pavement layers

In each of the eight recipient states a 30 km pilot section was investigated in detail. The data records and the evaluated data for road roughness/surface condition as well as for the thickness of existing pavement layers are summarised in the tables attached in APPENDIX 5.

Field Works and Data Collection for Bridges

Bridge inspections were carried out for evaluation of possible deficiencies and determination of the bridge condition class. A respective form sheet for inspection and guidelines were developed for collection of data and information to be entered into the Bridge Management System (BMS). The form sheet and the guidelines are enclosed in APPENDIX 2. 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 Programme Systems

The project includes the supply of hardware and software for the Pavement Management System (PMS) and the Bridge Maintenance System (BMS). The programme system for the TRACECA Project, the Phønix - RoSy - PMS/BMS, was adapted to Windows '95 and received components of HDM IV (economy/VOCs) in order to provide the latest state of art. Test runs were carried out and translation into Russian was prepared.

According to the Contract Agreement computer equipment, one set for each of the recipient states, was purchased including:

- DELL computer (Pentium 133) with colour monitor
- HP Laser Jet 5P printer
- Power source unit (UPS 7001)
- Windows 95 Russian version installed on computer plus installation disks and manuals

The PMS/BMS training programme has covered the following main subjects and has been carried out in 7 steps:

1. Seminar for introduction to RoSy PMS/BMS
2. Input of previously collected data from the pilot road sections (PMS) and the sample bridges (BMS) respectively
3. Set-up parameters for calculations (PMS)
4. Economical calculation of the data (also discussions about theory and philosophy in the PMS programme)

5. Input of data from existing road data base as well as bridge passport
6. Economical calculation of existing data (PMS)
7. Discussion about possibility of using the existing data in PMS, and future use of PMS.

Under Step 3 a wide range of models can be set-up. A standard set-up was made for the 8 TRACECA states and it was discussed and demonstrated how to modify the models individually to each state using individual data (traffic development, road deterioration etc.). A summary of seminars and training is attached in Appendix 6.

Transport Economics and Road Use Cost Aspects

Before commencement of the field works for data collection available reports were studied to familiarise with background economic data of the recipient states as well as documents produced for TACIS and other international organisations:

- Kyrgyzstan, Feasibility Study of the Rehabilitation of the Bishkek - Osh Road
- Kazakhstan, Feasibility Study of the Asian Development Bank Road Rehabilitation Project
- Azerbaijan, Prefeasibility Study of the Baku-Ashtara Road
- Central Asia Outline Transport Strategy
- Russia, Ukraine, Kazakhstan and Belarus - Roads and Road Transport Study
- Armenia, Armenia Highway Survey
- Turkmenistan, Turkmenistan Road Rehabilitation Project

The data collection has covered the following:

- Traffic data
- Axle load surveys
- Traffic growth 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

Traffic data, the results of classified volume counts on the main international and republican roads, have been collected and analysed. This traffic data covered a wide sample of road links required to evaluate the utilisation of the total main road networks in the respective countries.

The classification of truck types used in the classified volume counts undertaken in the study countries is based on gross vehicle weight rather than axle configuration. The classification of truck traffic by vehicle type therefore had to be changed to an axle configuration basis to be usable in HDM-III based analyses. This modification was based on the results of the Consultants' Moving Observer Traffic Counts which were carried out on main road links and have proved to be an accurate reflection of traffic levels when compared with the results of the official classified volume counts on specific road links.

Details of vehicle registrations by vehicle type have been collected. However, the vehicle classification system used in vehicle registration statistics collected by the traffic police was different from the vehicle classification system used in traffic surveys.

Axle load surveys of two days duration (from 9 to 22 hours) were carried out at selected locations. The results of the axle load surveys recently undertaken as part of the aforementioned Feasibility Study in Kyrgyzstan have also been analysed. The results of the axle load surveys undertaken showed that traffic loading is significantly lower than is usual in Western Europe or North America.

To estimate the traffic growth all available records from historical traffic counts have been analysed. These showed that traffic levels have declined significantly during the 1990s reflecting the sharp contraction in economic activity during the past five years. A number of long term traffic forecasts produced before the break-up of the former Soviet Union have also been studied.

The vehicle operating cost (VOC) estimates produced in the various consultants' reports mentioned above are all based on the use of the Vehicle Operating Cost Sub-Model of the World-Bank's Highway Design and Maintenance Model (HDM-III). The same model was used in this project and the field work had mainly involved updating the vehicle operating cost input data.

Information has been collected on the recent levels of expenditure on highway maintenance and rehabilitation. There has been a sharp drop in such expenditure in real terms since the early 1990s and in no case does it now approach required levels. This confirmed the Consultants' findings in Turkmenistan in 1995.

As part of the road use costs and financing part of the project it was necessary to have a breakdown of road network condition by pavement type, pavement strength and traffic range. Since existing data on road pavement characteristics were hardly available network condition estimates were based on the available data on pavement type, design standard and traffic. The estimates of network wide road use costs were based on a short cut methodology suggested by the World Bank on the basis of the results of numerous pavement rehabilitation strategy analyses undertaken using the HDM-III model.

The draft final report and the final report of the STUDY OF THE COST AND FINANCING OF ROAD USAGE were submitted in English as well as in Russian in January and June 1997 respectively.

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

Details of the evaluation of relevant standards for bitumen bound materials and road design used in the recipient states and a comparison with European and other western standards were summarised in the report on REVIEW OF ROAD DESIGN STANDARDS, which was submitted in January 1997.

- Institutional Requirements

  During the course of the Project it became apparent that more information about the framework for a PMS/BMS unit was necessary. Therefore an seminar was held with the recipient institutions to demonstrate and to discuss the organisational and administrative requirements for the PMS/BMS as well as the methodology, components and structure of PMS.

- Bridge Management System (BMS)

  - Introduction to the Programme RoSy PMS/BMS
  - Data collection and documentation of bridge data on a Germany example

- Bridge Maintenance Technology

  - Repair of bridges
  - Surface safety systems
  - Rehabilitation of cracks
  - Repair and modernisation of prefabricated bridge parts

Summaries of the topics of each seminar as attached in APPENDIX 3 were distributed to the participants of the seminars. The participants of the various seminars are listed in APPENDIX 4.

- Study Tour to Europe

  In the framework of the Project a study tour for staff of the recipient institutes was organised from 18 to 22 November 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.

3.4 Activities for the Addendum No. 1 (November 1996 to December 1997)

TM-TM

The project activities for the Tedjen - Mary road in Turkmenistan commenced with the arrival of the Consultant's staff on 12 November 1996. Details of activities are summarised in the following reports:

- INCEPTION REPORT (January 1997)
- THE PROGRESS REPORT 1 (January 1997)
- PROGRESS REPORT 2 (February 1997)
- PROGRESS REPORT 3 (March 1997)
- DRAFT FINAL REPORT (July 1997)
- FINAL ENGINEERING REPORT VOLUME I - IV (November 1997)
- TENDER DOCUMENTS VOLUME I - III (November 1997)

TA-AR

The project activities for the Technical Assistance for the Armenian Road Directorate commenced on 9 September 1997. Details of activities are summarised in the following reports:

- INCEPTION REPORT (October 1997)
- PROJECT COMPLETION REPORT (December 1997).

FS-GE

The activities and field works started delayed after commencement meetings in January 1997. Details of the activities are summarised in the following reports:

- INCEPTION REPORT (March 1997)
- DRAFT FINAL REPORT (September 1997)
- FINAL REPORT (December 1997)

FS-AZ

The activities and field works started in the beginning of January 1997 after commencement meetings in mid December 1996. Details of the activities are summarised in the following reports:

- INCEPTION REPORT (March 1997)
- DRAFT FINAL REPORT FOR THE GAZI - MAMMAD TO KYURDAMIR SECTION (October 1997)
- DRAFT FINAL FEASIBILITY REPORT (October 1997)
- FINAL FEASIBILITY REPORT (December 1997)

Equipment and Training
A further Falling Weight Deflectometer was purchased and delivered after approval by the EU to Uzbekistan and handed-over. Laboratory equipment was purchased and delivered after approval by the EU to Turkmenistan and handed-over. A Bump Integrator and a Longitudinal Sensor for Road Condition Survey were purchased and after approval by the EU handed-over to the recipient institute in Georgia.

3.5 Tables

The achieved progress and completion in the states under the Project is summarised in the tables (FORM 3.2 and 3.3) 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.

PROJECT COMPLETION REPORT

Project title: TRACECA Project - Implementation of Pavement Management System	Project nr.: TELREG 9305	Country: The Southern Republic of the CIS and Georgia	Form: 3.2 Page: 1
Reporting period: 01/1996 - 12/1997	Prepared on: 12/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz, Germany	

REPORTING PERIOD	MAIN ACTIVITIES UNDERTAKEN	EC CONSULTANT	INPUTS UTILISED	
			MATERIALS AND EQUIPMENT	OTHER
01/1996 - 06/1996 **UZBEKISTAN**	1. Commencement Meeting	1.0 weeks		
	2. Logistic, Data Collection	1.5 weeks		
	3. Road Network Location	0.5 weeks		
	4. Road Condition Survey + Standard Definition	5.0 weeks	Bump Integrator, Tripmeter, Car, MERLIN	
	5. Traffic Survey + Evaluation	2.5 weeks	Axle Weighbridge	
	6. FWD Survey + Evaluation	4.5 weeks	FWD, Computer, Printer, Ancillaries	
	7. Maintenance Strategy	1.0 weeks		
	8. Road + Usage Costing	0.2 weeks		
	9. VOCs (HDM)	2.7 weeks		
	13. PMS Model Optimisation	0.5 weeks		
	14. Training + Seminars	1.7 weeks	Teaching material	
		21.1 weeks		

PROJECT COMPLETION REPORT

Project title: TRACECA Project - Implementation of Pavement Management System	Project nr.: TELREG 9305	Country: The Southern Republic of the CIS and Georgia	Form: 3.2 Page: 2
Reporting period: 01/1996 - 12/1997	Prepared on: 12/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz, Germany	

REPORTING PERIOD	MAIN ACTIVITIES UNDERTAKEN	EC CONSULTANT	INPUTS UTILISED	
			MATERIALS AND EQUIPMENT	OTHER
01/1996 - 06/1996				
KYRGHYZSTAN	15. Commencement Meeting	1.0 weeks		
	16. Logistic, Data Collection	1.5 weeks		
	17. Road Network Location	0.5 weeks		
	18. Road Condition Survey + Standard Definition	5.0 weeks	Bump Integrator, Tripmeter, Car, MERLIN	
	19. Traffic Survey + Evaluation	3.0 weeks	Axle Weighbridge	
	20. FWD Survey + Evaluation	2.0 weeks	FWD, Computer, Printer, Ancillaries	
	21. Maintenance Strategy	1.0 weeks		
	22. Road + Usage Costing	0.2 weeks		
	23. VOCs (HDM)	2.0 weeks		
	27. PMS Model Optimisation	0.5 weeks		
	28. Training + Seminars	1.2 weeks	Teaching material	
		17.9 weeks		

PROJECT COMPLETION REPORT

Project title: TRACECA Project - Implementation of Pavement Management System	Project nr.: TELREG 9305	Country: The Southern Republic of the CIS and Georgia	Form: 3.2 Page: 3
Reporting period: 01/1996 - 12/1997	Prepared on: 12/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz, Germany	

REPORTING PERIOD	MAIN ACTIVITIES UNDERTAKEN	EC CONSULTANT	INPUTS UTILISED	
			MATERIALS AND EQUIPMENT	OTHER
01/1996 - 06/1996 **KAZAKHSTAN**	29. Commencement Meeting	1.0 weeks		
	30. Logistic, Data Collection	1.5 weeks		
	31. Road Network Location	0.5 weeks		
	32. Road Condition Survey + Standard Definition	3.5 weeks	Bump Integrator, Tripmeter, Car, MERLIN	
	33. Traffic Survey + Evaluation	3.0 weeks	Axle Weighbridge	
	34. FWD Survey + Evaluation	3.0 weeks	FWD, Computer, Printer, Ancillaries	
	35. Maintenance Strategy	0.5 weeks		
	36. Road + Usage Costing	0.2 weeks		
	37. VOCs (HDM)	2.0 weeks		
	42. Training + Seminars	1.0 weeks	Teaching Material	
		16.2 weeks		

PROJECT COMPLETION REPORT

Project title: TRACECA Project - Implementation of Pavement Management System	Project nr.: TELREG 9305	Country: The Southern Republic of the CIS and Georgia	Form: 3.2 Page: 4
Reporting period: 01/1996 - 12/1997	Prepared on: 12/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz, Germany	

REPORTING PERIOD	MAIN ACTIVITIES UNDERTAKEN	EC CONSULTANT	INPUTS UTILISED	
			MATERIALS AND EQUIPMENT	OTHER
01/1996 - 06/1996				
AZERBAIJAN	71. Commencement Meeting	1.0 weeks		
	72. Logistic, Data Collection	1.5 weeks		
	73. Road Network Location	0.5 weeks		
	74. Road Condition Survey + Standard Definition	3.0 weeks	Bump Integrator, Tripmeter	
	75. Traffic Survey + Evaluation	1.0 weeks		
	81. Road + Usage Costing	0.2 weeks		
GEORGIA	85. Commencement Meeting	0.5 weeks		
		7.7 weeks		

PROJECT COMPLETION REPORT

Project title: TRACECA Project - Implementation of Pavement Management System	Project nr.: TELREG 9305	Country: The Southern Republic of the CIS and Georgia	Form: 3.2 Page: 5
Reporting period: 01/1996 - 12/1997	Prepared on: 12/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz, Germany	

REPORTING PERIOD	MAIN ACTIVITIES UNDERTAKEN	EC CONSULTANT	INPUTS UTILISED	
			MATERIALS AND EQUIPMENT	OTHER
07/1996 - 09/1996 **UZBEKISTAN**	6. FWD Survey + Evaluation	1.5 weeks		
	9. VOCs (HDM)	1.0 weeks		
	10. Bridge Condition Survey + Standard Definition	1.5 weeks	Bridge Testing Equipment	
	11. Bridge Maintenance Strategy	2.0 weeks		
	12. Adoption PMS + BMS	2.0 weeks	PMS/BMS Software	
	13. PMS Model Optimisation	1.0 weeks		
	14. Training + Seminars	1.5 weeks	Teaching Material	
		10.5 weeks		

PROJECT COMPLETION REPORT

Project title: TRACECA Project - Implementation of Pavement Management System	Project nr.: TELREG 9305	Country: The Southern Republic of the CIS and Georgia	Form: 3.2 Page: 6
Reporting period: 01/1996 - 12/1997	Prepared on: 12/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz, Germany	

REPORTING PERIOD	MAIN ACTIVITIES UNDERTAKEN	EC CONSULTANT	INPUTS UTILISED	
			MATERIALS AND EQUIPMENT	OTHER
07/1996 - 09/1996				
KYRGHYZSTAN	23. VOCs (HDM)	1.0 weeks		
	24. Bridge Condition Survey + Standard Definition	3.0 weeks	Bridge Testing Equipment	
	25. Bridge Maintenance Strategy	2.0 weeks		
	26. Adoption PMS + BMS	2.0 weeks	PMS/BMS Software	
	27. PMS Model Optimisation	1.0 weeks		
	28. Training + Seminars	1.7 weeks	Teaching material	
KAZAKHSTAN	32. Road Condition Survey + Standard Definition	2.0 weeks		
	36. Road + Usage Costing	0.2 weeks		
	37. VOCs (HDM)	1.5 weeks		
	38. Bridge Condition Survey + Standard Definition	3.0 weeks	Bridge Testing Equipment	
		17.4 weeks		

PROJECT COMPLETION REPORT

Project title: TRACECA Project - Implementation of Pavement Management System	Project nr.: TELREG 9305	Country: The Southern Republic of the CIS and Georgia	Form: 3.2 Page: 7
Reporting period: 01/1996 - 12/1997	Prepared on: 12/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz, Germany	

REPORTING PERIOD	MAIN ACTIVITIES UNDERTAKEN	EC CONSULTANT	INPUTS UTILISED	
			MATERIALS AND EQUIPMENT	OTHER
07/1996 - 09/1996				
KYRGHYZSTAN	23. VOCs (HDM)	1.0 weeks		
	24. Bridge Condition Survey + Standard Definition	3.0 weeks	Bridge Testing Equipment	
	25. Bridge Maintenance Strategy	2.0 weeks		
	26. Adoption PMS + BMS	2.0 weeks	PMS/BMS Software	
	27. PMS Model Optimisation	1.0 weeks		
	28. Training + Seminars	1.7 weeks	Teaching Material	
KAZAKHSTAN	32. Road Condition Survey + Standard Definition	2.0 weeks	Bump Integrator, Tripmeter, Car, MERLIN	
	36. Road + Usage Costing	0.2 weeks		
	37. VOCs (HDM)	1.5 weeks		
	38. Bridge Condition Survey + Standard Definition	3.0 weeks	Bridge Testing Equipment	
	39. Bridge Maintenance Strategy	2.0 weeks		
	40. Adoption PMS/BMS	2.0 weeks	PMS/BMS Software	
	41. Model Optimisation	1.0 weeks		
	42. Training + Seminars	1.7 weeks	Teaching Material	
TURKMENISTAN	43. Commencement Meeting	0.5 weeks		
TADJIKISTAN	57. Commencement Meeting	1.0 weeks		
AZERBAIJAN	75. Traffic Survey + Evaluation	2.0 weeks	Axle Weighbridge	
	76. FWD Survey + Evaluation	2.0 weeks	FWD Equipment	
	77. Maintenance Strategy	1.0 weeks		
	79. VOCs (HDM)	2.2 weeks		
		32.8 weeks		

PROJECT COMPLETION REPORT

Project title: TRACECA Project - Implementation of Pavement Management System	Project nr.: TELREG 9305	Country: The Southern Republic of the CIS and Georgia	Form: 3.2 Page: 8
Reporting period: 01/1996 - 12/1997	Prepared on: 12/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz, Germany	

REPORTING PERIOD	MAIN ACTIVITIES UNDERTAKEN	EC CONSULTANT	INPUTS UTILISED	
			MATERIALS AND EQUIPMENT	OTHER
07/1996 - 09/1996				
GEORGIA	86. Logistics, Data Collection	1.5 weeks		
	87. Road Network Location	0.5 weeks		
	88. Road Condition Survey + Standard Definition	5.0 weeks	Bump Integrator, Tripmeter, Car, MERLIN	
	89. Traffic Survey + Evaluation	3.0 weeks	Axle Weighbridge	
	90. FWD Survey + Evaluation	2.0 weeks	FWD	
	91. Maintenance Strategy	1.0 weeks		
	92. Road + Usage Costing	0.2 weeks		
	93. VOCs (HDM)	3.0 weeks		
ARMENIA	99. Commencement Meeting	1.0 weeks		
	100. Logistics, Data Collection	1.5 weeks		
	101. Road Network Location	0.5 week		
	102. Road Condition Survey + Standard Definition	2.0 weeks	Bump Integrator, Tripmeter, Car, MERLIN	
	103. Traffic Survey + Evaluation	2.0 weeks	Axle Weighbridge	
	104. FWD Survey + Evaluation	2.0 weeks	FWD Equipment	
	105. Maintenance Strategy	0.5 weeks		
		25.7 weeks		

PROJECT COMPLETION REPORT

Project title: TRACECA Project - Implementation of Pavement Management System	Project nr.: TELREG 9305	Country: The Southern Republic of the CIS and Georgia	Form: 3.2 Page: 9
Reporting period: 01/1996 - 12/1997	Prepared on: 12/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz, Germany	

REPORTING PERIOD	MAIN ACTIVITIES UNDERTAKEN	EC CONSULTANT	INPUTS UTILISED	
			MATERIALS AND EQUIPMENT	OTHER
10/1996 - 12/1996				
UZBEKISTAN	4. Road Condition Survey + Standard Definition	1.0 weeks		
	14. Training + Seminars + Study Tour	1.2 weeks	Teaching + Information Material	
KYRGHYZSTAN	28. Training + Seminars + Study Tour	1.0 weeks	Information Material	
KAZAKHSTAN	42. Training + Seminars + Study Tour	1.0 weeks	Information Material	
TURKMENISTAN	44. Logistics, Data Collection	1.5 weeks		
	45. Road Network Location	0.5 weeks		
	46. Road Condition Survey + Standard Definition	4.0 weeks	Bump Integrator, Tripmeter, Car, MERLIN	
	47. Traffic Survey + Evaluation	2.5 weeks	FWD Equipment	
	48. FWD Survey + Evaluation	2.5 weeks		
	49. Maintenance Strategy	1.0 weeks		
	50. Road + Usage Costing	0.5 weeks		
	51. VOCs (HDM)	2.2 weeks		
	52. Bridge Condition Survey + Standard Definition	2.5 weeks	Bridge Testing Equipment	
	53. Bridge Maintenance	2.0 weeks		
	54. Adoption PMS/BMS	1.5 weeks	PMS/BMS Software	
	55. PMS Model Optimisation	0.5 weeks		
	56. Training + Seminars + Study Tour	3.4 weeks	Teaching + Information Material	
		28.8 weeks		

PROJECT COMPLETION REPORT

Project title: TRACECA Project - Implementation of Pavement Management System	Project nr.: TELREG 9305	Country: The Southern Republic of the CIS and Georgia	Form: 3.2 Page: 10
Reporting period: 01/1996 - 12/1997	Prepared on: 12/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz, Germany	

REPORTING PERIOD	MAIN ACTIVITIES UNDERTAKEN	EC CONSULTANT	INPUTS UTILISED	
			MATERIALS AND EQUIPMENT	OTHER
10/1996 - 12/1996				
TADJIKISTAN	58. Logistics, Data Collection	1.5 weeks		
	59. Road Network Location	0.5 weeks		
	60. Road Condition Survey + Standard Definition	3.0 weeks	Bump Integrator, Tripmeter, Car, MERLIN	
	61. Traffic Survey + Evaluation	2.0 weeks	Axle Weighbridge	
	63. Maintenance Strategy	1.0 weeks		
	64. Road + Usage Costing	0.5 weeks		
	65. VOCs (HDM)	2.2 weeks		
	66. Bridge Condition Survey + Standard Definition	2.5 weeks	Bridge Testing Equipment	
	67. Bridge Maintenance Strategy	1.5 weeks		
	68. Adoption PMS/BMS	1.5 weeks	PMS/BMS Software	
	69. PMS Model Optimisation	0.5 weeks		
	70. Training + Seminars + Study Tour	3.2 weeks	Teaching + Information Material	
		19.9 weeks		

PROJECT COMPLETION REPORT

Project title: TRACECA Project - Implementation of Pavement Management System	Project nr.: TELREG 9305	Country: The Southern Republic of the CIS and Georgia	Form: 3.2 Page: 11
Reporting period: 01/1996 - 12/1997	Prepared on: 12/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz, Germany	

REPORTING PERIOD	MAIN ACTIVITIES UNDERTAKEN	EC CONSULTANT	INPUTS UTILISED	
			MATERIALS AND EQUIPMENT	OTHER
10/1996 - 12/1996				
AZERBAIJAN	78. Road + Usage Costing	0.2 weeks		
	80. Bridge Condition Survey + Standard Definition	3.0 weeks	Bridge Testing Equipment	
	81. Bridge Maintenance Strategy	2.0 weeks		
	82. Adoption PMS + BMS	2.0 weeks		
	83. PMS/BMS Model Optimisation	1.0 weekd	PMS/BMS Software	
	84. Training + Seminars + Study Tour	3.7 weeks		
GEORGIA	94. Bridge Condition Survey + Standard Definition	2.5 weeks	Teaching + Information Material	
	95. Bridge Maintenance Strategy	2.0 weeks		
	96. Adoption PMS/BMS	1.5 weeks	PMS/BMS Software	
	97. PMS Model Optimisation	1.0 weeks		
	98. Training + Seminars + Study Tour	3.7 weeks	Teaching + Information Material	
ARMENIA	102. Road Condition Survey + Standard Definition	1.0 weeks		
	105. Maintenance Strategy	0.5 weeks		
	107. VOCs (HDM)	3.0 weeks		
	108. Bridge Condition Survey + Standard Survey	2.5 weeks		
	109. Bridge Maintenance Strategy	2.0 weeks		
	110. Adoption PMS/BMS	2.0 weeks	PMS/BMS Software	
	111. PMS/BMS Model Optimisation	1.0 weeks		
	112. Training Seminars + Study Tour	4.7 weeks	Teaching + Information Material	
		39.3 weeks		

PROJECT COMPLETION REPORT

Project title: TRACECA Project - Implementation of Pavement Management System	Project nr.: TELREG 9305	Country: The Southern Republic of the CIS and Georgia	Form: 3.2 Page: 12
Reporting period: 01/1996 - 12/1997	Prepared on: 12/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz, Germany	

REPORTING PERIOD	MAIN ACTIVITIES UNDERTAKEN	EC CONSULTANT	INPUTS UTILISED	
			MATERIALS AND EQUIPMENT	OTHER
01/1997 - 06/1997				
AZERBAIJAN (ADDENDUM NO. 1)	1. Logistics, Data Collection	3.0 weeks		
	2. Road and Bridge Condition Survey	8.0 weeks	Bump Integrator, Tripmeter, Datron, Car, MERLIN, FWD	
	3. Traffic Survey and Data Evaluation	4.0 weeks		
	4. Geotechnical Investigation	4.5 weeks	Laboratory Equipment	
	5. Technical Solution	10.0 weeks		
	6. Economic Evaluation	6.0 weeks		
	7. Environmental Assessment	4.0 weeks		
GEORGIA (ADDENDUM NO. 1)	1. Logistics, Data Collection	3.0 weeks		
	2. Road and Bridge Condition Survey	8.0 weeks	Bump Integrator, Tripmeter, Datron, Car, MERLIN, FWD	
	3. Traffic Survey and Data Evaluation	4.0 weeks		
	4. Geotechnical Investigation	4.5 weeks	Laboratory Equipment	
	5. Technical Solution	8.0 weeks		
	6. Economic Evaluation	5.0 weeks		
		72.0 weeks		

PROJECT COMPLETION REPORT

Project title: TRACECA Project - Implementation of Pavement Management System	Project nr.: TELREG 9305	Country: The Southern Republic of the CIS and Georgia	Form: 3.2 Page: 13
Reporting period: 01/1996 - 12/1997	Prepared on: 12/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz, Germany	

REPORTING PERIOD	MAIN ACTIVITIES UNDERTAKEN	EC CONSULTANT	INPUTS UTILISED	
			MATERIALS AND EQUIPMENT	OTHER
11/1996 - 01/1997				
TURKMENISTAN (ADDENDUM NO. 1)	1. Road and Bridge Condition Survey	4.5 weeks	Bump Integrator, Tripmeter, Car, MERLIN	
	2. Traffic Survey	0.5 weeks	Axle Weighbridge	
	3. Geotechnical Investigation	6.0 weeks	Laboratory Equipment	
	4. Topographic Survey	5.5 weeks	Survey Equipment	
	5. Environmental Assessment	--		
	6. Engineering Design	5.0 weeks	Computer, CAD-Programme, Printer	
02/1997				
TURKMENISTAN (ADDENDUM NO. 1)	1. Road and Bridge Condition Survey	0.5 weeks	Bump Integrator, Tripmeter, Car, MERLIN	
	2. Traffic Survey	1.5 weeks	Axle Weighbridge	
	3. Geotechnical Investigation	3.0 weeks	Laboratory Equipment	
	4. Topographic Survey	5.5 weeks	Survey Equipment	
	5. Environmental Assessment	4.0 weeks		
	6. Engineering Design	1.0 weeks	Computer, CAD-Programme, Printer	
03/1997				
TURKMENISTAN (ADDENDUM NO. 1)	2. Traffic Survey	1.0 weeks	Axle Weighbridge	
	3. Geotechnical Investigation	4.0 weeks	Laboratory Equipment	
	4. Topographic Survey	5.0 weeks	Survey Equipment	
	5. Environmental Assessment	2.0 weeks		
	6. Engineering Design	3.0 weeks	Computer, CAD-Programme, Printer	
04/1997				
TURKMENISTAN (ADDENDUM NO. 1)	3. Geotechnical Investigation	4.0 weeks	Laboratory Equipment	
	4. Topographic Survey	6.0 weeks	Survey Equipment	
	6. Engineering Design	19.5 weeks	Computer, CAD-Programme, Printer	
		81.5 weeks		

PROJECT COMPLETION REPORT

Project title: TRACECA Project - Implementation of Pavement Management System	Project nr.: TELREG 9305	Country: The Southern Republic of the CIS and Georgia	Form: 3.2 Page: 14
Reporting period: 01/1996 - 12/1997	Prepared on: 12/1997	EC Consultant: KOCKS CONSULT GMBH, Koblenz, Germany	

REPORTING PERIOD	MAIN ACTIVITIES UNDERTAKEN	EC CONSULTANT	INPUTS UTILISED	
			MATERIALS AND EQUIPMENT	OTHER
09/1997 - 12/1997 **ARMENIA (ADDENDUM NO. 1)**	0. Commencement Meeting, Mobilisation	2.0 weeks		
	1. Seminar, Routine Maintenance Standards	3.5 weeks		
	2. Winter Maintenance Standards	3.5 weeks		
	3. Pavement Management System	5.0 weeks		
	4. Tender Documents	7.0 weeks		
	5. Organisation, Management and Resources	5.0 weeks		
	6. Pilot Study Planning	7.5 weeks		
		33.5 weeks		

OUTPUT PERFORMANCE SUMMARY

Project title : Traceca Project - Implementation of Pavement Management Systems	Project number: TELREG 9305	Country : The Southern Republics of the CIS and Georgia	Form 3.3, Page : 1
Prepared on: 12/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz/Germany	

Output results	Deviation original plan + or - %	Reason for deviation	Comment on constrains & assumptions
UZBEKISTAN			
(i) Implementation of PMS/BMS			
Pavement Condition Survey	COMPLETED		
Assessment of Traffic	COMPLETED		
Economic Evaluation and VOCs	COMPLETED		
Bridge Condition Survey	COMPLETED		
Install and Adoption PMS + BMS	COMPLETED		
Recommend Improvements	COMPLETED		
Training and Seminars	COMPLETED		
Provision of PMS + BMS hardware and software	COMPLETED		
Study Tour to Europe	COMPLETED		
(ii) Addendum 1			
Training	COMPLETED		
KYRGYZSTAN			
(i) Implementation of PMS/BMS			
Pavement Condition Survey	COMPLETED		
Assessment of Traffic	COMPLETED		
Economic Evaluation and VOCs	COMPLETED		
Bridge Condition Survey	COMPLETED		
Install and Adoption PMS + BMS	COMPLETED		
Recommend Improvements	COMPLETED		
Training and Seminars	COMPLETED		
Provision of PMS + BMS hardware and software	COMPLETED		
Study Tour to Europe	COMPLETED		
(ii) Addendum 1			
Training	COMPLETED		

OUTPUT PERFORMANCE SUMMARY

Project title : Traceca Project - Implementation of Pavement Management Systems	Project number: TELREG 9305	Country : The Southern Republics of the CIS and Georgia	Form 3.3, Page : 2
Prepared on: 12/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz/Germany	

Output results	Deviation original plan + or - %	Reason for deviation	Comment on constrains & assumptions
KAZAKHSTAN			
(i) Implementation of PMS/BMS			
Pavement Condition Survey	COMPLETED		
Assessment of Traffic	COMPLETED		
Economic Evaluation and VOCs	COMPLETED		
Bridge Condition Survey	COMPLETED		
Install and Adoption PMS + BMS	COMPLETED		
Recommend Improvements	COMPLETED		
Training and Seminars	COMPLETED		
Provision of PMS + BMS hardware and software	COMPLETED		
Study Tour to Europe	COMPLETED		
(ii) Addendum 1			
Definition of Interface	COMPLETED		
TURKMENISTAN			
(i) Implementation of PMS/BMS			
Pavement Condition Survey	COMPLETED		
Assessment of Traffic	COMPLETED		
Economic Evaluation and VOCs	COMPLETED		
Bridge Condition Survey	COMPLETED		
Install and Adoption PMS + BMS	COMPLETED		
Recommend Improvements	COMPLETED		
Training and Seminars	COMPLETED		
Provision of PMS + BMS hardware and software	COMPLETED		
Study Tour to Europe	COMPLETED		
(ii) Addendum 1			
Tedjen - Mary Road Improvement	COMPLETED		
Road and Bridge Condition Survey	COMPLETED		
Traffic Survey	COMPLETED		
Geotechnical Investigations	COMPLETED		
Topographic Survey	COMPLETED		
Environmental Assessment	COMPLETED		
Engineering Design	COMPLETED		
Training	COMPLETED		

OUTPUT PERFORMANCE SUMMARY

Project title : Traceca Project - Implementation of Pavement Management Systems	Project number: TELREG 9305	Country : The Southern Republics of the CIS and Georgia	Form 3.3, Page : 3
Prepared on: 12/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz/Germany	

Output results	Deviation original plan + or - %	Reason for deviation	Comment on constrains & assumptions
TADJIKISTAN			
(i) Implementation of PMS/BMS			
Pavement Condition Survey	COMPLETED		
Assessment of Traffic	COMPLETED		
Economic Evaluation and VOCs	COMPLETED		
Bridge Condition Survey	COMPLETED		
Install and Adoption PMS + BMS	COMPLETED		
Recommend Improvements	COMPLETED		
Training and Seminars	COMPLETED		
Provision of PMS + BMS hardware and software	COMPLETED		
Study Tour to Europe	COMPLETED		
(ii) Addendum 1			
Training	COMPLETED		
AZERBAIJAN			
(i) Implementation of PMS/BMS			
Pavement Condition Survey	COMPLETED		
Assessment of Traffic	COMPLETED		
Economic Evaluation and VOCs	COMPLETED		
Bridge Condition Survey	COMPLETED		
Install and Adoption PMS + BMS	COMPLETED		
Recommend Improvements	COMPLETED		
Training and Seminars	COMPLETED		
Provision of PMS + BMS hardware and software	COMPLETED		
Study Tour	COMPLETED		
(ii) Addendum 1			
Feasibility Study for Rehabilitation of Transit Roads			
Road and Bridge Condition Survey	COMPLETED		
Traffic Survey and Data Evaluation	COMPLETED		
Geotechnical Investigations	COMPLETED		
Technical Solution	COMPLETED		
Economic Evaluation	COMPLETED		
Environmental Assessment	COMPLETED		
Training	COMPLETED		

OUTPUT PERFORMANCE SUMMARY

Project title : Traceca Project - Implementation of Pavement Management Systems	Project number: TELREG 9305	Country : The Southern Republics of the CIS and Georgia	Form 3.3, Page : 4
Prepared on: 12/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz/Germany	

Output results	Deviation original plan + or - %	Reason for deviation	Comment on constrains & assumptions
GEORGIA			
(i) Implementation of PMS/BMS			
Pavement Condition Survey	COMPLETED		
Assessment of Traffic	COMPLETED		
Economic Evaluation and VOCs	COMPLETED		
Bridge Condition Survey	COMPLETED		
Install and Adoption PMS + BMS	COMPLETED		
Recommend Improvements	COMPLETED		
Training and Seminars	COMPLETED		
Provision of PMS + BMS hardware and software	COMPLETED		
Study Tour to Europe	COMPLETED		
(ii) Addendum 1			
Feasibility Study for Rehabilitation of Transit Roads			
Road and Bridge Condition	COMPLETED		
Traffic Survey and Data Evaluation	COMPLETED		
Geotechnical Investigations	COMPLETED		
Technical Solution	COMPLETED		
Economic Evaluation	COMPLETED		
Training	COMPLETED		
ARMENIA			
(i) Implementation of PMS/BMS			
Pavement Condition Survey	COMPLETED		
Assessment of Traffic	COMPLETED		
Economic Evaluation and VOCs	COMPLETED		
Bridge Condition Survey	COMPLETED		
Install and Adoption PMS + BMS	COMPLETED		
Recommend Improvements	COMPLETED		
Training and Seminars	COMPLETED		
Provision of PMS + BMS hardware and software	COMPLETED		
Study Tour to Europe	COMPLETED		

OUTPUT PERFORMANCE SUMMARY

Project title : Traceca Project - Implementation of Pavement Management Systems	Project number: TELREG 9305	Country : The Southern Republics of the CIS and Georgia	Form 3.3, Page : 5
Prepared on: 12/1997		EC Consultant: KOCKS CONSULT GMBH, Koblenz/Germany	

Output results	Deviation original plan + or - %	Reason for deviation	Comment on constrains & assumptions
(ii) Addendum 1			
Technical Assistance for Road and Bridge Maintenance			
Summer Routine Maintenance Standards	COMPLETED		
Winter Maintenance Standards	COMPLETED		
Pavement Management System	COMPLETED		
Tender Documents	COMPLETED		
Organisation, Management, Resources	COMPLETED		
Resources	COMPLETED		
Pilot Study Planning	COMPLETED		
Training	COMPLETED		

4.0 LESSONS LEARNT AND RECOMMENDATIONS

This chapter is not understood as a panel to complain about bureaucracy, difficult travelling conditions etc. in the project countries which an experienced consultant should have been prepared for, but as a podium to discuss and report on experiences and observations made, which may support the implementation of a continuation of the present project or other/future projects.

Prior to the start of the project activities the Consultant contacted the recipient countries' project representatives. Further, commencement meetings with the recipient institutes were held about two to four weeks before the start of the main project activities in the respective recipient country. The Tacis Co-ordinating Units (TCU) assisted wherever possible the Consultant's preparation which is gratefully acknowledged. However, a number of the recipient institutes were not very familiar with the aim and requirements of the Project and the preparation carried out to be more time consuming than anticipated. It would be recommendable to have a particular project preparation phase for such type of project in order to familiarise the recipient organisation with the project aim/requirements and to start up eventually necessary re-organisation.

The main reasons for recipient institutes not being familiar with the project aim and requirements was seen in the existing organisation, where the named recipient institute was only one among several other organisations collecting and/or processing some kind of road/traffic data. An institutional set-up to the requirements of a PMS/BMS was not existing and only initiated through the Consultant's activities. In consequence the Consultant prepared and held an additional seminar on the organisational and administrative requirements for the PMS/BMS as described in sub-chapter 3.3 above. Those requirements were also discussed with high level officials as far as possible to point out the importance of the necessary reorganisation as part of the recipient country's contribution to the Project. Already in Progress Report No. 2 of October 1996 recommendation was included for technical assistance for institutional strengthening as possible part of continuation of the project.

A prerequisite for the success of the Project, in particular the ***Implementation of Pavement Management Systems***, was the availability of qualified counterparts for the transfer of technology. Despite the high work load from the other TRACECA projects running at the same time as the reported project as well as from other duties and responsibilities, all recipient institutes made available the required number of counterpart staff for each of the activities of the Project. However, quite often at an advanced project stage other specialists joined the training after the project representatives had realised that other organisations should be included in the Project. Again a project preparation phase would have supported a smoother implementation of the present project.

All available information and data were given to the decision-makers and future users of the programme during several seminars and training lessons. In the course of the project it turned out that the interest in the training sessions and seminars grew with each training and that the open dialogue with the counterparts had a very positive effect on the acceptance of the PMS/BMS programme. All of the eight recipient countries - some with reservations - confirmed that they are introducing the PMS/BMS system provided under the Project. Existing units for data collection and/or processing became the responsible PMS/BMS unit. Where no units were existing, a new PMS/BMS unit was formed with the Consultant's assistance and advice. In summary this was counted as the first big success of the Project, since such great acceptance of the system provided could not be expected at the start of the project.

Already in the pre-project phase and respectively during the preparation of the tender/proposal for the Project the Consultant was aware of the very different conditions in the eight recipient countries. Those different conditions were less expected in physical conditions than in the respective working conditions. During the implementation of the Project differences ranged from counterparts with hardly a basic knowledge in the use of a computer to an existing organisation for road data collection and their evaluation. In consequence the training was adjusted to the respective conditions for an optimum training effect and deficiencies were compensated by a more intensive training.

During the continued training the Consultant noticed that in some countries the programme was not used anymore after implementation and training in a pilot section. It was found that the decision for the implementation of PMS/BMS and the formation of a PMS/BMS unit was made, but the process for the reorganisation was still under discussion and not yet completed. Due to the pending institutional framework also funds for the PMS/BMS unit were not yet available to allow the necessary continuation. Since the present project had no funds available to overcome those difficulties in the transition period the Consultant's only choice was to encourage the initiated process and to assist and advise where possible.

The Project's main aim was the implementation of the PMS/BMS system with training of local counterpart staff to run the system and to formulate recommendation to permit local staff to continue full implementation of the system (according to the Terms of Reference). On completion of the Consultant's activities this aim has been fully achieved and a wide platform was prepared for following projects

- full acceptance of the system in most of the recipient countries and initiated reorganisation for the required administrative/institutional framework
- recommendation for the preferred approach in recipient countries which had reservations to full acceptance of the system (e. g. Kazakhstan)
- provision of equipment and training
- enhancement of communication between the recipient institutes of the various countries to exchange information and experience with the system.

Further, with the seminars on western/European road pavement techniques, bridge maintenance technology and road safety/road design aspects as well as during the study tour to Europe a lot of new information was provided. Apart from those details described in the relevant reports numerous discussions were held on questions of the highly interested audience in the recipient countries. Altogether a background for a continuation of the project and for other future projects was prepared as far as possible during the duration of the Project.

The summary of the requirements for a PMS/BMS together with information about existing or reorganised organisation/administrative structures and recommendation for further/future project activities was given in Progress Report No. 2 and No. 3 of October 1996 and January 1997 respectively and the updated tables are shown below. It should be noted that the experience in Europe shows that until the full use of a PMS/BMS system is realised a period of 4 to 5 years is necessary. For the recipient states a slightly shorter period as well as a considerably longer period should be considered according to the various conditions as described above.

Region: Central Asia **State 1, Uzbekistan**			
	REQUIREMENT	ASSESSMENT	RECOMMENDATION
1. Institutional Issues	1.1 Decision by administration for implementation of PMS/BMS	1.1 Confirmed by the Cabinet of Ministers	1.1 adequate
	1.2 Definition of responsible institute/ department	1.2 Formation of a PMS/BMS unit in Concern UZAVTOYUL	1.2 adequate
	1.3 Organisational structure for data collection and maintenance of centralised data base	1.3 Since independence decentralised system, presently reorganisation ongoing to the requirements of PMS/BMS	1.3 Not yet adequate, technical assistance for institutional strengthening recommended
	1.4 Provision of budget for PMS/BMS unit	1.4 Budget available and as in 1.3 above presently reorganised	1.4 Not yet adequate, reorganisation for improvement is ongoing
2. Staff Issues	2.1 Provision of qualified staff	2.1 PMS/BMS unit with 3 to 5 Engineers	2.1 adequate
	2.2 Training in data collection, data evaluation and PMS/BMS programme system	2.2 Training in all aspects has been provided under the present TRACECA project	2.2 Further training for improvement of data collection system + maintaining of data base, optimisation of programme system and preparation of maintenance recommendation is recommended.
	2.3 Personnel Development	2.3 In the course of the above mentioned reorganisation the oblasts (districts) are also included.	2.3 The training described under 2.2 above should be extended to train a group of specialists to become trainer for training other specialists in the oblasts.
3. Technical Issues	3.1 Provision of office accommodation for PMS/BMS unit	3.1 In the building of UZAVTOYUL	3.1 adequate
	3.2 Hardware and software for PMS/ BMS	3.2 Has been provided under the present TRACECA project	3.2 adequate
	3.3 Transport for field works and data collection	3.3 Vehicles available since end of 1997	3.3 adequate
	3.4 Equipment for road and pavement condition survey	3.4 One set of equipment was provided under the Project including • 1 FWD • 1 Bump Integrator • 1 Tripmeter	3.4 Further monitoring recommended

Region: Central Asia **State 3, Kazakhstan**						
	REQUIREMENT		ASSESSMENT		RECOMMENDATION	
1. Institutional Issues	1.1	Decision by administration for implementation of PMS/BMS	1.1	Confirmed by the Ministry of Transport & Communications but comparison with own system requested	1.1	adequate
	1.2	Definition of responsible institute/ department	1.2	Existing unit of KAZDORNII for PMS/BMS	1.2	adequate
	1.3	Organisational structure for data collection and maintenance of centralised data base	1.3	Existing centralised data base and data collection system	1.3	adequate
	1.4	Provision of budget for PMS/BMS unit	1.4	Budget available	1.4	adequate
2. Staff Issues	2.1	Provision of qualified staff	2.1	PMS/BMS unit with 3 to 5 Engineers	2.1	adequate
	2.2	Training in data collection, data evaluation and PMS/BMS programme system	2.2	Training in all aspects has been provided under the present TRACECA project	2.2	Development of a link between existing data base & evaluation system and RoSy-PMS is recommended together with further training for optimisation of programme system and preparation of maintenance recommendation.
	2.3	Personnel Development	2.3	Centralised system functioning	2.3	adequate
3. Technical Issues	3.1	Provision of office accommodation for PMS/BMS unit	3.1	In the building of KAZDORNII	3.1	adequate
	3.2	Hardware and software for PMS/ BMS	3.2	Has been provided under the present TRACECA project	3.2	adequate
	3.3	Transport for field works and data collection	3.3	Vehicles available	3.3	adequate
	3.4	Equipment for road and pavement condition survey	3.4	Equipment available but not all suitable for PMS/BMS requirement and also partly at end of service life (only 2 sets of equipment under the present TRACECA project for all 8 recipient states)	3.4	Provision of equipment as soon as possible recommended

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

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

Region: Caucasus **State 1, Azerbaijan**						
	REQUIREMENT		ASSESSMENT		RECOMMENDATION	
1. Institutional Issues	1.1	Decision by administration for implementation of PMS/BMS	1.1	Confirmed by the Ministry of Economy and AZERAVTOYOL	1.1	adequate
	1.2	Definition of responsible institute/ department	1.2	Formation of a PMS/BMS unit in state Concern AZERAVTOYOL	1.2	adequate
	1.3	Organisational structure for data collection and maintenance of centralised data base	1.3	Centralised data collection system is existing. No indications yet for improvement of organisation to the requirements of PMS/BMS	1.3	Not yet adequate technical assistance for institutional strengthening recommended
	1.4	Provision of budget for PMS/BMS unit	1.4	Budget for traffic counting available, but not for road surveys	1.4	as 1.3 above
2. Staff Issues	2.1	Provision of qualified staff	2.1	PMS/BMS unit with 3 to 5 Engineers	2.1	adequate
	2.2	Training in data collection, data evaluation and PMS/BMS programme system	2.2	Training in all aspects has been provided under the present TRACECA project	2.2	Further training for improvement of data collection system + maintaining of data base, optimisation of programme system and preparation of maintenance recommendation is recommended.
	2.3	Personnel Development	2.3	Reorganisation/improvement ongoing	2.3	Further monitoring recommended.
3. Technical Issues	3.1	Provision of office accommodation for PMS/BMS unit	3.1	In the building of Road Research Center of AZERAVTOYOL	3.1	adequate
	3.2	Hardware and software for PMS/ BMS	3.2	Has been provided under the present TRACECA project	3.2	adequate
	3.3	Transport for field works and data collection	3.3	Few vehicles available, but mostly at the end of service life.	3.3	Financing recommended when recommendation 3.4 below will be implemented
	3.4	Equipment for road and pavement condition survey	3.4	One FWD and one Dynamic Cone Penetrometer (DCP) were provided under the Project.	3.4	Provision of further equipment after completion of re-organisation

Region: Caucasus **State 2, Georgia**			
	REQUIREMENT	ASSESSMENT	RECOMMENDATION
1. Institutional Issues	1.1 Decision by administration for implementation of PMS/BMS	1.1 Confirmed by the Ministry of Economy and SAKAVTOGSA	1.1 adequate
	1.2 Definition of responsible institute/ department	1.2 Formation of a PMS/BMS unit in the State Concern of Roads SAKAVTOGSA	1.2 adequate
	1.3 Organisational structure for data collection and maintenance of centralised data base	1.3 Existing data base was lost and organisational structure suffered from war. Some activities for re-organisation on-going	1.3 Not yet adequate, technical assistance for institutional strengthening recommended
	1.4 Provision of budget for PMS/BMS unit	1.4 Little budget available only, improvements planned	1.4 as 1.3 above
2. Staff Issues	2.1 Provision of qualified staff	2.1 PMS/BMS unit with 3 to 5 Engineers	2.1 adequate
	2.2 Training in data collection, data evaluation and PMS/BMS programme system	2.2 Training in all aspects has been/will be provided under the present TRACECA project	2.2 Training for setting up of data collection, system + maintaining of data base, optimisation of programme system and preparation of maintenance recommendation is recommended
	2.3 Personnel Development	2.3 No information available	2.3 Further monitoring recommended
3. Technical Issues	3.1 Provision of office accommodation for PMS/BMS unit	3.1 In the building of SAKAVTOGSA	3.1 adequate
	3.2 Hardware and software for PMS/ BMS	3.2 Has been provided under the present TRACECA project	3.2 adequate
	3.3 Transport for field works and data collection	3.3 No vehicles available	3.3 Financing recommended when recommendation 3.4 below will be implemented
	3.4 Equipment for road and pavement condition survey	3.4 One Bump Integrator incl. Tripmeter and one Dynamic Cone Penetrometer (DCP) were provided under the Project	3.4 Provision of further equipment after completion of re-organisation

Region: Caucasus **State 3, Armenia**					
	REQUIREMENT		ASSESSMENT	RECOMMENDATION	
1. Institutional Issues	1.1	Decision by administration for implementation of PMS/BMS	1.1 Confirmed by the Ministry of Transport	1.1	adequate
	1.2	Definition of responsible institute/ department	1.2 Existing unit of Armenian Road Directorate (ARD) for PMS/BMS	1.2	adequate
	1.3	Organisational structure for data collection and maintenance of centralised data base	1.3 Existing centralised data base and data collection system	1.3	adequate
	1.4	Provision of budget for PMS/BMS unit	1.4 Budget available through other IFI projects	1.4	presently adequate
2. Staff Issues	2.1	Provision of qualified staff	2.1 PMS/BMS unit with 3 to 5 Engineers	2.1	adequate
	2.2	Training in data collection, data evaluation and PMS/BMS programme system	2.2 Training in all aspects has been/will be provided under the present TRACECA project	2.2	Further training for optimisation of programme system and preparation of maintenance recommendation is recommended.
	2.3	Personnel Development	2.3 Centralised system functioning	2.3	adequate
3. Technical Issues	3.1	Provision of office accommodation for PMS/BMS unit	3.1 In the building of ARD	3.1	adequate
	3.2	Hardware and software for PMS/ BMS	3.2 Has been provided under the present TRACECA project	3.2	adequate
	3.3	Transport for field works and data collection	3.3 Vehicles available	3.3	adequate
	3.4	Equipment for road and pavement condition survey	3.4 Equipment available but not all suitable for PMS/BMS requirement and also partly at end of service life (only 2 sets of equipment under the present TRACECA project for all 8 recipient states)	3.4	Provision of equipment as soon as possible recommended

APPENDIX 1
EQUIPMENT AND SOFTWARE

TRACECA - IMPLEMENTATION OF PMS

PROJECT No.: TELREG 9305

PROVISION OF EQUIPMENT

Recipient State	Description	No.
Kyrgyzstan	Printer NLFB 205000	1
	Computer+UPS+backup	1
	Towing Hook	1
	Rosy PMS/BMS Software	1
Kazakhstan	Printer NLFB 204998	1
	Computer+UPS+backup	1
	Towing Hook	1
	Rosy PMS/BMS Software	1
Armenia	Printer NLFB 215845	1
	Computer+UPS+backup	1
	Towing Hook	1
	Rosy PMS/BMS Software	1
Azerbaijan	Printer NLFB 205002	1
	Computer+UPS+backup and	1
	Towing Hook	1
	Rosy PMS/BMS Software	1
	Dynamic Cone Penetrometer (DCP)	1
	Falling Weight Deflectometer	1
	Measuring Wheel	1
Georgia	Printer NLFB215824	1
	Computer+UPS+backup	1
	Towing Hook	1
	Rosy PMS/BMS Software	1
	Dynamic Cone Penetrometer (DCP)	1
	Bump Integrator	1
	Longitudinal Sensor	1
	Measuring Wheel	1
	Calibration Frame	1
Tadjikistan	Printer NLFB204995	1
	Computer+UPS+backup	1
	Towing Hook	1
	Rosy PMS/BMS Software	1
Uzbekistan	Printer NLFB215801	1
	Computer+UPS+backup	1
	Towing Hook	1
	Rosy PMS/BMS Software	1
	Falling Weight Deflectometer	1
	Bump Integrator	1
	Tripmeter	1

TRACECA - IMPLEMENTATION OF PMS

PROJECT No.: TELREG 9305

PROVISION OF EQUIPMENT

Recipient State	Description	No.
Turkmenistan	Laboratory equipment	1 Set
	Printer NLFB033991	1
	Computer+UPS+backup	1
	Towing Hook	1
	Rosy PMS/BMS Software	1
	Axel weighbridge system	1
	Levelling Equipment	1 Set
	Measuring wheel	1

APPENDIX 2

FORMS FOR DATA COLLECTION

- **Origin Destination Survey**
- **Classified Counts of Trucks**
- **Guidelines for visual Road Inspection**
- **Bridge Inspection Form**
- **Guidelines for Bridge Condition Rating**

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У З А В Т О Й У Л / U Z A V T O Y U L

T R A C E C A (PMS) U Z B E K I S T A N

ОПРОС МЕЖДУНАРОДНОГО ГРУЗОВОГО ТРАНСПОРТА "ОТКУДА/КУДА"
ORIGIN / DESTINATION SURVEY OF INTERNATIONAL TRUCK MOVEMENTS

МЕСТО(номер дороги км направление)
. . . . . .
LOCATION (Road No., Chainage, Direction)

DATE / ДАТА. . . . . .

NUMBER / НОМЕР ОПРОСА	.....
TRUCK TYPE / ТИП ТРАНСПОРТНОГО СР-ВА	
Model / МОДЕЛЬ	.....
No. of Axles / КОЛИЧЕСТВО ОСЕЙ:	.....
NATIONALITY OF VEHICLE / ГОС-НАЯ ПРИНАДЛЕЖН.:	.....
ORIGIN OF JOURNEY / ПУНКТ ОТПРАВЛЕНИЯ	
Country / СТРАНА:	.....
City or Location / АДРЕС:	.....
FINAL DESTINATION / ПУНКТ НАЗНАЧЕНИЯ	
Country / СТРАНА:	.....
City or Location /АДРЕС:	.....
INTERMEDIATE STOPS / ВРЕМЕННЫЕ ОСТАНОВКИ	
Border Crossings / ПРИ ПЕРЕСЕЧЕНИИ ГРАНИЦ:	.....
Others / ПРОЧИЕ	.....

NUMBER / НОМЕР ОПРОСА	.....
TRUCK TYPE / ТИП ТРАНСПОРТНОГО СР-ВА	
Model / МОДЕЛЬ	.....
No. of Axles / КОЛИЧЕСТВО ОСЕЙ:	.....
NATIONALITY OF VEHICLE / ГОС-НАЯ ПРИНАДЛЕЖН.:	.....
ORIGIN OF JOURNEY / ПУНКТ ОТПРАВЛЕНИЯ	
Country / СТРАНА:	.....
City or Location / АДРЕС:	.....
FINAL DESTINATION / ПУНКТ НАЗНАЧЕНИЯ	
Country / СТРАНА:	.....
City or Location / АДРЕС:	.....
INTERMEDIATE STOPS / ВРЕМЕННЫЕ ОСТАНОВКИ	
Border Crossings / ПРИ ПЕРЕСЕЧЕНИИ ГРАНИЦ:	.....
Others / ПРОЧИЕ	.....

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МИНИСТЕРСТВО ТРАНСПОРТА И КОММУНИКАЦИЙ / MINISTRY OF TRANSPORT & COMMUNICATIONS
Департмент автомобильных дорог (КАЗДОРНИИ) Department of Roads (KAZDORNII)

TRACECA(PMS) REPUBLIC OF KAZAKHSTAN

КЛАССИФИКАЦИЯ ПО КОЛИЧЕСТВУ ОСЕЙ (> 3 т.)
CLASSIFIED COUNTS OF TRUCKS > 3T

МЕСТО (НОМЕР ДОРОГИ, КМ., НАПРАВЛЕНИЯ) .....
LOCATION (Road No., Chainage, Direction)

DATE / ДАТА 1996

TIME (1HOUR) from to / ВРЕМЯ (1 ЧАС): С.....ПО.....

2-AXLE 2-ОСНЫЕ	NATIONAL ОТЕЧЕСТВЕННЫЕ		TOTAL: ИТОГО:
	INTERNATIONAL МЕЖДУНАРОДНЫЕ		TOTAL: ИТОГО:
3-AXLE 3- ОСНЫЕ	NATIONAL ОТЕЧЕСТВЕННЫЕ		TOTAL: ИТОГО:
	INTERNATIONAL МЕЖДУНАРОДНЫЕ		TOTAL: ИТОГО:
4-AXLE 4- ОСНЫЕ	NATIONAL ОТЕЧЕСТВЕННЫЕ		TOTAL: ИТОГО:
	INTERNATIONAL МЕЖДУНАРОДНЫЕ		TOTAL: ИТОГО:
5-AXLE 5- ОСНЫЕ	NATIONAL ОТЕЧЕСТВЕННЫЕ		TOTAL: ИТОГО:
	INTERNATIONAL МЕЖДУНАРОДНЫЕ		TOTAL: ИТОГО:
6-AXLE 6- ОСНЫЕ	NATIONAL ОТЕЧЕСТВЕННЫЕ		TOTAL: ИТОГО:
	INTERNATIONAL МЕЖДУНАРОДНЫЕ		TOTAL: ИТОГО:

TRACECA - IMPLEMENTATION OF PAVEMENT MANAGEMENT SYSTEMS

ROAD ROUGHNESS CONDITION CATEGORY AND ROAD CONDITION CLASS

Description	IRI [m/km]	Road Condition Category	Road Condition Class
Ride comfortable at 100 km/h or above. Road unevenness barely perceptible at 80 km/h. No depressions, rutting, potholes, cracks or corrugations noticeable. Typical high quality asphalt concrete or high quality bituminous surface treatment.	4.0 <	very good	0
Ride comfortable up to 100 km/h. At 80 km/h moderately perceptible movements or large undulations may be felt. Very few defects of the road surface for class 1A: - occasional depressions or large undulations - moderate corrugations - moderate rutting - shallow potholes (e.g. 5-15mm/3m or 10-20mm/5m or 10-20mm/5m with frequency 1-2 per 50m) - good quality patches (e.g. 1-2 per 50m) and in addition for class 1B: - occasional longitudinal cracks - occasional transverse cracks NOTE: Road sections measured and/or classified in terms of roughness values as 'GOOD', but with severe rutting or pavement deformation should be downgraded to category 'FAIR'.	> 4.0 - 6.0	good	1A 1B
Ride comfortable up to 70 - 90 km/h, but with strongly perceptible movements and swaying. Usually associated with road surface defects for class 2A: - frequent moderate and uneven depressions - pronounced undulations - pronounced corrugations - pronounced rutting - occasional potholes (e.g. 15-20mm/3m or 20-40mm per 5m with frequency 5-3 per 50m) - poor quality patches (e.g. 1-3 per 50m) and in addition for class 2B: - many longitudinal and/or transverse cracks - alligator cracking NOTE: Road sections measured and/or classified in terms of roughness values as 'FAIR', but with severe rutting or pavement deformation should be downgraded to category 'POOR'.	> 6.0 - 8.5	fair	2A 2B

Description	IRI [m/km]	Road Condition Category	Road Condition Class
Ride quite comfortable up to 50 - 60 km/h, except the worst, not possible to avoid driving across the defects of the road resulting in frequent sharp movements or swaying. Severe defects in the road surface: - frequent deep and uneven depressions - severe undulations - severe corrugations - deep rutting - frequent potholes (e.g. >30mm/3m or >60mm/5m with frequency 4-6 per 50m) - very poor quality patches (e.g. 5-3 per 50m) - severe cracking	> 8.5 - 10.5	poor	3
Necessary to reduce speed to 50 km/h or below, higher speeds would cause extreme discomfort. Disintegration of the road surface associated with many deep depressions or potholes, extreme corrugations or rutting, bad quality patches.	> 10.5 - 12.0	bad	4
Severely disintegrated road pavement allowing a speed of 30 km/h or below, higher speeds would possibly cause damage to the vehicle: - destroyed / failed road pavement - destroyed / failed road pavement repaired e.g. by bad quality patching resulting in an extreme uneven road surface causing wheel bounce - unpaved (gravel or earth) road with high roughness progression.	> 12.0	very bad	5

Source: Consultants estimates based on TRL (Transport Research Laboratory, U.K.) Road Note 5 and on estimates of previous studies.

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T P A C E K A : Инспекция моста - Регистрация повреждений

(T R A C E C A : Bridge inspection - Registration of damages)

Номер моста:..... Вид:..... Дата инспекции:.....

Страница:.....

№ No	Структурный компонент Structural component	Материал Material	Описание повреждения Kind of damage	Объем Amount	Нахождение повреждения	Фото №	Замечания Remarks

TRACECA - IMPLEMENTATION OF BRIDGE MANAGEMENT SYSTEM (BMS)

B R I D G E C O N D I T I O N R A T I N G

GUIDELINES FOR THE EVALUATION OF BRIDGE DEFICIENCIES AND DETERMINATION OF BRIDGE CONDITION CLASSES (MARKS OF CONDITION)

Description of Condition	Mark of Condition	Remedial Works
The structure has no or minor, hardly visible damages only. The deficiencies restrict neither separately, nor in summary the stability and/or the traffic safety and/or the durability of the structure. Examples for typical deficiencies: • dirty facing areas not allowing visual inspection • minor unevenness/rutting of wearing surfaces (carriageway, walkways etc.) • dirty deck joints (expansion joints), bearings and areas around the bearings, joints of steel structures and walkable interiors of structures • not planned vegetation at/on structure • minor alluviated material and/or scouring • dirty/unlegible traffic signs	1	Routine maintenance
The structure has clearly visible damages which do not yet affect the stability. Traffic safety is slightly affected. The existing condition of the structure does not fulfil long term requirements on durability. Examples for typical deficiencies: • minor damages on the bridge furniture and/or it's corrosion protection (railing, guard rails, marker posts, road lights etc.) • bridge furniture in operational condition, but not in accordance with actual standard requirements (out of date) • minor damages on the invert and slope stabilisation, slope stairs, bridge drainage, deck joints (expansion joints), joint sealings • minor damages on the corrosion protection of structural steel units • medium unevenness/rutting of wearing surfaces (carriageway, walkways etc.)	2	Routine and period maintenance and/or repair

Description of Condition	Mark of Condition	Remedial Works
The structure has significant damages, which in short term **may** result separately or in summary in a reduction of stability and/or of traffic safety requiring restriction of use (load restriction, one lane traffic by sign posts/barriers etc.). The existing damages are reducing the durability of the structure. Examples for typical deficiencies: • significant damages on railings and covering plates • significant damages on the wearing surfaces of carriageway and walkways • significant unevenness/rutting in the wearing surfaces • significant damages on the corrosion protection and the coating of structural steel units • erosion and corrosion on the superstructure and the substructure with starting reduction of the cross section area of load bearing components • damages on sealings, joint sealings, drainage of bridge and sealing, erosion/scour protection, hindered bearing movement, which may cause considerable other damages • corrosion with reduction of the cross section area of the reinforcement and load bearing steel components • damages, which are the result of partial failure under load (deformation, cracking, deformed structural elements) • railing, safety furniture, wearing surfaces and other units of the bridge furniture are damaged • cable housings are visible, cable housings without grouting, corroded tendons • longitudinal cracks parallel to tendons	3	Major repairs and/or rehabilitation
The structure has severe damages , which separately and/or in summary reduce the stability and/or restrict the traffic safety. The durability of the structure is considerably reduced. An immediate restriction of use (load restriction, one lane traffic by sign posts/barriers etc.) and/or an immediate removal of the dangers for the restoration of the traffic safety is required. Examples for typical deficiencies: • failure of tendons • significant damages on main load bearing components which are the result of partial failure under load (deformation, cracking in the area of coupling joints, significant cracks parallel to tendons, deformed fastener) • railing, safety furniture, wearing surfaces and other units of the bridge furniture have damages affecting their function considerably • structural units have damages, which cause an acute danger for the traffic (e.g. reduction of the clearance, parts of the structure which may fall on the road)	4	Rehabilitation or reconstruction

APPENDIX 3

SEMINARS

- **Bitumen Bound Products**
- **Road Safety and Road Design Aspect**
- **Organisational/Administrative Requirements & Methodology, Components and Structure of PMS**
- **Bridge Maintenance**
- **Bridge Management System Programme**

PROJECT TITLE :	**Traceca Project - Implementation of Pavement Management Systems**
PROJECT NUMBER :	**TELREG 9305**
COUNTRY :	**The Southern Republics of the CIS and Georgia**

SEMINAR ON BITUMINOUS BOUND MATERIALS
EVALUATION OF METHODS, TECHNOLOGIES AND RELATED STANDARDS IN THE RECIPIENT STATES AND COMPARISON WITH EUROPEAN AND OTHER WESTERN METHODS, TECHNOLOGIES AND STANDARDS

1. PAVEMENT DESIGN

-design criteria

the main aim of the pavement design should be to get a
- ride comfort acceptable to road users and
- acceptable and affordable to the economy of the country
- the surface deflection should be limited

-characterisation of asphalt layers, treated and untreated base course, subbases and subgrade

-design procedures
- computational procedures
- empirical procedures

-assessment of existing design technics in comparisation with western empirical design procedures

acc. Standard of former Soviet Union compared with
- American (AASHO)
- Japanese
- Canadian
- (German Standard)

-discussion of suggestions and proposals for desirable changes and adaptations to special requirements of the single country

2. MATERIALS

-general requirements for materials as aggregates and bitumen used for asphalt concrete production

-available materials

-asphalt job mix design criteria and laboratory testing

-discussion of existing situation and suggestions for possible improvements

3. QUALITY CONTROL

-aim of quality control
-when, where, why controlling and testing is done by whom
-discussion of existing situation in comparison with quality requirements

4. ASPHALT PRODUCTION and PAVEMENT PLACING TECHNICS

-asphalt products for road construction
-asphalt mixing plants
-asphalt paving and compaction procedures
-discussion of existing situation

5. REHABILITATION OF ASPHALT PAVEMENT

-technics and methods in relation to the severity of road deterioration

Assessment of road condition
- surface condition
- bearing capacity
- pavement composition
- pavement structure condition

-pavement distress, reasons for the deterioration of roads

-maintenance, repair, replacement and overlays on pavement surfaces

-discussion of present maintenance procedures and suggestions of improvement

6. RECYCLING TECHNICS and METHODS of ASPHALT CONCRETE

-cold and hot recycling, advantages and disadvantages

-conventional methods

-mix in place recycling

Objectives of this method
- Improvement of load bearing capacity
- Improvement of frost resistance

Advantages of this method
- Avoidance of waste road construction material
- Saving of natural resources
- Reduction of material transports
- Protection of other rural / public roads in the area

-reshape, repave, remix technics

-discussion of existing situation and possibilities of improvement

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PROJECT TITLE :	Traceca Project - Implementation of Pavement Management Systems
PROJECT NUMBER :	TELREG 9305
COUNTRY :	The Southern Republics of the CIS and Georgia

SEMINAR ON ROAD SAFETY AND ROAD DESIGN ASPECTS
EVALUATION OF RELEVANT ROAD SAFETY AND ROAD DESIGN STANDARDS FOR THE TRACECA ROADS (MAGISTRALE) IN THE RECIPIENT STATES AND COMPARISON WITH EUROPEAN STANDARDS

1. ROAD CATEGORIES AND DESIGN SPEEDS

1.1 Soviet Union Road Standard 2.05.02-85, 1986

CATEGORY	DESIGN SPEED [Km/h]		
	NORMAL	WINDING TERRAIN	DIFFICULT TERRAIN
I - a	150	120	80
I - b	120	100	60
II	120	100	60
III	100	80	50
IV	80	60	40
V	60	40	30

1.2 German Standard RAS-Q, 1982

CATEGORY				DESIGN SPEED [km/h]
GROUP CATEGORY		ROAD CATEGORY		
A	MAGISTRALE, outside populated areas	A I	long distance/international link	90 - 120
		A II	regional link	80 - 120
		A III	interurban link	60 - 80 (100)
		A IV	major infrastructure link	60 - 80
B	HIGHWAYS, around or through towns	B II	major highway	(60) 70 - 80
		B III	main highway	(50) 60 - 70
		B IV	highway	50 - 60
C	MAJOR URBAN ROADS	C III	MAJOR ROAD (highway)	50 (- 70)
		C IV	main road	(40) 50 (60)
D	URBAN MAIN ROADS	D IV	main road	40 - 50
		D V	main street	none
E	URBAN ACCESS ROADS	E V	street	none
		E VI	lane	none

Values in (...) = Exceptions

2. DETAILS FOR ROAD CATEGORY 'A' (MAGISTRALE)

2.1 Soviet Union Road Standard 2.05.02-85, 1986

CAT	TRAFFIC VOLUME (ADT) [veh./day]	DESIGN SPEED [Km/h] NORM.	WIND.	DIFF.	LANES NO.	WIDTH	SHOULDER TOTAL(PAVED)	MEDIAN TOTAL(PAVED)	TOTAL ROAD WIDTH
I-a	>14000	150	120	80	8	3.75 m	3.75 m (0.75m)	6.00 m (1.00m)	43.50 m
					6	3.75 m	3.75 m (0.75m)	6.00 m (1.00m)	36.00 m
					4	3.75 m	3.75 m (0.75m)	6.00 m (1.00m)	28.50 m
I-b	>14000	120	100	60	8	3.75 m	3.75 m (0.75m)	5.00 m (1.00m)	42.50 m
					6	3.75 m	3.75 m (0.75m)	5.00 m (1.00m)	35.00 m
					4	3.75 m	3.75 m (0.75m)	5.00 m (1.00m)	27.50 m
II	6000-14000	120	100	60	2	3.75 m	3.75 m (0.75m)	--	15.00 m
III	2000-6000	100	80	50	2	3.50 m	2.50 m (0.50m)	--	12.00 m
IV	200-2000	80	60	40	2	3.00 m	2.00 m (0.50m)	--	10.00 m
V	<200	60	40	30	1	(2.25m)	1.75 m (--)	--	8.00 m

2.2 German Standard RAS-Q, 1982

ROAD CAT.	TRAFFIC VOLUME (ADT) [veh./day]	DESIGN SPEED [km/h]	LANES NO	WIDTH	SHOULDER TOTAL (PAVED)	MEDIAN TOTAL (PAVED)	TOTAL ROAD WIDTH	NOTE
	45 - 61000	100-120	6	3.75 m	4.50 m (3.00 m)	6.00 m (2x1.00m)	37.50 m	i
A I	29 - 39000	100-120	4	3.75 m	4.50 m (3.00 m)	5.00 m (2x0.50m)	29.00 m	ii
	14 - 27000	90-100	2	3.75 m	3.25 m (1.75 m)	--	14.00 m	iii
	54 - 66000	90-100	6	3.50 m	4.00 m (2.50 m)	4.00 m (2x0.50m)	34.00 m	
A II	35 - 42000	90-100	4	3.50 m	4.00 m (2.50 m)	4.00 m (2x0.50m)	26.00 m	
	22 - 27000	80-100	2	3.75 m	3.25 m (1.75 m)	--	14.00 m	iii
	14 - 21000	80-100	2	3.75 m	2.25 m (0.25 m)	--	12.00m	iv
	33 - 42000	80 (-100)	4	3.25 m	2.00 m (0.50m)	3.00 m (2x0.50m)	20.00 m	
A III	11 - 21000	60-80	2	3.25 m	1.75 m (0.25m)	--	10.00 m	v
A IV	11 - 14000	60-80	2	3.00 m	1.50 m (--)	--	9.00 m	v

NOTES: (i) 1995 (draft) revision of standard for total width of 35.50 m:
- width of right lane 1 x 3.75 m and left lanes 2 x 3.50 m
- width of median 5.00 m (2x0.75m paved)

(ii) 1995 (draft) revision of standard for total width of 29.50 m:
- width of shoulder 4.75 m (3.25m paved)
- width of median 5.00 m (2x0.75m paved)

(iii) 1995 (draft) revision of standard for total width of 15.50 m:
- no. of lanes 3 (2+1 alternating)
- width of single (1) lane 1 x 3.75 m with shoulder 2.75 m (0.25m paved)
- width of double (2) lanes 1 x 3.50 m (right) + 1 x 3.25 m (left) with shoulder 1.75 m (0.25m paved)
- width of "median" 0.50 m (paved)

(iv) 1995 (draft) revision of standard for total width of 10.50 m:
- width of lane 3.50 m
- width of shoulder 1.75 m (0.25m paved)

(v) 1995 (draft) revision of standard for total width of 9.50 m:
- width of lane 3.00 m
- width of shoulder 1.75 m (0.25m paved)

3. SELECTED ROAD SAFETY AND ROAD DESIGN ASPECTS

- sequence of radii for horizontal alignment
- size of horizontal curve after straight road section
- junctions incl. approaches and slowing down / excellaration lanes
- road marking (materials, 2+1 lane roads, etc.)
- traffic signs
- safety of pedestrians and road users for town passages of roads with high traffic volume
- emergency escape lanes at extended descends
- winter maintenance
- public promotion / information programmes

4. ENFORCEMENT OF REGULATIONS

4.1 Point System for Violation of Traffic Regulations (Germany)

In addition to fines a central register has been installed for supervising repeated violations. Registration is done for all fines above 55 US$. Samples of the point system are shown in the table below.

VIOLATION	POINTS	NOTE
Exceeding of speed limit in towns		
21 - 25 km/h	•	
26 - 30 km/h	• ••	
31 - 40 km/h	•••	
41 - 50 km/h	•••••	i
51 - 60 km/h	•••••	i
> 60 km/h	••••••	ii
Driving under the influence of alcohol		
0.8 - 1.1 °/oo	••••	
> 1.1 °/oo	••••••••	
Exceeding technical vehicle check > 8 months	••	
Driving without valid driving licence	••••••	
Driving without valid third party insurance	••••••	
Misuse of number plate	••••••	
Bad signalisation of broken down vehicle	••	
Worn out tyres (< 1.6 mm)	••••	
Disappearance of accident site	••••••	
Dangerous overtaking	••	
Disregarding NO OVERTAKING sign	••••	
Disregarding STOP sign	• ••	
Disregarding RED traffic light	• ••	
Insufficient space to vehicle in front	••••	
Aggressive closing up and use of flashing light	••••••	
Driving without light in fog or heavy rain	• ••	
Turning or reversing on a motorway	••••	
Right-hand side overtaking outside towns	• ••	

NOTES: (i) One month confiscation of driving licence in addition
(ii) Two months confiscation of driving licence in addition

Action is taken by the central register department at a

SUM OF 9 POINTS: A warning letter is issued and advise is given to attend a training course, which attendance results in the deletion/reduction of 4 points.

SUM OF 14 POINTS: The theoretical and in some cases the practical examination test for the driving licence has to be repeated.

SUM OF 18 POINTS: A medical - psychological examination is required. Non-appearance is equal to not being qualified for a driving licence, which will then be confiscated.

4.2 Violation of Load Regulations (Germany)

For vehicles with a gross weight of >7.5 tons the following fines apply when the maximum gross weight or the allowable maximum axle load is exceeded.

EXCESS	> 5 %	FINE	70 US$
	> 10 %		80 US$
	> 15 %		90 US$
	> 20 %		140 US$
	> 25 %		200 US$
	> 30 %		270 US$

In cases with an excess of >30 % unloading might be required.

PROJECT TITLE	:	Traceca Project - Implementation of Pavement Management Systems
PROJECT NUMBER	:	TELREG 9305
COUNTRY	:	The Southern Republics of the CIS and Georgia

SEMINAR ON PAVEMENT MANAGEMENT SYSTEM (PMS) AND BRIDGE MANAGEMENT SYSTEM (BMS)

- **ORGANISATIONAL / ADMINISTRATIVE REQUIREMENTS**
- **METHODOLOGY, COMPONENTS AND STRUCTURE OF PMS**

1. OBJECTIVE OF THE PROJECT

The objective is to initiate a sustainable road management system (Pavement Management System and Bridge Management System, PMS & BMS) where the present project is the first but the most important step.

The distinct differences in topography/climate/road condition as well as the administrative/institutional ranges in the 8 recipient states in Central Asia (Kazakhstan, Kyrgyzstan, Uzbekistan, Tadjikistan, Turkmenistan) and the Caucasus Area (Armenia, Azerbaijan, Georgia) formed a quite challenging environment to the Project, which required a considerate approach.

2. ORGANISATIONAL/ADMINISTRATIVE REQUIREMENTS

In only a few TRACECA states a system for data collection, evaluation and preparation of maintenance recommendation has been encountered and the requirements for introduction of the PMS/BMS put a high demand on the recipient institutes:

- Institutional Requirements
  - building up/improvement of the organisational structure for data collection and maintenance of a centralised data base and the calculations of the optimum maintenance strategies
  - formation of a PMS/BMS unit
  - provision of budget

- Staff Requirements
  - provision of qualified staff for PMS/BMS unit
  - personnel development

- Technical Requirements
  - provision of office accommodation for PMS/BMS unit
  - hardware and software for PMS/BMS (for each of the 8 states provided under the current Project)
  - transportation for field works/data collection
  - equipment for road/pavement and bridge condition survey (1 set of road and pavement survey equipment for the 8 states provided under the current Project)

3. METHODOLOGY, COMPONENTS AND STRUCTURE OF PMS

The target group of the seminar is primary the management level staff but technical staff and computer operators will benefit from receiving a broader knowledge of the PMS aspects. Therefore this seminar does not cover computer hands-on lessons but a presentation and discussion between paticipants.

- Implementation of PMS/BMS
  The aim is to discuss the different stages, tasks, methods, procedures and timing aspects involved when implementing PMS/BMS

  - The TRACECA Project (framework, scope and limitations)
  - Institutional strengthening
  - Centralisation vs decentralisation
  - Stages and their timing
  - 4 main actors of PMS/BMS (Road users - decision makers in administration and on the political level - the PMS/BMS unit - staff for road maintenance works)
  - Future developments for the PMS/BMS project

- Methodology, components and structure
  The aim is to describe the various components and data structure in an overview form without going into very technical engineering termonology.

  - System overview RoSy PMS
  - RoSy data base design
  - RoSy PMS flow chart
  - Cost parameters
  - VOC, deterioration and forecast parameters
  - Optimisation and budget planning
  - Time schedule of final program version with completed Russian translations
  - Adjustment to local conditions
  - Adjustment with use of local models/formulars
  - Advanced issues to be followed up

- PMS related equipment
  Equipment used for collection of road condition and road pavement data to the RoSy PMS and other equipment using new technologies are described. On the pilot sections of the current project all data for VOC, road condition including roughness (IRI), axle load, traffic counting and bearing capacity analysis have been collected by equipment provided under the Project.

Topics of Seminar Bridge Maintenance Technologies

- Repair of concrete
  - forms of repair
  - required preliminary examinations
  - materials and applicability
  - principles of technology (surface treatment, application)

- Surface safety systems for concrete structures
  - objectives of using surface safety systems
  - forms of surface safety systems and applicability
  - principles of technology (surface treatment, application)

- Rehabilitation of cracks on concrete structures
  - general principles
  - selection of technology and material in dependence of reasons for cracks, width of cracks and crack characteristics

- Repair and modernisation of prefabricated bridge parts
  - demonstration of comparable repair projects of Germany
  - special constructional solutions on example of German guidelines (joints, sealing, drainage)

Topics of Seminar Bridge Management System

- Introduction to the BMS-Programme
  - what is PMS
  - RoSy ADMIN, setup
  - RoSy BASE database
  - bridge data input
  - bridge inspection input
  - bridge economic model
  - print-outs from data base

APPENDIX 4
Seminar Participants

Т Р А С Е К А - СУП , АРМЕНИЯ
Список участников семинаров

T R A C E C A - PMS , ARMENIA
Lists of Seminar Participants

Армянский Директорат Автодорог (ARD)
Armenian Road Derectorate (ARD)

1. СЕМИНАР ПО БИТУМО - ВЯЖУЩИМ МАТЕРИАЛАМ

SEMINAR ON BITUMEN BOUND PRODUCTS

ДАТА / DATE: 30.09. - 03.10.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Н. Элариан	Директор	PIU
Тер-Симониан В.	Инженер строительного отдела	PIU
Агабекиан Р.	Главный специалист	
Айрапетьян	Зам. директора	Дорпроект
Барзамиан В.		Дорпроект
Плуциан В.	Главный специалист	Дорпроект
Аванесян Е.	ведущий инженер	Дорпроект
Погосян А.	Инженер лаборатории	Дорпроект
Оганова Р.	Инженер лаборатории	Дорпроект
Шакбазиан Е.	Инженер	ARD
Степанян Ц.	Инженер лаборатории	Дорпроект
Акопян С.	Координатор по проведению проекта	PIU
Шиканян А.	Зам начальника дорожного отдела	PIU
Гаймян Э.	Начальник отделения механизации и транспорта	PIU
		PIU
Барзегян Э.	Начальник строительного отдела	PIU
Кархикян П.	Первый зам директора	ARD
Петросян А.	Координатор проектного отдела	PIU
Мелкюмян Г.	Помошник директора	ARD
Aaltonen Aimo	WB Дорожный проект	Finnroad
Lubosh Bursik	WB Дорожный проект	Finnroad
Циммерманн	Специалист по асфальту	KOCKS Consult
Elarian Nikolay	Director	PIU
Ter-Simonian Vigen	Construction Department Engineer	PIU
Agabekian Rudik	Chief Specialist	
Hairapetian Hrant	Deputy Director	DORPROJECT
Barsamian Vladimir		DORPROJECT
Pluzian Vazgen	Chief Specialist	DORPROJECT
Avanesian Evelina	Leading engineer	DORPROJECT
Pogosian Alla	Test division engineer (laboratory)	DORPROJECT
Oganova Roza	Test division engineer (laboratory)	DORPROJECT
Shakhbasian Eduard	Engineer	ARD
Stepanian Zaven	Test division engineer (laboratory)	DORPROJECT
Hakopian Stepan	Coordinator on projects preparation	PIU
Shikanian Armen	Deputy head of Road Department	PIU
Gayamian Eduard	Head of mechanization, transport resources department	PIU
Barsegian Edik	Head of constuction department	PIU
Karchikian Papik	First Deputy Director	ARD
Petrosian Hakop	Coordinator of planning department	PIU
Melkumian Georgie	Consultant of Director	ARD
Aaltonen Aimo	WB Road Project	FINNROAD
Lubosh Bursik	WB Road Project	FINNROAD
H. 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. dumming pads for weighing up to triple axle trucks
- Bump Integrator Unit
- MERLIN
- longitudinal sensor (tripmeter)

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Аветисян К.	Гл. спец. отдела дорожной безопастности	Дорпроект
Давтян Г.	Нач. отдела дорожной безопастности	Дорпроект
Геворгян А.	Инженер отдела дорожной безопастности	Дорпроект
Амбарцумян В.	Главный механик	Дорпроект
Петросян А.	Координатор	PIU
Сарян Г.	Нач. отдела	Дорпроект
Варданян А.	Гл. спец. отдела дорожной безопастности	Дорпроект
Кимо Карини	PMS специалист	PHONIX
Карстен Гризе	PMS специалист	KOCKS Consult
Рогальский	Координатор	KOCKS Consult
Avetisian Karen	Senior Specialist of road safety department	Dorproject
Davtian Georg	Head of road safety department	Dorproject
Govergian Artak	Engineer of road safety department	Dorproject
Hambartsumian Vespir	Chief mechanical engineer	Dorproject
Petrosian Hakop	Coordinator of planning department	PIU
Sarian Grikop	Head of production automation department	Dorproject
Vardanian Armen	Senior specialist of road safety department	Dorproject
Kimo Karini	PMS Specialist	PHONiX
Carsten Griese	PMS Specialist	KOCKS Consult
Rogalski	Project Coordinator	KOCKS Consult

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

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

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Петросян А.	Координатор	PIU
Сариан Г.	Нач. отдела	Дорпроект
Е. Педерзен	Специалист PMS/FWD	PHONIX
К. Карини	Специалист PMS/FWD	PHONIX
Petrosian Hakop	Coordinator	Planning Dep. PIU
Sarian Grikor	Head of Produc.	Dorproject
J. H. Pedersen	FWD/PMS Engineer	PHONIX
Kimo Karini	FWD/PMS Engineer	PHONIX

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

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

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Петросян А.	Координатор	PIU
Сариан Г.	Нач. отдела	Дорпроект
Е. Педерзен	Специалист PMS/FWD	PHONIX
К. Карини	Специалист PMS/FWD	PHONIX
Petrosian Hakop	Coordinator	Planning Dep. PIU
Sarian Grikor	Head of Produc.	Dorproject
J. H. Pedersen	FWD/PMS Engineer	PHONIX
Kimo Karini	FWD/PMS Engineer	PHONIX

5. СЕМИНАР ПО ЗАПАДНЫМ ТЕХНОЛОГИЯМ ПО ОБСЛУЖИВАНИЮ И РЕМОНТУ МОСТОВ.

SEMINAR ON WESTERN TECHNOLOGY FOR BRIDGE MAINTENANCE AND REHABILITATION

ДАТА / DATE : 27.11.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Айрапетьян Г. А.	Зам директора	„ДОРПРОЕКТ“
Киличян В. Т.	Нач. отдела ЭКС	„ДОРПРОЕКТ“
Байрамян И. Л.	Инженер	„ДОРПРОЕКТ“
Акопян С.А.	Нач. отдела	PIU
Бадалян К. Ю.	Инженер-аналитик	PIU
Петросян А.	Координатор	PIU
Ajrapetjan G. A.	Deputy Director	„DORPROJECT“
Kulichjan V. T.	Head of Department	„DORPROJECT“
Bajramjan I. L.	Engineer	„DORPROJECT“
Akopjan S. A.	Head of Department	PIU
Badaljan K. Y.	Engineer	PIU
Petrosjan A.	Coordinator	PIU

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ ПОКРЫТИЕМ (СУП)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE PAVEMENT MANAGEMENT PROGRAMM SYSTEM (PMS)

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Петросян А.	Координатор	PIU
Сариан Г.	Нач. отдела	Дорпроект
Е. Педерсен	Специалист PMS/FWD	PHONIX
Petrosian Hakop	Coordinator	Planning Dep. PIU
Sarian Grikor	Head of Produc.	Dorproject
J. Pedersen	PMS/FWD Specialist	PHONIX

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ МОСТАМИ (СУМ)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE BRIDGE MANAGEMENT PROGRAMM SYSTEM (BMS)

ДАТА / DATE : 11.08 - 13.08.1997

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Карен Баладян Петросян А. Мелецис Андрис	Инженер-аналитик Координатор Специалист по BMS	PIU PIU КОКС Консальт
Karen Baladjan Petrosian Hakop Andris Melecis	Engineer Coordinator BMS Specialist	Planning Dep. PIU Planning Dep. PIU KOCKS Consult

Т Р А С Е К А - СУП , АЗЕРБАЙДЖАН
Список участников семинаров

T R A C E C A - PMS , A Z E R B A I J A N
Lists of Seminar Participants

Министерство экономики, Управление транспорта и коммуникаций
Ministry of Economy, Department of Transport and Communication

Госконцерн АЗЕРАВТОЮОЛ
State Concern AZERAVTOYOL

1. СЕМИНАР ПО БИТУМО - ВЯЖУЩИМ МАТЕРИАЛАМ

SEMINAR ON BITUMEN BOUND PRODUCTS

ДАТА / DATE : 10. - 14.06.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Алиев А.А.	Помощник президента	АЗЕРАВТОЮОЛ
Гараисаев Н.	Директор НПЦ	АЗЕРАВТОЮОЛ
Касимов Д. К.	Директор	ТАСИС Координ. бюро
Казымов М.	Эксперт	ТАСИС Координ. бюро
Касимов Н.	Главный инженер	Управлен по транспорту и коммуникациям
Мирджавадов А.	Начальник тех отдела	АЗЕРАВТОЮОЛ
Мурадшадов М.	Начальник отдела по эксплуатац	АЗЕРАВТОЮОЛ
Новрузов А.	Начальник отдела по эксплуатац	АЗЕРАВТОЮОЛ
Новрузов А.	Помощник президента	АЗЕРАВТОЮОЛ
Нурулаев М.	Инженер, НПИ	АЗЕРАВТОЮОЛ
Садыков И.	Начальник отдела	АЗЕРАВТОЮОЛ
Гасанов Ш.	Вице-президент	АЗЕРАВТОЮОЛ
Шахведедов Л.	Программист	АЗЕРАВТОЮОЛ
Тахмазов Н.	Инженер	АЗЕРАВТОЮОЛ
К. Гризе	Руководитель группы 2	КОКС КОНСАЛЬТ
Aydin A. Aliyev	Adviser of President	AZERAVTOYOL
Nisami Qaraisajev	Director Road Research Institute	AZERAVTOYOL
Jahangir Aga-Kasim oglu Kasimov	Director	Tacis Coordinating Unit
Makhir Kiazimov	Expert	Tacis Coordinating Unit
Nasim Kasimov	Chief Enginer	Dept. of Transport and Communication
Mirjavadov A.	Head of Technical Department	AZERAVTOYOL
Muradchan Muradchanov	Head of Maintenance Department	AZERAVTOYOL
Akif Novruzov	Head of Maintenance Department	AZERAVTOYOL
Arif Novruzof	Assistant of President	AZERAVTOYOL
Malik Nurullajev	Engineer, Road Research Institute	AZERAVTOYOL
Icram Sadykhow	Head of Department	AZERAVTOYOL
Gasanov Shakhin	Vice President	AZERAVTOYOL
Latif Shaveledov	Computer Technician	AZERAVTOYOL
Hadschiali Tahmazov	Engineer	KOCKS CONSULT
C. Griese	Team Leader 2	

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. dumming pads for weighing up to triple axle trucks
- Bump Integrator Unit
- MERLIN
- longitudinal sensor (tripmeter)

ДАТА / DATE : 06. and 11. 06.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Гараисаев Н.	Директор НПЦ	АЗЕРАВТОЮОЛ
Нурулаев М.	Инженер НПЦ	АЗЕРАВТОЮОЛ
Тахмазов Х.	Инженер	АЗЕРАВТОЮОЛ
Бахарчинов И.	Главный инженер	АЗЕРАВТОЮОЛ
Юсифов Ю.	Инженер	АЗЕРАВТОЮОЛ
Султанзаде А.	Зав. сектором	АЗЕРАВТОЮОЛ
Казимов Т.	Инженер	АЗЕРАВТОЮОЛ
К. Гризе	Руководитель группы 2	КОКС КОНСАЛЬТ
Nisami Qaraisajev	Director	AZERAVTOYOL
Malik Nurullajev	Engineer	AZERAVTOYOL
Hadschiali Tahmazov	Engineer	AZERAVTOYOL
Bachartschinov Isa	Chief Engineer	AZERAVTOYOL
Y. Yusufov	Engineer	AZERAVTOYOL
Sultansade A.	Head of Sector	AZERAVTOYOL
Kjasimov T.	Engineer	AZERAVTOYOL
C. Griese	Team Leader 2	KOCKS CONSULT

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

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

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Гахраманова Ш.	Главный специалист	АЗЕРАВТОЮОЛ
Ибрагимов И.	Главный специалист	АЗЕРАВТОЮОЛ
Мусаев А.	Главный инженер	АЗЕРАВТОЮОЛ
Оружов Т.	Главный инженер	АЗЕРАВТОЮОЛ
Нурулаев М.	Инженер	АЗЕРАВТОЮОЛ
Тахмазов Х.	Инженер	АЗЕРАВТОЮОЛ
Мехтиев Г.	Начальник отдела	АЗЕРАВТОЮОЛ
Л. Шахведедов	Программист	АЗЕРАВТОЮОЛ
Е.П. Редерзен	Инженер по системе управлен покрыт/дефлектом	ФЕНИКС ПС
К. Карини	Инженер по системе управлен покрыт/дефлектом	ФЕНИКС ПС
Shalala Gahramanova	Senior specialist	AZERAVTOYOL
Ismail Ibrahimov	Senior specialist	AZERAVTOYOL
Alkan Musayev	Chief engineer	AZERAVTOYOL
Tengiz Orujov	Chief engineer	AZERAVTOYOL
Malik Nurullayev	Engineer	AZERAVTOYOL
Hadji Tahmazov	Engineer	AZERAVTOYOL
Gunduz Mehtiyev	Chief of department	AZERAVTOYOL
Latif Shaveledov	Computer Technician	AZERAVTOYOL
J. H. Pedersen	FWD/PMS Engineer	PhØnix PPC
Kimo Karini	FWD/PMS Engineer	PhØnix PPC

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

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

Фамилия NAME	**Должность** TITLE	**Организация** ORGANISATION
Гахраманова Ш.	Главный специалист	АЗЕРАВТОЮОЛ
Ибрагимов И.	Главный специалист	АЗЕРАВТОЮОЛ
Мусаев А.	Главный инженер	АЗЕРАВТОЮОЛ
Оружов Т.	Главный инженер	АЗЕРАВТОЮОЛ
Нурулаев М.	Инженер	АЗЕРАВТОЮОЛ
Тахмазов Х.	Инженер	АЗЕРАВТОЮОЛ
Мехтиев Г.	Начальник отдела	АЗЕРАВТОЮОЛ
Л. Шахведедов	Программист	АЗЕРАВТОЮОЛ
Е.П. Редерзен	Инженер по системе управлен покрыт/дефлектом	ФЕНИКС ПС
К. Карини	Инженер по системе управлен покрыт/дефлектом	ФЕНИКС ПС
Shalala Gahramanova	Senior specialist	AZERAVTOYOL
Ismail Ibrahimov	Senior specialist	AZERAVTOYOL
Alkan Musayev	Chief engineer	AZERAVTOYOL
Tengiz Orujov	Chief engineer	AZERAVTOYOL
Malik Nurullayev	Engineer	AZERAVTOYOL
Hadji Tahmazov	Engineer	AZERAVTOYOL
Gunduz Mehtiyev	Chief of department	AZERAVTOYOL
Latif Shaveledov	Computer Technician	AZERAVTOYOL
J. H. Pedersen	FWD/PMS Engineer	PhØnix PPC
Kimo Karini	FWD/PMS Engineer	PhØnix PPC

5. СЕМИНАР ПО ЗАПАДНЫМ ТЕХНОЛОГИЯМ ПО ОБСЛУЖИВАНИЮ И РЕМОНТУ МОСТОВ.

SEMINAR ON WESTERN TECHNOLOGY FOR BRIDGE MAINTENANCE AND REHABILITATION

ДАТА / DATE : 04.12.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Гейбатов М.	Инженер	Мостотрест
Тахмазов Г.	Инженер	АЗЕРАВТОЮОЛ
Кязимов Т.	Инженер	АЗЕРАВТОЮОЛ
Сафаров С.	Нач. отдела НПЦ	АЗЕРАВТОЮОЛ
Гаджиев Ф.	Главный специалист	АЗДОРПРОЕКТ
Юсифов Ю.	Инженер	АЗЕРАВТОЮОЛ
Мусаев М.	Инженер - мостовик	АЗЕРАВТОЮОЛ
M.Geibatob	Engineer	Bridgeconstruction trest
G. Tahmazov	Engineer	AZERAVTOYOL
T. Kjasimov	Engineer	AZERAVTOYOL
S. Safarov	Chief of department	AZERAVTOYOL
F.Gadjiev	Senior specialist	AZDORPROJECT
Y. Yusufov	Engineer	AZERAVTOYOL
M. Musaev	Engineer	AZERAVTOYOL

6. СЕМИНАР ПО ДОРОЖНОЙ БЕЗОПАСНОСТИ И ДОРОЖНОМУ ПРОЕКТИРОВАНИЮ

SEMINAR ON ROAD SAFETY AND ROAD DESIGN ASPECTS

ДАТА / DATE : 09.12.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Гараисаев Н.	директор НЦП	АЗЕРАВТОЮОЛ
Сосфиров С.	Зав отделом	АЗЕРАВТОЮОЛ
Нурулаев М.	Инженер	АЗЕРАВТОЮОЛ
Гусифов Г.	Ведущий инженер	АЗЕРАВТОЮОЛ
Кязимов Т.	Ведущий инженер	АЗЕРАВТОЮОЛ
Мехтиров Н.	Ведущий инженер	АЗЕРАВТОЮОЛ
Тахмазов Г.	Инженер	АЗЕРАВТОЮОЛ
Бахарчинов И.	Главный инженер	АЗЕРАВТОЮОЛ
Шахведедов Л..	Программист	АЗЕРАВТОЮОЛ
Голубицкий Д.	Инженер	АЗЕРАВТОЮОЛ
К. Гризе	Руководитель группы 1	КОКС КОНСАЛЬТ
Nisami Qaraisajev	Director	AZERAVTOYOL
Sosfirov Sadir	Head of Department	AZERAVTOYOL
Nurillaev Malik	Engineer	AZERAVTOYOL
Husifov Husuf	Leading Engineer	AZERAVTOYOL
Kiazimov Tofik	Leading Engineer	AZERAVTOYOL
Mechtirev Nunduz	Leading Engineer	AZERAVTOYOL
Tachmazov Goedjam	Engineer	AZERAVTOYOL
Bachartschinov Isa	Chief Engineer	AZERAVTOYOL
Schachveledov Latif	Computer technician	AZERAVTOYOL
Holubizkij Dima	Engineer	AZERAVTOYOL
C. Griese	Team Leader 1	KOCKS CONSULT

7. СЕМИНАР ПО АДМИНИСТРАТИВНО-ОРГАНИЗАЦИОННЫМ ТРЕБОВАНИЯМ ДЛЯ СИСТЕМ УПРАВЛЕНИЯ СОСТОЯНИЕМ ДОРОЖНОГО ПОКРЫТИЯ (СУП) И СОСТОЯНИЕМ МОСТОВ (СУМ)

SEMINAR ON INSTITUTIONAL/ORGANISATIONAL REQUIREMENTS PAVEMENT MANAGEMENT SYSTEM (PMS) AND BRIDGE MANAGEMENT SYSTEM (BMS)

ДАТА / DATE : 31.10.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Гахраманова Ш.	Главный специалист	АЗЕРАВТОЮОЛ
Ибрагимов И.	Главный специалист	АЗЕРАВТОЮОЛ
Мусаев А.	Главный инженер	АЗЕРАВТОЮОЛ
Бахарчинов И.	Главный инженер	АЗЕРАВТОЮОЛ
Оружов Т.	Главный инженер	АЗЕРАВТОЮОЛ
Нурулаев М.	Инженер	АЗЕРАВТОЮОЛ
Тахмазов Х.	Инженер	АЗЕРАВТОЮОЛ
Мехтиев Г.	Начальник отдела	АЗЕРАВТОЮОЛ
Гусифов Г.	Ведущий инженер	АЗЕРАВТОЮОЛ
Е.П. Редерзен	Инженер по системе управлен покрыт/дефлектом	ФЕНИКС ПС
К. Карини	Инженер по системе управлен покрыт/дефлектом	ФЕНИКС ПС
К. Гризе	Руководитель группы 2	КОКС КОНСАЛЬТ
Shalala Gahramanova	Senior specialist	AZERAVTOYOL
Ismail Ibrahimov	Senior specialist	AZERAVTOYOL
Alkan Musayev	Chief engineer	AZERAVTOYOL
Isa Bakhartschinov	Chief engineer	AZERAVTOYOL
Tengiz Orujov	Chief engineer	AZERAVTOYOL
Malik Nurullayev	Engineer	AZERAVTOYOL
Hadji Tahmazov	Engineer	AZERAVTOYOL
Gunduz Mehtiyev	Chief of department	AZERAVTOYOL
Husifov Husif	Leading engineer	AZERAVTOYOL
J. H. Pedersen	FWD/PMS Engineer	PhØnix PPC
Kimo Karini	FWD/PMS Engineer	PhØnix PPC
C. Griese	Team Leader 2	KOCKS CONSULT

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ ПОКРЫТИЕМ (СУП)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE PAVEMENT MANAGEMENT PROGRAMM SYSTEM (PMS)

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Тахмазов Г. Нурулаев М. Шахведедов Л. Е. Педерсен	Инженер Инженер Программист Специалист PMS/FWD	АЗЕРАВТОЮОЛ АЗЕРАВТОЮОЛ АЗЕРАВТОЮОЛ PHONIX
Tachmazov Goedjam Nurillaev Malik Schachveledov Latif J. Pedersen	Engineer Engineer Computer Technician PMS/FWD Specialist	AZERAVTOYOL AZERAVTOYOL AZERAVTOYOL PHONIX

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ МОСТАМИ (СУМ)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE BRIDGE MANAGEMENT PROGRAMM SYSTEM (BMS)

ДАТА / DATE : 30.07-31.07.1997; 01.08.1997; 04. 08.1997; 18.08.1997;

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Шахведедов Л. Нурулаев М. Валехов Гиджаран Мелецис Андрис	Программист Инженер Инженер Специалист по BMS	АЗЕРАВТОЮОЛ АЗЕРАВТОЮОЛ АЗЕРАВТОЮОЛ КОКС Консальт
Schachveledov Latif Malik Nurullayev Valchov Gijaran Andris Melecis	Computer technician Engineer Engineer BMS Specialist	AZERAVTOYOL AZERAVTOYOL AZERAVTOYOL KOCKS Consult

ТРАСЕКА - СУП, ГРУЗИЯ
Список участников семинаров

TRACECA - PMS, GEORGIA
Lists of Seminar Participants

Государственный концерн автомобильных дорог
THE STATE CONCERN OF ROADS

НИИ„Сакгцаметснипеба“
Road Research Institute „Sakgzametsniereba“

1. СЕМИНАР ПО БИТУМО - ВЯЖУЩИМ МАТЕРИАЛАМ

SEMINAR ON BITUMEN BOUND PRODUCTS

ДАТА / DATE: 07.10. - 10.10.1996

Фамилия **NAME**	**Должность** **TITLE**	**Организация** **ORGANISATION**
Шиладзе Т.	Генеральный директор	Сакгзамецниереба
Чигогидзе Г.	Главный инженер	Сакгзамецниереба
Тзеретели Г.	Инженер - дорожник	Сакгзамецниереба
Корашвили А.	Начальник отдела автодорог	Сакгзамецниереба
Дизамидзе Г.	Зам нач. техотдела	Сакгзамецниереба
Мтварадзе Л.	Зам нач. техотдела	Сакгзамецниереба
Датунашвили Т.	Нач. отдела стойматериалов	Сакгзамецниереба
Кокоев Ш.	Гл. спец. дорожного отдела	Сакгзамецниереба
Шаламбердзе О.	Гл. спец. дорожного отдела	Сакгзамецниереба
Чомачидзе Р.	Гл. спец. дорожного отдела	Сакгзамецниереба
Метревели И.	Гл. спец. дорожного отдела	Сакгзамецниереба
Ташвили Г.	Гл. спец. дорожного отдела	Сакгзамецниереба
Беджашвили Ю.	Гл. спец. дорожного отдела	Сакгзамецниереба
Лекишвили О.	Гл. спец. дорожного отдела	Сакгзамецниереба
Салакаи Т.	Зам начальника дор. отдела	Сакгзамецниереба
Циммерманн Х. У.	Специалист по асфальту	KOCKS Consult
Tamaz Shilakadze	General Director	Sakgzametsniereba
Guram Tchigogidze	Chief Road Engineer	Sakgzametsniereba
Giorgi Tsereteli	Road Engineer	Sakgzametsniereba
Aleko Korashvili	Chief of local Road Depar.	Sakgzametsniereba
Giorgi Diasamidze	Deputy Chief of Tech. Depart.	Sakgzametsniereba
Leri Mtwaradze	Deputy Chief of Tech. Depart.	Sakgzametsniereba
Tamaz Datunashvili	Head of Department	Sakgzametsniereba
Shota Kokoev	Senior spec. of highway departm.	Sakgzametsniereba
Otar Shalamberdze	Senior spec. of local roads dep.	Sakgzametsniereba
Robert Tshomachidze	Senior spec. of local roads dep.	Sakgzametsniereba
Irakli Metreveli	Senior spec. of highway departm.	Sakgzametsniereba
Guram Tashvili	Senior spec. of local roads dep.	Sakgzametsniereba
Jury Bedjashvili	Senior spec. of highway departm.	Sakgzametsniereba
Omar Lekishvili	Senior spec. of local roads dep.	Sakgzametsniereba
Temur Salakaia	Deputy Chief. of highway depar.	Sakgzametsniereba
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. dumming pads for weighing up to triple axle trucks
- Bump Integrator Unit
- MERLIN
- longitudinal sensor (tripmeter)

ДАТА / DATE : 06. and 11. 06.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Гурам Чигогидзе	Главный инженер	Сакгзамецниереба
Виктор Коралиани	Инженер	САКАВТОГЗА
Рамин Дунеладзе	Инженер	САКАВТОГЗА
П Ксоверли	Инженер	САКАВТОГЗА
Темур Слакхаи	Инженер	Управл магист дорог
Владимир Шаншиасвили	Нач тех отдела	САКАВТОГЗА
Г Кведелидзе	Инженер геол отдел	САКАВТОГЗА
У Ломидзе	Инженер	САКАВТОГЗА
Г Тзердели	Руководитель группы 2	КОКС КОНСАЛЬТ
К. Гризе		
Guram E. Tchigogidze	Chief Engineer	Sakgzametsniereba
Victor R. Kopaliani	Engineer	SAKAVTOGSA
Ramin M. Dzneladze	Engineer	SAKAVTOGSA
Paata Ksoverli	Vice Chairman	SAKAVTOGSA
Temur Slakhaia	Road Engineer, Vice Chairman	Department of Magistral Roads
Vladimer Shanshiasvili	Head of Technical Department	SAKAVTOGSA
George Khvedelidze	Road Engineer, Geological Dept.	SAKAVTOGSA
Ushangi Lomidze	Road Engineer	SAKAVTOGSA
C. Griese	Team Leader 2	KOCKS CONSULT

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

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

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

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

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Гурам Чигогидзе	Главный инженер	Сакгзамецниереба САКАВТОГЗА
Виктор Коралиани	Инженер	САКАВТОГЗА
Рамин Дцнеладзе	Инженер	САКАВТОГЗА
П Ксоверли	Вице-председатель	САКАВТОГЗА
К. Нильсен	Специалист PMS/FWD	PHONIX
К. Карини	Специалист PMS/FWD	PHONIX
Guram E. Tchigogidze	Chief Engineer	Sakgzametsniereba
Victor R. Kopaliani	Engineer	SAKAVTOGSA
Ramin M. Dzneladze	Engineer	SAKAVTOGSA
Paata Ksoverli	Vice Chairman	SAKAVTOGSA
Klaus V.Nielsen	PMS/FWD Specialist	PHONIX
Kimo Karini	PMS/FWD Specialist	PHONIX

5. СЕМИНАР ПО ЗАПАДНЫМ ТЕХНОЛОГИЯМ ПО ОБСЛУЖИВАНИЮ И РЕМОНТУ МОСТОВ.

SEMINAR ON WESTERN TECHNOLOGY FOR BRIDGE MAINTENANCE AND REHABILITATION

ДАТА / DATE : 23.10.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Чигогидзе Г.	Главный инженер	Сакгзамецниереба
Коркиа Л.	Начальник техотдела	САКАВТОГЗА
Дзенеладзе Ф.	Начальник отдела искуств. соор.	Сакгзамецниереба
Орагвелидзе З.	Начальник мостоиспыт. лаборат.	Сакгзамецниереба
Стурза У.	Инженер	Сакгзамецниереба
Ванарадзе Б.	Инженер	Сакгзамецниереба
Чиковяни Ф.	Начальник отдела искуств. соор.	Груздорпроект
Пакоцишвили Р.	Главн. спец. отдела	Груздорпроект
Guram Tschigogidse	Chief Road Engineer	Sakgzametsniereba
Lengo Korkia	Head of Technical Department	SAKAVTOGSA
Ramin Dzeneladse	Head of Department	Sakgzametsniereba
Z. Oragvelidse	Head of laboratory	Sakgzametsniereba
U. Stursa	Engineer	Sakgzametsniereba
B. Vanaradse	Engineer	Sakgzametsniereba
F.Tchikovjani	Head of Department	DORPROJECT
R. Pakoziscvili	Senior Specialist	DORPROJECT

6. СЕМИНАР ПО ДОРОЖНОЙ БЕЗОПАСНОСТИ И ДОРОЖНОМУ ПРОЕКТИРОВАНИЮ

SEMINAR ON ROAD SAFETY AND ROAD DESIGN ASPECTS

ДАТА / DATE : 12.12.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Дзенеладзе Р.	Начальник отдела иск. соор.	САКАВТОГЗА
Тзердели Г.	Начальник отдела автодорог	САКАВТОГЗА
Чигогидзе Г.	Главный инженер	Сакгзамецниереба
Тварадзе Л.	Начальник отдела безопастности дорожн дв-я	САКАВТОГЗА
Коркиа Л.	Начальник техотдела	САКАВТОГЗА
5 специалистов из отделов дорожной безопасности и магистральных дорог		
К. Гризе	Руководитель группы 2	КОКС КОНСАЛТ
Ramin Dzeneladse	Head of Department	SAKAVTOGSA
Gogi Tsereteli	Head of Road Department	SAKAVTOGSA
Guram Tschigogidse	Chief Road Engineer	Sakgzametsniereba
Leri Twaradse	Head of Road Safety Depart.	SAKAVTOGSA
Lengo Korkia	Head of Technical Department	SAKAVTOGSA
Personnel from Roadsafety and Highway Departments (5 people)		
C. Griese	Team Leader 2	KOCKS CONSULT

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ ПОКРЫТИЕМ (СУП)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE PAVEMENT MANAGEMENT PROGRAMM SYSTEM (PMS)

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Чигогидзе Г. Дзенеладзе Р. Виктор Коралиани П Ксоверли Е. Педерсен	Начальник отдела иск. соор. инженер Инженер Вице-председатель Специалист PMS/FWD	САКАВТОГЗА САКАВТОГЗА САКАВТОГЗА САКАВТОГЗА PHONIX
Guram Tschigogidse Ramin Dzeneladse Victor R. Kopaliani Paata Ksoverli J. Pedersen	Head of Road Department Head of Department Engineer Vice Chairman PMS/FWD Specialist	SAKAVTOGSA SAKAVTOGSA SAKAVTOGSA SAKAVTOGSA PHONIX

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ МОСТАМИ (СУМ)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE BRIDGE MANAGEMENT PROGRAMM SYSTEM (BMS)

ДАТА / DATE : 06.08.-10.08.1997

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Виктор Коралиани Дзенеладзе Р. Мелецис Андрис	Инженер инженер Специалист по BMS	САКАВТОГЗА САКАВТОГЗА КОКС Консальт
Victor R. Kopaliani Ramin Dzeneladse Andris Melecis	Engineer Engineer BMS Specialist	SAKAVTOGSA SAKAVTOGSA KOCKS Consult

ТРАСЕКА - СУП, КИРГИЗСТАН
Список участников семинаров

TRACECA - PMS, KYRGYZSTAN
Lists of Seminar Participants

КИРГИЗДОРТРАНСПРОЕКТ
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 Максутович	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 Alekseivna	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. dumming 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	начальник отдела автодорог	Министерства Транспорта
Ишеналиев Рустам Искендерович	инженер дорожного отдела	ПИ "Кыргыздортранспроект"
Голубев Василий Николаевич	главный специалист	ПИ "Кыргыздортранспроект"
Каиков Салы Мамырбаевич	главный инженер	ПЛУАД -1
Исраилов Асан Исраилович	начальник ПТО	ПЛУАД - 1
Дооронбеков Алым Даирович	начальник	ДЭУ - 1
Аалиев Жумакадыр	главный инженер	ДЭУ - 958
Эсенгулов Арстанбек Максутович	ведущий инженер отдела автодорог	Министерства Транспорта
Торопов Сергей Владимирович	прораб	ДЭУ - 39
Масютенко Анатолий Никанорович	главный специалист дорожного отдела	ПИ "Кыргыздортранспроект"
Алибегашвили Леван Маркович	директор	ПИ "Кыргыздортранспроект"
Мамбеталиев Маматбек Токтобекович	начальник дорожного отдела	ПИ "Кыргыздортранспроект"
Ямпольская Эмилия Марковна	главный специалист ГИР	ПИ "Кыргыздортранспроект"
Лубяных Сергей Николаевич	начальник ГИР	ПИ "Кыргыздортранспроект"
Рокина Ирина Алексеевна	старший инженер ГИР	ПИ "Кыргыздортранспроект"
Изибаев Аскар Абубакирович	ГИП дорожного отдела	ПИ "Кыргыздортранспроект"
Кузнецов Генадий Фаитович	ГИП дорожного отдела	ПИ "Кыргыздортранспроект"
Самохин Александр Артемович	ГИП дорожного отдела	ПИ "Кыргыздортранспроект"
Уильрих Виллемс	руководитель группы 1	KOCKS CONSULT
Йохан Рогальский	координатор инженерных работ	KOCKS CONSULT
Кимо Карини	инженер по FWD/ PMS	ФЕНИКС ПС
Akunov Kuwan Akunovich	Head of Road Department	Ministry of Transport
Ishenaliev Rustam Iskenderovich	Engineer of Road Department	DI "Kyrgyzdortransproject"
Golubev Vasili Nickolaevich	Chief specialis	DI "Kyrgyzdortransproject"
Kaikov Saly Mamyrbaevich	Chief engineer	Maintenance Department PLUAD - 1
Israilov Asan Israilovich	Chief of PTO	Maintenance Department PLUAD - 1
Douronbekov Alym Dayrovich	Chief	Maintenance Department DEU - 1
Alyev Jumakadyr	Chief engineer	Maintenance Department DEU - 958
Esenkulov Arstanbek Maksytovich	Head engineer of Road Department	Ministry of Transport
Toropov Sergei Vladimirovich	Foreman	Maintenance Department DEU - 39
Masytenko Anatoly Niconorovich	Chief specialist of Road Department	DI "Kyrgyzdortransproject"
Alibegashvili Levan Markovich	Director	DI "Kyrgyzdortransproject"
Mambetaliev Mamatbek Toktobekovich	Chief of Road Department	DI "Kyrgyzdortransproject"
Yampolskay Emilia Markovna	Chief specialist of GIR	DI "Kyrgyzdortransproject"
Lubynykh Sergei Nicolaevich	Head of GIR	DI "Kyrgyzdortransproject"
Rokina Irina Alekseivna	Heading engineer of GIR	DI "Kyrgyzdortransproject"
Izybaev Askar Abubakirovich	Chief engineer of Road Department	DI "Kyrgyzdortransproject"
Kyznetsov Genady Faytovich	Chief engineer of Road Department	DI "Kyrgyzdortransproject"
Samokhin Aleksandr Artemovich	Chief engineer of Road Department	DI "Kyrgyzdortransproject"
Ulrich Willems	Team Leader 1	KOCKS CONSULT
Johann Rogalski	Engineering Co-ordinator	KOCKS CONSULT
Kimo Karini	FWD/PMS Engineer	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	Киргиздортпроект
Голубев В	Главеый специалист	Киргиздортпроект
Ямпольская Э	Главный специалист ГИР	Киргиздортпроект
Лубяных С	Начальник ГИР	Киргиздортпроект
Рокина И	Старший инженер ГИР	Киргиздортпроект
Бобенко И	Нач цеха ИВЦ	Киргиздортпроект
Клаус В. Нилсен	Инженер по сист.управ-ления покрытием/дефлект.	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	Киргиздортпроект
Голубев В	Главеый специалист	Киргиздортпроект
Ямпольская Э	Главный специалист ГИР	Киргиздортпроект
Лубяных С	Начальник ГИР	Киргиздортпроект
Рокина И	Старший инженер ГИР	Киргиздортпроект
Бобенко И	Нач цеха ИВЦ	Киргиздортпроект
Ульрих Виллемс	Руководитель группы 1	KOCKS CONSULT
Ретер 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 Токтобекович	начальник дорожного отдела	Киргиздортранспроект
	ведущий инженер	Киргиздортранспроект
Горшкова Татьяна Федоровна	ведущий инженер	Киргиздортранспроект
Диденко Наталья Ивановна	инженер	Киргиздортранспроект
Высоцкий Сергей Васильеич	директор института	Киргиздортранспроект
Алибегашвили Ливан Маркович		Киргиздортранспроект
Ретер 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

ДАТА / DATE: 31.05. and 26.09.1996

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

7. СЕМИНАР ПО АДМИНИСТРАТИВНО-ОРГАНИЗАЦИОННЫМ ТРЕБОВАНИЯМ ДЛЯ СИСТЕМ УПРАВЛЕНИЯ СОСТОЯНИЕМ ДОРОЖНОГО ПОКРЫТИЯ (СУП) И СОСТОЯНИЕМ МОСТОВ (СУМ)

SEMINAR ON INSTITUTIONAL/ORGANISATIONAL REQUIREMENTS PAVEMENT MANAGEMENT SYSTEM (PMS) AND BRIDGE MANAGEMENT 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 - геодезист	Киргиздортранспроект
Кокинос В. В.	Инженер	Киргиздортранспроект
Мамбеталиев М. Т.	Главный инженер проекта	Киргиздортранспроект
Цачепина Л.	Начальник отдела	Киргиздортранспроект
Стовринг П.	Программист	ТАСИС Коо-центр
	инженер по сист.управления покрытием/дефлект.	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
Ishenaliev 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

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ ПОКРЫТИЕМ (СУП)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE PAVEMENT MANAGEMENT PROGRAMM SYSTEM (PMS)

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Ишеналиев Р. Голубев В Исабаев Р. Хаджи А. К. Ользен Нильзен	Инженер - геодезист Главный специалист Инженер Специалист по компьютерам Специалист PMS/FWD Специалист PMS/FWD	Киргиздортранспроект Киргиздортранспроект Министерство Транспорта Министерство Транспорта PHONIX PHONIX
Ishenaliev R. Golubev V Isabaiev R. Haji Ali K. Olsen Nielsen	Engineer - geologist Chief specialist Engineer Computer Technician PMS/FWD Specialist PMS/FWD Specialist	Kyrgyzdortransprojekt Kyrgyzdortransprojekt Ministry of Transport Ministry of Transport PHONIX PHONIX

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ МОСТАМИ (СУМ)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE BRIDGE MANAGEMENT PROGRAMM SYSTEM (BMS)

ДАТА / DATE : 11.09 - 12.09.1997

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Проненко Валентина Павловна Дариенко Эльвира Григорьевна Диденко Х. Мелецис Андрис	главный специалист ведущий инженер ведущий инженер Специалист по BMS	Киргиздортранспроект Киргиздортранспроект Киргиздортранспроект КОКС Консальт
Pronenko Valentina Darienko Elvira Didenko H. Andris Melecis	Chief Specialist Spezialist BMS Specialist	Kyrgyzdortransprojekt Kyrgyzdortransprojekt Kyrgyzdortransprojekt KOCKS Consult

ТРАСЕКА - СУП, КАЗАХСТАН
Список участников семинаров

TRACECA - PMS, KAZAKHSTAN
Lists of Seminar Participants

МИНИСТЕРСТВО ТРАНСПОРТА И КОММУНИКАЦИЙ
MINISTRY OF TRANSPORT & COMMUNICATIONS

Департамент автомобильных дорог (КАЗДОРНИИ)
Department of Roads (KAZDORNII)

1. СЕМИНАР ПО БИТУМО - ВЯЖУЩИМ МАТЕРИАЛАМ

SEMINAR ON BITUMEN BOUND PRODUCTS

ДАТА / DATE : 10. - 14.06.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Зедон Э.Рацен	Директор	КАЗДОРНИИ
Олег А.Красиков	Зам.директора	КАЗДОРНИИ
Евгения В.Каганович	Зам.директора	КАЗДОРНИИ
Константин Р.Бостанжиев	Начальник управления	Казахстан Жолдары
Василий К.Пашкин	Зав.кафедрой автодорог	Институт повышения квалифики
Наиль Н.Юсупов	Начальник отдела	КАЗДОРНИИ
Виталий В.Багашов	Начальник отдела	КАЗДОРНИИ
Виктор И.Чумаченко	Старший научный сотрудник	КАЗДОРНИИ
Любовь А.Чернышова	Зав. отдела	КАЗДОРНИИ
Лилия И.Джулай	Зав.лаб.	КАЗДОРНИИ
Джумахан О.Сыдыков	Зав.лаб.	КАЗДОРНИИ
Борис П.Тимофеев	Ст.научный сотрудник	КАЗДОРНИИ
Ханс У. Циммерман	специалист по асфальту	KOCKS CONSULT
Zedon Eduardovich Ratsen	Director	KAZDORNII
Oleg A. Krasikov	Deputy Director	KAZDORNII
Evgenia Kaganovich	Deputy Director	KAZDORNII
Konstantin Bostanzhiev	Chief of Department	Kazakhstan Zholdary
Vasiliy Pashkin	Chief of Chair	
Nail N. Joussoupov	Chief of Department	KAZDORNII
Vitaliy Bagashov	Chief of Department	KAZDORNII
Victor Chumachenko	Chief Scientist	KAZDORNII
Lubov A. Chernechova	Chief of Department	KAZDORNII
Lili Dzhulay	Chief of Laboratory	KAZDORNII
Zhumachan Sydekov	Chief of Laboratory	KAZDORNII
Boris Timofeev	Chief Scientific Engineer	KAZDORNII
L. I. July	Vice Director, Head of Quality Dept.	KAZDORNII
A. G. Shagarow	Expert in Standardisation	KAZDORNII
V. V. Domnyshev	Expert	KAZDORNII
V. K. Naidenko	Chief Specialist, Technical Expert	Kazakhstan Zholdary
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. dumming pads for weighing up to triple axle trucks
- Bump Integrator Unit
- MERLIN
- longitudinal sensor (tripmeter)

ДАТА / DATE : 06. and 11. 06.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Амангельды Н.Елгонов	Зам.директора	Департамент автодорог
Зедон Э.Рацен	Директор	Каздорнии
Виталий Н.Процентов	Вице-президент	Казахстан Жолдары
Олег А.Красиков	Зам.Директора	КАЗДОРНИИ
Наиль Н.Юсупов	Начальник отдела	КАЗДОРНИИ
Виталий В.Багашов	Начальник отдела	КАЗДОРНИИ
Виктор И.Чумаченко	Ст.научный сотрудник	КАЗДОРНИИ
Джумахан О.Сыдыков	Зав.лаб.	КАЗДОРНИИ
Борис П.Тимофеев	Ст.научный сотрудник	КАЗДОРНИИ
Елена П.Павловская	Ведущий инженер	КАЗДОРНИИ
Виктория В.Солнцева	Инженер 1 кат.	КАЗДОРНИИ
Вера Б.Курапова	Инженер 1 кат.	КАЗДОРНИИ
Ульрих Виллемс	руководитель группы 1	KOCKS CONSULT
Карстен Гризе	руководитель группы 2	KOCKS CONSULT
Кимо Карини	инженер по дефлектометру/ системам упр.покрытием	ФЕНИКС ПС
Amangeldy N. Yelgonov	Deputy Director	Min. of Transp.&Comm. Department of Roads
Zedon Eduardovich Ratsen	Director	KAZDORNII
Vitaly N. Protsentov	Vice President	Kazakhstan Zholdary
Oleg A. Krasikov	Deputy Director	KAZDORNII
Nail N. Joussoupov	Chief of Division	KAZDORNII
Vitaliy Bagashov	Chief of Department	KAZDORNII
Victor Chumachenko	Chief Scientist	KAZDORNII
Zhumachan Sydekov	Chief of Laboratory	KAZDORNII
Boris Timofeev	Chief Scientific Engineer	KAZDORNII
Elena Pavlovskaya	Chief Engineer	KAZDORNII
Victoria Solnceva	Engineer Cat. 1	KAZDORNII
Vera Kurapova	Engineer Cat. 1	KAZDORNII
Ulrich Willems	Team Leader 1	KOCKS CONSULT
Carsten Griese	Team Leader 2	KOCKS CONSULT
Kimo Karini	FWD/PMS Engineer	Phønix PPC

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

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

ДАТА / DATE : 16.09.1996

Фамилия NAME	**Должность** TITLE	**Организация** ORGANISATION
Олег А.Красиков	Начальник Центра Качества	КАЗДОРНИИ
Наиль Н.Юсупов	Начальник отдела	КАЗДОРНИИ
Виталий В.Багашов	Начальник отдела	КАЗДОРНИИ
Виктор И.Чумаченко	Старший научный сотрудник	КАЗДОРНИИ
Елена П.Павловская	Ведущий инженер	КАЗДОРНИИ
Виктория В.Солнцева	Инженер 1 кат.	КАЗДОРНИИ
Вячеслав Д.Пак	Ведущий инженер	КАЗДОРНИИ
Вера Б.Курапова	Инженер 1 кат.	КАЗДОРНИИ
Александр В.Антонов	Ведущий инженер	КАЗДОРНИИ
Ульрих Виллемс	руководитель группы 1	KOCKS CONSULT
Клаус В. Нилсен	инженер по сист.управ-ления покрытием/дефлект.	ФЕНИКС ПС
Oleg A. Krasikov	Deputy Director	KAZDORNII
Nail N. Joussoupov	Chief of Department	KAZDORNII
Vitaliy Bagashov	Chief of Department	KAZDORNII
Victor Chumachenko	Chief Scientist	KAZDORNII
Elena Pavlovskaya	Chief Engineer	KAZDORNII
Victoria Solnceva	Engineer Cat. 1	KAZDORNII
Vecheslav Pak	Chief Engineer	KAZDORNII
Vera Kurapova	Engineer Cat. 1	KAZDORNII
Alexander Antonov	Chief Engineer	KAZDORNII
Ulrich Willems	Team Leader 1	KOCKS CONSULT
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 : 23.09.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Олег А.Красиков	Начальник Центра Качества	КАЗДОРНИИ
Наиль Н.Юсупов	Начальник отдела	КАЗДОРНИИ
Виталий В.Багашов	Начальник отдела	КАЗДОРНИИ
Николай А.Цыценко	Главный специалист	КАЗДОРНИИ
Елена П.Павловская	Ведущий инженер	КАЗДОРНИИ
Виктория В.Солнцева	Инженер 1 кат.	КАЗДОРНИИ
Вячеслав Д.Пак	Ведущий инженер	КАЗДОРНИИ
Вера Б.Курапова	Инженер 1 кат.	КАЗДОРНИИ
Александр В.Антонов	Ведущий инженер	КАЗДОРНИИ
Петер Поич	Инженер по мостам/BMS	KOCKS CONSULT
Андрис Мелецис	Инженер по кшнструкциям	KOCKS CONSULT
Oleg A. Krasikov	Deputy Director	KAZDORNII
Nail N. Joussoupov	Chief of Department	KAZDORNII
Vitaliy Bagashov	Chief of Department	KAZDORNII
Nikolay Cecenko	Chief Bridge Specialist	KAZDORNII
Elena Pavlovskaya	Chief Engineer	KAZDORNII
Victoria Solnceva	Engineer Cat. 1	KAZDORNII
Vecheslav Pak	Chief Engineer	KAZDORNII
Vera Kurapova	Engineer Cat. 1	KAZDORNII
Alexander Antonov	Chief Engineer	KAZDORNII
Peter Poitzsch	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

ДАТА / DATE : 24.09.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
З.Э. Рацен	Директор	КАЗДОРНИИ
Е.В. Каганович	Зам. директора	КАЗДОРНИИ
О.А. Красиков	Зам. директора	КАЗДОРНИИ
Л.А. Джулай	Зав. лабораторией	КАЗДОРНИИ
Е.П. Павловская	Ведущий инженер	КАЗДОРНИИ
В.В. Солнцева	Ведущий инженер	КАЗДОРНИИ
А.Г. Шагаров	Нач. отдела	КАЗДОРНИИ
В.И. Чумаченко	Ст. научный сотрудник	КАЗДОРНИИ
В.В. Пак	Инженер 1 кат.	КАЗДОРНИИ
В.Н. Ельнин	Ст. научный сотрудник	КАЗДОРНИИ
Г.Н. Еремин	Гл. специалист	KOCKS CONSULT
Ульрих Виллемс	руководитель группы 1	
Z. E. Racen	Director	KAZDORNII
E. V. Koganovich	Deputy Director	KAZDORNII
Oleg A. Krasikov	Deputy Director	KAZDORNII
L. I. Julay	Chief of laboratory	KAZDORNII
T. P.Pavlovskay	Chief Engineer	KAZDORNII
V. V. Solnceva	Chief Engineer	KAZDORNII
A. G. Shagarov	Chief of the department	KAZDORNII
V. E. Chumachenko	Chief Engineer	KAZDORNII
V. V. Pak	Engineer	KAZDORNII
V. N. Elnin	Chief Engineer	KAZDORNII
G. N. Eremin	Chief specialist	Avtodor
Ulrich Willems	Team Leader 1	KOCKS CONSULT

7. СЕМИНАР ПО АДМИНИСТРАТИВНО-ОРГАНИЗАЦИОННЫМ ТРЕБОВАНИЯМ ДЛЯ СИСТЕМ УПРАВЛЕНИЯ СОСТОЯНИЕМ ДОРОЖНОГО ПОКРЫТИЯ (СУП) И СОСТОЯНИЕМ МОСТОВ (СУМ)

SEMINAR ON INSTITUTIONAL/ORGANISATIONAL REQUIREMENTS PAVEMENT MANAGEMENT SYSTEM (PMS) AND BRIDGE MANAGEMENT SYSTEM (BMS)

ДАТА / DATE : 22.10.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Олег А.Красиков	Начальник Центра Качества	КАЗДОРНИИ
Наиль Н.Юсупов	Начальник отдела	КАЗДОРНИИ
Чернышева Л. А.	Начальник отдела	КАЗДОРНИИ
Цыценко Н.А.	Главный специалист	КАЗДОРНИИ
Елена П.Павловская	Ведущий инженер	КАЗДОРНИИ
Вячеслав Д.Пак	Главный специалист	КАЗДОРНИИ
Вера Б.Курапова	Инженер 1 кат.	КАЗДОРНИИ
Александр В.Антонов	Ведущий инженер	КАЗДОРНИИ
Чумаченко М. Н.	Инженер	КАЗДОРНИИ
Буцик Г. А.	Инженер	КАЗДОРНИИ
Ульрих Виллемс	руководитель группы 1	KOCKS CONSULT
Стовринг	Инженер по сист.управ-ления покрытием/дефлект.	ФЕНИКС ПС
Oleg A. Krasikov	Deputy Director	KAZDORNII
Nail N. Joussoupov	Chief of Department	KAZDORNII
Tschernischewa L. A.	Chief of Department	KAZDORNII
Zizenko N. A.	Chief Engineer	KAZDORNII
Elena Pavlovskaya	Chief Engineer	KAZDORNII
Vecheslav Pak	Chief Engineer	KAZDORNII
Vera Kurapova	Engineer	KAZDORNII
Alexander Antonov	Chief Engineer	KAZDORNII
Chumachenko M.N.	Engineer	KAZDORNII
Buzik G.A.	Engineer	KAZDORNII
Ulrich Willems	Team Leader 1	KOCKS CONSULT
Per Stovring	PMS/FWD Engineer	Phønix PPC

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ ПОКРЫТИЕМ (СУП)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE PAVEMENT MANAGEMENT PROGRAMM SYSTEM (PMS)

Фамилия NAME	Должность TITLE	Организация ORGANISATION
О.А. Красиков	Зам. директора	КАЗДОРНИИ
Е.П. Павловская	Ведущий инженер	КАЗДОРНИИ
В.В. Пак	Инженер 1 кат.	КАЗДОРНИИ
Клаус В. Нилсен	Специалист PMS/FWD	ФЕНИКС ПС
Клаус Ользен	Специалист PMS/FWD	ФЕНИКС ПС
Oleg A. Krasikov	Deputy Director	KAZDORNII
Elena Pavlovskaya	Chief Engineer	KAZDORNII
V. V. Pak	Engineer	KAZDORNII
Klaus V. Nielsen	PMS/FWD Specialist	PhØnix PPC
Klaus Olsen	PMS/FWD Specialist	PhØnix PPC

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ МОСТАМИ (СУМ)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE BRIDGE MANAGEMENT PROGRAMM SYSTEM (BMS)

ДАТА / DATE : 09.09.-10.09.1997

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Елена П.Павловская	Ведущий инженер	КАЗДОРНИИ
Вера Б.Курапова	Инженер 1 кат.	КАЗДОРНИИ
Т. В. Медведева	Инженер 1 кат.	КАЗДОРНИИ
Мелецис Андрис	Специалист по BMS	КОКС Консальт
Elena Pavlovskaya	Chief Engineer	KAZDORNII
Vera Kurapova	Engineer Cat. 1	KAZDORNII
Medvedyeva T. V.	Engineer	KAZDORNII
Andris Melecis	BMS Specialist	KOCKS Consult

Т Р А С Е К А - СУП , ТУРКМЕНИСТАН
Список участников семинаров

T R A C E C A - PMS , TURKMENISTAN
Lists of seminar participants

МИНИСТЕРСТВО ТРАНСПОРТА
MINISTRY OF TRANSPORT

Концерн ТУРКМЕНАВТОЕЛЛАРИ
Concern TURKMENAUTOELLARI

1. СЕМИНАР ПО БИТУМО - ВЯЖУЩИМ МАТЕРИАЛАМ

SEMINAR ON BITUMEN BOUND PRODUCTS

ДАТА / DATE: 11.11. - 13.11.1996

Фамилия **NAME**	**Должность** **TITLE**	**Организация** **ORGANISATION**
Хакимов Г.	Главный инженер	Дорожная администрация
Гурбанов Г.	Главный инженер	Стройматериалы в Губадаг
Нурманов М.	Главный инженер	Дорожный трест
Динмедов Г.	Главный инженер	Дорожная администрация N19
Джораев Г.	Главный инженер	Дорожный трест
Базаров Б.	Главный инженер	Дорожно-экспл. управлен. в Лебап
Назаров А.	Главный инженер	Дорожно-строительное управл. N 949
Текажев Н.	Главный инженер	Дорожно-строительное управл. N 2
Какдлчанов О.	Главный инженер	Дорожно-строительное упр. в Мары
Баирамдирдиев Д.	Главный инженер	Дорожно-строит. упр. в Туркменбаши
Илинов Н.	Главный инженер	Дорожно-строительное упр. в Балкан
Туилиев А.	Инженер	Дорожно-строительное упр. в Гиз.-Ар.
Котжаков Б.	Главный инженер	Дорожно-строительное упр. в Гарик.
Гурбангельдыев А.	Руководитель группы	Филиал Туркмендорпроект в Мары
Самедов Д.	Руководитель группы	Филиал Туркмендорпроект в Мары
Шугорев В.	Руководитель группы	Институт Туркмендорпроект
Кузнецов В.	Инженер	Дорожная эксплуатация в Акал
Шарыгина Л.	Главный инженер	Туркменавтоеллари
Шамурадов Х.	Инженер	Институт Туркмендорпроект
Брозда О.	Директор	Институт Туркмендорпроект
Чешова А.	Главный инженер	Институт Туркмендорпроект
Миргородски Л.	Главный инженер	Институт Туркмендорпроект
Бесгодков В.	Главный инженер	Дорожная эксплуатация в Мары
Филатова В.	Инженер	Институт Туркмендорпроект
Хрикина С.	Руководитель группы	Институт Туркмендорпроект
Хекиров А.	Главный инженер	Дорожная эксплуатация в Балкан
Циммерманн Х. У	Специалист по асфальту	KOCKS Consult

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Chakimov G. F.	Chief Engineer	Road administration in Kunja-Urgentsch
Gurbanov G.	Chief Engineer	Road Materials Plant in Gubadag
Nurmanov M. A.	Chief Engineer	Dashchovus Road Trust
Dinmedov G.	Chief Engineer	Road Administration 19 in Tagta
Djoraev G. B.	Chief Engineer	Lebapgurrlyshiktrest
Basarov B. A.	Chief Engineer	Road Operation Management Dep.
Nasarov A. H.	Chief Engineer	Road Construction Depart.N949
Tekajew C.	Chief Engineer	Road Construction N2
Kakdlchanow O.	Chief Engineer	Road Construction Departmment- Mary
Bairamdyrdiew D. A.	Chief Engineer	Road Construction Department- Turmenbashi
Ilinov N. J.	Chief Engineer	Road Construction Departm- Balkan
Tyiliew A.	Engineer	Road Construction Departm- Gysil - Arbat
Kotschakow B.	Chief Engineer	Road Construction Departm- Garrycala
Gourbangeldyew A.	Group Leader	Design Subdepartment in Mary
Samedow D.	Group Leader Research	Design Subdepartment in Mary
Schugorew W. A.	Teamleader	Institut Turkmendorproject
Kuznetsow W. W.	Engineer	Road Maintenance in Akal
Sharygina L.	Chief Engineer	Turkmenaytoellari
Schamuradow C.	Engineer	Institut Turkmendorproject
Brosda O. G.	Director	Institut Turkmendorproject
Tscheshowa A.	Chief Engineer	Institut Turkmendorproject
Mirgorodsky L. N.	Chief Engineer	Institut Turkmendorproject
Besgodkow W.	Chief Engineer	Road Maintenance in Mary
Filatova W. M.	Engineer	Institut Turkmendorproject
Chrikina S. L.	Group Leader	Institut Turkmendorproject
Chekirov A.	Chief Engineer	Road Maintenance in Balkan
Hans U. Zimmermann	Aspfalt Specialist	KOCKS Consult

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

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

ДАТА / DATE : ..1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Кузнецов В.	Инженер	Туркменавтоеллари
Шаморадов Х.	Инженер	Туркменавтоеллари
Байрамов К.	Инженер	Туркменавтоеллари
К. Нильсен	Специалист PMS/FWD	PHONIX
К. Карини	Специалист PMS/FWD	PHONIX
Kyzneitchov V.	Engineer	Turkmenautoellari
Shamoradov H.	Engineer	Turkmenautoellari
Bairamov K.	Engineer	Turkmenautoellari
Klaus V.Nielsen	PMS/FWD Engineer	PHONIX
Kimo Karini	PMS/FWD Engineer	PHONIX

6. СЕМИНАР ПО ДОРОЖНОЙ БЕЗОПАСНОСТИ И ДОРОЖНОМУ ПРОЕКТИРОВАНИЮ

SEMINAR ON ROAD SAFETY AND ROAD DESIGN ASPECTS

ДАТА / DATE :.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Брозда О.	Директор	Туркмендорпроект
Чешова А.	Зам директора	Туркмендорпроект
Миргородски Л.	Главный инженер	Туркмендорпроект
Филатова В.	Инженер	Туркмендорпроект
Лен О.	Инженер	Туркмендорпроект
Кузнецова О.	Нач. группы	Туркмендорпроект
Тормозов А.	Инженер	Туркмендорпроект
Аманов Х.	Инженер-строитель	Концерн Туркменавтоеллари
Орасов К.	Главный инженер	Концерн Туркменавтоеллари
Шихмурадов М.	Начальник отдела по эксплуатации автодорог	Концерн Туркменавтоеллари
Поич Р.	Специалист по СУМ	КОКС КОНСАЛЬТ
Brosda O.G.	Director	Turkmendorproject Institut
Tscheshowa A.N.	Deputy Director	Turkmendorproject Institut
Mirgorodsky L.N.	Chief engineer	Turkmendorproject Institut
Filatowa W.	Engineer	Turkmendorproject Institut
Len O.W.	Engineer	Turkmendorproject Institut
Kusnetsowa O.	Leading engineer	Turkmendorproject Institut
Tormosow A.W.	Engineer	Turkmendorproject Institut
Amanow Chydyr	Engineer	Concern Turkmenautoellari
Orasow Kerwen	Chief engineer	Concern Turkmenautoellari
Schichmuradow M.	Head of Department	Concern Turkmenautoellari
P. Poitzsch	Bridge/BMS Engineer	KOCKS CONSULT

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ ПОКРЫТИЕМ (СУП)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE PAVEMENT MANAGEMENT PROGRAMM SYSTEM (PMS)

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Кузнецов В.	Инженер	Туркменавтоеллари
Шаморадов Х.	Инженер	Туркменавтоеллари
Байрамов К.	Инженер	Туркменавтоеллари
Клаус В. Нилсен	Специалист PMS/FWD	ФЕНИКС ПС
Клаус Ользен	Специалист PMS/FWD	ФЕНИКС ПС
Kusnetsow V.V.	Engineer	Turkmendorproject Institut
Shamoradov H.	Engineer	Turkmendorproject Institut
Bairamov K.	Engineer	Turkmendorproject Institut
Klaus V. Nielsen	PMS/FWD Specialist	PhØnix PPC
Klaus Olsen	PMS/FWD Specialist	PhØnix PPC

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ МОСТАМИ (СУМ)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE BRIDGE MANAGEMENT PROGRAMM SYSTEM (BMS)

ДАТА / DATE : 19.08.-22.08.1997

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Байрамов К.	Инженер	Туркменавтоеллари
Мелецис Андрис	Специалист по BMS	КОКС Консальт
Bairamov K.	Engineer	Turkmenautoellari
Andris Melecis	BMS Specialist	KOCKS Consult

ТРАСЕКА - СУП, ТАДЖИКИСТАНА
Список участников семинаров

TRACECA-PMS, TADJIKISTAN
Lists of seminar participants

МИНИСТЕРСТВО ТРАНСПОРТА
MINISTRY OF TRANSPORT AND ROADS

ТАДЖИКГИПРОТРАНССТРОЙ
TADJIKGUPROTRANSSTROY

1. СЕМИНАР ПО БИТУМО - ВЯЖУЩИМ МАТЕРИАЛАМ

SEMINAR ON BITUMEN BOUND PRODUCTS

ДАТА / DATE: 30.10. - 01.11.1996

Фамилия **NAME**	**Должность** **TITLE**	**Организация** **ORGANISATION**
Кудратов К.	Главный инженер упр. 21	Дорожно-эксплуатац. управлен.
Губов М.	Главный инженер упр. 16	Дорожно-эксплуатац. управлен.
Хабибов Т.	Главный инженер упр. 16	Дорожно-эксплуатац. управлен.
Ганиев А.	Нач. отдела по контролю	Таджикгипротрансстрой
Мирцоев Г.	Нач. техотдела	Таджикгипротрансстрой
Исматулаев Р.	Главный инженер	Таджикгипротрансстрой
Хигдатов С.	Нач. техотдела	Дорожно-эксплуатац. управлен
Барнов Г.	Нач. эксплуатац. управл.	Министерство транспорта
Холдоров О.	Преподаватель	Технический Университет
Паш А.	Нач. группы по проектир.	Таджикгипротрансстрой
Кизименко Н.	Начальник лаборатории	Таджикгипротрансстрой
Фельдманн Б.	Нач. техотдела	Таджикгипротрансстрой
Сафаров М.	Инженер	Дорожно-эксплуатац. управлен
Таджиев Х.	Нач. эксплуатац. управлен.	Дорожно-эксплуатац. управлен
Муродов К.	Инженер	Таджикгипротрансстрой
Кафтаилов В.	Нач. отдела проектиров.	Таджикгипротрансстрой
Каримов с.	Инженер	Таджикгипротрансстрой
Двораков У.	Нач. отдела проектиров.	Таджикгипротрансстрой
Юлдашев Ю.	Главный инженер	Таджикгипротрансстрой
Мирзоев Т.	Директор	Таджикгипротрансстрой
Ширинджанов	Преподаватель	Технический Университет
Циммерманн Х. У.	Спец. по асфальту	KOCKS Consult

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Kudratov Kamol	Chief Engineer RMD - 21	Road Maintenance Department
Gulov Mamarasul	Chief Engineer RMD - 16	Road Maintenance Department
Khabibiv Takhir	Chief Engineer RMD - 16	Road Maintenance Department
Ganiev Abdukavi	Head of control division	Tadjikgiprotransstroy
Mirzoev Giyoziddin	Head of Technical Division	Tadjikgiprotransstroy
Ismatulaev Rakhmatull	Chief of Department	Tadjikgiprotransstroy
Khigmatov Sattor	Head of Technical Division	Maintenance division of roads
Barnov Goibnazar	Head of maintenance Divis.	Ministry of Transport
Kholdorov O.	Teacher	Tadjk Technical University
Papp L.	Head of group of projecting	Tadjikgiprotransstroy
Kizimenko N.	Head of Laboratory	Tadjikgiprotransstroy
Feldmann B.	Head of technical division	Tadjikgiprotransstroy
Safarov M.	Engineer	Maintenance division of roads
Tadjiev H.	Head of maintenance divis.	Maintenance planningdivision 7
Murodov K.	Engineer	Tadjikgiprotransstroy
Kaftaylov V.	Head of projecting division	Tadjikgiprotransstroy
Karimov S.	Engineer	Tadjikgiprotransstroy
Dvorakov U.	Head of projecting division	Tadjikgiprotransstroy
Yuldashev J.	Chief Engineer	Tadjikgiprotransstroy
Mirzoev T.	Director	Tadjikgiprotransstroy
Shirindjanov Z.	Teacher	Tadjk Technical University
Hans U. Zimmermann	Asphalt Specialist	KOCKS Consult

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

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

ДАТА / DATE : ..1996

Фамилия NAME	**Должность** TITLE	**Организация** ORGANISATION
Шокиров Р.	Нач. тех отдела	Таджикгипротрансстрой
Шамзидинов А.	Инженер	Дорожно изыскат. управление
Каримов С.	Инженер I категории	Таджикгипротрансстрой
Якиева С.	Инженер	Таджикгипротрансстрой
Юлдашев Ю.	Гл. инженер	Таджикгипротрансстрой
Ширинджанов Ц.	профессор	Технический университет
Кафтаев В.	Гл. специалист	Таджикгипротрансстрой
Муродов К.	Гл. инженер проекта	Таджикгипротрансстрой
Пастбин В.	гл. инженер проекта	Таджикгипротрансстрой
Кикмалов С.	Нач. техотдела	Дорожно-эксплуат.
К. Нильсен	Специалист PMS/FWD	управление
К. Карини	Специалист PMS/FWD	PHONIX
		PHONIX
Shokirov Rakhim	Chief Techn. Department	Tadjikgiprotransstroy
Shamsidinov Anvar	Engineer	Survey and Road Department
Karimov Said	I Grade Engineer	Tadjikgiprotransstroy
Yakhyaeva Sitora	Engineer	Tadjikgiprotransstroy
Yuldashev Yuri	Chier Engineer	Tadjikgiprotransstroy
Shirindjanov Zafar	Professor	Tadjik. Techn. University
Kaftaev Valentin	Chief Specialist	Tadjikgiprotransstroy
Mirodov Kasim	Chief design enng.	Tadjikgiprotransstroy
Pastbin Valeri	Chief design enng.	Tadjikgiprotransstroy
Kikmalov Sattor	Chief Techn- Department	Road Maintenance Department
Klaus V.Nielsen	Klaus V.Nielsen	PHONIX
Kimo Karini	Kimo Karini	PHONIX

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

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

ДАТА / DATE :.18.11.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Ширинджанов З.	Преподаватель	ТГУ, Автомобильные дороги
Холдоров О.	Преподаватель	ТГУ, Автомобильные дороги
Юлдашев Ю.	Главный инженер	Таджикгипротрансстрой
Папп Л.	Нач. группы отдела иск. соор.	Таджикгипротрансстрой
Дворяков Ю.	Нач. отдела автодорог	Таджикгипротрансстрой
Шакиров Р.	Начальник техотдела	Таджикгипротрансстрой
Изюмская С.	Нач. группы отдела иск. соор.	Таджикгипротрансстрой
Харламова Н.	Нач. группы(гидролог)	Таджикгипротрансстрой
Каримов С.	Вед. инженер отдела иск. соор.	Таджикгипротрансстрой
Мещерикова Л.	Вед. инженер отдела иск. соор.	Таджикгипротрансстрой
Медведева Н.	Вед. инженер отдела иск. соор.	Таджикгипротрансстрой
Самигулина Е.	Инженер отдела иск. соор.	Таджикгипротрансстрой
Коломец Д.	Вед. инженер отдела иск. соор.	Минтрансдорхоз
Акрамова Г.	Вед. инженер отдела эксплуатацю	ОКС
Хамидов Р.	Ведущий инженер ОКС	Мостспецстрой
Худойдодов Т.	Ведущий инженер ПТО	Дорожное управление
Хакмалов С.	Начальник ПТО	
Shirindjanuv Z.	Teacher	Tadjk Technical University
Khholdorov O.	Teache	Tadjk Technical University
Yuldashev J.	Chief Engineer	Tadjikgiprotransstroy
Papp L.	Team Leader	Tadjikgiprotransstroy
Dvorakov Y.	Head Department	Tadjikgiprotransstroy
Shakirov R.	Head Department	Tadjikgiprotransstroy
Isumskaja S.	Team Leader	Tadjikgiprotransstroy
Charlamov N.	Team Leader	Tadjikgiprotransstroy
Karimov S.	Chief Engineer	Tadjikgiprotransstroy
Mesherakova L.	Chief Engineer	Tadjikgiprotransstroy
Medvedeva N.	Chief Engineer	Tadjikgiprotransstroy
Samigulina E.	Engineer	Tadjikgiprotransstroy
Kolomez D.	Chief Engineer	Tadjikgiprotransstroy
Akramova G.	Chief Engineer Maintenance dep.	Mintransdorhos
Khamidov R.	Chief Engineer OKS	OKS
Khudoidodov T.	Chief Engineer PTO	Bridgeconstruction department
Khakmalov S.	Head Department	Maintenance - planningdivision

5. СЕМИНАР ПО ЗАПАДНЫМ ТЕХНОЛОГИЯМ ПО ОБСЛУЖИВАНИЮ И РЕМОНТУ МОСТОВ.

SEMINAR ON WESTERN TECHNOLOGY FOR BRIDGE MAINTENANCE AND REHABILITATION

ДАТА / DATE :.18.11.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Ширинджанов З.	Преподаватель	ТГУ, Автомобильные дороги
Холдоров О.	Преподаватель	ТГУ, Автомобильные дороги
Юлдашев Ю.	Главный инженер	Таджикгипротрансстрой
Папп Л.	Нач. группы отдела иск. соор.	Таджикгипротрансстрой
Дворяков Ю.	Нач. отдела автодорог	Таджикгипротрансстрой
Шакиров Р.	Начальник техотдела	Таджикгипротрансстрой
Изюмская С.	Нач. группы отдела иск. соор.	Таджикгипротрансстрой
Харламова Н.	Нач. группы(гидролог)	Таджикгипротрансстрой
Каримов С.	Вед. инженер отдела иск. соор.	Таджикгипротрансстрой
Мещерикова Л.	Вед. инженер отдела иск. соор.	Таджикгипротрансстрой
Медведева Н.	Вед. инженер отдела иск. соор.	Таджикгипротрансстрой
Самигулина Е.	Инженер отдела иск. соор.	Таджикгипротрансстрой
Коломец Д.	Вед. инженер отдела иск. соор.	Минтрансдорхоз
Акрамова Г.	Вед. инженер отдела эксплуатацю	ОКС
Хамидов Р.	Ведущий инженер ОКС	Мостспецстрой
Худойдодов Т.	Ведущий инженер ПТО	Дорожное управление
Хакмалов С.	Начальник ПТО	
Shirindjanuv Z.	Teacher	Tadjk Technical University
Khholdorov O.	Teache	Tadjk Technical University
Yuldashev J.	Chief Engineer	Tadjikgiprotransstroy
Papp L.	Team Leader	Tadjikgiprotransstroy
Dvorakov Y.	Head Department	Tadjikgiprotransstroy
Shakirov R.	Head Department	Tadjikgiprotransstroy
Isumskaja S.	Team Leader	Tadjikgiprotransstroy
Charlamov N.	Team Leader	Tadjikgiprotransstroy
Karimov S.	Chief Engineer	Tadjikgiprotransstroy
Mesherakova L.	Chief Engineer	Tadjikgiprotransstroy
Medvedeva N.	Chief Engineer	Tadjikgiprotransstroy
Samigulina E.	Engineer	Tadjikgiprotransstroy
Kolomez D.	Chief Engineer	Tadjikgiprotransstroy
Akramova G.	Chief Engineer Maintenance dep.	Mintransdorhos
Khamidov R.	Chief Engineer OKS	OKS
Khudoidodov T.	Chief Engineer PTO	Bridgeconstruction department
Khakmalov S.	Head Department	Maintenance - planningdivision

5. СЕМИНАР ПО ЗАПАДНЫМ ТЕХНОЛОГИЯМ ПО ОБСЛУЖИВАНИЮ И РЕМОНТУ МОСТОВ.

SEMINAR ON WESTERN TECHNOLOGY FOR BRIDGE MAINTENANCE AND REHABILITATION

ДАТА / DATE : 09.10.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Ширинджанов з.м.	специалист по автомобильным дорогам	Технический Университет
Холдоров О.О.	специалист по автомобильным дорогам	Технический Университет
Юлдашев Ю.А.	глав. инженер	Таджикгипротрансстрой
Папп Л.Н.	начальник группы ОИС	Таджикгипротрансстрой
Дворяков Ю.П.	начальник отдела изысканий и дорож.проектир.	Таджикгипротрансстрой
Шакиров Р.Ш.	начальник технического отдела	Таджикгипротрансстрой
Изюмская С.Ю.	начальник группы отдела искусств. сооружений	Таджикгипротрансстрой
ХарламоваН.П.	начальник группы, гидролог	Таджикгипротрансстрой
Каримов С.	ведущий инженер ОИС	Таджикгипротрансстрой
НещериковаЛ.К.	ведущий инженер ОИС	Таджикгипротрансстрой
Медведева Н.	ведущий инженер ОИС	Таджикгипротрансстрой
Самигулина Е.	инженер ОИС	Таджикгипротрансстрой
Коломиец Д.З.	ведущий инженер ОИС	Таджикгипротрансстрой
Акрамова Г.	ведущий специалист отдела эксплуатации дорог	Таджикгипротрансстрой
Хамидов Р.	ведущий инженер ОИС	Таджикгипротрансстрой
Худойдодов Т.	ведущий инженер ПТО	Трест Мостоспецстрой
Ретер Поич	Инженер по мостам /BMS	KOCKS CONSULT
Андрис Мелецис	Инженер по конструкциям	KOCKS CONSULT
Shirindjanov S.M.	Specialist for Highways	Technical University
Choldorov O.O.	Specialist for Highways	Technical University
Juldashev J.A.	Chief Engineer GPII	Tadjikgiprotransstroy
Papp L.N.	Groupleager	Tadjikgiprotransstroy
Dworjakov J.P.	Head of Department	Tadjikgiprotransstroy
Shakirov	Chief of technical Department	Tadjikgiprotransstroy
Isjumskaja S.J.	Groupleader	Tadjikgiprotransstroy
Charlamowa N.P.	Groupleader	Tadjikgiprotransstroy
Karimov S.	Leader Engineer	Tadjikgiprotransstroy
Nesherikowa L.K.	Leader Engineer	Tadjikgiprotransstroy
Medwedewa N.	Leader Engineer	Tadjikgiprotransstroy
Samigulina E.	Engineer	Tadjikgiprotransstroy
Kolomiets D.S.	Leader Engineer	Tadjikgiprotransstroy
Akramowa G.	Chief Specialist	Tadjikgiprotransstroy
Chamidov R.	Leader Engineer	Tadjikgiprotransstroy
Chudojdodov T.	Leader Engineer	Trest Mostostroy
Peter Poitsch	Bridge/BMS Engineer	KOCKS CONSULT
Andris Melecis	Structural Engineer	KOCKS CONSULT

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ ПОКРЫТИЕМ (СУП)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE PAVEMENT MANAGEMENT PROGRAMM SYSTEM (PMS)

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Ширинджанов З.	Преподаватель	ТГУ, Автомобильные дороги
Юлдашев Ю.	Главный инженер	Таджикгипротрансстрой
Каримов С.	Инженер 1 кат.	Таджикгипротрансстрой
Хакмалов С.	Начальник ПТО	Дорожное управление
Кафтаилов В.	Гл. специал. отдела проект.	Таджикгипротрансстрой
Муродов К.	Инженер	Таджикгипротрансстрой
Шамзидинов А.	Инженер	Таджикгипротрансстрой
Якиева С.	Инженер	Таджикгипротрансстрой
Пастбин В.	Ведущий инженер	Таджикгипротрансстрой
Клаус В. Нилсен	Специалист PMS/FWD	ФЕНИКС ПС
Клаус Ользен	Специалист PMS/FWD	ФЕНИКС ПС
Shirindjanuv Z.	Teacher	Tadjk Technical University
Yuldashev J.	Chief Engineer	Maintenance - planningdivision
Karimov S.	Engineer	Tadjikgiprotransstroy
Khakmalov S.	Chief specialist	Tadjikgiprotransstroy
Kaftaev Valentin	Chief Specialist	Tadjikgiprotransstroy
Mirodov Kasim	Chief design enng.	Tadjikgiprotransstroy
Shamsidinov Anvar	Engineer	Tadjikgiprotransstroy
Yakhyaeva Sitora	Engineer	Tadjikgiprotransstroy
Pastbin Valeri	Chief design eng.	Tadjikgiprotransstroy
Klaus V. Nielsen	PMS/FWD Specialist	PhØnix PPC
Klaus Olsen	PMS/FWD Specialist	PhØnix PPC

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ МОСТАМИ (СУМ)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE BRIDGE MANAGEMENT PROGRAMM SYSTEM (BMS)

ДАТА / DATE : 01.09.-03.09.1997

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Ширинджанов З.	Преподаватель	ТГУ, Автомобильные дороги
Юлдашев Ю.	Главный инженер	Таджикгипротрансстрой
Шокиров Р.	Нач. тех отдела	Таджикгипротрансстрой
Давлатбеков К.	Инженер	Таджикгипротрансстрой
Мелецис Андрис	Специалист по BMS	КОКС Консальт
Shirindjanuv Z.	Teacher	Tadjk Technical University
Yuldashev J.	Chief Engineer	Tadjikgiprotransstroy
Shokirov Rakhim	Chief Techn. Department	Tadjikgiprotransstroy
Davlatbekov K.	Engineer	Tadjikgiprotransstroy
Andris Melecis	BMS Specialist	KOCKS Consult

ТРАСЕКА - СУП, УЗБЕКИСТАН
Список участников семинаров

TRACECA - PMS, UZBEKISTAN
Lists of Seminar Participants

Концерн УЗАВТОЙУЛ
Concern UZAVTOYUL

1. СЕМИНАР ПО БИТУМО - ВЯЖУЩИМ МАТЕРИАЛАМ

SEMINAR ON BITUMEN BOUND PRODUCTS

ДАТА / DATE : 08 - 16.05.1996

Фамилия NAME	**Должность** TITLE	**Организация** ORGANISATION
Худабердыев З	Главный специалист	УЗЙУЛЛОЙИХА
Мирзаев Т	Главный специалист	УЗЙУЛЛОЙИХА
Рахимов М	Заместитель директора	УЗЙУЛЛОЙИХА
Комолов Х	Начальник тех. отдела	УЗЙУЛЛОЙИХА
Умирсаков Т	Начальник центра	УЗЙУЛЛОЙИХА
Попандопуло ГА	Главный специалист	УЗЙУЛЛОЙИХА
Махмудов Е	Нач. центра А/б покрытий	УЗЙУЛЛОЙИХА
Аблакулов А	Доцент	ТАДИ
Дустмухамедова Г	Руководитель группы	УЗЙУЛЛОЙИХА
Сулик Н	Руководитель группы	УЗЙУЛЛОЙИХА
Абраменко А	Руководитель группы	УЗЙУЛЛОЙИХА
Матвеев Е	Главный инженер проекта	УЗЙУЛЛОЙИХА
Мустафакулов Р	Начальник центра	УЗЙУЛЛОЙИХА
Сатарбаев З	Техник 1 кат	УЗЙУЛЛОЙИХА
Дауров П	Инженер	УЗЙУЛЛОЙИХА
Ташкузиев И	Начальник лаборатории	УЗЙУЛЛОЙИХА
Ташкузиев Б	Главный технолог	УЗЙУЛЛОЙИХА
Ханс У. Циммерман	Специалист по асфальту	KOCKS CONSULT
Chudaiberdiew, Z.	Chief Specialist	UZJULLOICHA
Mirsajew, T.	Chief Specialist	UZJULLOICHA
Rachimow, M.	Deputy Director	UZJULLOICHA
Komolow, H.	Head Techodil	UZJULLOICHA
Umirsakow, T.	Head of Centre	UZJULLOICHA
Popandopulo, G. A.	Chief Specialist	UZJULLOICHA
Machmudow, E.	Head of Centre for Asphaltconcrete and Bitumen	UZJULLOICHA
Ablakulow, A.	Dozent	TADI
Dustmuchamedowa, G.	Groupleader	UZJULLOICHA
Sulik, N.	Groupleader	UZJULLOICHA
Abramenko, A.	Groupleader	UZJULLOICHA
Matweew, E.	Chief Engineer	UZJULLOICHA
Mustafakulow, R.	Head of Centre	UZJULLOICHA
Satarbaew, Z.	Technician 1 Cat.	UZJULLOICHA
Daurov, P.	Engineer	UZJULLOICHA
Tashkusiew, I.	Chief of Laboratory	UZJULLOICHA
Tashkusiew, B.	Chief of Technology Department	UZJULLOICHA
Hans U. Zimmermann	Asphalt Specialist	KOCKS CONSULT

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	4600	38	2877	148.19	148.40	3.8	0	III	0.21
	5416			148.40	149.22		2B	III	0.82
	5690			149.22	149.49		5	III	0.27
	6940			149.49	150.74		2A	III	1.25
	8269			150.74	152.07		2B	III	1.33
	9800			152.07	153.60		3-4	III	1.53
	10140			153.60	153.94		1A	III	0.34
	10625			153.94	154.43		2B	III	0.49
	12480			154.43	156.28		5	III	1.85
	12600			156.28	156.40		2B	III	0.12
156.71	12835			156.40	156.71		2B	III	0.31
	13520			156.71	157.40		5	III	0.69
	14000			157.40	157.88		4	III	0.48
	14900			157.88	158.78		2B	III	0.90
	16920			158.78	160.80		5	III	2.02
162.90	19025			160.80	162.90		2B	III	2.10
	23650			162.90	167.53		2B	II	4.63
	24170			167.53	168.05		4	II	0.52
	24400			168.05	168.28		2B	II	0.23
	26420			168.28	170.30		4	II	2.02
	30210			170.30	174.09		3	II	3.79
	31178			174.09	175.05		3	II	4.91
	35698			175.21	179.73		4	III	4.52
	38118			179.73	182.15		4	III	2.42
	39305			182.15	183.34		5	III	1.19
Customs									

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

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

ДАТА / DATE :28.08.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Худайбердыев З	Инженер - дорожник	УЗАВТОЙУЛ
Юсупов З	Техник по компьютерам	УЗАВТОЙУЛ
Мирзаев Т	Главный специалист	УЗАВТОЙУЛ
Мустатакулов		
Дауров		
Умурзаков		
Клаус В. Нилсен	инженер PMS/FWD	ФЕНИКС ПС
Khudaiberdiev Z	Road Engineer	UZAVTOYUL
Yusubov Z	Computer Technician	UZAVTOYUL
Mirsaiff T	Chief Specialist	UZAVTOYUL
Mustatakulov		
Daurov		
Umurzakov		
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 :30.08.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Худайбердыев З	Инженер -дорожник	УЗАВТОЙУЛ
Юсупов З	Техник по компьютерам	УЗАВТОЙУЛ
Мирзаев Т	Главн. спец.	УЗАВТОЙУЛ
Мустатакулов		
Дауров		
Умурзаков		
Петер Роич	Инженер по мостам / BMS	KOCKS CONSULT
Андрис Мелецис	Инженер по конструкциям.	KOCKS CONSULT
Khudaiberdiev Z	Engineer	UZAVTOYUL
Yusubov Z	Computer technician	UZAVTOYUL
Mirsaiff T	Chief Specialist	UZAVTOYUL
Mustatakulov		
Daurov		
Umurzakov		
Peter Poitzsch	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

ДАТА / DATE : 30.10.1996

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Казаков К.К.	главный инженер отдела	Узйуллойхи
Краснова Т.В.	ведущий инженер	Узйуллойхи
Ковалева Т.В.	руководитель группы	Узйуллойхи
Абраменко Л.Д.	ГИП	Узйуллойхи
Сулик Н.Е.	зам.ГИП	Узйуллойхи
Трушина Н.В.	руководитель группы	Узйуллойхи
Матвеев Е.Д.	ГИП мостового отдела	Узйуллойхи
Алимов А.М.	главн дорожный инспектор	УЗАВТОЙУЛ
Мирзаев Т.Л.	главный специалист	УЗАВТОЙУЛ
Виллемс У.	руководитель группы 1	KOCKS CONSULT
Kasakov K.K.	Chief Engineer	Usjullojhi
Krasnova T.W.	Chief Engineer	Usjullojhi
Kovaleva A.E.	Groupleader	Usjullojhi
Abramenko L.D.	Chief Engineer	Usjullojhi
Sulik N.E.	Engineer	Usjullojhi
Trushina N.W.	Groupleader	Usjullojhi
Matweew E.D.	Chief Engineer	Usjullojhi
Alimov A.M.	Chief Inspector	UZAVTOYUL
Mirsaev T.L.	Chief Specialist	UZAVTOYUL
Willems U.	Team Leader 1	KOCKS CONSULT

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ ПОКРЫТИЕМ (СУП)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE PAVEMENT MANAGEMENT PROGRAMM SYSTEM (PMS)

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Худайбердыев З	Инженер -дорожник	УЗАВТОЙУЛ
Юсупов З	Техник по компьютерам	УЗАВТОЙУЛ
Мирзаев Т	Глав. спец.	УЗАВТОЙУЛ
Клаус В. Нилсен	Специалист PMS/FWD	ФЕНИКС ПС
Клаус Ользен	Специалист PMS/FWD	ФЕНИКС ПС
Khudaiberdiev Z	Engineer	UZAVTOYUL
Yusubov Z	Computer technician	UZAVTOYUL
Mirsaiff T	Chief Specialist	UZAVTOYUL
Klaus V. Nielsen	PMS/FWD Specialist	PhØnix PPC
Klaus Olsen	PMS/FWD Specialist	PhØnix PPC

ДОПОЛНИТЕЛЬНОЕ ОБУЧЕНИЕ ПО ОЗНАКОМЛЕНИЮ С СИСТЕМОЙ ПРОГРАММИРОВАНИЯ УПРАВЛЕНИЯ МОСТАМИ (СУМ)

ADDITIONAL TRAINING FOR THE INTRODUCTION OF THE BRIDGE MANAGEMENT PROGRAMM SYSTEM (BMS)

ДАТА / DATE : 04.09.-05.09.1997

Фамилия NAME	Должность TITLE	Организация ORGANISATION
Мирзаев Т.Л.	Главн. спец.	УЗАВТОЙУЛ
Матвеев Е. Д.	ГИП мостов. отд.	УЗАВТОЙУЛ
Ахмедов Б. Р.		УЗАВТОЙУЛ
Маджидов Д. А.		УЗАВТОЙУЛ
Исманов И. Ц.	Инженер	УЗАВТОЙУЛ
Мелецис Андрис	Специалист по BMS	КОКС Консальт
Mirsaev T.L.	Cief Specialist	UZAVTOYUL
Matweew E.D.	Chief Engineer	UZAVTOYUL
Ahmedov B- R-		UZAVTOYUL
Majidov D. A.		UZAVTOYUL
Ismanov I. Z.		UZAVTOYUL
Andris Melecis	BMS Specialist	KOCKS Consult

APPENDIX 5

- **Road Condition Data**
- **Pavement Data**

TRACECA - PMS
PILOT SECTIONS FOR PAVEMENT MANAGEMENT SYSTEM

A R M E N I A

Section 1

M1-E Yerevan-Talin-Gyumri

Length of Section 20.0 km, Chainage km 55.38 to 75.38

AR - 1.1 Thickness of Pavement Layers

Ch. km 55.38	Ch. km 65.38	Ch. km 75.38
80 mm Asphalt 270 mm Crushed Stone Subgrade	80 mm Asphalt 270 mm Crushed Stone Subgrade	90 mm Asphalt 320 mm Gravel Subgrade

AR - 2.1 Roughness

Chainage [km]	IRI [m/km]	Chainage [km]	IRI [m/km]
55.38 - 55.99	3.3	65.26 - 66.16	3.8
55.99 - 56.98	3.0	66.16 - 66.53	5.1
56.98 - 57.79	2.6	66.53 - 67.16	4.1
57.79 - 58.83	2.6	67.16 - 68.23	4.3
58.83 - 59.59	2.8	68.23 - 69.54	5.1
59.59 - 60.23	2.9	69.54 - 70.21	4.2
60.23 - 61.55	2.5	70.21 - 71.60	4.6
61.55 - 62.29	3.0	71.60 - 72.95	4.7
62.29 - 62.65	4.6	72.95 - 73.64	5.2
62.65 - 62.98	3.7	73.64 - 75.06	3.2
62.98 - 64.26	3.0	75.06 - 75.38	2.9
64.26 - 65.26	4.2		

TRACECA - PMS
PILOT SECTIONS FOR PAVEMENT MANAGEMENT SYSTEM

A R M E N I A

Section 2

M2-E Spitak - Vanadzor

Length of Section 12.0 km, Chainage km 114.18 to 126.18

AR - 2.1 Thickness of Pavement Layers

Ch. km 114.8	Ch. km 120.8	Ch. km 126.8
90 mm Asphalt 250 mm Gravel Subgrade	80 mm Asphalt 280 mm Gravel Subgrade	80 mm Asphalt 270 mm Gravel Subgrade

AR - 2.2 Roughness

Chainage [km]	IRI [m/km]	Chainage [km]	IRI [m/km]
114.18 - 115.74	3.3	120.50 - 120.66	10.8
115.74 - 116.74	3.4	120.66 - 121.06	4.9
116.74 - 116.99	4.2	121.06 - 121.64	5.5
116.99 - 117.83	3.2	121.64 - 122.08	3.8
117.83 - 118.13	5.5	122.08 - 123.17	4.2
118.13 - 119.13	3.1	123.17 - 124.19	4.2
119.13 - 119.82	2.7	124.19 - 125.80	4.4
119.82 - 120.50	1.3	125.80 - 126.18	8.4

KOCKS INGENIEURE

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

Фактор калибрации; C = 1.59
Callibrationfactor ; C = 1.59

M1, Ереван-Аштарак-Гюмри-Ашоцк (км0.00 - км176.68)
M 1, Yerevan - Ashtarak - Gyumri - Aschotzk (km 0.00 - km 176.68)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
11.80	0								
	120			11.80	11.92		1 B	I	0.12
	1200	132	1943	11.92	13.00	2.7	0	I	1.08
	2000	104	2067	13.00	13.80	2.9	0	I	0.80
	3050	138	2090	13.80	14.85	2.9	0	I	1.05
	3800	97	2056	14.85	15.60	2.8	0	I	0.75
	4600	86	1709	15.60	16.40	2.4	0	I	0.80
	5750			16.40	17.55		1A	I	1.15
	6800			17.55	18.60		1A	I	1.05
	8760			18.60	20.56		2 B	I	1.96
	8960			20.56	20.76		1 B	I	0.14
20.70	1620			20.70	22.32		1 B	I	1.62
	2480			22.32	23.18		2 B	I	0.86
	3000			23.18	23.70		2 A	I	0.52
	4930			23.70	25.63		1 A	I	1.93
	6321			25.63	27.02		2 A	I	1.39
	8220			27.02	28.92		1 A	I	1.90
30.18	9447			28.92	30.15		2 A	I	1.26
	11568			30.18	32.30		1 B	II	2.12
	11780			32.30	32.51		2 B	II	0.21
	12730			32.51	33.46		1 B	II	0.95
	13800			33.46	34.53		1 B	II	1.07
	14300	103	3275	34.53	35.03	4.3	1 B	II	0.50
	14710	81	3141	35.03	35.44	4.1	1 B	II	0.41
	15100	45	1835	35.44	35.83	2.6	0	II	0.39
	15800	110	2499	35.83	36.53	3.4	0	II	0.70
38.22	17670			36.53	38.40		2 A	II	1.69
	18600			38.22	39.15		2 A	II	0.93
	18810			39.15	39.36		2 B	II	0.21
	21080			39.36	41.63		2 A	II	2.27
	21600			41.63	42.15		2 B	II	0.52
	24500			42.15	45.05		2 A	II	2.90
	25700			45.05	46.25		2 B	II	1.20
	26445			46.25	47.00		2 B	II	0.74
	27760			47.00	48.31		1 B	II	1.32
	28780			48.31	49.33		2B	II	1.02
	29350			49.33	49.90		1B	II	0.57
	29600			49.90	50.15		2B	II	0.25

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
50.98	30640			50.15	51.19		1A	II	0.83
	30810			50.98	51.15		2B	II	0.17
55.38	34900			51.15	55.24		1B	II	4.23
	35508	94	2458	55.38	55.99	3.3	0	II	0.61
	36500	136	2180	55.99	56.98	3.0	0	II	0.99
	37309	93	1828	56.98	57.79	2.6	0	II	0.81
	38350	121	1848	57.79	58.83	2.6	0	II	1.04
	39111	95	1985	58.83	59.59	2.8	0	II	0.76
	39750	83	2065	59.59	60.23	2.9	0	II	0.64
	41070	147	1771	60.23	61.55	2.5	0	II	1.32
	41810	100	2149	61.55	62.29	3.0	0	II	0.74
	42170	79	3489	62.29	62.65	4.6	1 B	II	0.36
	42500	57	2746	62.65	62.98	3.7	0	II	0.33
	43780	177	2199	62.98	64.26	3.0	0	II	1.28
	44780	200	3180	64.26	65.26	4.2	1 B	II	1.00
	45680	160	2827	65.26	66.16	3.8	0	II	0.90
66.33	46050	92	3954	66.16	66.53	5.1	1 B	II	0.17
	46680	122	3079	66.33	66.96	4.1	1 B	II	0.63
	47750	221	3284	66.96	68.03	4.3	1 B	II	1.07
	49060	330	4005	68.03	69.34	5.1	1 B	II	1.31
70.00	49730	133	3156	69.34	70.01	4.2	1 B	II	0.67
	51120	309	3535	70.01	71.40	4.6	1 B	II	1.39
	52470	304	3580	71.40	72.75	4.7	1 B	II	1.35
	53158	177	4091	72.75	73.44	5.2	1 B	II	0.69
	54580	207	2315	73.44	74.86	3.2	0	II	1.42
	55250	88	2088	74.86	75.53	2.9	0	II	0.67
	56000			75.53	76.28		2 A	II	0.75
	57980			76.28	78.26		2 B	II	1.98
78.90	58780			78.26	79.06		1 B	II	0.80
	59700			79.06	79.98		1 B	II	0.92
	60600			79.98	80.88		2 A	II	0.90
	61640			80.88	81.92		2 A	II	1.04
	62170			81.92	82.45		3	II	0.53
	62820			82.45	83.10		3	II	0.65
	63600			83.10	83.88		3	II	0.78
	64000	120	4770	83.88	84.28	6.0	2 B	II	0.40
	64250	62	3943	84.28	84.53	5.1	1 B	II	0.25
	64800	113	3267	84.53	85.08	4.3	1 B	II	0.55
	65300	89	2830	85.08	85.58	3.8	0	II	0.50
	72560			85.58	92.84		0	II	7.26
	73170			92.84	93.45		3	II	0.61
	74650			93.45	94.93		2 A	II	1.48
	75280	130	3281	94.93	95.56	4.3	1 A	II	0.63
95.65	75640	65	2871	95.56	95.92	3.8	0	II	0.36
	75810			95.92	96.09		0	II	0.17
	76350	100	2944	96.09	96.63	3.9	0	II	0.54
	76900	125	3614	96.63	97.18	4.7	1 B	II	0.55
	77300	58	2306	97.18	97.58	3.1	0	II	0.40
	77800			97.58	98.08		3	II	0.50
	79570			98.08	99.85		5	II	1.77
	84950			99.85	105.23		3	II	5.38
	85500			105.23	105.78		3	II	0.55

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	86000			105.78	106.28		4	II	0.50
	88181			106.28	108.46		2 A	II	2.18
	91230			108.46	111.51		2 B	II	3.05
	91570			111.51	111.85		2 A	II	0.34
	92125			111.85	112.41		1 A	II	0.56
	93100			112.41	113.38		2 A	II	0.97
	93780			113.38	114.06		3	II	0.68
116.62	96850			114.06	117.13		3	II	3.07
	97850			117.13	118.13		5	II	1.00
	98680	201	3850	118.13	118.96	5.0	1 B	II	0.83
	99200	204	6238	118.96	119.48	7.6	2 B	II	0.52
	99302	38	5924	119.48	119.58	7.3	2 B	II	0.10
Townpassage Gyumri				119.58	130.10			II	10.42
	1760			130.10	131.76		3	II	1.76
	2819			131.76	132.82		3	II	1.06
	3100			132.82	133.10		3	II	0.28
	4000	147	2597	133.10	134.00	3.5	0	II	0.90
	4600	114	3021	134.00	134.60	4.0	1 B	II	0.60
	5900	138	1688	134.60	135.90	2.4	0	II	1.30
	6400	108	3434	135.90	136.40	4.5	1 B	II	0.50
	7000	159	4214	136.40	137.00	5.4	1 B	II	0.60
	8458			137.00	138.46		3	II	1.46
	9017			138.46	139.02		2 B	II	0.56
	10030			139.02	140.03		1 A	II	1.01
	10776			140.03	140.78		1 B	II	0.75
	11620			140.78	141.62		2 B	II	0.84
	12560			141.62	142.56		3	II	0.94
143.34	13756			142.56	143.34		4	II	0.78
	14930			143.34	144.51		3	II	1.17
	16170			144.51	145.75		3	II	1.24
	17180			145.75	146.76		1 A	II	1.01
	21250			146.76	150.83		5	II	4.07
	21900	363	8880	150.83	151.48	10.5	4	II	0.65
	22500	286	7579	151.48	152.08	9.1	3	II	0.60
	23200	262	5951	152.08	152.78	7.3	2 B	II	0.70
	23800	198	5247	152.78	153.38	6.5	2 B	II	0.60
	25430			153.38	155.01		5	II	1.63
	26700			155.01	156.28		3	II	1.27
156.48	26890			156.28	156.47		5	II	0.19
	30810			156.47	160.39		5	II	3.92
161.00	31310			160.39	160.89		3	II	0.50
	32203			160.89	161.79		3	II	0.89
	32730			161.79	162.31		1 A	II	0.53
	33180			162.31	162.76		3	II	0.45
	35080			162.76	164.66		1 B	II	1.90
	37119			164.66	166.70		2 B	II	2.04
	38320			166.70	167.90		3	II	1.20
	39500			167.90	169.08		2 B	II	1.18
	42220			169.08	171.80		2 B	II	2.72
176.68	44160			171.80	173.74		1 B	II	1.94
Armenian Border									

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

Фактор калибрации; C = 1.59
Callibrationfactor ; C = 1.59

М2, Спитак - Ванадзор - Ташир -гран. Грузии (км 114.18 - 183.34)
M 2, Spitak - Vanadzor - Tashir - Georgien Border (km 114.18 - 183.34)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
114.80	0								
	186			114.80	114.99		0	II	0.19
	941	116	2443	114.99	115.74	3.3	0	II	0.75
	1940	160	2547	115.74	116.74	3.4	0	II	1.00
	2190	50	3180	116.74	116.99	4.2	1B	II	0.25
	3030	124	2347	116.99	117.83	3.2	0	II	0.84
	3325	80	4312	117.83	118.13	5.5	1B	II	0.30
	4330	141	2231	118.13	119.13	3.1	0	II	1.01
	5016	83	1924	119.13	119.82	2.7	0	II	0.69
	5695	95	2225	119.82	120.50	3.0	0	II	0.68
	5860	96	9251	120.50	120.66	10.8	4	II	0.17
122.38	6260	96	3816	120.66	121.06	4.9	1B	II	1.72
	6835	156	4314	122.38	122.96	5.5	1B	II	0.58
	7276	78	2812	122.96	123.40	3.8	0	II	0.44
	8374	218	3157	123.40	124.49	4.2	1B	II	1.10
	9390	201	3146	124.49	125.51	4.2	1B	II	1.02
	11000	340	3358	125.51	127.12	4.4	1B	II	1.61
127.62	11313	136	6909	127.12	127.62	8.4	2B	II	0.50
	1085			127.62	128.71		2A	II	1.09
	2480			128.71	130.10		1A	III	1.40
	3100	88	2257	130.10	130.72	3.1	0	III	0.62
	3650	83	2399	130.72	131.27	3.3	0	III	0.55
	3888	41	2739	131.27	131.51	3.7	0	III	0.24
	4160	73	4267	131.51	131.78	5.4	1B	III	0.27
	4675	150	4631	131.78	132.30	5.9	1B	III	0.51
	5060	113	4667	132.30	132.68	5.9	1B	III	0.38
	6930			132.68	134.55		2B	III	1.87
	7480			134.55	135.10		4	III	0.55
	11370			135.10	138.99		5	III	3.89
	11760			138.99	139.38		3	III	0.39
	11880			139.38	139.50		5	III	0.12
	12600			139.50	140.22		3	III	0.72
	13480			140.22	141.10		2B	III	0.88
	13800			141.10	141.42		4	III	0.32
143.80	16023			141.42	143.64		3	III	2.22
143.80	0			143.80	143.80		3	III	0.16
	2060			143.80	145.86		4	III	2.06
	2940	261	4716	145.86	146.74	6.0	2B	III	0.88
	3690	229	4855	146.74	147.49	6.1	2B	III	0.75
	4390	127	2885	147.49	148.19	3.8	0	III	0.70

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	4600	38	2877	148.19	148.40	3.8	0	III	0.21
	5416			148.40	149.22		2B	III	0.82
	5690			149.22	149.49		5	III	0.27
	6940			149.49	150.74		2A	III	1.25
	8269			150.74	152.07		2B	III	1.33
	9800			152.07	153.60		3-4	III	1.53
	10140			153.60	153.94		1A	III	0.34
	10625			153.94	154.43		2B	III	0.49
	12480			154.43	156.28		5	III	1.85
	12600			156.28	156.40		2B	III	0.12
156.71	12835			156.40	156.71		2B	III	0.31
	13520			156.71	157.40		5	III	0.69
	14000			157.40	157.88		4	III	0.48
	14900			157.88	158.78		2B	III	0.90
	16920			158.78	160.80		5	III	2.02
162.90	19025			160.80	162.90		2B	III	2.10
	23650			162.90	167.53		2B	II	4.63
	24170			167.53	168.05		4	II	0.52
	24400			168.05	168.28		2B	II	0.23
	26420			168.28	170.30		4	II	2.02
	30210			170.30	174.09		3	II	3.79
	31178			174.09	175.05		3	II	4.91
	35698			175.21	179.73		4	III	4.52
	38118			179.73	182.15		4	III	2.42
	39305			182.15	183.34		5	III	1.19
Customs									

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

Фактор калибрации; C = 1.59
Callibrationfactor ; C = 1.59

М3, Ереван - Севан - Иджеван - граница Азербайджана
M 3, Yerevan - Sevan - Idzevan - Azerbaijan Border (km 10.32 - 152.20)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Vehicle Roughness (mm/km)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Vehicle Roughness (mm/km)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
10.32	0									
	1484				10.32	11.80		1B	I	1.48
	1850				11.80	12.17		2B	I	0.37
	2554				12.17	12.87		1A	I	0.70
	2700				12.87	13.02		1B	I	0.15
	3460	105	1382	2197	13.02	13.78	3.0	0	I	0.76
	4140	147	2162	3437	13.78	14.46	4.5	1B	I	0.68
	4295	18	1161	1846	14.46	14.62	2.6	0	I	0.15
	5168	208	2383	3788	14.62	15.49	4.9	1B	I	0.87
	5500	43	1295	2059	15.49	15.82	2.8	0	I	0.33
	6170	59	881	1400	15.82	16.49	2.0	0	I	0.67
17.83	7137	285	2947	4686	16.49	17.46	5.9	1 B	I	0.97
	7434	107	3603	5728	17.46	17.75	7.1	2B	I	0.30
	8564	245	2168	3447	17.75	18.88	4.5	1A	I	1.13
	16780				18.88	27.10		2A	I	8.22
	18100				27.10	28.42		2A	I	1.32
	18800	158	2257	3589	28.42	29.12	4.7	1B	I	0.70
	19570	163	2117	3366	29.12	29.89	4.4	1B	I	0.77
	19931	81	2244	3568	29.89	30.25	4.6	1B	I	0.36
	20600	82	1226	1949	30.25	30.92	2.7	0	I	0.67
	21400	107	1338	2127	30.92	31.72	2.9	0	I	0.80
	22000	99	1650	2624	31.72	32.32	3.5	0	I	0.60
	22230				32.32	32.55		1A	I	0.23
	22800				32.55	33.12		2A	I	0.57
	26280				33.12	36.60		3	I	3.48
	28310				36.60	38.63		2B	I	2.03
	29860				38.63	40.18		2A	I	1.55
	30610				40.18	40.93		3	I	0.75
	31260				40.93	41.58		1A	I	0.65
	33580				41.58	43.90		2B	I	2.32
	36520				43.90	46.84		1B	I	2.94
	37660				46.84	47.98		2A	I	1.14
	40600				47.98	50.92		1A	I	2.94
	41900				50.92	52.22		2A	I	1.30
	44570				52.22	54.89		2B	I	5.08
	44600				57.30	57.33		1B	I	0.03
	52720				57.33	65.45		2B	I	8.12
	54070				65.45	66.80		1B	I	1.35
	56970				66.80	69.70		1A	I	2.90
	59000				69.70	71.73		2A	I	2.03
73.20	59570	94	1649	2622	71.73	73.20	3.5	0	I	1.47
	60300	88	1205	1917	73.20	73.93	2.7	0	I	0.73

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Vehicle Roughness (mm/km)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Vehicle Roughness (mm/km)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	61240	278	2957	4702	73.93	74.87	5.9	1B	III	0.94
76.83	63200				74.87	76.83		2B	III	1.96
	63950				76.83	77.58		2B	II	0.75
	65555				77.58	79.19		2A	II	1.61
	66790				79.19	80.42		3	II	1.24
	67450				80.42	81.08		2A	II	0.66
	69000				81.08	82.63		2B	II	1.55
	69500				82.63	83.13		2A	II	0.50
	69800				83.13	83.43		3	IV	0.30
88.00	74370				83.43	88.00		1B	IV	4.57
	75500				88.00	89.13		1B	III	1.13
	77460				89.13	91.09		2B	III	1.96
	78440				91.09	92.07		3	III	0.98
	79380				92.07	93.01		1B	III	0.94
	80380				93.01	94.01		2B	III	1.00
	82790				94.01	96.42		3	III	2.41
	87540				96.42	101.17		4	III	4.75
	88780				101.17	102.41		3	II	1.24
	90400				102.41	104.03		2B	II	1.62
	91200	149	1863	2961	104.03	104.83	3.9	0	II	0.80
	92380	436	3695	5875	104.83	106.01	7.2	2B	II	1.18
	92740	133	3694	5874	106.01	106.37	7.2	2B	II	0.36
	92920	31	1722	2738	106.37	106.55	3.7	0	II	0.18
	93520	229	3817	6069	106.55	107.15	7.4	2B	III	0.60
	94170	207	3185	5064	107.15	107.80	6.3	2B	III	0.65
	94600	122	2837	4511	107.80	108.23	5.7	1B	III	0.43
	95860				108.23	109.49		4	III	1.26
	96280				109.49	109.91		5	III	0.42
	96900				109.91	110.53		5	III	0.62
	97330				110.53	110.96		1A	III	0.43
	97700				110.96	111.33		3	III	0.37
	100213				111.33	113.84		2A	III	2.51
	101900				113.84	115.53		3	III	1.69
	102720				115.53	116.35		4	II	0.82
	106200				116.35	119.83		3	II	3.48
	107250				119.83	120.88		2B	II	1.05
	109060				120.88	122.69		3	II	1.81
	111160				122.69	124.79		2B	II	2.10
	114170				124.79	127.80		1B	II	3.01
	121100				127.80	134.73		1A	II	6.93
	122800	235	1382	2198	134.73	136.43	3.0	0	II	1.70
	124400	230	1438	2286	136.43	138.03	3.1	0	II	1.60
	125300	179	1989	3162	138.03	138.93	4.2	1A	II	0.90
	126350	204	1943	3089	138.93	139.98	4.1	1A	II	1.05
	126414				139.98	140.04		2A	II	0.06
	128862				140.04	142.49		2A	III	2.45
	130214				142.49	143.84		2B	III	1.35
	132764				143.84	146.39		2A	III	2.55
	133694				146.39	147.32		2A	III	0.93
	133893				147.32	147.52		2B	III	0.20
	134381				147.52	148.01		3	III	0.49
Armenian Border										

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

Фактор калибрации; C = 1.59
Callibrationfactor ; C = 1.59

M4, Ереван - Арарат - Ерасх - граница Азербайджана (км 9.33 - 65.35)
M 4, Yerevan - Ararat - Yeraskh - Azerbaijan Border (km 9.33 - 65.35)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
9.33	0								
	211			9.33	9.54		0	I	0.21
	825	83	2149	9.54	10.16	3.0	0	I	0.61
	1244	38	1442	10.16	10.57	2.1	0	I	0.42
	1870	64	1626	10.57	11.20	2.3	0	I	0.63
	2724	125	2327	11.20	12.05	3.2	0	I	0.85
	3471	72	1533	12.05	12.80	2.2	0	I	0.75
	4321	114	2132	12.80	13.65	2.9	3	I	0.85
	5070	80	1698	13.65	14.40	2.4	0	I	0.75
	5545	42	1406	14.40	14.88	2.0	0	I	0.48
	6655	143	2048	14.88	15.99	2.8	0	I	1.11
	7495	192	3634	15.99	16.83	4.7	1b	I	0.84
	8125	193	4871	16.83	17.46	6.1	2b	I	0.63
	9395	192	2404	17.46	18.73	3.3	0	I	1.27
	9590	54	4403	18.73	18.92	5.6	1b	I	0.20
	11000	169	1906	18.92	20.33	2.7	0	I	1.41
	11500	55	1749	20.33	20.83	2.5	0	I	0.50
	12100	65	1723	20.83	21.43	2.4	0	I	0.60
	13200	122	1763	21.43	22.53	2.5	0	I	1.10
	13900	138	3135	22.53	23.23	4.1	1b	I	0.70
	14500	103	2730	23.23	23.83	3.7	0	I	0.60
	15340	114	2158	23.83	24.67	3.0	0	I	0.84
	16030	107	2466	24.67	25.36	3.3	0	I	0.69
	16900	133	2431	25.36	26.23	3.3	0	I	0.87
	17522	110	2812	26.23	26.85	3.8	0	I	0.62
	19250	276	2540	26.85	28.58	3.4	0	I	1.73
28.88	19590	53	2479	28.58	28.88	3.4	0	I	0.30
	619			28.88	29.50		3	I	0.62
	1340	175	3859	29.50	30.22	5.0	1b	I	0.72
	2790	252	2763	30.22	31.67	3.7	0	I	1.45
	140			31.67	31.81		3	I	0.14
32.60	930	246	4951	31.81	32.60	6.2	2b	I	0.79
	1378	70	2484	32.60	33.05	3.4	0	I	0.45
33.17	1630	52	3281	33.05	33.30	4.3	1b	I	0.25
	2470	128	2423	33.30	34.14	3.3	0	I	0.84
	3110	108	2683	34.14	34.78	3.6	0	I	0.64
	4030	238	4113	34.78	35.70	5.3	1b	I	0.92
	4542	70	2174	35.70	36.21	3.0	0	I	0.51
	5340	82	1634	36.21	37.01	2.3	0	I	0.80
	6150	83	1629	37.01	37.82	2.3	0	I	0.81

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	6520	41	1762	37.82	38.19	2.5	0	I	0.37
	7310	185	3723	38.19	38.98	4.8	1b	I	0.79
40.72	9150	255	2204	38.98	40.82	3.0	0	I	1.84
42.09	10530	177	2039	40.82	42.20	2.8	0	I	1.38
	11000	70	2368	42.20	42.67	3.2	0	I	0.47
	11900	103	1820	42.67	43.57	2.6	0	I	0.90
	12650	72	1526	43.57	44.32	2.2	0	I	0.75
44.44	12870	38	2746	44.32	44.54	3.7	0	I	0.22
	13220	98	4452	44.54	44.89	5.7	1b	I	0.35
	13760	85	2503	44.89	45.43	3.4	0	I	0.54
46.58	14910			45.43	46.58		2b	I	1.15
	150			46.58	46.73		3	I	0.15
	630	127	4207	46.73	47.21	5.4	1b	I	0.48
	1600	207	3393	47.21	48.18	4.4	1b	II	0.97
	2750	272	3761	48.18	49.33	4.9	1b	II	1.15
	3280	125	3750	49.33	49.86	4.9	1b	II	0.53
	3940	193	4650	49.86	50.52	5.9	1b	II	0.66
	5370	232	2580	50.52	51.95	3.5	0	II	1.43
	6250	162	2927	51.95	52.83	3.9	0	II	0.88
	7000	154	3265	52.83	53.58	4.3	1b	II	0.75
	7550	71	2053	53.58	54.13	2.8	0	II	0.55
	8380	103	1973	54.13	54.96	2.7	0	II	0.83
	9500	181	2570	54.96	56.08	3.5	0	II	1.12
	10130	91	2297	56.08	56.71	3.1	0	II	0.63
	11070	128	2165	56.71	57.65	3.0	0	II	0.94
	11590	66	2018	57.65	58.17	2.8	0	II	0.52
	11850	37	2263	58.17	58.43	3.1	0	II	0.26
	12300	64	2261	58.43	58.88	3.1	0	II	0.45
	12900	74	1961	58.88	59.48	2.7	0	II	0.60
	13920	123	1917	59.48	60.50	2.7	0	II	1.02
	14180	29	1773	60.50	60.76	2.5	0	II	0.26
	15500	166	2000	60.76	62.08	2.8	0	II	1.32
	15850	77	3498	62.08	62.43	4.6	1b	II	0.35
	16820	125	2049	62.43	63.40	2.8	0	II	0.97
	17720	166	2933	63.40	64.30	3.9	0	II	0.90
	18320	87	2306	64.30	64.90	3.1	0	II	0.60
65.35 Yeraskh	18720	87	3458	64.90	65.30	4.5	1b	II	0.40

KOCKS INGENIEURE

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

Фактор калибрации; C = 1.59
Callibrationfactor ; C = 1.59

Объездная Ереванская дорога
Bypass Yerevan

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
0.00	0								
	270			0.00	0.27		1b	III	0.27
	1258	202	3251	0.27	1.26	4.3	1b	III	0.99
	2095	103	1957	1.26	2.10	2.7	0	III	0.84
	3330	219	2820	2.10	3.33	3.8	0	III	1.24
	3940	152	3962	3.33	3.94	5.1	1b	III	0.61
	5000	160	2400	3.94	5.00	3.3	0	III	1.06
	5290	32	1754	5.00	5.29	2.5	0	III	0.29
	6074	82	1663	5.29	6.07	2.4	0	III	0.78
	7730	279	2679	6.07	7.73	3.6	0	III	1.66
	8316	109	2958	7.73	8.32	3.9	0	III	0.59
	8400	79	14954	8.32	8.40	16.6	5	III	0.08
	9025	91	2315	8.40	9.03	3.2	0	III	0.63
	9140	192	26546	9.03	9.14	27.7	5	III	0.12
	9790	96	2348	9.14	9.79	3.2	0	III	0.65
	10434	90	2222	9.79	10.43	3.0	0	III	0.64
	11296	113	2084	10.43	11.30	2.9	0	III	0.86
	11795	48	1529	11.30	11.80	2.2	0	III	0.50
	12195	90	3578	11.80	12.20	4.7	1b	III	0.40
	13900	203	1893	12.20	13.90	2.6	0	III	1.71
	14720	104	2017	13.90	14.72	2.8	0	III	0.82
	16364	208	2012	14.72	16.36	2.8	0	III	1.64
	16510			16.36	16.51		5	III	0.15
	17570	115	1725	16.51	17.57	2.4	0	III	1.06
	17980			17.57	17.98		5	III	0.41
DESTROYED									
	0								
	150			30.06	29.91		1b	III	0.15
	1145			29.91	28.91		2b	III	1.00
	1345			28.91	28.71		1b	III	0.20
	2300			28.71	27.76		1a	III	0.95
	2650	55	2499	27.76	27.41	3.4	1a	III	0.35
	3300	83	2030	27.41	26.76	2.8	0	III	0.65
	4200	126	2226	26.76	25.86	3.1	0	III	0.90
	5000	98	1948	25.86	25.06	2.7	0	III	0.80
	5460	65	2247	25.06	24.60	3.1	0	III	0.46
	6420	118	1954	24.60	23.64	2.7	0	III	0.96
	7000	75	2056	23.64	23.06	2.8	0	III	0.58
	8000	125	1988	23.06	22.06	2.8	0	III	1.00
	9185			22.06	20.87		1b	III	1.19
	9887			20.87	20.17		1b	III	0.70
	10605			20.17	19.45		5	III	0.72
	11256			19.45	18.80		2b	III	0.65
	11690			18.80	18.37		3	III	0.43
	12076			18.37	17.98		3	III	0.39

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

Фактор калибрации; C = 1.59
Callibrationfactor ; C = 1.59

М11, Аштазат - Абовян (км 0 - км 25.16)
M 11, Ashtasat - Abovian (km 0 - 25.16)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
0.00	0								
	260			0.00	0.26		1b	III	0.26
	1200	117	1979	0.26	1.20	2.7	0	III	0.94
	1630	75	2773	1.20	1.63	3.7	0	III	0.43
	2898	164	2056	1.63	2.90	2.8	0	III	1.27
	3700	116	2300	2.90	3.70	3.1	0	III	0.80
	4225			3.70	4.23		1b	III	0.53
	5206			4.23	5.21		2b	III	0.98
	7000			5.21	7.00		1b	III	1.79
	8254			7.00	8.25		1a	III	1.25
	8800			8.25	8.80		2b	III	0.55
	10748			8.80	10.75		1a	III	1.95
	11850			10.75	11.85		1a	III	1.10
	13145			11.85	13.15		2b	III	1.30
	13700			13.15	13.70		2a	III	0.56
	14000			13.70	14.00		2b	III	0.30
	14500			14.00	14.50		2b	III	0.50
	15410			14.50	15.41		2a	III	0.91
	16250			15.41	16.25		2a	III	0.84
	17160			16.25	17.16		2a	III	0.91
	18200			17.16	18.20		3	III	1.04
	20218			18.20	20.22		2b	III	2.02
	21600			20.22	21.60		1b	III	1.38
	23100			21.60	23.10		2b	III	1.50
	24700			23.10	24.70		1b	III	1.60
	25650			24.70	25.65		1b	III	0.95
	25970			25.65	25.97		2b	III	0.32
	26130			25.97	28.88		2b	III	0.16

TRACECA - PMS
PILOT SECTIONS FOR PAVEMENT MANAGEMENT SYSTEM

A Z E R B A I J A N

Section 1

M 4, Alat - Jevlah / Georgian Border

Length of Section 15 km, Chainage km 10 to km 25

AZ - 1.1 Thickness of Pavement Layers

Ch. km 10.65	Ch. km 17.35	Ch. km 24.40
50 mm Asphalt (1st layer)	60 mm Asphalt (1st layer)	65 mm Asphalt (1st layer)
65 mm Asphalt (2nd layer)	150 mm Asphalt (2nd layer)	50 mm Asphalt (2nd layer)
50 mm Asphalt (3rd layer)	160 mm Gravel	80 mm Asphalt (3rd layer)
150 mm Gravel	150 mm Asphalt	150 mm Gravel
Subsoil: Sandy - Clay	200 mm Gravel	Subsoil: Sandy - Clay
	Subsoil: Sandy - Clay	

AZ - 1.2 Roughness

Chainage [km]	IRI [m/km]
10.0 - 10.2	7.2
10.2 - 11.2	6.9
11.2 - 19.0	6.1
19.0 - 20.2	5.3
20.2 - 25.0	5.5

TRACECA - PMS
PILOT SECTIONS FOR PAVEMENT MANAGEMENT SYSTEM

A Z E R B A I J A N

Section 2

A 24, Ali Bayramly - Sabirabad

Length of Section 15 km, Chainage km 11 to km 26

AZ - 2.1 Thickness of Pavement Layers

Ch. km 11.67	Ch. km 18.30	Ch. km 24.74
70 mm Asphalt (1st layer)	80 mm Asphalt (1st layer)	50 mm Asphalt (1st layer)
110 mm Asphalt (2nd layer)	110 mm Asphalt (2nd layer)	55 mm Asphalt (2nd layer)
200 mm Gravel	210 mm Gravel	75 mm Asphalt (3rd layer)
Subsoil: Sand with Loam	Subsoil: Sand with Loam	210 mm Gravel
		Subsoil: Sand with Loam

AZ - 2.2 Roughness

Chainage [km]	IRI [m/km]
11.0 - 12.5	8.4
12.5 - 13.5	7.1
13.5 - 14.5	6.3
14.5 - 15.5	8.0
15.5 - 16.5	7.2
16.5 - 20.0	7.3
20.0 - 21.0	7.5
21.0 - 22.0	11.4
22.0 - 23.0	9.1
23.0 - 26.0	9.4

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

M1, Баку - Евлах - Грузин. гран.
M 1, Baku - Jevlah - Georgian Border

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
M 1, Approach road (km 263 - 280)									
263	72.000								
	73.000	45		263,0	264,0		1 B	II	1,0
	74.000	87	4220	264,0	265,0	5,4	1 B	II	1,0
	75.000	130	6305	265,0	266,0	7,7	2 B	II	1,0
	76.000	93	4511	266,0	267,0	5,7	1 B	II	1,0
	77.000	85	4123	267,0	268,0	5,3	1 B	II	1,0
	85.650			268,0	276,0		1 B	II	8,6
Bridge repair									
276	0								
	1.000	90	4365	276,0	277,0	5,6	1 B	II	1,0
	2.000	94	4559	277,0	278,0	5,8	1 B	II	1,0
	3.000	112	5432	278,0	279,0	6,7	2 B	II	1,0
	4.500	160	5173	279,0	280,0	6,5	2 B	II	1,5
M 1, Jevlah - Georgian Border (km 280 - 501)									
280	0								
	1.000	67		280,0	281,0		1 B	II	1,0
	2.000	95	4608	281,0	282,0	5,8	1 A	II	1,0
	3.000	126	6111	282,0	283,0	7,5	2 B	II	1,0
	4.000	116	5626	283,0	284,0	7,0	2 B	II	1,0
	5.000	77	3735	284,0	285,0	4,8	1 B	II	1,0
	6.000	117	5675	285,0	286,0	7,0	2 B	II	1,0
	7.000	115	5578	286,0	287,0	6,9	2 A	II	1,0
	8.000	99	4802	287,0	288,0	6,0	1 A	II	1,0
	9.000	91	4414	288,0	289,0	5,6	1 B	II	1,0
	10.800			289,0	290,8		1 B	II	1,8
	11.800	54	2619	290,8	291,8	3,5	1 B	II	1,0
	12.800	63	3056	291,8	292,8	4,0	1 B	II	1,0
	13.800	85	4123	292,8	293,8	5,3	1 A	II	1,0
	14.800	73	3541	293,8	294,8	4,6	1 A	II	1,0
	31.600			294,8	311,6		1 A	II	16,8
	32.600	107	5190	311,6	312,6	6,5	2 B	II	1,0
	33.600	88	4268	312,6	313,6	5,4	1 A	II	1,0
	34.600	86	4171	313,6	314,6	5,3	1 B	II	1,0
	39.000			314,6	319,0			II	4,4
	40.000	121	5869	319,0	320,0	7,2	2 B	II	1,0
	41.000	129	6257	320,0	321,0	7,7	2 B	II	1,0
	42.000	135	6548	321,0	322,0	8,0	2 B	II	1,0
	43.000	80	3880	322,0	323,0	5,0	1 B	II	1,0
	44.000	61	2959	323,0	324,0	3,9	1 B	II	1,0
				324,0	328,0		1 B	II	4,0

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	52.000			328,0	332,0		1 B	III	4,0
	53.000	111	5384	332,0	333,0	6,7	2 B	III	1,0
	54.000	65	3153	333,0	334,0	4,2	1 B	III	1,0
	55.000	48	2328	334,0	335,0	3,2	0	III	1,0
	56.000	80	3880	335,0	336,0	5,0	1 A	III	1,0
	57.000	60	2910	336,0	337,0	3,9	0	III	1,0
	58.000	56	2716	337,0	338,0	3,6	0	III	1,0
	59.000	133	6451	338,0	339,0	7,9	2 A	III	1,0
	60.000	126	6111	339,0	340,0	7,5	2 B	III	1,0
	75.700			340,0	355,7		2 B	III	15,7
	76.700	94	4559	355,7	356,7	5,8	1 A	III	1,0
	85.200			356,7	365,2		1 A	III	8,5
	86.200	71	3444	365,2	366,2	4,5	1 A	III	1,0
				366,2	370,0		1 A	III	3,8
	96.200			370,0	376,2		1 A	II	6,2
	97.700	95	3072	376,2	377,7	4,1	1 A	II	1,5
	105.300			377,7	385,3		1 A	II	7,6
	6.300	80	3880	385,3	386,3	5,0	1 B	II	1,0
	17.200			386,3	397,2		1 B	II	10,9
	18.000	66	4001	397,2	398,0	5,1	1 A	II	0,8
	18.800	71	4304	398,0	398,8	5,5	1 A	II	0,8
	26.400			398,8	406,4		1 A	II	7,6
	27.400	82	3977	406,4	407,4	5,1	1 A	II	1,0
	28.400	87	4220	407,4	408,4	5,4	1 A	II	1,0
	32.300			408,4	412,3		1 A	II	3,9
	33.000			412,3	413,0		1 A	II	0,7
	34.000	152	7372	413,0	414,0	8,9	3	II	1,0
	35.000	152	7372	414,0	415,0	8,9	3	II	1,0
	36.000	156	7566	415,0	416,0	9,1	3	II	1,0
	37.000	154	7469	416,0	417,0	9,0	3	II	1,0
	44.200			417,0	424,2		3	II	7,2
	45.200	92	4462	424,2	425,2	5,7	1 A	II	1,0
	45.350			425,2	425,4		1 A	II	0,1
	45.500			425,4	425,5		1 A	II	0,1
	46.500	109	5287	425,5	426,5	6,6	2 B	II	1,0
	47.500	58	2813	426,5	427,5	3,8	1 A	II	1,0
	48.500	70	3395	427,5	428,5	4,4	1 B	II	1,0
	56.100			428,5	436,1		1 B	II	7,6
	57.600	106	3427	436,1	437,6	4,5	1 B	II	1,5
	63.600			437,6	443,6		1 B	II	6,0
	64.600	103	4996	443,6	444,6	6,3	2 B	II	1,0
	70.700			444,6	450,7		2 B	II	6,1
	71.700	113	5481	450,7	451,7	6,8	2 A	II	1,0
	74.000			451,7	454,0		2 A	II	2,3
	75.000	77	3735	454,0	455,0	4,8	1 B	II	1,0
	75.500	43		455,0	455,5		1 B	II	0,5
	76.500	60	2910	455,5	456,5	3,9	1 B	II	1,0
	79.300			456,5	459,3		1 B	II	2,8
	80.300	102	4947	459,3	460,3	6,2	2 B	II	1,0
	81.300	91	4414	460,3	461,3	5,6	1 A	II	1,0
	83.800			461,3	463,8		1 A	II	2,5

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	84.800	115	5578	463,8	464,8	6,9	2 B	II	1,0
	85.800	79	3832	464,8	465,8	4,9	1 B	II	1,0
	91.500			465,8	471,5		1 B	II	5,7
	91.900			471,5	471,9		1 B	II	0,4
	92.900	92	4462	471,9	472,9	5,7	1 B	II	1,0
	99.500			472,9	479,5		1 B	II	6,6
	100.500			479,5	480,5		1 B	II	1,0
	1.400			480,5	481,4		1 B	II	0,9
	2.400	132	6402	481,4	482,4	7,8	2 B	II	1,0
	3.400	101	4899	482,4	483,4	6,2	2 A	II	1,0
	4.900	88	2845	483,4	484,9	3,8	1 B	II	1,5
489	9.350			484,9	489,4		1 B	II	4,1
	11.600			489,0	491,3		1 B	II	2,3
	12.100	36	3492	491,3	491,8	4,6	1 B	II	0,5
	12.400			491,8	492,1		1 B	II	0,3
	13.900	108	3492	492,1	493,6	4,6	1 B	II	1,5
	19.800			493,6	499,5		1 B	II	5,9
	20.800	86	4171	499,5	500,5	5,3	1 B	II	1,0
	21.400			500,5	501,1		1 B	II	0,6
M 1, Jevlah - Baku (km 267 - 8)									
267	0			267,0	266,6			II	0,4
	1.000	112	5432	266,6	265,6	6,7	2 B	II	1,0
	2.000	126	6111	265,6	264,6	7,5	2 B	II	1,0
	3.500	127	4106	264,6	263,1	5,3	1 B	II	1,5
	4.500	71	3444	263,1	262,1	4,5	1 B	II	1,0
	5.500	114	5529	262,1	261,1	6,9	2 B	III	1,0
	6.500	126	6111	261,1	260,1	7,5	2 A	III	1,0
	7.500	61	2959	260,1	259,1	3,9	1 A	III	1,0
	8.500	53	2571	259,1	258,1	3,5	1 A	III	1,0
	10.000	116	3751	258,1	256,6	4,9	1 B	III	1,5
	11.000	91	4414	256,6	255,6	5,6	1 A	III	1,0
	13.800			255,6	252,8			III	2,8
	14.800	102	4947	252,8	251,8	6,2	2 B	III	1,0
	15.800	87	4220	251,8	250,8	5,4	1 A	III	1,0
	16.800	126	6111	250,8	249,8	7,5	2 B	III	1,0
	17.800	145	7033	249,8	248,8	8,5	2 B	III	1,0
	18.800	118	5723	248,8	247,8	7,1	2 B	III	1,0
	19.800	121	5869	247,8	246,8	7,2	2 B	III	1,0
	20.800	86	4171	246,8	245,8	5,3	1 A	III	1,0
	21.800	136	6596	245,8	244,8	8,0	2 A	III	1,0
	22.800	128	6208	244,8	243,8	7,6	2 B	III	1,0
	23.800	90	4365	243,8	242,8	5,6	1 A	III	1,0
	25.000			242,8	241,6		1 A	III	1,2
	26.500			241,6	240,1		1 A	III	1,5
				240,1	236,6		1 A	III	3,5
	1.000	117	5675	236,6	235,6	7,0	2 B	III	1,0
	2.000	97	4705	235,6	234,6	5,9	1 B	III	1,0
	3.000	89	4317	234,6	233,6	5,5	1 A	III	1,0
	4.000	71	3444	233,6	232,6	4,5	1 A	II	1,0

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	321.000			232,6	223,3		1 A	II	9,3
	322.300			223,3	222,0		1 A	II	1,3
	325.000			222,0	219,3		1 A	II	2,7
	328.600			219,3	215,7		1 A	II	3,6
	2.000			215,7	213,7		1 A	II	2,0
	3.000	61	2959	213,7	212,7	3,9	1 A	II	1,0
	4.000	65	3153	212,7	211,7	4,2	1 B	II	1,0
	7.800			211,7	207,9		1 B	II	3,8
	8.800	73	3541	207,9	206,9	4,6	1 B	II	1,0
	10.000	145	5860	206,9	205,7	7,2	2 B	II	1,2
	11.200	80	3233	205,7	204,5	4,3	1 A	II	1,2
	12.200	99	4802	204,5	203,5	6,0	1 A	II	1,0
	13.200	59	2862	203,5	202,5	3,8	1 B	II	1,0
	23.000			202,5	191,4		1 B	II	11,1
	1.000	89	4317	191,4	190,4	5,5	1 A	II	1,0
	2.500	140	4527	190,4	188,9	5,7	1 A	II	1,5
	3.500	82	3977	188,9	187,9	5,1	1 A	II	1,0
	7.500			187,9	183,9		1 A	II	4,0
	8.500	110	5335	183,9	182,9	6,6	2 B	II	1,0
	10.000	145	4688	182,9	181,4	5,9	1 B	II	1,5
	11.000	95	4608	181,4	180,4	5,8	1 A	II	1,0
	12.000	130	6305	180,4	179,4	7,7	2 B	II	1,0
	13.000	148	7178	179,4	178,4	8,6	3	II	1,0
	14.000	135	6548	178,4	177,4	8,0	2 B	II	1,0
	15.700			177,4	175,7		2 B	II	1,7
	16.700	96	4656	175,7	174,7	5,9	1 A	II	1,0
	21.700			174,7	169,7		1 A	II	5,0
	22.700	118	5723	169,7	168,7	7,1	2 B	II	1,0
	23.500	83	5032	168,7	167,9	6,3	2 B	II	0,8
	24.500	117	5675	167,9	166,9	7,0	2 A	II	1,0
	25.500	110	5335	166,9	165,9	6,6	2 B	II	1,0
	27.500	160	3880	165,9	163,9	5,0	1 B	II	2,0
	33.150			163,9	158,3		1 B	II	5,7
	34.150	126	6111	158,3	157,3	7,5	2 B	II	1,0
	34.200			157,3	157,2		2 B	II	0,1
	35.200	150	7275	157,2	156,2	8,8	3	II	1,0
	36.200	166	8051	156,2	155,2	9,6	3	II	1,0
	93.100	117	5675	152,2	151,2	7,0	2 B	II	1,0
	94.100	120	5820	151,2	150,2	7,2	2 B	II	1,0
	95.100	130	6305	150,2	149,2	7,7	2 B	II	1,0
	96.100	122	5917	149,2	148,2	7,3	2 B	II	1,0
	98.100	290	7033	148,2	146,2	8,5	2 B	II	2,0
	98.500			146,2	145,8		2 B	II	0,4
	99.500	170	8245	145,8	144,8	9,8	3	II	1,0
	101.500	200	4850	144,8	142,8	6,1	2 B	II	2,0
	2.500	105	5093	142,8	141,8	6,4	2 B	II	1,0
	3.500	115	5578	141,8	140,8	6,9	2 B	II	1,0
	4.500			140,8	139,8		2 B	II	1,0
	13.000			139,8	131,3		2 B	II	8,5
	14.000	99	4802	131,3	130,3	6,0	1 B	II	1,0
	15.000	120	5820	130,3	129,3	7,2	2 B	II	1,0

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	16.000	100	4850	129,3	128,3	6,1	2 B	II	1,0
	17.000	98	4753	128,3	127,3	6,0	2 A	II	1,0
	18.000	70	3395	127,3	126,3	4,4	1 A	II	1,0
	23.000			126,3	121,3			II	5,0
	24.000	70	3395	121,3	120,3	4,4	1 A	II	1,0
	25.000	84	4074	120,3	119,3	5,2	1 A	II	1,0
	26.000	99	4802	119,3	118,3	6,0	1 B	II	1,0
	27.000	72	3492	118,3	117,3	4,6	1 A	II	1,0
	28.000	70	3395	117,3	116,3	4,4	1 A	II	1,0
	29.000	75	3638	116,3	115,3	4,7	1 B	II	1,0
	30.000	76	3686	115,3	114,3	4,8	1 B	II	1,0
	34.000			114,3	110,3		1 B	II	4,0
	36.000			110,3	108,3		1 B	II	2,0
	37.000	240	11640	108,3	107,3	13,3	5	II	1,0
	38.000	160	7760	107,3	106,3	9,3	3	II	1,0
	39.000	248	12028	106,3	105,3	13,7	5	II	1,0
	40.000	204	9894	105,3	104,3	11,5	4	II	1,0
	41.000			104,3	103,3		4	II	1,0
	42.000			103,3	102,3		4	II	1,0
	43.000	79	3832	102,3	101,3	4,9	1 B	II	1,0
	44.000	59	2862	101,3	100,3	3,8	1 B	II	1,0
	45.000	58	2813	100,3	99,3	3,8	1 B	II	1,0
	47.500			99,3	96,8		1 B	II	2,5
	48.500	115	5578	96,8	95,8	6,9	2 B	II	1,0
	49.500	90	4365	95,8	94,8	5,6	1 B	II	1,0
	50.500	110	5335	94,8	93,8	6,6	2 B	II	1,0
	51.500	129	6257	93,8	92,8	7,7	2 B	II	1,0
	52.500	83	4026	92,8	91,8	5,2	1 B	II	1,0
	53.500	73	3541	91,8	90,8	4,6	1 B	II	1,0
	54.500	70	3395	90,8	89,8	4,4	1 B	II	1,0
	55.500	60	2910	89,8	88,8	3,9	1 B	II	1,0
	56.500	57	2765	88,8	87,8	3,7	1 B	II	1,0
	57.500			87,8	86,8		1 B	II	1,0
	58.500			86,8	85,8		1 B	II	1,0
	59.500			85,8	84,8		1 B	II	1,0
	61.500			84,8	82,8		1 B	II	2,0
	62.500			82,8	81,8		1 B	II	1,0
	63.500			81,8	80,8		1 B	II	1,0
	64.500	101	4899	80,8	79,8	6,2	2 B	II	1,0
	65.500	84	4074	79,8	78,8	5,2	1 B	II	1,0
	66.500	99	4802	78,8	77,8	6,0	1 B	II	1,0
	67.500	144	6984	77,8	76,8	8,4	2 B	II	1,0
	68.500	124	6014	76,8	75,8	7,4	2 B	II	1,0
	70.500			75,8	73,8		2 B	II	2,0
	71.500			73,8	72,8		2 B	II	1,0
	76.000			72,8	68,3		2 B	II	4,5
	77.000	98	4753	68,3	67,3	6,0	1 B	II	1,0
	78.000	119	5772	67,3	66,3	7,1	2 B	II	1,0
	79.000	117	5675	66,3	65,3	7,0	2 B	II	1,0
	80.000			65,3	64,3		2 B	II	1,0
	83.500			64,3	60,8		2 B	II	3,5

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	84.500	178	8633	60,8	59,8	10,2	3	II	1,0
	85.500	257	12465	59,8	58,8	14,1	5	II	1,0
	86.500	240	11640	58,8	57,8	13,3	5	II	1,0
	87.500	134	6499	57,8	56,8	7,9	2 B	II	1,0
	88.500	122	5917	56,8	55,8	7,3	2 B	II	1,0
	95.000			55,8	49,3		2 B	II	6,5
	96.000	195	9458	49,3	48,3	11,1	4	II	1,0
	97.000	72	3492	48,3	47,3	4,6	1 B	II	1,0
	98.000	64	3104	47,3	46,3	4,1	1 B	II	1,0
	102.000			46,3	42,3		1 B	II	4,0
	3.000	260	12610	42,3	41,3	14,3	5	II	1,0
	4.000	245	11883	41,3	40,3	13,5	5	II	1,0
	5.000	211	10234	40,3	39,3	11,9	4	II	1,0
	6.000	129	6257	39,3	38,3	7,7	2 B	II	1,0
	7.000	271	13144	38,3	37,3	14,8	5	II	1,0
	8.000	143	6936	37,3	36,3	8,4	2 B	II	1,0
	10.000	301	7299	36,3	34,3	8,8	3	II	2,0
	11.000	128	6208	34,3	33,3	7,6	2 B	II	1,0
	12.000	125	6063	33,3	32,3	7,4	2 B	II	1,0
	13.000	104	5044	32,3	31,3	6,3	2 B	II	1,0
	14.000	69	3347	31,3	30,3	4,4	1 B	II	1,0
	15.000	92	4462	30,3	29,3	5,7	1 B	II	1,0
	17.000	200	4850	29,3	27,3	6,1	2 B	II	2,0
	18.000	64	3104	27,3	26,3	4,1	1 B	II	1,0
	22.000			26,3	22,3		1 B	II	4,0
	23.000	156	7566	22,3	21,3	9,1	3	II	1,0
	24.000	108	5238	21,3	20,3	6,5	2 B	II	1,0
	25.000	101	4899	20,3	19,3	6,2	2 B	II	1,0
	26.000	80	3880	19,3	18,3	5,0	1 A	II	1,0
	27.000	89	4317	18,3	17,3	5,5	1 A	II	1,0
	32.100			17,3	12,2		1 A	II	5,1
	33.100	84	4074	12,2	11,2	5,2	1 A	II	1,0
	34.100	80	3880	11,2	10,2	5,0	1 B	II	1,0
	36.300	211	4652	10,2	8,0	5,9	1 A	II	2,2

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

M3, Баку-Алат/M4, Алат-Евлах
M 3, Baku - Alat / M 4, Alat - Jevlah

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
M 3, Baku - Alat									
14	0								
	1.000	148	7178	14,0	15,0	8,6	3	I	1,0
	3.000	208	5044	15,0	17,0	6,3	2 B	I	2,0
	6.000	437	7065	17,0	20,0	8,5	2 A	I	3,0
	27.800			20,0	41,8		2 A	I	21,8
	28.800	129	6257	41,8	42,8	7,7	2 A	I	1,0
	29.800	145	7033	42,8	43,8	8,5	2 B	I	1,0
	30.800	153	7421	43,8	44,8	8,9	3	I	1,0
	32.800	290	7033	44,8	46,8	8,5	2 B	I	2,0
	33.800	163	7906	46,8	47,8	9,4	3	I	1,0
	35.300	223	7210	47,8	49,3	8,7	3	I	1,5
	37.000	228	6505	49,3	51,0	7,9	2 A	I	1,7
	53.100			51,0	67,1		2 A	I	16,1
M 4, Alat - Jevlah									
0	53.100								
	56.000			0,0	2,9			II	2,9
	57.900	179	4569	2,9	4,8	5,8	1 A	II	1,9
	59.400	217	7016	4,8	6,3	8,5	2 A	II	1,5
	60.500	157	6922	6,3	7,4	8,4	2 B	II	1,1
	62.300	273	7356	7,4	9,2	8,8	3	II	1,8
	63.300	120	5820	9,2	10,2	7,2	2 B	II	1,0
	64.300	115	5578	10,2	11,2	6,9	2 B	II	1,0
	2.000	201	4874	11,2	19,0	6,1	2 B	II	7,8
	3.200	103	4163	19,0	20,2	5,3	1 B	II	1,2
31	38.200			20,2	31,0		1 B	II	10,8
	39.180	114	5642	31,0	32,0	7,0	2 B	II	1,0
	40.200	86	4089	32,0	33,0	5,2	1 B	II	1,0
	40.700			33,0	33,5		1 B	II	0,5
35	42.200	211	6822	33,5	35,0	8,3	2 B	II	1,5
	43.450	140	5432	35,0	36,3	6,7	2 B	II	1,3
	46.900			36,3	39,7		2 B	II	3,5
	48.700	266	7167	39,7	41,5	8,6	3	II	1,8
	49.700			41,5	42,5		3	II	1,0
	51.100	248	8591	42,5	43,9	10,2	3	II	1,4
	52.400	193	7200	43,9	45,2	8,7	3	II	1,3
	54.900	481	9331	45,2	47,7	10,9	4	II	2,5
	55.800	121	6521	47,7	48,6	7,9	2 B	II	0,9
	58.000			48,6	50,8		2 B	II	2,2
	59.000	280	13580	50,8	51,8	>15	5	II	1,0
	59.500			51,8	52,3		5	II	0,5

Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	Road Chainage to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	60.500	122	5917	52,3	53,3	7,3	2 B	II	1,0
	67.200			53,3	60,0		2 B	II	6,7
	68.500	241	8991	60,0	61,3	10,6	4	II	1,3
	69.500	41	1989	61,3	62,3	2,8	1 B	II	1,0
	70.600	181	7980	62,3	63,4	9,5	3	II	1,1
	71.800	194	7841	63,4	64,6	9,4	3	II	1,2
	72.800	143	6936	64,6	65,6	8,4	2 B	II	1,0
	78.300			65,6	71,1		2 B	II	5,5
	79.300	152	7372	71,1	72,1	8,9	3	II	1,0
	80.200	92	4958	72,1	73,0	6,2	2 B	II	0,9
	81.200	192	9312	73,0	74,0	10,9	4	II	1,0
	83.400	387	8532	74,0	76,2	10,1	3	II	2,2
	84.400	154	7469	76,2	77,2	9,0	3	II	1,0
	85.100	88	6097	77,2	77,9	7,5	2 B	II	0,7
	85.600			77,9	78,4		2 B	II	0,5
	86.600	87	4220	78,4	79,4	5,4	1 A	II	1,0
	87.600			79,4	80,4		1 A	II	1,0
	87.800			80,4	80,6		1 A	II	0,2
	88.800	177	8585	80,6	81,6	10,1	3	II	1,0
	89.800	115	5578	81,6	82,6	6,9	2 B	II	1,0
	107.000			82,6	99,8		2 B	II	17,2
100	7.000						2 B		
	8.500	92	2975	99,8	101,3	3,9	0	II	1,5
	9.500	84	4074	101,3	102,3	5,2	1 B	II	1,0
	16.000			102,3	108,8		1 B	II	6,5
	17.000	78	3783	108,8	109,8	4,9	1 A	II	1,0
	23.300			109,8	116,1		1 A	II	6,3
	24.400	97	4277	116,1	117,2	5,5	1 B	II	1,1
	25.300	78	4203	117,2	118,1	5,4	1 A	II	0,9
	29.300			118,1	122,1		1 A	II	4,0
122	29.750								
	31.300	193	4680	122,1	123,7	5,9	1 B	II	1,6
	32.300	97	4705	123,7	124,7	5,9	1 A	II	1,0
	42.400			124,7	134,8		1 A	II	10,1
	43.400	114	5529	134,8	135,8	6,9	2 A	II	1,0
	44.400	120	5820	135,8	136,8	7,2	2 B	II	1,0
	45.400	121	5869	136,8	137,8	7,2	2 B	II	1,0
	56.500			137,8	148,9		2 B	II	11,1
	58.000	197	6370	148,9	150,4	7,8	2 B	II	1,5
	59.500	192	6208	150,4	151,9	7,6	2 B	II	1,5
	60.500	116	5626	151,9	152,9	7,0	2 B	II	1,0
	61.500	133	6451	152,9	153,9	7,9	2 B	II	1,0
	62.300	97	5881	153,9	154,7	7,2	2 B	II	0,8
	63.500	114	4608	154,7	155,9	5,8	1 B	II	1,2
	65.000	134	4333	155,9	157,4	5,5	1 B	II	1,5
	66.000	106	5141	157,4	158,4	6,4	2 B	II	1,0
	77.500			158,4	169,9		2 B	II	11,5
	79.000	151	4882	169,9	171,4	6,1	2 B	II	1,5
	81.200			171,4	173,6		2 B	II	2,2
	82.200	49	2377	173,6	174,6	3,2	0	II	1,0
	94.000			174,6	186,4		0	II	11,8
	95.000	91	4414	186,4	187,4	5,6	1 A	II	1,0
	96.000	84	4074	187,4	188,4	5,2	1 A	II	1,0
	103.700			188,4	196,1		1 A	II	7,7

Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	Road Chainage to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
196	3.700			196,1	196,1		1 A	II	0,1
	16.900			196,1	209,3		1 A	II	13,2
	19.000			209,3	211,4		1 A	II	2,1
211	0								
	1.000	73	3541	211,4	212,4	4,6	1 A	II	1,0
	2.000	106	5141	212,4	213,4	6,4	2 B	II	1,0
	3.000	99	4802	213,4	214,4	6,0	1 B	II	1,0
	4.000	128	6208	214,4	215,4	7,6	2 A	II	1,0
	5.000	125	6063	215,4	216,4	7,4	2 A	II	1,0
	5.150			216,4	216,6		2 A	II	0,2

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

A8, Денизканари - Сумгаит
A 8, Denizkanari - Sumgait

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
0	0								
	1000	202	9797	0,0	1,0	11,4	4	II	1,0
	2000	122	5917	1,0	2,0	7,3	2 B	II	1,0
	3000	125	6063	2,0	3,0	7,4	2 B	II	1,0
	4000	215	10428	3,0	4,0	12,1	5	II	1,0
	5000	293	14211	4,0	5,0	>15	5	II	1,0
	6000	274	13289	5,0	6,0	15,0	5	II	1,0
	7000	154	7469	6,0	7,0	9,0	3	II	1,0
	8000	163	7906	7,0	8,0	9,4	3	II	1,0
	9000	190	9215	8,0	9,0	10,8	4	II	1,0
	10000	224	10864	9,0	10,0	12,5	5	II	1,0
	11000	296	14356	10,0	11,0	>15	5	II	1,0
	13000	256	6208	11,0	13,0	7,6	2 B	II	2,0
	15000	232	5626	13,0	15,0	7,0	2 B	II	2,0
	15300			15,0	15,3		2 B	II	0,3
	15400			15,3	15,4		5	II	0,1
	15860	136	7670	15,4	15,9	9,2	3	II	0,5
	21300			15,9	21,3		3	II	5,4
	21400			21,3	21,4		5	II	0,1
	22500			21,4	22,5		3	II	1,1
	24000	163	5270	22,5	24,0	6,6	2 B	II	1,5
	25000	112	5432	24,0	25,0	6,7	2 B	II	1,0
	26300			25,0	26,3		2 B	II	1,3
	26400			26,3	26,4		5	II	0,1
	29000			26,4	29,0		2 B	II	2,6
	30000	162	7857	29,0	30,0	9,4	3	II	1,0
	31800			30,0	31,8		3	II	1,8
	32800	211	10234	31,8	32,8	11,9	4	II	1,0
	33800	176	8536	32,8	33,8	10,1	3	II	1,0
	34900			33,8	34,9		3	II	1,1
	35000	226	9134	34,9	35,0	10,7	4	II	1,2
	36000	147	7130	35,0	36,0	8,6	3	II	1,0
	38300			36,0	38,3		3	II	2,3
	39000	243	16836	38,3	39,0	>15	5	II	0,7
	40500	447	14453	39,0	40,5	>15	5	II	1,5
	40640			40,5	40,6	8,5	2 B	II	0,1

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

A23, пересечение A24 - Билазур
A 23, Junction A 24 - Bilasuar

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
144	0								
	1000	106	5141	144,0	145,0	6,4	2 A	III	1,0
	2000	84	4074	145,0	146,0	5,2	1 A	III	1,0
	3000	101	4898,5	146,0	147,0	6,2	2 A	III	1,0
	4000	110	5335	147,0	148,0	6,6	2 A	III	1,0
	5000	99	4801,5	148,0	149,0	6,0	1 A	III	1,0
	6000	101	4898,5	149,0	150,0	6,2	2 A	III	1,0
	8500			150,0	152,5		2 A	III	2,5
	9500	108	5238	152,5	153,5	6,5	2 A	III	1,0
	10560	82	3752	153,5	154,6	4,9	1 A	III	1,1
	11500	111	5727	154,6	155,5	7,1	2 A	III	0,9
	12500	140	6790	155,5	156,5	8,2	2 B	III	1,0
	13500	116	5626	156,5	157,5	7,0	2 B	III	1,0
	14500	110	5335	157,5	158,5	6,6	2 A	III	1,0
	15560	115	5262	158,5	159,6	6,6	2 A	III	1,1
	19000			159,6	163,0		2 A	III	3,4
	20000	133	6451	163,0	164,0	7,9	2 B	III	1,0
	21000	127	6160	164,0	165,0	7,5	2 B	III	1,0
	22000	103	4996	165,0	166,0	6,3	2 B	III	1,0
	23000	124	6014	166,0	167,0	7,4	2 B	III	1,0
	25360			167,0	169,4		2 B	III	2,4
	26360	154	7469	169,4	170,4	9,0	3	III	1,0
	27360	191	9264	170,4	171,4	10,9	4	III	1,0
	28360	151	7324	171,4	172,4	8,8	3	III	1,0
	29360	115	5578	172,4	173,4	6,9	2 A	III	1,0
	30360	112	5432	173,4	174,4	6,7	2 B	III	1,0
	31360	117	5675	174,4	175,4	7,0	2 B	III	1,0
	37000			175,4	181,0		2 B	III	5,6
	38000	121	5869	181,0	182,0	7,2	2 A	III	1,0
	39000	104	5044	182,0	183,0	6,3	2 A	III	1,0
	40000	108	5238	183,0	184,0	6,5	2 A	III	1,0
	41000	114	5529	184,0	185,0	6,9	2 A	III	1,0
	43800			185,0	187,8		2 A	III	2,8
	44800	213	10331	187,8	188,8	12,0	4	III	1,0
	45800	109	5287	188,8	189,8	6,6	2 A	III	1,0
	46800	130	6305	189,8	190,8	7,7	2 A	III	1,0
	47800	150	7275	190,8	191,8	8,8	3	III	1,0
	48800	117	5675	191,8	192,8	7,0	2 A	III	1,0
	49800	109	5287	192,8	193,8	6,6	2 A	III	1,0
	56000			193,8	200,0		2 A	III	6,2
	57000	67	3250	200,0	201,0	4,3	1 A	III	1,0
	58000	96	4656	201,0	202,0	5,9	1 A	III	1,0

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

A32, Билазур - гран. Ирана
A 32, Bilasuar - Iran Border

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
0	0								
	1.000	141	6839	0,0	1,0	8,3	2 A	III	1,0
	2.000	199	9652	1,0	2,0	11,3	4	III	1,0
	3.000	155	7518	2,0	3,0	9,0	3	III	1,0
	4.000	162	7857	3,0	4,0	9,4	3	III	1,0
	5.000	120	5820	4,0	5,0	7,2	2 A	III	1,0
	6.000	198	9603	5,0	6,0	11,2	4	III	1,0
	7.000	103	4996	6,0	7,0	6,3	2 A	III	1,0
	8.000	104	5044	7,0	8,0	6,3	2 A	III	1,0
	9.000	109	5287	8,0	9,0	6,6	2 A	III	1,0
	10.000	88	4268	9,0	10,0	5,4	1 A	III	1,0
	12.100			10,0	12,1		1 A	III	2,1
12	29.300								
	30.300	112	5432	12,1	13,1	6,7	2 B	III	1,0
	31.300	195	9458	13,1	14,1	11,1	4	III	1,0
	32.300	163	7906	14,1	15,1	9,4	3	III	1,0
	33.300	171	8294	15,1	16,1	9,8	3	III	1,0
	34.300	160	7760	16,1	17,1	9,3	3	III	1,0
	35.300	126	6111	17,1	18,1	7,5	2 B	III	1,0
	36.100			18,1	18,9		2 B	III	0,8

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

A26, Казымагомет - Али Бажрамли/A24, Али Бажрамли - Бежлаган/A33, Бежлаган - гран. Армении
A26, Kazimagomet - Ali Bajramli / A 24, Ali Bajramli - Bejlagan / A 33, Bejlagan - Armenian Border

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
A 26, Kazimagonet (M 4) - Ali Bajramli									
0	0								
	500	141	13677	0,0	0,5	>15	5	II	0,5
	1.500	97	4705	0,5	1,5	5,9	1A	II	1,0
	2.500	126	6111	1,5	2,5	7,5	2 A	II	1,0
	4.000	268	8665	2,5	4,0	10,2	3	II	1,5
	5.000	189	9167	4,0	5,0	10,8	4	II	1,0
	6.000	207	10040	5,0	6,0	11,7	4	II	1,0
	7.000	195	9458	6,0	7,0	11,1	4	II	1,0
	8.000	184	8924	7,0	8,0	10,5	3	II	1,0
	9.000	128	6208	8,0	9,0	7,6	2 A	II	1,0
	10.000	237	11495	9,0	10,0	13,2	5	III	1,0
	11.000	213	10331	10,0	11,0	12,0	4	II	1,0
	12.000	157	7615	11,0	12,0	9,1	3	II	1,0
	13.500	318	10282	12,0	13,5	11,9	4	II	1,5
	14.500	285	13823	13,5	14,5	>15	5	II	1,0
	16.000	195	6305	14,5	16,0	7,7	2 A	II	1,5
	17.000	135	6548	16,0	17,0	8,0	2 A	II	1,0
	18.000	114	5529	17,0	18,0	6,9	2 A	II	1,0
	18.500	72	6984	18,0	18,5	8,4	2 A	II	0,5
A 24, Ali Bajramli - Sabirabad - Bejlagan (A 23)									
	500			12,0	12,5		2 A	II	0,5
	1.500	119	5772	12,5	13,5	7,1	2 B	II	1,0
	2.500	103	4996	13,5	14,5	6,3	2 B	II	1,0
	3.500	135	6548	14,5	15,5	8,0	2 B	II	1,0
	4.500	120	5820	15,5	16,5	7,2	2 B	II	1,0
	8.000			16,5	20,0		2 B	II	3,5
	9.000	127	6160	20,0	21,0	7,5	2 A	II	1,0
	10.000	202	9797	21,0	22,0	11,4	4	II	1,0
	11.000	156	7566	22,0	23,0	9,1	3	II	1,0
	15.200			23,0	27,2		3	II	4,2
	16.200	192	9312	27,2	28,2	10,9	4	II	1,0
	17.200	127	6160	28,2	29,2	7,5	2 B	II	1,0
	18.200	133	6451	29,2	30,2	7,9	2 A	II	1,0
	19.200	195	9458	30,2	31,2	11,1	4	II	1,0
	20.200	137	6645	31,2	32,2	8,1	2 B	II	1,0
	21.200	151	7324	32,2	33,2	8,8	3	II	1,0
	24.400			33,2	36,4		3	II	3,2
	25.400	147	7130	36,4	37,4	8,6	3	II	1,0
	26.400	133	6451	37,4	38,4	7,9	2 A	II	1,0
	27.200			38,4	39,2		2 A	III	0,8

Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	Road Chainage to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	28.200	154	7469	39,2	40,2	9,0	3	III	1,0
	29.200	143	6936	40,2	41,2	8,4	2 B	III	1,0
	30.200	216	10476	41,2	42,2	12,1	5	III	1,0
	31.200	226	10961	42,2	43,2	12,6	5	III	1,0
	32.200	215	10428	43,2	44,2	12,1	5	III	1,0
	33.200	186	9021	44,2	45,2	10,6	4	III	1,0
	34.200	187	9070	45,2	46,2	10,7	4	III	1,0
	35.200	159	7712	46,2	47,2	9,2	3	III	1,0
	36.200	140	6790	47,2	48,2	8,2	2 A	III	1,0
	37.400	133	5375	48,2	49,4	6,7	2 A	III	1,2
	8.100	138	6693	49,4	50,4	8,1	2 B	III	1,0
	9.200	134	5908	50,4	51,5	7,3	2 B	III	1,1
	10.200	113	5481	51,5	52,5	6,8	2 A	III	1,0
	1.200	252	12222	52,5	53,5	13,9	5	III	1,0
	2.200	175	8488	53,5	54,5	10,0	4	III	1,0
	3.200	193	9361	54,5	55,5	11,0	5	III	1,0
	4.200	160	7760	55,5	56,5	9,3	3	III	1,0
	5.200	146	7081	56,5	57,5	8,5	2 A	III	1,0
	6.200	110	5335	57,5	58,5	6,6	2 A	III	1,0
	7.200	119	5772	58,5	59,5	7,1	2 A	III	1,0
	11.200			59,5	63,5		2 A	III	4,0
	12.200	132	6402	63,5	64,5	7,8	2 A	III	1,0
	13.200	117	5675	64,5	65,5	7,0	2 A	III	1,0
	14.200	94	4559	65,5	66,5	5,8	1 A	III	1,0
	15.200	74	3589	66,5	67,5	4,7	1 A	III	1,0
	16.200	101	4899	67,5	68,5	6,2	2 A	III	1,0
	17.200	90	4365	68,5	69,5	5,6	1 A	III	1,0
	18.200	140	6790	69,5	70,5	8,2	2 A	III	1,0
	19.200			70,5	71,5		2 A	III	1,0
	20.200	148	7178	71,5	72,5	8,6	3	III	1,0
	21.200	155	7518	72,5	73,5	9,0	3	III	1,0
	22.200	141	6839	73,5	74,5	8,3	2 B	III	1,0
	23.200	130	6305	74,5	75,5	7,7	2 B	III	1,0
	24.200	110	5335	75,5	76,5	6,6	2 A	III	1,0
	25.200	90	4365	76,5	77,5	5,6	1 A	III	1,0
	26.200	77	3735	77,5	78,5	4,8	1 A	III	1,0
	37.300			78,5	89,6		1 A	III	11,1
	38.000			89,6	90,3		1 A	III	0,7
	39.000	101	4899	90,3	91,3	6,2	2 A	III	1,0
	40.000	109	5287	91,3	92,3	6,6	2 A	III	1,0
	41.000	113	5481	92,3	93,3	6,8	2 B	III	1,0
	43.700			93,3	96,0		2 B	III	2,7
	44.700	92	4462	96,0	97,0	5,7	1 A	III	1,0
	45.700	126	6111	97,0	98,0	7,5	2 A	III	1,0
	46.700	85	4123	98,0	99,0	5,3	1 A	III	1,0
	48.000			99,0	100,3		1 A	III	1,3
	49.000	93	4511	100,3	101,3	5,7	1 A	III	1,0
	50.500			101,3	102,8		1 A	III	1,5
104	52.000			102,8	104,3		1 A	III	1,5
	53.000	159	7712	104,3	105,3	9,2	3	III	1,0
	54.000	177	8585	105,3	106,3	10,1	3	III	1,0
	55.000	129	6257	106,3	107,3	7,7	2 B	III	1,0
	56.000	125	6063	107,3	108,3	7,4	2 A	III	1,0
	57.000	100	4850	108,3	109,3	6,1	2 A	III	1,0

Location km-Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	Road Chainage to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
A 33, Bejlagan - Bahmahli - Aremian Border									
165	60.400								
	61.400	106	5141	165,0	166,0	6,4	2 A	III	1,0
	62.400	142	6887	166,0	167,0	8,3	2 A	III	1,0
	63.400	110	5335	167,0	168,0	6,6	2 B	III	1,0
	65.900			168,0	170,5		2 B	III	2,5
	66.900	162	7857	170,5	171,5	9,4	3	III	1,0
	67.900	147	7130	171,5	172,5	8,6	2 A	III	1,0
	68.900	99	4802	172,5	173,5	6,0	1 A	III	1,0
	69.900	144	6984	173,5	174,5	8,4	2 A	III	1,0
	70.000			174,5	174,6		2 A	III	0,1
	70.500			174,6	175,1		2 A	III	0,5
	71.500	218	10573	175,1	176,1	12,2	5	III	1,0
	72.500	184	8924	176,1	177,1	10,5	4	III	1,0
	73.500	153	7421	177,1	178,1	8,9	3	III	1,0
	75.100			178,1	179,7		3	III	1,6
	76.600	163	5270	179,7	181,2	6,6	2 A	III	1,5
	77.600	202	9797	181,2	182,2	11,4	4	III	1,0
	78.600	178	8633	182,2	183,2	10,2	3	III	1,0
	79.600	165	8003	183,2	184,2	9,5	3	III	1,0
	80.600	136	6596	184,2	185,2	8,0	2 B	III	1,0
	82.100			185,2	186,7		2 B	III	1,5
	83.100	180	8730	186,7	187,7	10,3	3	III	1,0
	84.100	116	5626	187,7	188,7	7,0	2 B	III	1,0
	85.100	136	6596	188,7	189,7	8,0	2 A	III	1,0
	86.100	153	7421	189,7	190,7	8,9	3	III	1,0
	87.100	185	8973	190,7	191,7	10,5	3	III	1,0
	88.100	200	9700	191,7	192,7	11,3	4	III	1,0
	89.100	190	9215	192,7	193,7	10,8	4	III	1,0
	90.100	115	5578	193,7	194,7	6,9	2 A	III	1,0
	91.100	99	4802	194,7	195,7	6,0	1 A	III	1,0
	92.100	88	4268	195,7	196,7	5,4	1 A	III	1,0
	96.600			196,7	201,2		1 A	III	4,5
	97.600	53	2571	201,2	202,2	3,5	0	III	1,0
	98.600	84	4074	202,2	203,2	5,2	1 A	III	1,0
	99.600	70	3395	203,2	204,2	4,4	1 A	III	1,0
	102.800			204,2	207,4		1 A	III	3,2
	105.000			207,4	209,6		1 A	III	2,2
Frontier zone (Border guard)									

TRACECA - PMS
PILOT SECTIONS FOR PAVEMENT MANAGEMENT SYSTEM

G E O R G I A

Section 1

S 1 (M 1), Tbilisi - Khashuri / Poti

Length of Section 11.5 km, Chainage km 28.2 to 39.7

GE - 1.1 Thickness of Pavement Layers

Ch. km 29.2	Ch. km 33.7	Ch. km 38.4
40 mm Asphalt (1st layer)	30 mm Asphalt (1st layer)	30 mm Asphalt (1st layer)
110 mm Asphalt (2nd layer)	120 mm Asphalt (2nd layer)	50 mm Asphalt (2nd layer)
250 mm Gravel	100 mm Gravel	120 mm Gravel
Subsoil: Sandy - Clay	100 mm Asphalt	70 mm Asphalt
	50 mm Gravel	80 mm Gravel
	20 mm Asphalt	Subsoil: Sandy - Clay
	130 mm Gravel	
	Subsoil: Sandy - Clay	

GE - 1.2 Roughness

Chainage [km]	IRI [m/km]
28.20 - 28.65	11.9
28.65 - 29.42	9.2
29.42 - 29.96	11.1
29.96 - 31.16	13.2
31.16 - 32.04	9.0
32.04 - 33.45	10.7
33.45 - 34.50	10.8
34.50 - 35.13	10.6
35.13 - 36.00	11.5
36.00 - 37.28	12.0
37.28 - 38.06	12.2
38.06 - 39.11	11.1
39.11 - 39.70	11.7

Section 2

S 4 (M 4), Tbilisi - Azerbaijan Border

Length of Section 12 km, Chainage km 15 (km Post 3 - old numbering) to 27

GE - 2.1 Thickness of Pavement Layers

Ch. km 23.3	Ch. km 25.9	Ch. km 29.8
50 mm Asphalt (1st layer)	50 mm Asphalt (1st layer)	120 mm Asphalt
70 mm Asphalt (2nd layer)	30 mm Asphalt (2nd layer)	400 mm Gravel
430 mm Gravel	100 mm Asphalt (old layer)	130 mm Asphalt
Subsoil: Sandy - Clay	100 mm Gravel	50 mm Gravel
	Subsoil: Sandy - Clay	Subsoil: Sandy - Clay

GE - 2.2 Roughness

Chainage [km]	IRI [m/km]
15.00 - 15.50	6.1
15.50 - 16.50	8.1
16.50 - 17.50	8.0
17.50 - 18.60	10.5
18.60 - 19.60	9.7
19.60 - 21.00	9.2
21.00 - 22.30	8.5
22.30 - 22.54	> 15
22.54 - 22.85	14.1
22.85 - 23.02	> 15
23.02 - 23.70	> 15
23.70 - 24.15	> 15
24.15 - 25.20	14.1
25.20 - 26.34	13.1
26.34 - 27.00	14.6

Section 3

S 6 (M 6), Tbilisi - Marneuli / Armenian Border

Length of Section 12 km, Chainage km 3 (km Post) to 15

GE - 3.1 Thickness of Pavement Layers

Ch. km 3.6	Ch. km 8.65	Ch. km 12.8
50 mm Asphalt (1st layer) 110 mm Asphalt (2nd layer) 300 mm Gravel Subsoil: Sandy - Clay	150 mm Asphalt 430 mm Gravel Subsoil: Sandy - Clay	45 mm Asphalt 130 mm Asphalt 500 mm Gravel Subsoil: Sandy - Clay

GE - 3.2 Roughness

Chainage [km]	IRI [m/km]
3.00 - 3.40	7.3
3.40 - 4.40	6.5
4.40 - 5.34	6.2
5.34 - 6.30	12.9
6.30 - 7.00	> 15
7.00 - 7.80	5.2
7.80 - 8.44	7.1
8.44 - 9.18	4.7
9.18 - 9.67	14.4
9.67 - 10.80	7.5
10.80 - 11.90	12.6
11.90 - 13.10	11.2
13.10 - 14.00	5.4
14.00 - 14.28	5.2
14.28 - 15.00	> 15

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=5,95
Callibrationfactor ; C=5,95

M 1, Тбилиси - Кутаиси - Сенаки (Примыкание M2)
M 1, Tbilisit - Kutaisi - Senaki (Junction M 2)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
0	0							
	200			0,00	0,20		2a	0,20
	1000	103	7661	0,20	1,00	9,2	3	0,80
	2200	110	5454	1,00	2,20	6,8	2b	1,20
	2874	75	6621	2,20	2,87	8,0	2b	0,67
	3472	53	5273	2,87	3,47	6,6	2b	0,60
	5252	117	3911	3,47	5,25	5,0	1b	1,78
	7158	266	8304	5,25	7,16	9,8	3	1,91
	8919	241	8143	7,16	8,92	9,7	3	1,76
	10400	177	7111	8,92	10,40	8,6	3	1,48
	11800	239	10158	10,40	11,80	11,8	4	1,40
	12380	84	8617	11,80	12,38	10,2	3	0,58
	13450	117	6506	12,38	13,45	7,9	2a	1,07
	14300	95	6650	13,45	14,30	8,1	2a	0,85
	15000	77	6545	14,30	15,00	8,0	2b	0,70
	16240	130	6238	15,00	16,24	7,6	2a-2b	1,24
	17100	45	3113	16,24	17,10	4,1	1b	0,86
	17980	33	2231	17,10	17,98	3,1	0	0,88
	19350	46	1998	17,98	19,35	2,8	0	1,37
	19900	35	3786	19,35	19,90	4,9	1a	0,55
	21040	214	11169	19,90	21,04	12,8	4	1,14
	22090	138	7820	21,04	22,09	9,3	3	1,05
	22150			22,09	22,15		3	0,06
	23550	212	9010	22,15	23,55	10,6	3	1,40
	24170	127	12188	23,55	24,17	13,9	5	0,62
	24800	131	12372	24,17	24,80	14,0	5	0,63
	25440	66	6136	24,80	25,44	7,5	2b	0,64
	25800	80	13222	25,44	25,80	14,9	5	0,36
	27010	238	11703	25,80	27,01	13,4	5	1,21
	28000	169	10157	27,01	28,00	11,8	4	0,99
	28650	112	10252	28,00	28,65	11,9	4	0,65
	29420	99	7650	28,65	29,42	9,2	3	0,77
	29960	86	9476	29,42	29,96	11,1	4	0,54
	31160	232	11503	29,96	31,16	13,2	5	1,20
	32040	111	7505	31,16	32,04	9,0	3	0,88
	33450	217	9157	32,04	33,45	10,7	3	1,41
	34500	163	9237	33,45	34,50	10,8	3	1,05
	35130	96	9067	34,50	35,13	10,6	3	0,63
	36000	145	9917	35,13	36,00	11,5	4	0,87
	37280	223	10366	36,00	37,28	12,0	4	1,28
	38060	139	10603	37,28	38,06	12,2	4	0,78
	39110	167	9463	38,06	39,11	11,1	4	1,05

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	39760	110	10069	39,11	39,76	11,7	4	0,65
	40080	71	13202	39,76	40,08	14,9	5	0,32
	41150	135	7507	40,08	41,15	9,0	3	1,07
	42720	129	4889	41,15	42,72	6,1	4	1,57
	43300	71	7284	42,72	43,30	8,8	5	0,58
	43840	76	8374	43,30	43,84	9,9	3	0,54
	44460	70	6718	43,84	44,46	8,2	2a	0,62
	45900	140	5785	44,46	45,90	7,1	2a	1,44
	46500	53	5256	45,90	46,50	6,6	2b	0,60
	47100	71	7041	46,50	47,10	8,5	2b	0,60
	47400	37	7338	47,10	47,40	8,8	3	0,30
	47950	71	7681	47,40	47,95	9,2	3	0,55
	49260	200	9084	47,95	49,26	10,7	3	1,31
	50450	108	5400	49,26	50,45	6,7	2a	1,19
	51370	104	6726	50,45	51,37	8,2	2b	0,92
	51980	59	5755	51,37	51,98	7,1	2a	0,61
	53140	84	4309	51,98	53,14	5,5	1b	1,16
	53660	38	4348	53,14	53,66	5,5	1a	0,52
	54530	99	6771	53,66	54,53	8,2	2b	0,87
	55700	126	6408	54,53	55,70	7,8	2a	1,17
	56540	73	5171	55,70	56,54	6,5	2a-2b	0,84
	59020	239	5734	56,54	59,02	7,1	2a	2,48
	59980	81	5020	59,02	59,98	6,3	1a	0,96
	60820	72	5100	59,98	60,82	6,4	2a	0,84
	61610	79	5950	60,82	61,61	7,3	2a	0,79
	62060	62	8198	61,61	62,06	9,7	3	0,45
	63500	226	9338	62,06	63,50	10,9	4	1,44
	64840	182	8081	63,50	64,84	9,6	3	1,34
	65450	92	8974	64,84	65,45	10,6	3	0,61
	66120	81	7193	65,45	66,12	8,7	2b	0,67
	67080	93	5764	66,12	67,08	7,1	2a	0,96
	68190	112	6004	67,08	68,19	7,4	1a	1,11
	68870	83	7263	68,19	68,87	8,7	2b	0,68
	70000	206	10847	68,87	70,00	12,5	3	1,13
	70810	122	8962	70,00	70,81	10,5	3	0,81
	71350	87	9586	70,81	71,35	11,2	3	0,54
	72190	91	6446	71,35	72,19	7,9	2a	0,84
	73100	117	7650	72,19	73,10	9,2	3	0,91
	73800	87	7395	73,10	73,80	8,9	3	0,70
	75160	143	6256	73,80	75,16	7,7	2b	1,36
	76390	107	5176	75,16	76,39	6,5	2b	1,23
	77800	110	4642	76,39	77,80	5,9	1a	1,41
	79090	113	5212	77,80	79,09	6,5	2a	1,29
	80130	96	5492	79,09	80,13	6,8	2a	1,04
	81080	119	7453	80,13	81,08	8,9	2a	0,95
	82180	131	7086	81,08	82,18	8,6	2a	1,10
	82770	80	8068	82,18	82,77	9,6	3	0,59
	83700	66	4223	82,77	83,70	5,4	1a	0,93
	84480	119	9078	83,70	84,48	10,7	3	0,78
	84680	40	11900	84,48	84,68	13,6	5	0,20
	85770	112	6114	84,68	85,77	7,5	2a	1,09

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	86550	85	6484	85,77	86,55	7,9	2b	0,78
	87640	117	6387	86,55	87,64	7,8	2a	1,09
	88260	74	7102	87,64	88,26	8,6	2a	0,62
	89240	122	7407	88,26	89,24	8,9	2a	0,98
	89910	70	6216	89,24	89,91	7,6	2a	0,67
	90260	25	4250	89,91	90,26	5,4	1a	0,35
	91000	63	5066	90,26	91,00	6,3	2a	0,74
	92240	116	5566	91,00	92,24	6,9	2a	1,24
	92480	42	10413	92,24	92,48	12,0	4	0,24
	92950	53	6710	92,48	92,95	8,1	2a	0,47
	93640	94	8106	92,95	93,64	9,6	3	0,69
	94040	38	5653	93,64	94,04	7,0	2b	0,40
	94820	89	6789	94,04	94,82	8,2	2b	0,78
	95840	115	6708	94,82	95,84	8,1	2b	1,02
	96180	45	7875	95,84	96,18	9,4	3	0,34
	97100	104	6726	96,18	97,10	8,2	2a	0,92
	98280	85	4286	97,10	98,28	5,5	1b	1,18
	99290	74	4359	98,28	99,29	5,5	1b	1,01
Gomi	99720	35	4843	99,29	99,72	6,1	1b	0,43
	248			99,72	99,97		2b	0,25
	1118	87	5950	99,97	100,84	7,3	2a	0,87
	1879	65	5082	100,84	101,60	6,4	1a	0,76
	3314	136	5639	101,60	103,03	7,0	2b	1,44
	3666	45	7607	103,03	103,39	9,1	3	0,35
	4161	59	7092	103,39	103,88	8,6	2b	0,50
	5046	95	6387	103,88	104,77	7,8	2b	0,89
	6007	134	8297	104,77	105,73	9,8	3	0,96
	7012	76	4500	105,73	106,73	5,7	1a	1,01
	8364	172	7570	106,73	108,08	9,1	3	1,35
	8640	25	5389	108,08	108,36	6,7	1b	0,28
	10610	119	3594	108,36	110,33	4,7	1a	1,97
Khashuri	11560	116	7265	110,33	111,28	8,7	2a	0,95
	1120			111,28	112,40		1b	1,12
	1596			112,40	112,88		2b	0,48
	1868			112,88	113,15		1a	0,27
	2639			113,15	113,92		1b	0,77
	3672			113,92	114,95		2b	1,03
	4998			114,95	116,28		2a	1,33
	6162			116,28	117,44		2b	1,16
	6539			117,44	117,82		2b	0,38
	6878			117,82	118,16		1a	0,34
	7508			118,16	118,79		2b	0,63
	8639			118,79	119,92		2a	1,13
	9244			119,92	120,52		2b	0,61
	9541			120,52	120,82		1a	0,30
	10220			120,82	121,50		2b	0,68
	11150			121,50	122,43		1b	0,93
	11970			122,43	123,25		2b	0,82
	15450			123,25	126,73		1a	3,48
	15530			126,73	126,81		3	0,08
	16070			126,81	127,35		1a	0,54

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	16310			127,35	127,59		2b	0,24
696	17400			127,59	128,68		1a	1,09
	19510			128,68	130,79		2b	2,11
	20000			130,79	131,28		2a	0,49
	21500			131,28	132,78		3	1,50
	22620			132,78	133,90		2b	1,12
Chevi	23700			133,90	134,98		1b	1,08
	313			134,98	135,29		1b	135,29
	778			135,29	135,76		2b	0,47
704	1819			135,76	136,80		1b	1,04
	2788			136,80	137,77		1b	0,97
	3251			137,77	138,23		1a	0,46
	3607			138,23	138,59		1b	0,36
	3908			138,59	138,89		2b	0,30
	4342			138,89	139,32		1b	0,43
	4669			139,32	139,65		2b	0,33
	7440			139,65	142,42		1b	2,77
	8300	47	3252	142,42	143,28	4,3	1a	0,86
	9120	53	3846	143,28	144,10	5,0	1a	0,82
	9550	42	5812	144,10	144,53	7,2	2a	0,43
	10010	39	5045	144,53	144,99	6,3	2b	0,46
	11150	101	5271	144,99	146,13	6,6	2b	1,14
714	11330	24	7933	146,13	146,31	9,5	3	0,18
	15880			146,31	150,86		2b	4,55
	17420			150,86	152,40		1b	1,54
	18600			152,40	153,58		2b	1,18
	18880			153,58	153,86		1a	0,28
	20480			153,86	155,46		1b	1,60
	21300			155,46	156,28		2b	0,82
	21580			156,28	156,56		1a	0,28
	23380			156,56	158,36		2b	1,80
	24310			158,36	159,29		1b	0,93
	26150			159,29	161,13		3	1,84
	26500			161,13	161,48		1a	0,35
	28400			161,48	163,38		1b	1,90
	30060			163,38	165,04		1a	1,66
	30960			165,04	165,94		1b	0,90
	31140			165,94	166,12		2b	0,18
	32060			166,12	167,04		1b	0,92
	32720			167,04	167,70		2b	0,66
	33250			167,70	168,23		1b	0,53
	34290			168,23	169,27		2a	1,04
	35160			169,27	170,14		1b	0,87
	37930			170,14	172,91		2b	2,77
	38640			172,91	173,62		2a	0,71
	38950	53	10173	173,62	173,93	11,8	4	0,31
	39410	108	13970	173,93	174,39	15,6	5	0,46
	40100	80	6899	174,39	175,08	8,3	2b	0,69
	41000	108	7140	175,08	175,98	8,6	2b	0,90
	41370	42	6754	175,98	176,35	8,2	2b	0,37
	42460			176,35	177,44		2b	1,09

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	44180			177,44	179,16		3	1,72
	44200			179,16	179,18		5	0,02
	44500			179,18	179,48		4	0,30
	46140			179,48	181,12		3	1,64
	46500			181,12	181,48		2b	0,36
	47020			181,48	182,00		1b	0,52
	48000			182,00	182,98		2a	0,98
	48920			182,98	183,90		1b	0,92
	49600			183,90	184,58		1a	0,68
	50780			184,58	185,76		1b	1,18
	52090			185,76	187,07		2b	1,31
	56490			187,07	191,47		1b	4,40
	57310			191,47	192,29		1a	0,82
	58890			192,29	193,87		2b	1,58
	59760	77	5266	193,87	194,74	6,6	2b	0,87
	60450	95	8192	194,74	195,43	9,7	2b	0,69
	60710	85	19452	195,43	195,69	21,0	5	0,26
	61620	148	9677	195,69	196,60	11,3	4	0,91
	62330	81	6788	196,60	197,31	8,2	2b	0,71
767	64590			197,31	199,57		2b	2,26
	66400			199,57	201,38		1b	1,81
	69590			201,38	204,57		1a	3,19
	70600			204,57	205,58		1b	1,01
	71240			205,58	206,22		2b	0,64
	72290			206,22	207,27		1b	1,05
	74080			207,27	209,06		2a	1,79
	74900			209,06	209,88		2b	0,82
	75640			209,88	210,62		3	0,74
	76150			210,62	211,13		2b	0,51
	77720			211,13	212,70		1b	1,57
	78160			212,70	213,14		3	0,44
	78430			213,14	213,41		1b	0,27
	79370			213,41	214,35		2b	0,94
	79930			214,35	214,91		2a	0,56
	84640			214,91	219,62		1b	4,71
	88590			219,62	223,57		2b	3,95
	89420			223,57	224,40		1b	0,83
	90200			224,40	225,18		2b	0,78
	90610	46	6676	225,18	225,59	8,1	2b	0,41
	91410	50	3719	225,59	226,39	4,8	1a	0,80
	92185	33	2534	226,39	227,17	3,4	1b	0,78
	92610	22	3080	227,17	227,59	4,1	1a	0,43
	93370	59	4619	227,59	228,35	5,8	1b	0,76
	94300	54	3455	228,35	229,28	4,5	1b	0,93
	94780	25	3099	229,28	229,76	4,1	1b	0,48
	97240			229,76	232,22		2b	2,46
	97550			232,22	232,53		3	0,31
	102700			232,53	237,68		1b	5,15
Maintenance	105350			237,68	240,33		2b	2,65
Unit	0			240,33	134,98		2b	0,00
	1341			240,33	241,67		1a	1,34

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	2896			241,67	243,23		1b	1,56
	4675			243,23	245,01		2b	1,78
	5496			245,01	245,83		3	0,82
	7251			245,83	247,58		1a	1,76
	10690			247,58	251,02		2a	3,44
	11740			251,02	252,07		1a	1,05
	15960			252,07	256,29		2a	4,22
	17800			256,29	258,13		3	1,84
	21900			258,13	262,23		2b	4,10
	24090			262,23	264,42		2a	2,19
	24510			264,42	264,84		2b	0,42
	25250	87	6995	264,84	265,58	8,5	2b	0,74
	26290	121	6923	265,58	266,62	8,4	2b	1,04
	27210	104	6726	266,62	267,54	8,2	2b	0,92
	28190	31	1882	267,54	268,52	2,6	1a	0,98
	29320	63	3317	268,52	269,65	4,4	1a	1,13
	29500	41	13553	269,65	269,83	15,2	5	0,18
	30100	76	7537	269,83	270,43	9,0	2a	0,60
	31420			270,43	271,75		2b	1,32
	31900			271,75	272,23		2b	0,48
	32900			272,23	273,23		1a	1,00
	33740			273,23	274,07		2a	0,84
Senaki	34320			274,07	274,65		2b	0,58
Bridge	35860			274,65	276,19		2b	1,54
	38090			276,19	278,42		1a	2,23

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=5,95
Callibrationfactor ; C=5,95

М2, Сенаки (примыкание М1) - Поти - Батуми - граница Турции
M 2, Senaki (Junction M 1) - Poti - Batumi - Turkish Border

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
0	0							
	100			0,00	0,10		1a	0,10
1	1080	66	4007	0,10	1,08	5,1	1a	0,98
	1200			1,08	1,20		1b	0,12
	1800	75	7438	1,20	1,80	8,9	3	0,60
	2900	117	6329	1,80	2,90	7,7	2b	1,10
	3760	112	7749	2,90	3,76	9,3	3	0,86
	4900	177	9238	3,76	4,90	10,8	3	1,14
	6000	74	4003	4,90	6,00	5,1	1a	1,10
	7100	68	3678	6,00	7,10	4,8	1a	1,10
	8170	65	3614	7,10	8,17	4,7	1a	1,07
	9300	115	6055	8,17	9,30	7,4	2a	1,13
	10010	73	6118	9,30	10,01	7,5	2a	0,71
	11200	178	8900	10,01	11,20	10,5	3	1,19
	11540	44	7700	11,20	11,54	9,2	2a	0,34
	11890	31	5270	11,54	11,89	6,6	2a	0,35
	12290	34	5058	11,89	12,29	6,3	2a	0,40
	13000	56	4693	12,29	13,00	5,9	1a	0,71
	14400	100	4250	13,00	14,40	5,4	1a	1,40
	15710	79	3588	14,40	15,71	4,7	1a	1,31
	16610	65	4297	15,71	16,61	5,5	1a	0,90
	16770	27	10041	16,61	16,77	11,7	3	0,16
	17240	129	16331	16,77	17,24	>15	5	0,47
	17730	104	12629	17,24	17,73	14,3	5	0,49
	18370	137	12737	17,73	18,37	14,4	5	0,64
	18940	75	7829	18,37	18,94	9,3	3	0,57
	19420	112	13883	18,94	19,42	15,6	5	0,48
	19800	61	9551	19,42	19,80	11,2	4	0,38
	20420	149	14299	19,80	20,42	>15	5	0,62
	21480	326	18299	20,42	21,48	>15	5	1,06
	22290	221	16234	21,48	22,29	>15	5	0,81
	23050	207	16206	22,29	23,05	>15	5	0,76
	23830	384	29292	23,05	23,83	>15	5	0,78
	24170	103	18025	23,83	24,17	>15	5	0,34
	24790	241	23128	24,17	24,79	>15	5	0,62
	25050	113	25860	24,79	25,05	>15	5	0,26
	26040	310	18631	25,05	26,04	>15	5	0,99
	26370	73	13162	26,04	26,37	14,8	5	0,33
	26490	16	7933	26,37	26,49	9,5	3	0,12
Sabazho	26950			26,49	26,95		3	0,46
	750			26,95	27,70		3	0,75

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	1150	132	19635	27,70	28,10	>15	5	0,40
	1770	140	13435	28,10	28,72	>15	5	0,62
	2090	32	5950	28,72	29,04	7,3	2a	0,32
Begin Poti	3096	39	2307	29,04	30,05	3,1	1a	1,01
End Poti	10690			30,05	37,64		1a	7,59
	11250			37,64	38,20		1b	0,56
	12440	113	5650	38,20	39,39	7,0	2b	1,19
	13250	66	4848	39,39	40,20	6,1	1b	0,81
	13480	78	20178	40,20	40,43	>15	5	0,23
	14130	95	8696	40,43	41,08	10,3	3	0,65
	15290	359	18414	41,08	42,24	>15	5	1,16
	15630	101	17675	42,24	42,58	>15	5	0,34
	15880	79	18802	42,58	42,83	>15	5	0,25
	16380	66	7854	42,83	43,33	9,4	3	0,50
43	16640			43,33	43,59		2b	0,26
	17060	58	8217	43,59	44,01	9,8	3	0,42
	17760	52	4420	44,01	44,71	5,6	1b	0,70
	18800	60	3433	44,71	45,75	4,5	1b	1,04
	19500	62	5270	45,75	46,45	6,6	1a	0,70
	21610	211	5950	46,45	48,56	7,3	2b	2,11
	22340	75	6113	48,56	49,29	7,5	2b	0,73
	23660	128	5770	49,29	50,61	7,1	2b	1,32
Begin Ureki	24610	79	4948	50,61	51,56	6,2	1b	0,95
	27120			51,56	54,07		1b	2,51
End Ureki	28250			54,07	55,20		1b	1,13
	29620			55,20	56,57		1b	1,37
	29820			56,57	56,77		2b	0,20
	30200			56,77	57,15		5	0,38
	31200			57,15	58,15		1b	1,00
	33500			58,15	60,45		2b	2,30
	34210			60,45	61,16		3	0,71
	34550			61,16	61,50		3	0,34
	35050			61,50	62,00		5	0,50
	35480			62,00	62,43		3	0,43
	36750			62,43	63,70		5	1,27
	37690			63,70	64,64		2b	0,94
Customs	38490			64,64	65,44		2b	0,80
Kobuleti	38820			65,44	65,77		2b	0,33
	41220			65,77	68,17		3	2,40
Bus Station	48130			68,17	75,08		4	6,91
	0			75,08	26,95		3	0,00
	770			75,08	75,85		2b	0,77
	1862			75,85	76,94		1b	1,09
	3700			76,94	78,78		3	1,84
	9014			78,78	84,09		2b	5,31
	10740			84,09	85,82		1b	1,73
	13270			85,82	88,35		2b	2,53
	16590			88,35	91,67		1b	3,32
	17210			91,67	92,29		2b	0,62
	17690			92,29	92,77		2b	0,48
	17790			92,77	92,87		1a	0,10

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	21210			92,87	96,29		1b	3,42
96	22040			96,29	97,12		2b	0,83
	22470			97,12	97,55		1a	0,43
	22800			97,55	97,88		1b	0,33
	24110			97,88	99,19		1b	1,31
	25690			99,19	100,77		2b	1,58
	26240			100,77	101,32		1b	0,55
Begin Batumi	29240			101,32	104,32		1b	3,00
End Batumi	33540			104,32	108,62		2b	4,30
	34070			108,62	109,15		1b	0,53
	36470			109,15	111,55		1b	2,40
	36910			111,55	111,99		2b	0,44
	39600			111,99	114,68		1a	2,69
	41110			114,68	116,19		1b	1,51
	43060			116,19	118,14		2b	1,95
10 (Old)	43710			118,14	118,79		3	0,65
	44910			118,79	119,99		2b	1,20
	48460			119,99	123,54		3	3,55
Turkish Border								

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=5,95
Callibrationfactor ; C=5,95

М4, Тбилиси - Цители Киди - граница Азербайджана
M 4, Tbilisi - Tsiteli Khidi - Azerbaijan Border (Red Bridge)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
7 (old km)	0							
= km11 (new	240			11,00	11,24		2b	0,24
	1200	167	10351	11,24	12,20	12,0	3	0,96
	1740	97	10688	12,20	12,74	12,3	3	0,54
	2600	88	6088	12,74	13,60	7,5	2b	0,86
	3700	102	5517	13,60	14,70	6,8	2b	1,10
	4500	65	4834	14,70	15,50	6,1	3	0,80
	5500	112	6664	15,50	16,50	8,1	2b	1,00
	6500	111	6605	16,50	17,50	8,0	2b	1,00
	7600	165	8925	17,50	18,60	10,5	3	1,10
	8600	137	8152	18,60	19,60	9,7	3	1,00
	10000	180	7650	19,60	21,00	9,2	3	1,40
	11300	153	7003	21,00	22,30	8,5	2b	1,30
	11540	71	17602	22,30	22,54	19,2	5	0,24
	11850	65	12476	22,54	22,85	14,1	5	0,31
	12020	39	13650	22,85	23,02	>15	5	0,17
	12700	163	14263	23,02	23,70	>15	5	0,68
	13150	150	19833	23,70	24,15	>15	5	0,45
	14200	219	12410	24,15	25,20	14,1	5	1,05
	15340	219	11430	25,20	26,34	13,1	5	1,14
	16300	208	12892	26,34	27,30	14,6	5	0,96
	17400	294	15903	27,30	28,40	>15	5	1,10
	18600	299	14825	28,40	29,60	>15	5	1,20
	19680	235	12947	29,60	30,68	14,6	5	1,08
	20800	232	12325	30,68	31,80	14,0	5	1,12
	21600	136	10115	31,80	32,60	11,7	4	0,80
	22500	217	14346	32,60	33,50	>15	5	0,90
	23600	188	10169	33,50	34,60	11,8	4	1,10
	25000	222	9435	34,60	36,00	11,0	4	1,40
	26340	222	9857	36,00	37,34	11,5	4	1,34
	26900	176	18700	37,34	37,90	>15	5	0,56
	28200	202	9245	37,90	39,20	10,8	3	1,30
	29440	173	8301	39,20	40,44	9,8	3	1,24
	30600	185	9489	40,44	41,60	11,1	4	1,16
	31560	172	10660	41,60	42,56	12,3	5	0,96
	32600	193	11042	42,56	43,60	12,7	5	1,04
	33500	208	13751	43,60	44,50	>15	5	0,90
	34400	162	10710	44,50	45,40	12,3	5	0,90
	35400	134	7973	45,40	46,40	9,5	3	1,00
	36400	89	5296	46,40	47,40	6,6	2b	1,00
	38000	244	9074	47,40	49,00	10,7	3	1,60

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	39000	261	15530	49,00	50,00	17,2	5	1,00
	39900	129	8528	50,00	50,90	10,1	3	0,90
	40810	144	9415	50,90	51,81	11,0	4	0,91
	41300	60	7286	51,81	52,30	8,8	3	0,49
	42390			52,30	53,39		4	1,09
Customs	42500	19	10277	53,39	53,50	11,9	4	0,11
	42670			53,50	53,67		3	0,17
	42900			53,67	53,90		3	0,23
	43600	122	10370	53,90	54,60	12,0	4	0,70
	44500	107	7074	54,60	55,50	8,5	3	0,90
	45100	59	5851	55,50	56,10	7,2	3	0,60
	45279	21	6980	56,10	56,28	8,4	3	0,18
	45391			56,28	56,39		2b	0,11
Azerbaijan Border								

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=5,95
Callibrationfactor ; C = 5,95

М6, Тбилиси - Марнаули - Гугути - граница Армении
M 6, Tbilisi - Marnauli - Guguti - Armenian Border

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
0	0							
	300			0,00	0,30		1b	0,30
	930	34	3211	0,30	0,93	4,2	2b	0,63
	1500	39	4071	0,93	1,50	5,2	2b	0,57
	2600	135	7302	1,50	2,60	8,8	3	1,10
	3400	80	5950	2,60	3,40	7,3	2b	0,80
	4400	87	5177	3,40	4,40	6,5	1b	1,00
	5340	78	4937	4,40	5,34	6,2	1b	0,94
	6300	181	11218	5,34	6,30	12,9	5	0,96
	7000	163	13855	6,30	7,00	>15	5	0,70
8	7800	55	4091	7,00	7,80	5,2	1a	1,00
	8440	62	5764	8,00	8,64	7,1	2b	0,64
	9180	45	3618	8,64	9,38	4,7	1a	0,74
	9670	105	12750	9,38	9,87	14,4	5	0,49
	10800	116	6108	9,87	11,00	7,5	2b	1,13
	11900	202	10926	11,00	12,10	12,6	5	1,10
	13100	194	9619	12,10	13,30	11,2	4	1,20
	14000	64	4231	13,30	14,20	5,4	1a	0,90
	14280	19	4038	14,20	14,48	5,2	1a	0,28
	15020	226	18172	14,48	15,22	>15	5	0,74
	15630	255	24873	15,22	15,83	>15	5	0,61
	16000	95	15277	15,83	16,20	>15	5	0,37
	16630	209	19739	16,20	16,83	>15	5	0,63
	17240	210	20484	16,83	17,44	>15	5	0,61
	17400			17,44	17,60		2b	0,16
	18580	194	9782	17,60	18,78	11,4	4	1,18
	19800	297	14485	18,78	20,00	>15	5	1,22
	20850	245	13883	20,00	21,05	>15	5	1,05
	22000	60	3104	21,05	22,20	4,1	1b	1,15
	22950	60	3758	22,20	23,15	4,9	1b	0,95
	23360			23,15	23,56		5	0,41
	24000	111	10320	23,56	24,20	11,9	4	0,64
	25400	103	4378	24,20	25,60	5,6	1a	1,40
	25800	101	15024	25,60	26,00	>15	5	0,40
	26700	110	7272	26,00	26,90	8,8	3	0,90
	27310	112	10925	26,90	27,51	12,6	5	0,61
	28210	203	13421	27,51	28,41	>15	5	0,90
	28540			28,41	28,74		5	0,33
	29850	174	7903	28,74	30,05	9,4	3	1,31
31	30500			30,05	31,00		3	0,95
	30720			31,00	31,22		5	0,22

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	31030	103	19769	31,22	31,53	>15	5	0,31
	31430	101	15024	31,53	31,93	>15	5	0,40
	31910	118	14627	31,93	32,41	>15	5	0,48
	32170			32,41	32,67		5	0,26
	33170	241	14340	32,67	33,67	>15	5	1,00
	33600	133	18403	33,67	34,10	>15	5	0,43
	34600	218	12971	34,10	35,10	14,6	5	1,00
	35620	262	15283	35,10	36,12	>15	5	1,02
	36560	177	11204	36,12	37,06	12,9	5	0,94
	37570	173	10192	37,06	38,07	11,8	4	1,01
	38600	272	15713	38,07	39,10	>15	5	1,03
	39430	225	16130	39,10	39,93	>15	5	0,83
	40360	285	18234	39,93	40,86	>15	5	0,93
	41230			40,86	41,73		5	0,87
	41340	33	17850	41,73	41,84	>15	5	0,11
	41420			41,84	41,92		5	0,08
	42930	429	16904	41,92	43,43	>15	5	1,51
	43460	139	15605	43,43	43,96	>15	5	0,53
	44200	192	15438	43,96	44,70	>15	5	0,74
	45170	274	16807	44,70	45,67	>15	5	0,97
	45890	194	16032	45,67	46,39	>15	5	0,72
	46580	159	13711	46,39	47,08	>15	5	0,69
	46800			47,08	47,30		5	0,22
	47500	84	7140	47,30	48,00	8,6	3	0,70
	48400	67	4429	48,00	48,90	5,6	1a	0,90
	48930	71	7971	48,90	49,43	9,5	3	0,53
	50400	350	14167	49,43	50,90	>15	5	1,47
	50850	113	14941	50,90	51,35	>15	5	0,45
	51310	48	6209	51,35	51,81	7,6	2b	0,46
	52080	141	10895	51,81	52,58	12,5	5	0,77
	52420	44	7700	52,58	52,92	9,2	3	0,34
	53010	123	12404	52,92	53,51	14,1	5	0,59
	53360	80	13600	53,51	53,86	>15	5	0,35
	53400			53,86	53,90		5	0,04
	53730			53,90	54,23		5	0,33
	54210	85	10536	54,23	54,71	12,2	5	0,48
	55180	289	17727	54,71	55,68	>15	5	0,97
	55770	157	15833	55,68	56,27	>15	5	0,59
	56150	102	15971	56,27	56,65	>15	5	0,38
	56550	89	13239	56,65	57,05	>15	5	0,40
	57200	162	14829	57,05	57,70	>15	5	0,65
	58500	337	15424	57,70	59,00	>15	5	1,30
	58980	117	14503	59,00	59,48	>15	5	0,48
61	60400	329	13786	59,48	60,90	>15	5	1,52
	61170	207	15995	61,00	61,77	>15	5	0,77
	61470	117	23205	61,77	62,07	>15	5	0,30
	62240	337	26041	62,07	62,84	>15	5	0,77
	62430	54	16911	62,84	63,03	>15	5	0,19
	63060	134	12656	63,03	63,66	14,3	5	0,63
	63240			63,66	63,84		5	0,18
	64430	267	13350	63,84	65,03	>15	5	1,19

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	64840	52	7546	65,03	65,44	9,0	3	0,41
	65330	126	15300	65,44	65,93	>15	5	0,49
	66440	317	11788	65,93	67,04	13,5	5	1,60
	66950	137	15983	67,04	67,55	>15	5	0,51
	67620	145	12877	67,55	68,22	14,6	5	0,67
	68140			68,22	68,74		5	0,52
	68750	193	18825	68,74	69,35	>15	5	0,61
	69090			69,35	69,69		5	0,34
	70170	325	17905	69,69	70,77	>15	5	1,08
	70350	33	10908	70,77	70,95	12,6	5	0,18
	71950	272	10115	70,95	72,55	11,7	4	1,60
	73150	336	16660	72,55	73,75	>15	5	1,20
	73990	249	17638	73,75	74,59	>15	5	0,84
	74400	82	11900	74,59	75,00	13,6	5	0,41
	75340			75,00	75,94		5	0,94
	76380	251	14360	75,94	76,98	>15	5	1,04
	77260	351	23732	76,98	77,86	>15	5	0,88
	78140	282	19067	77,86	78,74	>15	5	0,88
	78560	129	18275	78,74	79,16	>15	5	0,42
	79400	298	21108	79,16	80,00	>15	5	0,84
	80510	363	19458	80,00	81,11	>15	5	1,11
	80790			81,11	81,39		5	0,28
	81900	285	15277	81,39	82,50	>15	5	1,11
	82270			82,50	82,87			0,37
	82630	129	21321	82,87	83,23	>15	5	0,36
	83030	130	19338	83,23	83,63	>15	5	0,40
	84110	295	16252	83,63	84,71	>15	5	1,08
	84980	204	13952	84,71	85,58	>15	5	0,87
	85620	154	14317	85,58	86,22	>15	5	0,64
	85990	123	19780	86,22	86,59	>15	5	0,37
	86620	210	19833	86,59	87,22	>15	5	0,63
	87190	221	23069	87,22	87,79	>15	5	0,57
	88520			87,79	89,12		5	1,33
	89690			89,12	90,29		5	1,17
92	91770			90,29	92,37		5	1,71
	93030			92,00	93,26		5	1,26
	96460			93,26	96,69		5	3,43
Grenze Arm./Geo	96920			96,69	97,15		5	0,46
								97,64

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=5,95
Callibrationfactor ; C = 5,95

M7, Марнеули(примыкание M6) - Садахло - граница Армении
M 7, Marneuli (Junction M 6) - Sadakhlo - Armenian Border

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
0	0							
	3945			0,00	3,95		1b	3,95
	4774			3,95	4,77		2b	0,83
	5777			4,77	5,78		2b	1,00
	6304	242	27323	5,78	6,30	>15	5	0,53
	6405			6,30	6,41		5	0,10
	7000	191	19100	6,41	7,00	>15	5	0,60
	7295	173	34893	7,00	7,30	>15	5	0,30
	8071	254	19476	7,30	8,07	>15	5	0,78
	8142	68	56986	8,07	8,14	>15	5	0,07
	8932	274	20637	8,14	8,93	>15	5	0,79
	10360	312	13000	8,93	10,36	14,7	5	1,43
	11100			10,36	11,10		5	0,74
	11190			11,10	11,19		5	0,09
	11720			11,19	11,72		5	0,53
	12400	224	19600	11,72	12,40	>15	5	0,68
	13100	230	19550	12,40	13,10	>15	5	0,70
	13750	234	21420	13,10	13,75	>15	5	0,65
	14330	224	22979	13,75	14,33	>15	5	0,58
	14480	176	69813	14,33	14,48	>15	5	0,15
	14920	347	46924	14,48	14,92	>15	5	0,44
	15360	244	32995	14,92	15,36	>15	5	0,44
16	15966			15,36	16,00		5	0,64
	16160	268	82196	16,00	16,19	>15	5	0,19
	16670	193	22517	16,19	16,70	>15	5	0,51
	16860	83	25992	16,70	16,89	>15	5	0,19
	17700	240	17000	16,89	17,73	>15	5	0,84
	18430	213	17361	17,73	18,46	>15	5	0,73
	19790	362	15838	18,46	19,82	>15	5	1,36
	20180	68	10374	19,82	20,21	12,0	5	0,39
	20370	134	41963	20,21	20,40	>15	5	0,19
	20870	344	40936	20,40	20,90	>15	5	0,50
	21160	189	38778	20,90	21,19	>15	5	0,29
	21670	161	18783	21,19	21,70	>15	5	0,51
	22020			21,70	22,05		5	0,35
	22270	222	52836	22,05	22,30	>15	5	0,25
	22560	237	48626	22,30	22,59	>15	5	0,29
	22860	118	23403	22,59	22,89	>15	5	0,30
	23550	233	20092	22,89	23,58	>15	5	0,69
	23980	292	40405	23,58	24,01	>15	5	0,43

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	24590	168	16387	24,01	24,62	>15	5	0,61
25	24990	87	12941	24,62	25,00	14,6	5	0,38
	26050	318	17850	25,00	26,06	>15	5	1,06
	26520	345	43676	26,06	26,53	>15	5	0,47
	27160	257	23893	26,53	27,17	>15	5	0,64
	27590	177	24492	27,17	27,60	>15	5	0,43
	28160	240	25053	27,60	28,17	>15	5	0,57
	28330			28,17	28,34		5	0,17
	28840	173	20183	28,34	28,85	>15	5	0,51
	29200	193	31899	28,85	29,21	>15	5	0,36
	29830	460	43444	29,21	29,84	>15	5	0,63
	30280	241	31866	29,84	30,29	>15	5	0,45
	31280	742	44149	30,29	31,29	>15	5	1,00
	31950	274	24333	31,29	31,96	>15	5	0,67
	32780	257	18423	31,96	32,79	>15	5	0,83
	33260	205	25411	32,79	33,27	>15	5	0,48
	33590	103		33,27	33,60		5	0,33
	33900			33,60	33,91		5	0,31
Armenian Border								

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=5,95
Callibrationfactor ; C = 5,95

М8, Хашури(примыкание М1) - Ахалцихе - Вале - граница Турции
M 8, Khashuri (Junction M 1) - Akhaltsikhe - Vale - Turkish Border

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
0	0							
	218			0,00	0,22		1b	0,22
	980	68		0,22	0,98		2b	0,76
	2269	96		0,98	2,27		1a	1,29
	3924	154	5537	2,27	3,92	6,9	1b	1,66
5	4858	190	12104	3,92	4,86	13,8	5	1,08
	5928	88	4893	5,00	6,07	6,2	1a	1,07
	6680	108	8545	6,07	6,82	10,1	3	0,75
	7821	253	13193	6,82	7,96	14,9	5	1,14
	8441	37	3551	7,96	8,58	4,6	1a	0,62
	8845	26	3829	8,58	8,99	4,9	1b	0,40
	10000	263	13548	8,99	10,14	>15	5	1,16
	10540	97	10688	10,14	10,68	12,3	5	0,54
	11000	96	12417	10,68	11,14	14,1	5	0,46
	11560	83	8819	11,14	11,70	10,4	4	0,56
	13020	288	11737	11,70	13,16	13,4	5	1,46
	14090	238	13235	13,16	14,23	14,9	5	1,07
	14560	119	15065	14,23	14,70	>15	5	0,47
16	15321			14,70	16,00		4	1,30
	200			16,00	16,20		3	0,20
	768	123	12885	16,20	16,77	14,6	5	0,57
	1785	203	11877	16,77	17,79	13,5	5	1,02
	2380	112	11200	17,79	18,38	12,9	5	0,59
	3000	81	7773	18,38	19,00	9,3	3	0,62
	3888	98	6566	19,00	19,89	8,0	2 b	0,89
	4450	77	8152	19,89	20,45	9,7	3	0,56
	5849	334	14205	20,45	21,85	>15	5	1,40
	7338	122	4875	21,85	23,34	6,1	1a	1,49
	7807	142	18015	23,34	23,81	>15	5	0,47
	9100	282	12977	23,81	25,10	14,7	5	1,29
	10000	188	12429	25,10	26,00	14,1	5	0,90
	11280	283	13155	26,00	27,28	14,8	5	1,28
	12000	141	11652	27,28	28,00	13,3	5	0,72
	12465	85	10876	28,00	28,47	12,5	5	0,47
	13130	168	15032	28,47	29,13	>15	5	0,66
	13800	153	13587	29,13	29,80	>15	5	0,67
	14280	59	7314	29,80	30,28	8,8	3	0,48
	14970	215	18540	30,28	30,97	>15	5	0,69
	15920	211	13215	30,97	31,92	>15	5	0,95
33	16400	54	6694	31,92	33,00	8,1	2 b	1,08
	500			33,00	33,50		3	0,50

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	818	111	20769	33,50	33,82	>15	5	0,32
	1160	69	12004	33,82	34,16	13,7	5	0,34
	2200	151	8639	34,16	35,20	10,2	3	1,04
	3200	131	7795	35,20	36,20	9,3	3	1,00
	4400	161	7983	36,20	37,40	9,5	3	1,20
	5100	103	8755	37,40	38,10	10,3	3	0,70
	5562	92	11848	38,10	38,56	13,5	5	0,46
	6273	91	7615	38,56	39,27	9,1	3	0,71
	6495	62	16617	39,27	39,50	>15	5	0,22
	8000	209	8263	39,50	41,00	9,8	3	1,51
	8817	115	8375	41,00	41,82	9,9	3	0,82
	9587	164	12673	41,82	42,59	14,3	5	0,77
	11300	322	11184	42,59	44,30	12,8	5	1,71
	12900	380	14131	44,30	45,90	>15	5	1,60
	13500	109	10809	45,90	46,50	12,5	5	0,60
	14650	171	8847	46,50	47,65	10,4	3	1,15
	16070	324	13576	47,65	49,07	>15	5	1,42
	16650	94	9643	49,07	49,65	11,2	4	0,58
	17350	82	6970	49,65	50,35	8,4	2 b	0,70
	17540	42	13153	50,35	50,54	14,8	5	0,19
	18250	143	11984	50,54	51,25	13,6	5	0,71
	19380	142	7477	51,25	52,38	9,0	3	1,13
	20210	161	11542	52,38	53,21	13,2	5	0,83
	21400	162	8100	53,21	54,40	9,6	3	1,19
	21760	91	15040	54,40	54,76	>15	5	0,36
	22780	197	11492	54,76	55,78	13,1	5	1,02
	23120	103	18025	55,78	56,12	>15	5	0,34
	23820	96	8160	56,12	56,82	9,7	3	0,70
	24480	94	8474	56,82	57,48	10,0	3	0,66
	25080	69	6843	57,48	58,08	8,3	2 a	0,60
	26150	131	7285	58,08	59,15	8,8	3	1,07
	26710	118	12538	59,15	59,71	14,2	5	0,56
	27300	179	18052	59,71	60,30	>15	5	0,59
	27770	97	12280	60,30	60,77	13,9	5	0,47
	29000	369	17850	60,77	62,00	>15	5	1,23
	29960	219	13573	62,00	62,96	>15	5	0,96
	30740	133	10146	62,96	63,74	11,8	5	0,78
	31640	203	13421	63,74	64,64	>15	5	0,90
	32610	250	15335	64,64	65,61	>15	5	0,97
	33740	288	15165	65,61	66,74	>15	5	1,13
	34550	143	10504	66,74	67,55	12,1	5	0,81
	35720	192	9764	67,55	68,72	11,4	4	1,17
	36740	135	7875	68,72	69,74	9,4	3	1,02
	38210	207	8379	69,74	71,21	9,9	3	1,47
	39270	102	5725	71,21	72,27	7,1	2 b	1,06
	39650	50	7829	72,27	72,65	9,3	3	0,38
	40840	115	5750	72,65	73,84	7,1	2 b	1,19
	40950	20	10818	73,84	73,95	12,5	5	0,11
	41800			73,95	74,80		3	0,85
	42410	65	6340	74,80	75,41	7,7	2 a	0,61
	43380	167	10244	75,41	76,38	11,9	4	0,97

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
0 (old)	46090			76,38	79,09			2,71
	46740			79,09	79,74			0,65
	47620			79,74	80,62			0,88
	47940			80,62	80,94			0,32
	48530			80,94	81,53			0,59
	49030			81,53	82,03			0,50
	49770			82,03	82,77			0,74
	50430			82,77	83,43			0,66
	51670			83,43	84,67			1,24
	52440			84,67	85,44			0,77
	53080			85,44	86,08			0,64
	53520			86,08	86,52			0,44
	54100			86,52	87,10			0,58
	58200			87,10	91,20			4,10
Turkish Border								

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=5,95
Callibrationfactor ; C = 5,95

М 9, Окружная дорога Тбилиси
M 9, Tbilisi Ringroad

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
0	0							
	1000			0,00	1,00		2a	1,00
	1635			1,00	1,64		2b	0,64
	2000	95	15486	1,64	2,00	>15	5	0,37
	3030	279	16117	2,00	3,03	>15	5	1,03
	200			3,03	3,23		2a	0,20
	1000	79	5876	3,23	4,03	7,2	2a	0,80
	1650	159	14555	4,03	4,68	>15	5	0,65
	3000	194	8550	4,68	6,03	10,1	3	1,35
	4000	96	5712	6,03	7,03	7,1	2a	1,00
	5300	210	9612	7,03	8,33	11,2	4	1,30
	6500	116	5752	8,33	9,53	7,1	2b	1,20
	7500	106	6307	9,53	10,53	7,7	2b	1,00
	8500	114	6783	10,53	11,53	8,2	2b	1,00
	9500	179	10651	11,53	12,53	12,3	5	1,00
	10300	212	15768	12,53	13,33	>15	5	0,80
	11400			13,33	14,43		5	1,10
	12400	154	9163	14,43	15,43	10,7	3	1,00
	13450	131	7423	15,43	16,48	8,9	3	1,05
	14400	73	4572	16,48	17,43	5,8	1a	0,95
	15470	87	4838	17,43	18,50	6,1	1a	1,07
	15780			18,50	18,81		5	0,31
	15930			18,81	18,96		2b	0,15
	17000	157	8730	18,96	20,03	10,3	3	1,07
	18200	134	6644	20,03	21,23	8,1	2b	1,20
	19400	132	6545	21,23	22,43	8,0	2a	1,20
	21080	183	6481	22,43	24,11	7,9	2b	1,68
	21227			24,11	24,26		5	0,15
	22130	208	13705	24,26	25,16	>15	5	0,90
	22340			25,16	25,37		5	0,21
	23200	144	9963	25,37	26,23	11,6	3	0,86
	24400	80	3967	26,23	27,43	5,1	2b	1,20
	26000	138	5132	27,43	29,03	6,4	2b	1,60
	27200	76	3768	29,03	30,23	4,9	1b	1,20
	28300	111	6004	30,23	31,33	7,4	2b	1,10
	29400	171	9250	31,33	32,43	10,8	4	1,10
	30400	74	4403	32,43	33,43	5,6	1b	1,00
	31500	204	11035	33,43	34,53	12,7	5	1,10
	33000	165	6545	34,53	36,03	8,0	2b	1,50
	34200	143	7090	36,03	37,23	8,6	3	1,20
	35000	156	11603	37,23	38,03	13,3	5	0,80

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	35400			38,03	38,43		2b	0,40
	35700			38,43	38,73		5	0,30
	36220			38,73	39,25		2b	0,52
	36430	41	11617	39,25	39,46	13,3	5	0,21
	37300	85	5813	39,46	40,33	7,2	2b	0,87
	38500	102	5058	40,33	41,53	6,3	2b	1,20
	39300	73	5429	41,53	42,33	6,7	2b	0,80
Bridge	40400	127	6870	42,33	43,43	8,3	2b	1,10
	200			43,43	43,63		2b	0,20
	1000	85	6322	43,63	44,43	7,7	2a	0,80
	2000	49	2916	44,43	45,43	3,9	1b	1,00
	2720	56	4628	45,43	46,15	5,9	2a	0,72
	4200	125	5025	46,15	47,63	6,3	2a	1,48
	4600	52	7735	47,63	48,03	9,2	3	0,40
Junction M 9/M 4								

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=5,95
Callibrationfactor ; C = 5,95

R 1, Ахалцихе (примыкание M8) - Ниноцминда - граница Армении
R 1, Akhaltsikhe (Junction M 8) - Ninotsminda - Armenian Border

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
Bridge (Kura)								
	0							
	1381			0,00	1,38		1b	1,38
	2208			1,38	2,21		2b	0,83
	3841			2,21	3,84		2a	1,63
	4851			3,84	4,85		2b	1,01
	6180			4,85	6,18		1a	1,33
	8169			6,18	8,17		1a	1,99
	10240			8,17	10,24		1b	2,07
	12340			10,24	12,34		1a	2,10
	15350			12,34	15,35		2b	3,01
	15680			15,35	15,68		4	0,33
	17090			15,68	17,09		3	1,41
	18880			17,09	18,88		5	1,79
	19390			18,88	19,39		4	0,51
	19740			19,39	19,74		5	0,35
	20390			19,74	20,39		4	0,65
	20790			20,39	20,79		5	0,40
	21450			20,79	21,45		2b	0,66
	21610			21,45	21,61		3	0,16
	21760			21,61	21,76		4	0,15
	21970			21,76	21,97		2b	0,21
	25970			21,97	25,97		1b	4,00
	26500	67	7522	25,97	26,50	9,0	3	0,53
	27070	292	30481	26,50	27,07	>15	5	0,57
	28170			27,07	28,17		5	1,10
	28640			28,17	28,64		4	0,47
	30000			28,64	30,00		3	1,36
	30580			30,00	30,58		2b	0,58
	31310			30,58	31,31		2a	0,73
	32300			31,31	32,30		2b	0,99
	33640			32,30	33,64		2a	1,34
	34550			33,64	34,55		3	0,91
	37520			34,55	37,52		2b	2,97
	39100			37,52	39,10		5	1,58
	39380			39,10	39,38		4	0,28
	40090			39,38	40,09		3	0,71
	40670			40,09	40,67		5	0,58
	41010			40,67	41,01		4	0,34
	41700			41,01	41,70		4	0,69
	42440			41,70	42,44		3	0,74
	42520			42,44	42,52		5	0,08

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	43480			42,52	43,48		3	0,96
	45740			43,48	45,74		2b	2,26
	45850			45,74	45,85		5	0,11
	46150			45,85	46,15		2b	0,30
	46220			46,15	46,22		5	0,07
	47370			46,22	47,37		3	1,15
	47920			47,37	47,92		5	0,55
	48690			47,92	48,69		4	0,77
	50010			48,69	50,01		3	1,32
	50990			50,01	50,99		4	0,98
	54970			50,99	54,97		5	3,98
	55420			54,97	55,42		3	0,45
	58920			55,42	58,92		5	3,50
	61180			58,92	61,18		2a	2,26
	64280			61,18	64,28		1a	3,10
	64880			64,28	64,88		2b	0,60
236 (old)	66680			64,88	66,68		5	1,80
	67060			66,68	67,06		5	0,38
	68170			67,06	68,17		2b	1,11
	71390			68,17	71,39		1b	3,22
	71780			71,39	71,78		2b	0,39
	72700			71,78	72,70		1b	0,92
	73160			72,70	73,16		2b	0,46
	74820			73,16	74,82		5	1,66
	75020			74,82	75,02		1a	0,20
	75760			75,02	75,76		5	0,74
	76880			75,76	76,88		5	1,12
	77180			76,88	77,18		4	0,30
	78610			77,18	78,61		5	1,43
	80990			78,61	80,99		5	2,38
	84380			80,99	84,38		5	3,39
	85890			84,38	85,89		3	1,51
	106760			85,89	106,76		5	20,87
	109960			106,76	109,96		1a	3,20
Armenian Border								

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=5,95
Callibrationfactor ; C = 5,95

R38, Ureki(примыкание M2) - Ланчхути - Самтредиа
R 38, Ureki (Junction M 2) - Lanchkhuti - Samtredia

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
Police Station								
	0							
	450			0,00	0,45		1b	0,45
	1509			0,45	1,51		2b	1,06
	1758			1,51	1,76		2a	0,25
	2019			1,76	2,02		2b	0,26
	2273			2,02	2,27		1a	0,25
	5100			2,27	5,10		1a	2,83
	7570			5,10	7,57		1b	2,47
	8013			7,57	8,01		1a	0,44
	9835			8,01	9,84		2b	1,82
	11050			9,84	11,05		4	1,22
	12100			11,05	12,10		3	1,05
	14510			12,10	14,51		5	2,41
	16470			14,51	16,47		4	1,96
	17730			16,47	17,73		5	1,26
19	1287			17,73	19,00		5	1,27
	1752			19,00	19,47		2b	0,47
	3134			19,47	20,85		3	1,38
	4641			20,85	22,35		4	1,51
	5037			22,35	22,75		2b	0,40
	5945			22,75	23,66		1b	0,91
	6720	67	5144	23,66	24,43	6,4	3	0,77
	7820	292	15795	24,43	25,53	>15	5	1,10
	8394			25,53	26,11		5	0,57
	10110			26,11	27,82		4	1,72
	11480			27,82	29,19		3	1,37
	13360			29,19	31,07		2b	1,88
	14000			31,07	31,71		2a	0,64
	15750			31,71	33,46		2b	1,75
	18770			33,46	36,48		2a	3,02
	19560			36,48	37,27		3	0,79
38	20570			37,27	38,28		2b	1,01
	21920			38,28	39,63		5	1,35
	22360			39,63	40,07		4	0,44
	25670			40,07	43,38		3	3,31
	28900			43,38	46,61		5	3,23
	30640			46,61	48,35		4	1,74
	30870			48,35	48,58		4	0,23
	42440			48,58	60,15		3	11,57
	42520			60,15	60,23		5	0,08
	43480			60,23	61,19		3	0,96
	45740			61,19	63,45		2b	2,26

TRACECA - PMS
PILOT SECTIONS FOR PAVEMENT MANAGEMENT SYSTEM

K Y R G Y Z S T A N

Section 1

M39, Kazakhstan Border - Ring Road Bishkek

Length of Section 10 km, Chainage km 222 (km Post) to 232

KS - 1.1 Thickness of Pavement Layers

Ch. km 222	Ch. km 225	Ch. km 229	Ch. km 232
130 mm Asphalt 160 mm Gravel - Sand Subgrade: Sandy - Silt	130 mm Asphalt 1,800 mm Gravel-Sand Subgrade: Sandy - Silt	110 mm Asphalt 130 mm Gravel - Sand 90 mm Asphalt(old rd?) 70 mm Gravel Subgrade: Sandy - Silt	160 mm Asphalt * 1,140 mm Gravel-Sand Subgrade: Sandy - Silt

* 70 mm 1st layer
90 mm 2nd layer

KS - 1.2 Roughness

Chainage [km]	IRI [m/km]
222.0 - 224.0	6.5
224.0 - 224.5	6.0
224.5 - 225.5	7.8
225.5 - 229.0	7.2
229.0 - 230.5	8.0
230.5 - 231.0	6.0
231.0 - 232.0	5.7

Section 2

M39, Ring Road Bishkek (Direction to Kara-Balta)

Length of Section 10 km, Chainage km 230.74 (km Post at 231) to 241

KS - 2.1 Thickness of Pavement Layers

Ch. km 232.5	Ch. km 233	Ch. km 238	Ch. km 241
140 mm Asphalt * 140 mm Gravel - Sand Subgrade: Sandy - Silt	140 mm Asphalt * 1,060 mm Gravel-Sand Subgrade: Sandy - Silt	140 mm Asphalt * 1,360 mm Gravel-Sand Subgrade: Sandy - Silt	120 mm Asphalt * 980 mm Gravel - Sand Subgrade: Sandy - Silt
* 70 mm 1st layer 70 mm 2nd layer	* 50 mm 1st layer 90 mm 2nd layer	* 70 mm 1st layer 70 mm 2nd layer	* 60 mm 1st layer 60 mm 2nd layer

KS - 2.2 Roughness

Chainage [km]	IRI [m/km]	Chainage [km]	IRI [m/km]
230.74 - 231.2	8.0	235.7 - 237.2	10
231.2 - 232.7	10.5	237.2 - 238.9	6.8
232.7 - 233.7	9.3	238.9 - 239.5	10.5
233.7 - 234.7	12	239.5 - 240.7	10.7
234.7 - 235.7	11.7	240.7 - 243.4	3

Section 3

M39, Kara-Balta to Kazakhstan Border, Length 10 km, Chainage km 65 (km Post) to 75

KS - 3.1 Thickness of Pavement Layers

Ch. km 65	Ch. km 67	Ch. km 69	Ch. km 72
110 mm Asphalt *	140 mm Asphalt *	110 mm Asphalt *	110 mm Asphalt *
1,590 mm Gravel-Sand	460 mm Gravel - Sand	390 mm Gravel - Sand	590 mm Gravel - Sand
Subgrade: Silt	Subgrade: Silt	Subgrade: Silt	800 mm Silt
			Subgrade: Gravel-Sand
* 40 mm 1st layer	* 40 mm 1st layer	* 30 mm 1st layer	* 40 mm 1st layer
70 mm 2nd layer	100 mm 2nd layer	80 mm 2nd layer	70 mm 2nd layer

Ch. km 75.00
130 mm Asphalt *
1,570 mm Gravel-Sand
Subgrade: Silt
* 40 mm 1st layer
90 mm 2nd layer

KS - 3.2 Roughness

Chainage [km]	IRI [m/km]
64.3 - 65.3	6.5
65.3 - 67.4	7.3
67.4 - 69.4	9.2
69.4 - 70.1	8.2
70.1 - 70.4	8.8
70.4 - 71.4	7.4
71.4 - 73.1	6.9
73.1 - 73.4	9.3
73.4 - 75.0	8.9
75.0 - 75.3	8.6

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=3,42
Callibrationfactor ; C = 3,42

M 39, Объездная дорога Бишкек (км 231 - 255)
M 39, Ring Road Bishkek (km 231 - 255)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	0							
231	260			230,74	231,00		2 B	0,26
	500			231,00	231,24		2 B	0,24
	2.000	392	8938	231,24	232,74	10,5	3	1,50
	3.000	228	7798	232,74	233,74	9,3	3	1,00
	4.000	302	10328	233,74	234,74	12,0	4	1,00
	5.000	294	10055	234,74	235,74	11,7	4	1,00
	6.500	372	8482	235,74	237,24	10,0	3	1,50
238	7.350			237,24	238,00		1 B	0,76
	8.000	239	5449	238,00	238,65	6,8	2 B	0,65
	8.200			238,65	238,85		2 B	0,20
	8.400			238,85	239,05		3	0,20
	8.800	208	8892	239,05	239,45	10,5	3	0,40
	10.000	319	9092	239,45	240,65	10,7	3	1,20
241	10.570			240,65	241,00		3	0,35
	12.000	491	8396	241,00	242,43	9,9	3	1,43
	13.000			242,43	243,43		3	1,00
	14.500			243,43	244,93		2 B	1,50
	15.500			244,93	245,93		1 B	1,00
	18.000			245,93	248,43		2 B	2,50
	18.950	206	7416	248,43	249,38	8,9	2 B	0,95
	20.000	184	5993	249,38	250,43	7,4	2 B	1,05
	21.000	164	5609	250,43	251,43	6,9	2 A	1,00
	22.000	153	5233	251,43	252,43	6,5	2 A	1,00
253	22.150			252,43	253,00		2 A	0,57
	23.000	211	7216	253,00	253,85	8,7	3	0,85
	23.800	179	7652	253,85	254,65	9,2	3	0,80
255	24.130			254,65	255,00		1 B	0,35
	24.200			255,00	255,07		1 B	0,07

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=3,42
Callibrationfactor ; C = 3,42

М 39, гранца Казахстана - Объездная дорога Бишкек
M 39, Kazakhstan Border - Ring Road Bishkek

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
222	0							
	500			222,00	222,50		2 B	0,5
	2.000	229	5221	222,50	224,00	6,5	2 B	1,5
	2.520	72	4735	224,00	224,52	6,0	2 B	0,5
	3.500	182	6351	224,52	225,50	7,8	2 B	1,0
	5.000	258	5882	225,50	227,00	7,2	2 B	1,5
	7.000	341	5831	227,00	229,00	7,2	2 A	2,0
	8.500			229,00	230,50		2 B	1,5
	9.000	279	4771	230,50	231,00	6,0	1 A	0,5
	10.000	132	4514	231,00	232,00	5,7	1 A	1,0

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

M39, Объездная дорога - Кара Балта - граница Казахстана
M 39, Ringroad - Kara Balta - Kazakhstan Border

Калибрационфактор; C=5,95
Callibrationfactor ; C = 3,435

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
16	0							
	4.500			16,00	20,50		2 B	4,5
	5.150			20,50	21,15		2 A	0,6
	6.300			21,15	22,30		2 B	1,2
	8.400			22,30	24,40		2 A	2,1
	10.100			24,40	26,10		2 B	1,7
	10.500			26,10	26,50		2 A	0,4
	11.800			26,50	27,80		1 B	1,3
29	13.000			27,80	29,00		1 A	1,2
	14.000			29,00	30,00		2 A	1,0
	15.000	268	0	30,00	31,00	0,0	4	1,0
	16.000	252	0	31,00	32,00	0,0	3	1,0
	16.100			32,00	32,10		2 A	0,1
	16.500			32,10	32,50		2 B	0,4
	17.000	280	0	32,50	33,00	0,0	4	0,5
33	17.100			33,00	33,10		2 B	0,1
	18.000	258	0	33,10	34,00	0,0	3	0,9
	21.500			34,00	37,50		2 A	3,5
	22.900			37,50	38,90		1 A	1,4
	24.150			38,90	40,15		2 A	1,3
	24.600			40,15	40,60		2 B	0,5
	25.300			40,60	41,30		1 B	0,7
	26.700			41,30	42,70		2 B	1,4
	27.200			42,70	43,20		2 B	0,5
45	29.250			43,20	45,00		2 A	1,8
	30.000			45,00	45,75		2 A	0,8
	31.650			45,75	47,40		1 A	1,7
	32.300			47,40	48,05		2 A	0,6
	33.700			48,05	49,45		1 A	1,4
	34.300			49,45	50,05		1 A	0,6
	35.300			50,05	51,05		2 A	1,0
	36.300			51,05	52,05		2 A	1,0
	37.600			52,05	53,35		2 A	1,3
	38.500			53,35	54,25		1 B	0,9
	38.800			54,25	54,55		1 B	0,3
	39.200			54,55	54,95		2 B	0,4
	39.900			54,95	55,65		1 B	0,7
	40.200			55,65	55,95		2 A	0,3
	40.800			55,95	56,55		2 B	0,6
	41.300			56,55	57,05		2 A	0,5
	42.500			57,05	58,25		2 A	1,2

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	43.200			58,25	58,95		2 A	0,7
	43.700			58,95	59,45		2 B	0,5
	45.150			59,45	60,90		2 A	1,5
	47.600			60,90	63,35		2 A	2,5
	48.000			63,35	63,75		2 A	0,4
	48.500			63,75	64,25		2 B	0,5
	49.390			64,25	65,14		2 A	0,9
	49.540			65,14	65,29		2 A	0,2
	49.600			65,29	65,35		2 B	0,1
	51.000	243	0	65,35	66,75	0,0	2 B	1,4
67	51.600			66,75	67,00		2 B	0,2
	52.000	172	0	67,00	67,40	0,0	2 B	0,4
	53.000	224	0	67,40	68,40	0,0	3	1,0
	54.000	197	0	68,40	69,40	0,0	2 A	1,0
	54.700			69,40	70,10		2 A	0,7
	55.000	212	0	70,10	70,40	0,0	3	0,3
	56.000	176	0	70,40	71,40	0,0	2 A	1,0
	57.000	163	0	71,40	72,40	0,0	2 A	1,0
	57.700			72,40	73,10		2 A	0,7
	58.000	227	0	73,10	73,40	0,0	3	0,3
	58.500			73,40	73,90		3	0,5
	59.000	215	0	73,90	74,40	0,0	3	0,5
75	59.700			74,40	75,00		3	0,6
	60.000	208	0	75,00	75,30	0,0	3	0,3
	60.400			75,30	75,70		3	0,4
	61.000	212	0	75,70	76,30	0,0	3	0,6
	61.300			76,30	76,60		3	0,3
	61.800			76,60	77,10		3	0,5
	62.000	169	0	77,10	77,30	0,0	2 B	0,2
	62.300			77,30	77,60		2 B	0,3
	63.000	158	0	77,60	78,30	0,0	2 A	0,7
	64.000	144	0	78,30	79,30	0,0	2 A	1,0
	64.500			79,30	79,80		2 B	0,5
80	64.850			79,80	80,00		2 B	0,2
	65.000	173	0	80,00	80,15	0,0	2 B	0,2
	65.600			80,15	80,75		2 B	0,6
	65.800			80,75	80,95		1 A	0,2
	66.000	133	0	80,95	81,15	0,0	1 A	0,2
	66.100			81,15	81,25		1 A	0,1
	67.000	177	0	81,25	82,15	0,0	2 B	0,9
83	67.850			82,15	83,00		2 B	0,8
	68.000	149	0	83,00	83,15	0,0	2 B	0,2
	68.600			83,15	83,75		2 A	0,6
	68.800			83,75	83,95		2 B	0,2
	69.000	179	0	83,95	84,15	0,0	2 A	0,2
	70.000	292	0	84,15	85,15	0,0	4	1,0
	70.450			85,15	85,60		4	0,5
	70.600			85,60	85,75		3	0,2
86	70.900			85,75	86,00		2 B	0,2
	71.000	247	0	86,00	86,10	0,0	3	0,1
	71.500			86,10	86,60		2 B	0,5

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	71.800			86,60	86,90		3	0,3
	72.000	240	0	86,90	87,10	0,0	3	0,2
	73.000	259	0	87,10	88,10	0,0	3	1,0
	74.000	314	0	88,10	89,10	0,0	4	1,0
	75.000	386	0	89,10	90,10	0,0	5	1,0
	76.000	408	0	90,10	91,10	0,0	5	1,0
92	77.020	370	0	91,10	92,00	0,0	5	0,9

Неровность дороги / состояние поверхности (Визуальная инспекция)
Road Roughness/Surface Condition (Visual Inspection)

А 356: Бишкек - Нарын - граница Китая (Торугатт)
A 356: Bishkek - Naryn - Chinese Border (Torugatt)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Integ. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
10	5.900							
	8.000			10,0	12,0		3	2,0
	11.000			12,0	14,9		3	2,9
	12.300			14,9	16,2		3	1,3
	16.700			16,2	20,4		3	4,3
	17.800			20,4	21,5		3	1,1
	19.800			21,5	23,4		3	1,9
	21.400			23,4	25,0		3	1,5
	22.600			25,0	26,1		3	1,2
	30.200			26,1	33,5		5	7,3
	38.700			33,5	41,7		5	8,2
	40.100			41,7	43,0		5	1,4
46	42.800			43,0	45,7		5	2,6
	54.000			45,7	56,5		5	10,8
	55.600			56,5	58,0		1a	1,5
60	57.100			58,0	59,5		1a	1,4
	59.000			59,5	61,3		1a	1,8
	64.000			61,3	66,1		1a	4,8
	65.300			66,1	67,4		1a	1,3
	68.200			67,4	70,2		1a	2,8
	71.000			70,2	72,9		1a	2,7
	74.500			72,9	76,3		1a	3,4
89	86.400			76,3	87,8		1a	11,5
	103.400			87,8	104,2		1a	16,4
	106.200			104,2	106,9		1a	2,7
	111.600			106,9	112,1		1a	5,2
116	113.800			112,1	114,3		1a	2,1
	128.200			114,3	128,2		1a	13,9
	133.900			128,2	133,7		1a	5,5
	139.400			133,7	139,0		1a	5,3
	146.900			139,0	146,2		1a	7,2
157	155.100			146,2	154,2		1a	7,9
	157.000			154,2	156,0		1a	1,8
	158.600			156,0	157,5		1a	1,5
	164.400			157,5	163,1		1a	5,6
Balykchy	167.600			163,1	166,2		1a	3,1
172	0			166,2	172,0		1a	5,8
	7.800			172,0	179,8		1a	7,8
	11.900			179,8	183,9		1a	4,1
	17.100			183,9	189,1		1a	5,2
190	18.500			189,1	190,0		1a	0,9
	19.100			190,0	190,6		1a	0,6
	20.300			190,6	191,8		1a	1,2
	22.200			191,8	193,7		1a	1,9
	23.900			193,7	195,4		1a	1,7

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Integ. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	25.600			195,4	197,1		1a	1,7
	27.000			197,1	198,5		1a	1,4
	32.300			198,5	203,8		1b	6,7
	37.600			203,8	209,1		1b	5,3
	40.100			209,1	211,6		1b	2,5
	43.300			211,6	214,8		1b	3,2
	45.800			214,8	217,3		1b	2,5
	47.100			217,3	218,6		1b	1,3
	56.600			218,6	228,1		1b	9,5
	59.200			228,1	230,7		1b	2,6
	74.400			230,7	245,9		1b	15,2
	75.800			245,9	247,3		1b	1,4
	79.300			247,3	250,8		1b	3,5
	82.000			250,8	253,5		1b	2,7
	83.500			253,5	255,0		1b	1,5
	87.900			255,0	259,4		1b	4,4
260	92.000			259,4	260,0		1b	0,6
	99.000			260,0	267,0		1b	7,0
	101.100			267,0	269,1		1b	2,1
	105.400			269,1	273,4		1b	4,3
	109.600			273,4	277,6		1b	4,2
	111.800			277,6	279,8		1b	2,2
	114.600			279,8	282,6		1b	2,8
286	117.600			282,6	286,0		1b	3,4
	119.000			286,0	287,4		2a	1,4
	124.800			287,4	293,2		2a	5,8
	125.600			293,2	294,0		2a	0,8
	126.700			294,0	295,1		2a	1,1
	127.400			295,1	295,8		2a	0,7
	131.500			295,8	299,9		2a	4,1
	138.600			299,9	307,0		2a	7,1
	140.000			307,0	308,4		2a	1,4
	142.400			308,4	310,8		2a	2,4
	145.200			310,8	313,6		2a	2,8
314	145.900			313,6	314,0		2a	0,4
	146.300			314,0	314,4		2a	0,4
	164.300			314,4	332,4		2a	18,0
	172.800			332,4	340,9		2a	8,5
	173.500			340,9	341,6		2a	0,7
	173.900			341,6	342,0		2a	0,4
	177.300			342,0	345,4		2a	3,4
	177.800			345,4	345,9		2a	0,5
	179.300			345,9	347,4		2a	1,5
Naryn	180.300			347,4	352,0		2a	4,6
	3.500			352,0	355,4		2a	3,4
	4.000			355,4	355,9		2a	0,5
	7.500			355,9	359,2		2b	3,4
	10.800			359,2	362,4		2b	3,2
363	11.800			362,4	363,0		2b	0,6
	18.200			363,0	369,2		2b	6,2
	20.700			369,2	371,6		2b	2,4

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Integ. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	23.400			371,6	374,2		2b	2,6
	25.800			374,2	376,5		2b	2,3
	31.900			376,5	382,4		2b	5,9
385	32.800			382,4	385,0		2b	2,6
	36.100			385,0	388,2		2b	3,2
	37.500			388,2	389,5		2b	1,4
	41.200			389,5	393,1		2b	3,6
	49.900			393,1	401,5		2b	12,0
	56.400			401,5	407,8		2b	6,3
	59.800			407,8	411,1		2b	3,3
415	64.800			411,1	415,0		2b	3,9
	66.200			415,0	416,4		2b	1,4
	71.300			416,4	421,3		2b	4,9
	73.500			421,3	423,4		2b	2,1
	75.800			423,4	425,6		2b	2,2
	78.900			425,6	428,6		2b	3,0
	81.500			428,6	431,1		2b	2,5
Gravel	89.900			431,1	439,3		5	8,1
Road				439,3	534,0		5	95,0

TRACECA - PMS
PILOT SECTIONS FOR PAVEMENT MANAGEMENT SYSTEM

K A Z A K H S T A N

Section 1

A350, Almaty to Taldy - Kurgan

Length of Section 2x5km= 10 km:

Chainage km 18 (km Post) to 23 Direction to Taldy - Kurgan

and Chainage km 1063 (km Post) to 1058 Direction to Almaty

KZ - 1.1 Thickness of Pavement Layers

Ch. km 18	Ch. km 20	Ch. km 23	Ch. km 1063
320 mm Asphalt*	320 mm Asphalt*	320 mm Asphalt*	340 mm Asphalt *
340 mm Gravel - Sand	400 mm Gravel - Sand	380 mm Gravel - Sand	380 mm Gravel - Sand
Subgrade	Subgrade	Subgrade	Subgrade
* 100 mm 1st layer	* 100 mm 1st layer	* 100 mm 1st layer	* 100 mm 1st layer
120 mm 2nd layer	100 mm 2nd layer	100 mm 2nd layer	120 mm 2nd layer
100 mm 3rd layer	120 mm 3rd layer	120 mm 3rd layer	120 mm 3rd layer

Ch. km 1061	Ch. km 1059
360 mm Asphalt*	310 mm Asphalt*
360 mm Gravel - Sand	330 mm Gravel - Sand
Subgrade	Subgrade
* 120 mm 1st layer	* 70 mm 1st layer
120 mm 2nd layer	80 mm 2nd layer
120 mm 3rd layer	160 mm 3rd layer

NOTE: 3rd layer of asphalt is a bituminous base course layer (crushed stone with bitumen)

KZ - 1.2 Roughness

Chainage [km]	IRI [m/km]	Chainage [km]	IRI [m/km]
18.0 -18.6	12.0	1063.0 - 1062.3	9.1
18.6 - 19.2	10.8	1062.3 - 1061.7	9.6
19.2 - 20.0	10.2	1061.7 - 1061.2	11.4
20.0 - 20.5	10.9	1061.2 - 1061.4	9.7
20.5 - 21.2	12.9	1060.4 - 1059.4	10.7
21.2 - 22.2	10.6	1059.4 - 1058.7	11.0
22.2 - 23.0	10.0	1058.7 - 1058.0	8.1

Section 2

M39, Almaty - Bishkek

Length of Section 2x5km=10 km, Chainage km 54 (km Post) to 59 Direction to Bishkek and Chainage km 1428 (km Post) to 1433 Direction to Almaty

KZ - 2.1 Thickness of Pavement Layers

Ch. km 55	Ch. km 56.5	Ch. km 58
260 mm Asphalt *	310 mm Asphalt	300 mm Asphalt *
200 mm Crushed Stone	240 mm Gravel - Sand	500 mm Gravel - Sand
500 mm Gravel - Sand	Subgrade: Sandy - Silt	Subgrade: Sandy - Silt
Subgrade: Sandy - Silt		

* 100 mm 1st layer
80 mm 2nd layer
80 mm 3rd layer

* 80 mm 1st layer
80 mm 2nd layer
140 mm 3rd layer

Ch. km 1429	Ch. km 1430.5	Ch. km 1432
220 mm Asphalt *	220 mm Asphalt *	440 mm Asphalt *
200 mm Gravel - Sand	470 mm Gravel - Sand	150 mm Concrete
Subgrade: Sandy - Silt	Subgrade: Sandy - Silt	220 mm Gravel - Sand
		Subgrade: Sandy - Silt

* 30 mm 1st layer
80 mm 2nd layer
110 mm 3rd layer

* 70 mm 1st layer
90 mm 2nd layer
60 mm 3rd layer

* 120 mm 1st layer
320 mm 2nd layer

NOTE: Encountered concrete is probably a edge kerb of the old road

KZ - 2.2 Roughness

Chainage [km]	IRI [m/km]	Chainage [km]	IRI [m/km]
53.00 - 54.00	13.7	1428 - 1429	10.9
54.00 - 55.00	12.8	1429 - 1430	8.4
55.00 - 56.40	10.1	1430 - 1431	10.7
56.40 - 57.00	9.4	1431 - 1432	11.9
57.00 - 58.10	10.5	1432 - 1433	12.5
58.10 - 59.00	9.0	1433 - 1434	11.3

Section 3

M 32, Chimkent - Turkestan

Length of Section 10 km, Chainage km 66 (km Post) to 76

KZ - 3.1 Thickness of Pavement Layers

Ch. km 67	Ch. km 72	Ch. km 75
60 mm Asphalt 240 mm Gravel - Sand Subgrade: Clay - Silt	69 mm Asphalt 260 mm Gravel - Sand Subgrade: Clay - Silt	70 mm Asphalt 250 mm Gravel - Sand Subgrade: Clay - Silt

Ch. km 2197 (69)	Ch. km 2193 (73)
68 mm Asphalt 250 mm Gravel - Sand Subgrade: Clay - Silt	63 mm Asphalt 240 mm Gravel - Sand Subgrade: Clay - Silt

NOTE:
All Asphalt Layers consist of cold mix Asphalt

KZ - 3.2 Roughness

Chainage [km]	IRI [m/km]	Chainage [km]	IRI [m/km]
66.0 - 67.0	> 15	70.9 - 71.9	14.0
67.0 - 68.0	11.6	71.9 - 72.9	> 15
68.0 - 68.8	11.4	72.9 - 73.9	11.7
68.8 - 69.8	11.2	73.9 - 74.9	14.1
69.8 - 70.9	> 15	74.9 - 76.0	14.4

Казахстан:М39 (граница Киргизстана - Алматы)
Kazakhstan: M 39 (Border Kyrghyzstan to Almaty)

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=3,44
Callibrationfactor ; C =3,44

М39: Граница Киргизстана (северн. Бишкека) - Алматы км 222 - граница; км 1265 -1475
M 39: Border Kyrgyzstan (North of Bishkek) - Almaty km 222 - Border; km 1265 - 1475

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Пикетаж (km)	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	IRI (m/km)	Condition Category (Visual)	Section Length (km)
222	0			222,00	M 39 in Kyrgyzstan		
	84			221,92	M 39 in Kyrgyzstan		
	484			221,52	M 39 in Kyrgyzstan		
Border	600			1265,00	M 39 in Kyrgyzstan		
	707			1265,11		2 B	0,11
	1.000			1265,40		2 B	0,29
	2.800			1267,20		2 B	1,80
	3.500			1267,90		2 A	0,70
	5.600			1270,00		2 B	2,10
	5.875			1270,28		2 A	0,28
	6.200			1270,60		3	0,33
	8.475			1272,88		2 B	2,28
1275	10.230			1275,00		3	2,13
	11.000	215	0	1275,77	0,0	2 A - 3	0,77
1276	11.230			1276,00			0,23
	12.000	287	0	1276,77	0,0		0,77
	13.000	238	0	1277,77	0,0	3	1,00
	13.300			1278,07		2 B - 3	0,30
	14.000	272	0	1278,77	0,0	3	0,70
	15.300			1280,07		3	1,30
	16.000			1280,77		2 B	0,70
	17.600			1282,37		3	1,60
	19.350			1284,12		2 B	1,75
	19.800			1284,57		2 B	0,45
	20.450			1285,22		1 B	0,65
	20.900			1285,67		3	0,45
	22.250			1287,02		1 A	1,35
	23.750			1288,52		2 A	1,50
	24.750			1289,52		2 A	1,00
	25.700			1290,47		2 B	0,95
	25.950			1290,72		2 A	0,25
	26.050			1290,82		3	0,10
	26.400			1291,17		2 B	0,35
	27.000			1291,77		2 A	0,60
	28.500			1293,27		2 B	1,50
	29.150			1293,92		3	0,65
	29.580			1294,35		2 B	0,43
	30.250			1295,02		2 B	0,67
	30.850			1295,62		2 A	0,60
	32.700			1297,47		2 B	1,85
	34.040			1298,81		2 B	1,34
	34.700			1299,47		3	0,66
	35.000			1299,77		2 A	0,30
	35.700			1300,47		3	0,70

Казахстан:М39 (граница Киргизстана - Алматы)
Kazakhstan: M 39 (Border Kyrghyzstan to Almaty)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Пикетаж (km)	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	36.150			1300,92		2 B	0,45
	36.270			1301,04		4 - 5	0,12
	36.700			1301,47		2 B	0,43
	38.150			1302,92		3	1,45
	38.700			1303,47		3	0,55
	39.100			1303,87		2 B	0,40
	39.720			1304,49		3	0,62
	40.500			1305,27		2 A	0,78
	40.700			1305,47		2 B	0,20
1306	41.700			1306,00		3	0,53
	42.500			1306,80		2 B	0,80
	43.000	111	0	1307,30	0,0	2 B	0,50
	44.000	233	0	1308,30	0,0	2 B	1,00
	45.000	222	0	1309,30	0,0	2 B	1,00
	46.000	220	0	1310,30	0,0	2 B	1,00
	47.100			1311,40		2 B	1,10
	47.800			1312,10		1 A	0,70
1313	48.820			1313,00		2 A	0,90
	49.500			1313,68		2 A	0,68
	50.500	273	0	1314,68	0,0	2 B - 3	1,00
	51.000			1315,18		3	0,50
	51.500	255	0	1315,68	0,0	3	0,50
	51.800			1315,98		3	0,30
	52.240			1316,42		2 A	0,44
	52.840			1317,02		3	0,60
	52.960			1317,14		4	0,12
	53.260			1317,44		3	0,30
	53.400			1317,58		2 B	0,14
	53.530			1317,71		4	0,13
	53.650			1317,83		2 B	0,12
	54.100			1318,28		3	0,45
	54.540			1318,72		2 B	0,44
	55.010			1319,19		2 B	0,47
	56.700			1320,88		2 A	1,69
	56.970			1321,15		3	0,27
	57.120			1321,30		2 B	0,15
	58.370			1322,55		3	1,25
	59.000			1323,18		2 A	0,63
	59.950			1324,13		1 A	0,95
	61.000			1325,18		2 B	1,05
	62.500			1326,68		2 A	1,50
	62.700			1326,88		4	0,20
	63.700			1327,88		3	1,00
	65.100			1329,28		2 A	1,40
	66.000			1330,18		1 A	0,90
	69.800			1333,98		2 A	3,80
	70.600			1334,78		3	0,80
	71.000			1335,18		2 A	0,40
1336	72.030			1336,00		3	0,82
	74.100			1338,07		2 B	2,07
	74.500			1338,47		2 A	0,40
	75.150			1339,12		1 A	0,65
	75.950			1339,92		3	0,80
	77.500			1341,47		2 A	1,55
	78.190			1342,16		2 A	0,69

Казахстан:М39 (граница Киргизстана - Алматы)
Kazakhstan: M 39 (Border Kyrghyzstan to Almaty)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Пикетаж (km)	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	79.150			1343,12		2 B	0,96
	80.250			1344,22		2 B	1,10
1345	81.170			1345,00		2 A	0,78
	85.230			1349,06		2 A	4,06
	85.500			1349,33		2 B	0,27
	86.500	171	0	1350,33	0,0	2 A	1,00
1351	87.270			1351,00		2 A	0,67
	87.500	161	0	1351,23	0,0	2 A	0,23
	88.500	172	0	1352,23	0,0	2 A	1,00
	88.880			1352,61		2 B	0,38
	89.700			1353,43		2 A	0,82
	90.000			1353,73		3	0,30
1358	94.370			1358,00		2 A	4,27
	95.410			1359,04		2 A	1,04
	0			1359,04		2 A	0,00
1362	2.938			1362,00		2 A	2,96
	4.140			1363,20		2 B	1,20
	4.650			1363,71		3	0,51
	5.980			1365,04		2 A	1,33
1366	7.103			1366,00		3	0,96
	8.050			1366,95		3	0,95
	9.000			1367,90		3	0,95
	10.060			1368,96		2 A	1,06
	12.000			1370,90		2 A	1,94
	12.500			1371,40		2 B	0,50
	16.300			1375,20		2 A	3,80
	16.600			1375,50		3	0,30
	17.000			1375,90		2 A	0,40
	17.900			1376,80		1 A	0,90
	18.500			1377,40		2 A	0,60
	18.800			1377,70		2 A	0,30
	19.000			1377,90		1 A	0,20
	20.000			1378,90		1 A	1,00
1380	21.240			1380,00		2 A	1,10
	21.600			1380,36		3	0,36
	22.200			1380,96		2 A	0,60
	22.400			1381,16		2 B	0,20
	22.600			1381,36		2 A	0,20
	22.850			1381,61		3	0,25
1382	23.330			1382,00		2 A	0,39
	24.000			1382,67		2 A	0,67
	25.000	250	0	1383,67	0,0	2 A	1,00
	25.400			1384,07		2 A - 3	0,40
	25.600			1384,27		3	0,20
	26.000	260	0	1384,67	0,0	2 A	0,40
	27.000	213	0	1385,67	0,0	2 A - 3	1,00
	28.000	231	0	1386,67	0,0	2 A	1,00
	29.000	217	0	1387,67	0,0	2 A	1,00
	34.080			1392,75		2 A	5,08
	39.500			1398,17		2 A	5,42
	40.100			1398,77		3	0,60
	41.700			1400,37		3	1,60
	42.000			1400,67		1 A	0,30
	42.900			1401,57		2 A	0,90
	43.100			1401,77		3	0,20

Казахстан:М39 (граница Киргизстана - Алматы)
Kazakhstan: M 39 (Border Kyrghyzstan to Almaty)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Пикетаж (km)	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	45.500			1404,17		2 B	2,40
	46.800			1405,47		2 A	1,30
	47.200			1405,87		2 B	0,40
	48.700			1407,37		2 B	1,50
	49.100			1407,77		2 B	0,40
	50.000			1408,67		2 A	0,90
	50.500			1409,17		3	0,50
	50.870			1409,54		4	0,37
	51.150			1409,82		3	0,28
	51.600			1410,27		1 A	0,45
	53.400			1412,07		2 A	1,80
1412	53.740			1412,41		3	0,34
	54.500			1413,17		3	0,76
	56.050			1414,72		2 A	1,55
	60.400			1419,07		1 A	4,35
	60.830			1419,50		2 A	0,43
	66.500			1425,17		2 A	5,67
	67.000			1425,67		2 A	0,50
	69.240			1427,91		3	2,24
	69.500			1428,17		2 A	0,26
BEGIN FWD PILOT SECTION							
1428	0			1428,00		3	0,24
1429	1.000			1429,00		4	1,00
1430	2.000	223	6935	1430,00	8,4	3	1,00
	2.500			1430,50		4	0,50
1431	2.968			1430,97		4	0,47
	3.000	294	9143	1431,00	10,7	4	0,03
1432	3.959			1431,96		4	0,96
	4.000	331	10294	1432,00	11,9	4	0,04
1433	4.931			1432,93		4	0,93
	5.000	349	10854	1433,00	12,5	4	0,07
1434	5.911			1433,91		4	0,91
	6.000	313	9734	1434,00	11,3	4	0,09
END FWD PILOT SECTION							
	76.500			1434,45		3	0,45
	77.500			1435,45		4	1,00
	77.900			1435,85		4	0,40
	78.770			1436,72		3	0,87
	79.000			1436,95		2 A	0,23
	80.550			1438,50		2 A	1,55
1439	81.180			1439,00		3	0,50
TEST SECTION							
1441	180			1441,00		1 B	2,00
1442	1.107			1442,00		1 B	1,00
	1.180	125	0	1442,07	0,0	1 B	0,07
	2.180	125	0	1443,07	0,0	1 B	1,00
1443	2.192			1443,09		1 B	0,01
	3.180	121	0	1444,07	0,0	1 B	0,99
1444	3.203			1444,10		1 B	0,02
	4.180	130	0	1445,07	0,0	1 B	0,98
1445	4.223			1445,12		1 B	0,04
	5.180	125	0	1446,07	0,0	1 B	0,96
1446	5.249			1446,14		2 B	0,07
	6.180	156	0	1447,07	0,0	2 B	0,93
1447	6.275			1447,17		5	0,10

Казахстан:М39 (граница Киргизстана - Алматы)
Kazakhstan: M 39 (Border Kyrghyzstan to Almaty)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Пикетаж (km)	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	7.180	310	0	1448,07	0,0	5	0,90
1448	7.282			1448,18		5	0,10
	8.180	390	0	1449,07	> 15	5	0,90
1449	8.305			1449,20		5	0,13
	9.180	548	0	1450,07	> 15	5	0,88
1450	9.308			1450,20		2 B	0,13
	10.180	186	0	1451,07	0,0	2 B	0,87
1451	10.250			1451,14		1 B	0,07
	11.180	122	0	1452,07	0,0	1 B	0,93
1452	11.310			1452,20		1 B	0,13
	12.180	100	0	1453,07	0,0	1 B	0,87
1453	12.330			1453,22		1 B	0,15
	13.180	134	0	1454,07	0,0	1 B	0,85
	14.180	92	0	1455,07	0,0	1 B	1,00
1455	14.360			1455,25		3	0,18
	15.000			1455,89		3	0,64
1456	15.440			1456,33		3	0,44
	16.180	264	0	1457,07	0,0	3	0,74
	17.180	133	0	1458,07	0,0	1 A	1,00
1458	17.490			1458,38		2 A	0,31
	18.180	182	0	1459,07	0,0	2 A	0,69
1459	18.480			1459,37		2 A	0,30
	19.180	146	0	1460,07	0,0	2 A	0,70
1460	19.380			1460,27		1 B	0,20
	20.180	126	0	1461,07	0,0	1 B	0,80
	21.180	135	0	1462,07	0,0	1 B	1,00
1462	21.570			1462,46		2 B	0,39
	22.180	167	0	1463,07	0,0	2 B	0,61
1463	22.620			1463,51		2 B	0,44
	23.180	167	0	1464,07	0,0	2 B	0,56
1464	23.630			1464,52		3	0,45
	24.180	252	0	1465,07	0,0	3	0,55
1465	24.640			1465,53		2 B	0,46
	25.180	166	0	1466,07	0,0	2 B	0,54
1466	25.660			1466,55		2 B	0,48
	26.180	181	0	1467,07	0,0	2 B	0,52
1467	26.670			1467,56		3	0,49
	27.180	227	0	1468,07	0,0	3	0,51
1468	27.670			1468,56		2 B	0,49
	28.180	185	0	1469,07	0,0	2 B	0,51
1469	28.690			1469,58		2 B	0,51
	29.180	170	0	1470,07	0,0	2 B	0,49
1470	29.750			1470,64		2 B	0,57
	30.180	168	0	1471,07	0,0	2 B	0,43
	31.180	189	0	1472,07	0,0	2 A	1,00
1472	31.780			1472,67		2 A	0,60
	32.180	196	0	1473,07	0,0	2 A	0,40
1473	32.730			1473,62		2 B	0,55
	33.180	162	0	1474,07	0,0	2 B	0,45
	34.180			1475,07		2 B	1,00
Town sign	34.440			1475,33		2 B	0,26
ALMATY							
1475	34.770			1475,66		2 B	0,33
	35.180	182	0	1476,07	0,0	2 B	0,41

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=3,11
Callibrationfactor ; C =3,11

М39: Граница Киргизстана - Мерке (А359, км 365) - Чимкент - граница Узбекистана
M 39: Border Kyrgyzstan - Merke (A359, km 365) - Cimkent - Border Uzbekistan

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Пикетаж (km)	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)	Категор дороги
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	IRI (m/km)	Condition Category (Visual)	Section Length (km)	Road Category
92	0			92,00	M 39 in Kyrgyzstan			
	25			92,03	M 39 in Kyrgyzstan			
Border					M 39 in Kyrgyzstan			
	258			332,33				II
345	12.930			345,00		2 A	12,67	II
	15.500			347,57		2 A	2,57	II
	16.850			348,92		2 A	1,35	II
	18.000	254	0	350,07	0,0	2 A	1,15	II
	19.000	227	0	351,07	0,0	2 A	1,00	II
352	19.860			352,00		2 A	0,93	II
	20.000	207	0	352,14	0,0	2 A	0,14	II
353	20.870			353,01		2 A	0,87	II
	21.000	198	0	353,14	0,0	2 A	0,13	II
	23.600			355,74		2 A	2,60	II
	25.000	237	0	357,14	0,0	2 A	1,40	II
	25.300			357,44		2 A	0,30	II
	25.500			357,64		3	0,20	II
Junction A 359	32.060			364,20		2 A	6,56	II
365	32.730			364,87		2 A	0,67	II
370	5,17			370,00		2A	5,13	II
375	10,40			375,05		3	5,05	II
380	15,45			379,93		2A	4,88	II
	16,50	218	0	380,94	0,0	2A	1,01	II
	17,50	246	0	381,91	0,0	3	0,97	II
	18,50	216	0	382,87	0,0	2A	0,97	II
385	20,60			384,90		2A	2,03	II
Begin By-pass	31,60			395,53		2A	10,63	II
396	31,80			395,72		3	0,19	II
403	39,10			402,78		3	7,05	II
End of By-pass	40,70			404,32		3	1,55	II
412	48,50			411,86		3	7,54	II
	49,50	268	0	412,83	0,0	3	0,97	II
	50,50	291	0	413,79	0,0	3	0,97	II
414	50,70			413,99		3	0,19	II
	51,50	249	0	414,76	0,0	3	0,77	II
	52,50	293	0	415,72	0,0	3	0,97	II
	54,00			417,17		2A	1,45	II
420	56,75			419,83		2A	2,66	II
	60,00			422,97		4	3,14	II
	61,40			424,32		2/3	1,35	II
425	61,85			424,76		2/3	0,43	II
	63,70			426,55		2/3	1,79	II
	64,10			426,93		4	0,39	II

Казахстан: М39 (граница Киргизстана - граница Узбекистана)
Kazakhstan: M 39 (Border Kyrgyzstan to Border Uzbekistan)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Пикетаж (km)	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)	Категор дороги
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	IRI (m/km)	Condition Category (Visual)	Section Length (km)	Road Category
	64,80			427,61		3	0,68	II
	65,10			427,90		4	0,29	II
	68,70			431,38		3	3,48	II
	69,30			431,96		4	0,58	II
435	72,27			434,83		4	2,87	II
	76,00			438,43		2A	3,60	II
	77,00			439,40		2A	0,97	II
440	77,12			439,51		2A	0,12	II
	78,00	192	0	440,36	0,0	2A	0,85	II
	79,00	207	0	441,33	0,0	2A	0,97	II
442	79,24			441,56		2A	0,23	II
	80,00	281	0	442,29	0,0	3	0,73	II
	81,00	284	0	443,26	0,0	3	0,97	II
445	82,40			444,61		4	1,35	II
	87,30			449,35		2A	4,73	II
450	87,50			449,54		2A	0,19	II
	90,00			451,96		3	2,42	II
	92,70			454,57		3	2,61	II
	94,60			456,40		2B	1,84	II
460	97,72			459,42		3	3,01	II
	98,00			459,69		2A	0,27	II
465	102,85			464,37		2A	4,69	II
	106,00			467,42		3	3,04	II
	107,50			468,86		3	1,45	II
470	108,00			469,35		4	0,48	II
	110,50			471,76		3	2,42	II
	112,00			473,21		2A	1,45	II
474	112,12			473,33		3	0,12	II
	113,00	255	0	474,18	0,0	3	0,97	II
	114,00	204	0	475,14	0,0	2A	0,97	II
476	114,15			475,29		2A	0,14	II
	114,50			475,63		2A	0,34	II
478	116,50			477,56		2A	1,93	II
	117,50	242	0	478,53	0,0	3	0,97	II
	118,50	185	0	479,49	0,0	2A	0,97	II
481	119,50	191	0	480,46	0,0	2A	0,97	II
	121,50			482,39		2A	1,93	II
	122,20			483,07		4	0,68	II
485(start 4 lane)	123,75			484,57		2A	1,50	I
	125,00			485,77		4	1,21	I
	126,00			486,74		3	0,97	I
489	127,95			488,62		4	1,88	I
End of 4 Lanes	128,10			488,77		4	0,14	I
490	128,95			489,59		3	0,82	II
	130,00			490,60		2A	1,01	II
	132,50			493,02		3	2,42	II
	138,70			499,01		2A	5,99	II
500	139,15			499,44		2A	0,43	II
	141,00			501,23		2A	1,79	II
	141,90			502,10		4	0,87	II
505	144,35			504,47		3	2,37	II
By-pass Chambul	144,75			504,86		2A	0,39	II
11	145,85			505,92		2A	1,06	III
13	147,89			507,89		3	1,97	III

Казахстан: М39 (граница Киргизстана - граница Узбекистана)
Kazakhstan: M 39 (Border Kyrgyzstan to Border Uzbekistan)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Пикетаж (km)	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)	Категор дороги
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	IRI (m/km)	Condition Category (Visual)	Section Length (km)	Road Category
	148,00	224	0	508,00	0,0	2A	0,11	III
4	148,90			508,86		2A	0,87	III
	149,00	252	0	508,96	0,0	3	0,10	III
5	149,95			509,88		3	0,92	III
	150,00	232	0	509,93	0,0	3	0,05	III
	151,00			510,89		3	0,97	III
	154,00			513,79		2A	2,90	II
9	154,35			514,13		5	0,34	II
	154,70			514,47		5	0,34	II
	155,00			514,76		2B	0,29	II
10	155,42	100	0	515,16	0,0	2B	0,41	II
	156,00			515,72		2B	0,56	II
	157,00	141	0	516,69	0,0	2B	0,97	II
	157,50			517,17		2B	0,48	II
	158,00	235	0	517,66	0,0	3	0,48	II
	163,60			523,07		3	5,41	II
18	164,28			523,72		2B	0,66	II
20	166,22			525,60		3	1,87	II
	169,00			528,29		3	2,69	II
26	172,40			531,57		2A	3,29	II
	174,40			533,50		3	1,93	II
End of By-pass	174,50			533,60		3	0,10	II
529	175,40			534,47		5	0,87	II
530	176,50			535,53		2A	1,06	II
531	177,55			536,55		2A	1,01	II
532	178,60			537,56		2A	1,01	II
533	179,70			538,62		2A	1,06	II
	181,00			539,88		2A	1,26	II
	182,20			541,04		3	1,16	II
	183,00			541,81		4	0,77	II
	184,25			543,02		3	1,21	II
540	186,83			545,51		2A	2,49	II
	187,80			546,45		2B	0,94	II
	188,70			547,32		3	0,87	II
	190,90			549,44		2A	2,13	II
545	191,86			550,37		2A	0,93	II
	193,40			551,86		2A	1,49	II
550 (Begin +8%)	197,02			555,36		3	3,50	II
555	202,15			560,31		3	4,96	II
	204,30			562,39		3	2,08	II
	206,40			564,42		2A	2,03	II
560	207,30			565,29		2B	0,87	II
561	208,35			566,30		3	1,01	II
	209,00	121	0	566,93	0,0	1B	0,63	II
562	209,35			567,27		1B	0,34	II
	210,00	125	0	567,90	0,0	1B	0,63	II
	211,00	220	0	568,86	0,0	2A	0,97	II
565	212,42			570,24		2A	1,37	II
567	214,48			572,23		2B	1,99	II
Stagnant	214,70			572,44		2B	0,21	II
Water	215,40			573,12		5	0,68	II
	216,70			574,37		2A	1,26	II
570	217,58			575,22		3	0,85	II
	218,60			576,21		3	0,99	II

Казахстан: М39 (граница Киргизстана - граница Узбекистана)
Kazakhstan: M 39 (Border Kyrgyzstan to Border Uzbekistan)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Пикетаж (km)	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)	Категор дороги
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	IRI (m/km)	Condition Category (Visual)	Section Length (km)	Road Category
575	222,80			580,27		2A	4,06	II
	223,50			580,94		2A	0,68	II
580	227,90			585,19		3	4,25	II
	230,00			587,22		3	2,03	II
	231,00			588,19		2A	0,97	II
	232,00			589,15		2A	0,97	II
585	233,05			590,17		2A	1,01	II
	236,50			593,50		2A	3,33	II
590	238,15			595,10		3	1,59	II
	239,00			595,92		3	0,82	II
595	243,33			600,10		2B	4,18	II
600	248,40			605,00		2B	4,90	II
	249,70			606,26		2B	1,26	II
	251,00			607,51		3	1,26	II
	251,90			608,38		4	0,87	II
606	254,70			611,09		3	2,71	II
	257,50			613,79		3	2,71	II
	258,00			614,28		2B	0,48	II
	258,20			614,47		5	0,19	II
610	258,85			615,10		3	0,63	II
	263,50			619,59		3	4,49	II
615	264,09			620,16		2A	0,57	II
	264,80			620,85		2A	0,69	II
620	269,30			625,19		3	4,35	II
	269,90			625,77		3	0,58	II
	273,40			629,15		2B	3,38	II
	275,00			630,70		3	1,55	II
630	279,66			635,20		2B	4,50	II
633	282,75			638,19		2B	2,99	II
	283,30			638,72		2B	0,53	II
638	287,45			642,73		3	4,01	II
Begin 4 Lanes	288,00			643,26		3	0,53	I
	288,20			643,45		3	0,19	I
	291,00			646,16		2A	2,71	I
	292,20			647,32		3	1,16	I
	293,00			648,09		2B	0,77	I
	293,40			648,48		3	0,39	I
End of 4 Lanes	294,40			649,44		2B	0,97	I
645	294,83			649,86		2B	0,42	II
	295,30			650,31		2B	0,45	II
	297,50			652,44		3	2,13	II
	298,00			652,92		2B	0,48	II
650	299,95			654,81		2A	1,88	II
Begin Ascend	300,00			654,86		2A	0,05	II
	302,00			656,79		2A	1,93	II
	303,00			657,75		3	0,97	II
End of Ascend	304,00			658,72		2B	0,97	II
655	305,10			659,78		2B	1,06	II
Broken Bridge	307,60			662,20		3	2,42	II
	307,80			662,39		3	0,19	II
660	310,30			664,81		2A	2,42	II
	312,60			667,03		2A	2,22	II
	313,00			667,42		2B	0,39	II
	313,80			668,19		2A	0,77	II

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Пикетаж (km)	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)	Категор дороги
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	IRI (m/km)	Condition Category (Visual)	Section Length (km)	Road Category
Roundabout	314,90			669,25		2B	1,06	II
	315,70			670,02		2B	0,77	II
666	316,48			670,78		2A	0,75	II
	319,50			673,70		2A	2,92	II
	320,60			674,76		2B	1,06	II
674	325,00			679,01		2A	4,25	II
	326,20			680,17		1B	1,16	II
	328,30			682,20		2A	2,03	II
680	331,10			684,90		1A	2,71	II
Roundabout	332,40			686,16		1A	1,26	II
683	334,24			687,94		1A	1,78	II
	335,50	135	0	689,15	0,0	1A	1,22	II
685	336,34			689,97		1A	0,81	II
	336,50	136	0	690,12	0,0	1A	0,15	II
	337,50	143	0	691,09	0,0	1A	0,97	II
	340,40			693,89		1A	2,80	II
	341,30			694,76		2A	0,87	II
	342,20			695,63		2B	0,87	II
	344,50			697,85		2A	2,22	II
	345,00			698,33		3	0,48	II
696	345,70			699,01		2A	0,68	II
	347,00			700,27		2A	1,26	II
	348,00			701,23		2B	0,97	II
703	352,59			705,67		3	4,43	II
704	353,00			706,06		2B	0,40	II
705	355,13			708,12		2B	2,06	II
Begin 4 Lanes	356,00			708,96		2A	0,84	I
710	360,30			713,12		2A	4,15	I
	360,80			713,60		2A	0,48	I
719	369,70			722,20		2B	8,60	I
720	370,80			723,26		2B	1,06	I
	371,70			724,13		3	0,87	I
	375,00			727,32		2B	3,19	I
725	375,88			728,17		2B	0,85	I
	376,00	223	0	728,29	0,0	2B	0,12	I
	377,00	301	0	729,25	0,0	4	0,97	I
	378,00	264	0	730,22	0,0	3	0,97	I
	381,15			733,26		3	3,04	I
	382,70			734,76		2B	1,50	I
	383,50			735,53		3	0,77	I
	384,00			736,01		2B	0,48	I
	384,50			736,50		4	0,48	I
	385,40			737,37		3	0,87	I
736	387,55			739,44		2A	2,08	I
737	388,40			740,27		2A	0,82	I
738	389,64			741,46		3	1,20	I
	390,00			741,81		3	0,35	I
743	394,70			746,35		2B	4,54	I
745	396,80			748,38		2B	2,03	I
	397,40			748,96		2A	0,58	I
	399,20			750,70		2A	1,74	I
	400,20			751,67		2B	0,97	I
	401,30			752,73		2A	1,06	I
	401,60			753,02		3	0,29	I

Казахстан: М39 (граница Киргизстана - граница Узбекистана)
Kazakhstan: M 39 (Border Kyrgyzstan to Border Uzbekistan)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Пикетаж (km)	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)	Категор дороги
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	IRI (m/km)	Condition Category (Visual)	Section Length (km)	Road Category
751	403,00			754,37		2A	1,35	I
755	407,20			758,43		2B	4,06	I
	408,40			759,59		3	1,16	I
	413,60			764,61		2B	5,02	I
	414,10			765,10		4	0,48	I
763	415,40			766,35		3	1,26	I
	417,00	176	0	767,90	0,0	2A	1,55	I
	418,00	176	0	768,86	0,0	2A	0,97	I
766	418,50			769,35		2A	0,48	I
	419,00	201	0	769,83	0,0	2A	0,48	I
771	423,82			774,49		2A	4,66	I
775	427,90			778,43		2A	3,94	I
781	434,10			784,42		2A	5,99	I
	437,30			787,51		2A	3,09	I
	440,20			790,31		3	2,80	I
	442,00	221	0	792,05	0,0	2B	1,74	I
789	442,08			792,13		2B	0,08	I
	443,00	216	0	793,02	0,0	2A	0,89	I
	444,00	166	0	793,99	0,0	2B	0,97	I
	444,70			794,66		2B	0,68	I
793	446,17			796,08		3	1,42	I
794	446,18			796,09		3	0,01	I
	448,00			797,85		3	1,76	I
	450,00			799,78		2B	1,93	I
798	451,20			800,94		3	1,16	I
End of 4 Lanes	453,15			802,83		2A	1,88	I
801	453,93			803,58		2B	0,75	II
Check Point	456,15			805,72		2B	2,14	II
Border	456,88			806,43		3	0,71	II
807	457,90			807,42	M39 in Uzbekistan			
810	460,95			810,36	M39 in Uzbekistan			
815	466,40			815,63	M39 in Uzbekistan			

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=6,14
Callibrationfactor ; C = 6,14

A350, Алматы - Талды-Курган - Андреевка (примыкание A355)
A 350, Almaty - Taldy Kurgan - Andrejevka (Junction A 355)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Vehicle Roughness (mm/km)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Vehicle Roughness (mm/km)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
End of Almaty									
	0								
14	310				13.69	14.00		3	0.31
	2826				14.00	16.52		3	2.52
18	4194				16.52	18.00		2b	1.48
	4760	96	1696	10414	18.00	18.57	12.0	4	0.57
	5426	100	1502	9219	18.57	19.23	10.8	3	0.67
	6204	110	1414	8681	19.23	20.01	10.2	3	0.78
	6691	74	1520	9330	20.01	20.50	10.9	4	0.49
	7431	136	1838	11284	20.50	21.24	12.9	5	0.74
	8442	149	1474	9049	21.24	22.25	10.6	4	1.01
23	9370	128	1379	8469	22.25	23.00	10.0	3	0.75
	10450				23.00	24.08		3	1.08
	11120				24.08	24.75		2b	0.67
	13290				24.75	26.92		1b	2.17
	14040				26.92	27.67		2b	0.75
	16810				27.67	30.44		1b	2.77
	19480				30.44	33.11		3	2.67
	21010				33.11	34.64		2b	1.53
	21480				34.64	35.11		3	0.47
37	23500				35.11	37.00		2b	1.89
	7450				37.00	44.45		3	7.45
	9283				44.45	46.28		2b	1.83
	10170				46.28	47.17		1b	0.89
	15090				47.17	52.09		3	4.92
	20350				52.09	57.35		1b	5.26
	21030	84	1235	7585	57.35	58.03	9.1	3	0.68
	21760	57	781	4794	58.03	58.76	6.0	2b	0.73
	22230	50	1064	6532	58.76	59.23	8.0	2a	0.47
60	23400	97	829	5090	59.23	60.00	6.4	2a	0.77
	36250				60.00	72.85		1a	12.85
	39660				72.85	76.26		1b	3.41
	42900				76.26	79.50		3	3.24
	44650				79.50	81.25		4	1.75
83	46550				81.25	83.00		3	1.75
	46640				83.00	83.09		2b	0.09
	47300	118	1788	10978	83.09	83.75	12.6	5	0.66
	47880	94	1621	9951	83.75	84.33	11.6	4	0.58
85	48630	89	1187	7286	84.33	85.00	8.8	3	0.67
	49940				85.00	86.31		2b	1.31
	58460				86.31	94.83		3	8.52
	58900	58	1318	8094	94.83	95.27	9.6	3	0.44

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Vehicle Roughness (mm/km)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Vehicle Roughness (mm/km)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	59420	83	1596	9800	95.27	95.79	11.4	4	0.52
	59950	89	1679	10311	95.79	96.32	11.9	4	0.53
	60430	81	1688	10361	96.32	96.80	12.0	4	0.48
	60710				96.80	97.08		3	0.28
	63030				97.08	99.40		2a	2.32
	77440				99.40	113.81		3	14.41
117	81240				113.81	117.00		2b	3.19
	82150				117.00	117.91		2a	0.91
	86040				117.91	121.80		1a	3.89
	86570	36	679	4171	121.80	122.33	5.3	1a	0.53
	87150	40	690	4234	122.33	122.91	5.4	1a	0.58
	87700	50	909	5582	122.91	123.46	6.9	2a	0.55
124	88360	60	909	5582	123.46	124.00	6.9	2b	0.54
	93820				124.00	129.46		2a	5.46
	96470				129.46	132.11		3	2.65
	96850				132.11	132.49		4	0.38
	97560				132.49	133.20		3	0.71
	100300				133.20	135.94		4	2.74
137	101150				135.94	137.00		3	1.06
	1038				137.00	138.04		3	1.04
	2838				138.04	139.84		2a	1.80
	4751				139.84	141.75		4	1.91
	5237				141.75	142.24		3	0.49
	9398				142.24	146.40		2a	4.16
	19050				146.40	156.05		3	9.65
158	21240				156.05	158.00		2a	1.95
	26100				158.00	162.86		2b	4.86
	26480	50	1316	8079	162.86	163.24	9.6	3	0.38
	26950	89	1894	11627	163.24	163.71	13.3	5	0.47
	27300	38	1086	6666	163.71	164.06	8.1	2b	0.35
170	32180				164.06	170.00		2a	5.94
	34650				170.00	172.47		1a	2.47
	35500				172.47	173.32		3	0.85
	36640				173.32	174.46		2a	1.14
	46230				174.46	184.05		2b	9.59
	51370				184.05	189.19		3	5.14
	54450				189.19	192.27		2a	3.08
203	65390				192.27	203.00		1a	10.73
	65460				203.00	203.07		1a	0.07
	66030	36	632	3878	203.07	203.64	5.0	1a	0.57
	66890	57	663	4070	203.64	204.50	5.2	1a	0.86
	67630	54	730	4481	204.50	205.24	5.7	1a	0.74
	68400	47	610	3748	205.24	206.01	4.9	1a	0.77
240	102300				206.01	240.00		1a	33.99
	1720				240.00	241.72		1a	1.72
	8470				241.72	248.47		2a	6.75
	10320				248.47	250.32		1a	1.85
	13390				250.32	253.39		2a	3.07
	14850				253.39	254.85		2b	1.46
	30810				254.85	270.81		2a	15.96
	31270	47	1022	6273	270.81	271.27	7.7	2a	0.46

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Vehicle Roughness (mm/km)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Vehicle Roughness (mm/km)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	32020	103	1373	8432	271.27	272.02	10.0	3	0.75
	32900	85	966	5931	272.02	272.90	7.3	2b	0.88
	34000	126	1145	7033	272.90	274.00	8.5	3	1.10
275	36400				274.00	275.00		2a	1.00
	43110				275.00	281.71		2a	6.71
	50100				281.71	288.70		1a	6.99
	52720				288.70	291.32		3	2.62
	56460				291.32	295.06		2a	3.74
	59700				295.06	298.30		3	3.24
	60110				298.30	298.71		1a	0.41
	67370				298.71	305.97		2a	7.26
	70670				305.97	309.27		3	3.30
312	73400				309.27	312.00		1a	2.73
	82370				312.00	320.97		1a	8.97
	83370	93	930	5710	320.97	321.97	7.1	2a	1.00
	84150	71	910	5589	321.97	322.75	6.9	2a	0.78
	84590	89	2023	12420	322.75	323.19	14.1	5	0.44
	84910				323.19	323.51		2a	0.32
	86000				323.51	324.60		2b	1.09
327	89480				324.60	327.00		2a	2.40
	27400				327.00	354.40		1a	27.40
	31170				354.40	358.17		2a	3.77
	34440				358.17	361.44		1a	3.27
	35790				361.44	362.79		3	1.35
	39320				362.79	366.32		2a	3.53
	40600				366.32	367.60		3	1.28
368	41560				367.60	368.00		2a	0.40
	44340				368.00	370.78		1a	2.78
	51130				370.78	377.57		2a	6.79
	57360				377.57	383.80		3	6.23
	58100	90	1216	7468	383.80	384.54	9.0	3	0.74
	58920	83	1012	6215	384.54	385.36	7.6	2b	0.82
	59850	101	1086	6668	385.36	386.29	8.1	2a	0.93
	60550	147	2100	12894	386.29	386.99	14.6	5	0.70
	62290				386.99	388.73		2a	1.74
	71690				388.73	398.13		3	9.40
	73030				398.13	399.47		2a	1.34
	74830				399.47	401.27		1a	1.80
	75300				401.27	401.74		3	0.47
	75880				401.74	402.32		2a	0.58
	81160				402.32	407.60		2a	5.28
	83920				407.60	410.36		3	2.76
	88230				410.36	414.67		2a	4.31
	90090				414.67	416.53		3	1.86
	91470				416.53	417.91		2a	1.38
	94040				417.91	420.48		3	2.57
	95880				420.48	422.32		2a	1.84
	6307				420.00	426.31		1a	6.31
	18960				426.31	438.96		2a	12.65
	22730				438.96	442.73		3	3.77
	23220	88	1796	11027	442.73	443.22	12.7	5	0.49

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Vehicle Roughness (mm/km)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Vehicle Roughness (mm/km)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	23930	124	1746	10723	443.22	443.93	12.4	5	0.71
	24730	192	2400	14736	443.93	444.73	>15	5	0.80
	25560	239	2880	17680	444.73	445.56	>15	5	0.83
	27490				445.56	447.49		3	1.93
	29600				447.49	449.60		2b	2.11
	34200				449.60	454.20		2a	4.60
	39170				454.20	459.17		2b	4.97
	42620				459.17	462.62		1b	3.45
	45070				462.62	465.07		1a	2.45
	47900				465.07	467.90		1b	2.83
	48630				467.90	468.63		4	0.73
470	50990				468.63	470.00		3	1.37
	52820				470.00	471.83		3	1.83
	53510				471.83	472.52		4	0.69
	59460				472.52	478.47		2a	5.95
	60890				478.47	479.90		1a	1.43
	62560				479.90	481.57		2a	1.67
	71060				481.57	490.07		3	8.50
	73510				490.07	492.52		2a	2.45
	76560				492.52	495.57		3	3.05
	78300				495.57	497.31		2a	1.74
	87180				497.31	506.19		3	8.88
Junction A 355	89150				506.19	508.16		2a	1.97

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=6,14
Callibrationfactor ; C = 6.14

A 353 Сарыозек,(примыканик A350) - Хоргос/граница Китая
A 353, Saryozek (Junction A 350) - Chorgos/Chinese Border

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
Bypass Saryozek								
0	0							0.00
	2456			0.00	2.46		1a	2.46
	3373			2.46	3.37		2a	0.92
	4794			3.37	4.79		1a	1.42
	5010			4.79	5.01		2b	0.22
	5983			5.01	5.98		2a	0.97
	6892			5.98	6.89		3	0.91
	8661			6.89	8.66		2a	1.77
	8987			8.66	8.99		3	0.33
A 353								
5	0						3	0.00
	1336			5.00	6.34		1a	1.34
	7330			6.34	12.33		2b	5.99
	7689			12.33	12.69		1b	0.36
	9277			12.69	14.28		2b	1.59
	9840			14.28	14.84		1b	0.56
	11330			14.84	16.33		2b	1.49
	15540			16.33	20.54		2a	4.21
	16430			20.54	21.43		2b	0.89
	17200			21.43	22.20		2a	0.77
	19120			22.20	24.12		1a	1.92
	24280			24.12	29.28		2a	5.16
	27380			29.28	32.38		1a	3.10
	28310			32.38	33.31		2a	0.93
	33790			33.31	38.79		1a	5.48
	34090			38.79	39.09		2b	0.30
	36290			39.09	41.29		1b	2.20
	37090	67	5142	41.29	42.09	6.4	2b	0.80
	38000	96	6477	42.09	43.00	7.9	2b	0.91
	38820	80	5990	43.00	43.82	7.4	2a	0.82
	39650	71	5252	43.82	44.65	6.6	2b	0.83
	40290	42	4029	44.65	45.29	5.2	1a	0.64
45	40620			45.29	45.00		1a	-0.29
	44560			45.00	48.94		1a	3.94
	44710			48.94	49.09		1b	0.15
	47900			49.09	52.28		1a	3.19
	49250			52.28	53.63		2b	1.35

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	51530			53.63	55.91		1b	2.28
	58100			55.91	62.48		1a	6.57
	59130			62.48	63.51		2b	1.03
	62240			63.51	66.62		2a	3.11
	62550			66.62	66.93		3	0.31
	63750			66.93	68.13		1a	1.20
	64300			68.13	68.68		2a	0.55
	67560			68.68	71.94		1a	3.26
	68080	70	8265	71.94	72.46	9.8	3	0.52
	68840	69	5574	72.46	73.22	6.9	2b	0.76
	69550	43	3719	73.22	73.93	4.8	1a	0.71
	70240	49	4360	73.93	74.62	5.6	1b	0.69
75	70450	13	3801	74.62	75.00	4.9	1a	0.38
	79500			75.00	84.05		1b	9.05
	93960			84.05	98.51		1a	14.46
	95130			98.51	99.68		2a	1.17
102	96940			99.68	102.00		1a	2.32
	89			102.00	102.09		1a	0.09
	1001	92	6194	102.09	103.00	7.6	2a	0.91
	1860	112	8006	103.00	103.86	9.5	3	0.86
	2801	91	5938	103.86	104.80	7.3	2b	0.94
	3701	89	6072	104.80	105.70	7.5	2a	0.90
	17320			105.70	119.32		1a	13.62
	21440			119.32	123.44		2a	4.12
	27580			123.44	129.58		1a	6.14
131	29740			129.58	131.74		2a	2.16
	29830			131.74	131.83		1a	0.09
	30540	75	6486	131.83	132.54	7.9	2a	0.71
	31160	85	8418	132.54	133.16	10.0	3	0.62
	32100	94	6140	133.16	134.10	7.5	2b	0.94
	32840	89	7385	134.10	134.84	8.9	3	0.74
	34000	99	5240	134.84	136.00	6.5	2a	1.16
	34800	91	6984	136.00	136.80	8.4	2b	0.80
	39090			136.80	141.09		1a	4.29
	53810			141.09	155.81		1a	14.72
166	65260			155.81	166.00		1a	10.19
	65320			166.00	166.06		1a	0.06
	66190	107	7551	166.06	166.93	9.0	3	0.87
	67300	108	5974	166.93	168.04	7.3	2a	1.11
	68000	67	5877	168.04	168.74	7.2	2a	0.70
	75130			168.74	175.87		1a	7.13
	75390			175.87	176.13		3	0.26
	77840			176.13	178.58		2a	2.45
	80310			178.58	181.05		1a	2.47
	87670			181.05	188.41		2a	7.36
	88610			188.41	189.35		3	0.94
	88790			189.35	189.53		2a	0.18
	89390	133	13610	189.53	190.13	>15	5	0.60
	90000	121	12179	190.13	190.74	13.8	5	0.61
	91040	161	9505	190.74	191.78	11.1	4	1.04
	91450	80	11980	191.78	192.19	13.6	5	0.41

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
	92530			192.19	193.27		3	1.08
	96610			193.27	197.35		2b	4.08
198	98650			197.35	199.39		1a	0.65
	2189			198.00	200.19		2a	2.19
	4920			200.19	202.92		1a	2.73
	10180			202.92	208.18		2a	5.26
	13000			208.18	211.00		1a	2.82
	15490			211.00	213.49		2b	2.49
	23030			213.49	221.03		1a	7.54
Chorgos Border Area	27200			221.03	225.20		1a	4.17

Неровность дороги / состояние поверхности
Road Roughness/Surface Condition

Калибрационфактор; C=6,14
Callibrationfactor ; C = 6.14

A355, Андреевка (примыкание A350) - Дружба/граница Китая
A 355, Andrejevka (Junction A 350) - Druzba/Chinese Border

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Section Length (km)
5	0							
	4272			5.00	9.27		1a	4.27
12	7270			9.27	12.00		1a	2.73
	4262			12.00	16.26		1a	4.26
	11480			16.26	23.48		2b	7.22
	11710			23.48	23.71		1a	0.23
	23630			23.71	35.63		1a	11.92
	23980			35.63	35.98		5	0.35
	25720			35.98	37.72		1b	1.74
	26160			37.72	38.16		2b	0.44
	29070			38.16	41.07		1b	2.91
	41820			41.07	53.82		3	12.75
	42500			53.82	54.50		2b	0.68
	42970			54.50	54.97		5	0.47
	43760			54.97	55.76		2b	0.79
	44130			55.76	56.13		3	0.37
58	48130			56.13	58.00		2b	1.87
	51230			58.00	61.10		3	3.10
	63730			61.10	73.60		5	12.50
	67000			73.60	76.87		4	3.27
	71200			76.87	81.07		2b	4.20
	72400			81.07	82.27		3	1.20
	76500			82.27	86.37		3	4.10
	77070			86.37	86.94		2b	0.57
	79430			86.94	89.30		3	2.36
	89540			89.30	99.41		2b	10.11
Border Area								

Неровность дороги / состояние поверхности
Road Roughness, Surface Condition and Road Category

Калибрационфактор; C=6,14
Callibrationfactor ; C = 6.14

M32, Чимкент - Кызыл-Орда - Актюбинск
M 32, Cimkent - Kzyl Orda - Aktjubinsk

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
6.50	0								0
	570			6.50	7.07		1A	II	0.57
8	1844			7.07	8.00		1A	II	0.93
8	0			8.00	8.00		1A	II	0.00
	2476			8.00	10.48		1A	II	2.48
	3242	61	4890	10.48	11.24	6.1	1A	II	0.77
	4004	61	4915	11.24	12.00	6.2	1A	II	0.76
	5006	108	6618	12.00	13.01	8.0	2A	II	1.00
	6102	103	5770	13.01	14.10	7.1	2A	II	1.10
	16700			14.10	24.70		1A	II	10.60
	23790			24.70	31.79		2A	III	7.09
	24540	105	8596	31.79	32.54	10.2	3	III	0.75
	25430	113	7796	32.54	33.43	9.3	3	III	0.89
	26560	127	6901	33.43	34.56	8.4	2A	III	1.13
	34630			34.56	42.63		2A	III	8.07
	37210			42.63	45.21		2B	III	2.58
	40750			45.21	48.75		3	III	3.54
	44950			48.75	52.95		2A	III	4.20
	49680			52.95	57.68		3	III	4.73
66.00	58400			57.68	66.00		2A	III	8.32
	59360	227	14519	66.00	66.96	> 15	5	III	0.96
	60360	162	9947	66.96	67.96	11.6	4	III	1.00
	61200	134	9795	67.96	68.80	11.4	4	III	0.84
	62230	161	9597	68.80	69.83	11.2	4	III	1.03
	63270	245	14464	69.83	70.87	> 15	5	III	1.04
	64300	207	12340	70.87	71.90	14.0	5	III	1.03
	65290	237	14699	71.90	72.89	> 15	5	III	0.99
	66300	166	10091	72.89	73.90	11.7	4	III	1.01
	67300	202	12403	73.90	74.90	14.1	5	III	1.00
76	68280	203	12719	74.90	76.00	14.4	5	III	1.10
	78790			76.00	86.51		3	III	10.51
	80310			86.51	88.03		2B	III	1.52
	81460			88.03	89.18		2A	III	1.15
	82450			89.18	90.17		3	III	0.99
	82860			90.17	90.58		1A	III	0.41
	84180			90.58	91.90		3	III	1.32
	87710			91.90	95.43		1B	III	3.53
	88370			95.43	96.09		2B	III	0.66
	90520			96.09	98.24		3	III	2.15
	92210			98.24	99.93		2A	III	1.69

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	95350			99.93	103.07		2B-3	III	3.14
	96130	126	9918	103.07	103.85	11.5	4	III	0.78
	96770	79	7579	103.85	104.49	9.1	3	III	0.64
	97510	141	11699	104.49	105.23	13.4	5	III	0.74
105	97800	48	10163	105.23	105.00	11.8	4	III	-0.23
105	0			105.00	105.00		4	III	0.00
	689			105.00	105.69		3	III	0.69
	5168			105.69	110.17		2B	III	4.48
	5958			110.17	110.96		3	III	0.79
	7587			110.96	112.59		2B	III	1.63
	7908			112.59	112.91		3	III	0.32
	8411			112.91	113.41		2A	III	0.50
	9510			113.41	114.51		3	III	1.10
	10980			114.51	115.98		2A	III	1.47
	12620			115.98	117.62		3	III	1.64
	19640			117.62	124.64		2A	III	7.02
	20330			124.64	125.33		1A	III	0.69
	25870			125.33	130.87		1B	III	5.54
	28580			130.87	133.58		2B	III	2.71
134	29410			133.58	134.00		2A	III	0.42
	32220			134.00	136.81		2B	III	2.81
	33620			136.81	138.21		2A	III	1.40
	34640			138.21	139.23		1A	III	1.02
	35640			139.23	140.23		2A	III	1.00
	36640			140.23	141.23		2B	III	1.00
	41130			141.23	145.72		1A	III	4.49
	42700			145.72	147.29		1B	III	1.57
	46500			147.29	151.09		1A	III	3.80
	51860			151.09	156.45		2A	III	5.36
	52960			156.45	157.55		1B	III	1.10
	54930			157.55	159.52		2A	III	1.97
	56600			159.52	161.19		2B	III	1.67
165	59760			161.19	165.00		3	III	3.81
165	0			165.00	165.00		3	III	0.00
	2174			165.00	167.17		2A	III	2.17
	2884	114	9859	167.17	167.88	11.5	4	III	0.71
	3441	81	8929	167.88	168.44	10.5	3	III	0.56
	4103	84	7791	168.44	169.10	9.3	3	III	0.66
	4701	86	8830	169.10	169.70	10.4	3	III	0.60
	10650			169.70	175.65		3	III	5.95
	22100			175.65	187.10		2A	III	11.45
	26380			187.10	191.38		2B	III	4.28
	28430			191.38	193.43		3	III	2.05
	29960			193.43	194.96		2A	III	1.53
	30170			194.96	195.17		2B	III	0.21
	31100			195.17	196.10		2A	III	0.93
	34250			196.10	199.25		3	III	3.15
	36280			199.25	201.28		2B	III	2.03
	36940			201.28	201.94		2A	III	0.66
	38640			201.94	203.64		2B	III	1.70
	39350			203.64	204.35		1A	III	0.71

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	43690			204.35	208.69		2A	III	4.34
	47160			208.69	212.16		3	III	3.47
	50260			212.16	215.26		2A	III	3.10
	51120			215.26	216.12		3	III	0.86
	51840			216.12	216.84		1A	III	0.72
	55210			216.84	220.21		2A	III	3.37
	59100			220.21	224.10		2B	III	3.89
	61120			224.10	226.12		3	III	2.02
	63000			226.12	228.00		2B	III	1.88
	65110			228.00	230.11		2A	III	2.11
	65650	103	11711	230.11	230.65	13.4	5	III	0.54
	66300	107	10107	230.65	231.30	11.7	4	III	0.65
	67030	124	10430	231.30	232.03	12.1	5	III	0.73
	68090			232.03	233.09		2A	III	1.06
	71230			233.09	236.23		5	III	3.14
	72910			236.23	237.91		1B	III	1.68
	75220			237.91	240.22		2B	III	2.31
	76060			240.22	241.06		3	III	0.84
	76860			241.06	241.86		2B	III	0.80
	77540			241.86	242.54		3	III	0.68
	83100			242.54	248.10		2A	III	5.56
	83600	92	11298	248.10	248.60	13.0	5	III	0.50
	84600	147	9026	248.60	249.60	10.6	3	III	1.00
	90750			249.60	255.75		2A	III	6.15
	97510			255.75	262.51		1A	III	6.76
	98270			262.51	263.27		2A	III	0.76
263	99750			263.27	263.00		1A	III	-0.27
263	0			263.00	263.00		1A	III	0.00
	5703			263.00	268.70		1A	III	5.70
	8054			268.70	271.05		3	III	2.35
	15150			271.05	278.15		2B	III	7.10
	16340			278.15	279.34		1A	III	1.19
	19240			279.34	282.24		2A	III	2.90
	22290			282.24	285.29		1A	III	3.05
	26130			285.29	289.13		2A	III	3.84
	33720			289.13	296.72		2B	III	7.59
	35260			296.72	298.26		2A	III	1.54
	36380			298.26	299.38		2B	III	1.12
	37870			299.38	300.87		1B	III	1.49
	40680			300.87	303.68		1B	III	2.81
	42570			303.68	305.57		2A	III	1.89
306	43110			305.57	306.00		1B	III	0.43
	47520			306.00	310.41		1A	III	4.41
	50620			310.41	313.51		2A	III	3.10
	50990			313.51	313.88		1A	III	0.37
	52770			313.88	315.66		2A	III	1.78
	54280			315.66	317.17		2B	III	1.51
	58640			317.17	321.53		2A	III	4.36
	60600			321.53	323.49		2B	III	1.96
	62030			323.49	324.92		1B	III	1.43
	63310			324.92	326.20		2A	III	1.28

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	63770			326.20	326.66		1A	III	0.46
	66220			326.66	329.11		2A	III	2.45
	68720			329.11	331.61		1A	II	2.50
332	69780			331.61	332.00		2A	II	0.39
	69890			332.00	332.11		2A	II	0.11
	70400	58	6983	332.11	332.62	8.4	2A	II	0.51
	71000	70	7163	332.62	333.22	8.6	2A	II	0.60
	71700	71	6228	333.22	333.92	7.6	2B	II	0.70
	72000	39	7982	333.92	334.22	9.5	3	II	0.30
	74410			334.22	336.63		2A	II	2.41
	75610			336.63	337.83		2B	II	1.20
	83320			337.83	345.54		2A	II	7.71
	85780			345.54	348.00		2B	II	2.46
	89260			348.00	351.48		2B	III	3.48
	89900			351.48	352.12		3	III	0.64
	90610			352.12	352.83		2B	III	0.71
	92190			352.83	354.41		3	III	1.58
359	97200			354.41	359.00		2A	III	4.59
359	0			359.00	359.00		2A	III	0.00
	1253			359.00	360.25		2A	III	1.25
	2761			360.25	361.76		2B	III	1.51
	5892			361.76	364.89		2A	III	3.13
	6240			364.89	365.24		2B	III	0.35
	7640			365.24	366.64		1A	III	1.40
	12250			366.64	371.25		3	III	4.61
	14150			371.25	373.15		1A	III	1.90
	17310			373.15	376.31		2A	III	3.16
	18520			376.31	377.52		1A	III	1.21
	21330			377.52	380.33		2B	III	2.81
	23730			380.33	382.73		2A	III	2.40
	25070			382.73	384.07		1B	III	1.34
	26780			384.07	385.78		2B	III	1.71
	32490			385.78	391.49		3	III	5.71
	39550			391.49	398.55		2A	III	7.06
	40170			398.55	399.17		1A	III	0.62
	41560			399.17	400.56		2A	III	1.39
	42670			400.56	401.67		1A	III	1.11
	44020			401.67	403.02		2A	III	1.35
	44190			403.02	403.19		3	III	0.17
	45960			403.19	404.96		2A	III	1.77
	48400			404.96	407.40		3	III	2.44
	50480			407.40	409.48		2A	III	2.08
410	51850			409.48	410.00		3	III	0.52
	52940			410.00	411.09		2A	III	1.09
	56390			411.09	414.54		3	III	3.45
	58600			414.54	416.75		2A	III	2.21
	66150			416.75	424.30		3	III	7.55
	67870			424.30	426.02		1A	III	1.72
	68740			426.02	426.89		3	III	0.87
	69750			426.89	427.90		1A	III	1.01
	70850			427.90	429.00		2B	III	1.10

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	71510			429.00	429.66		1A	III	0.66
	74850			429.66	433.00		1A	III	3.34
	79400			433.00	437.55		2A	III	4.55
	83620			437.55	441.77		2B	III	4.22
	84930			441.77	443.08		3	III	1.31
	85950			443.08	444.10		1A	III	1.02
	87740			444.10	445.89		3	III	1.79
444	88040			445.89	444.00		2A	III	-1.89
	88100			444.00	444.06		1A	III	0.06
	88480			444.06	444.44		3	III	0.38
	90120			444.44	446.08		2A	III	1.64
	90610			446.08	446.57		1A	III	0.49
	91570			446.57	447.53		1B	III	0.96
	94070			447.53	450.03		1A	III	2.50
	96040			450.03	452.00		2B	III	1.97
	98490			452.00	454.45		2B	II	2.45
455	100000			454.45	455.00		2A	II	0.55
455	0			455.00	455.00		2A	II	0.00
	2861			455.00	457.86		2A	II	2.86
	5275			457.86	460.28		3	II	2.41
	9292			460.28	464.29		2A	II	4.02
	12840			464.29	467.84		1A	II	3.55
	14800			467.84	469.80		2B	III	1.96
	17580			469.80	472.58		2A	III	2.78
	22760			472.58	477.76		1B	III	5.18
	28570			477.76	483.57		2B	III	5.81
	35750			483.57	490.75		2B	III	7.18
	41870			490.75	496.87		2A	III	6.12
	45350			496.87	500.35		2B	III	3.48
	47820			500.35	502.82		3	III	2.47
	50730			502.82	505.73		2A	III	2.91
	59430			505.73	514.43		3	III	8.70
	60880			514.43	515.88		2A	III	1.45
	65050			515.88	520.05		3	III	4.17
	68300			520.05	523.30		2A	III	3.25
	68580			523.30	523.58		2B	III	0.28
	72750			523.58	527.75		2A	III	4.17
	73220			527.75	528.22		3	III	0.47
530	75060			528.22	530.00		2A	III	1.78
530	0			530.00	530.00		2A	III	0.00
	1800			530.00	531.80		3	III	1.80
	2587			531.80	532.59		2A	III	0.79
	3277			532.59	533.28		3	III	0.69
	4159			533.28	534.16		2A	III	0.88
	4397			534.16	534.40		3	III	0.24
	4869			534.40	534.87		2A	III	0.47
	5591			534.87	535.59		3	III	0.72
	6954			535.59	536.95		2A	III	1.36
	9001			536.95	539.00		3	III	2.05
	9880			539.00	539.88		2A	III	0.88
	11650			539.88	541.65		1B	III	1.77

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	12820			541.65	542.82		3	III	1.17
	14240			542.82	544.24		2B	III	1.42
	14530			544.24	544.53		3	III	0.29
	17120			544.53	547.12		2B	III	2.59
	18790			547.12	548.79		1B	III	1.67
	19530			548.79	549.53		2B	III	0.74
	20220			549.53	550.22		3	III	0.69
	21570			550.22	551.57		2A	III	1.35
	22660			551.57	552.66		2B	III	1.09
	23310			552.66	553.31		1B	III	0.65
	23750			553.31	553.75		2B	III	0.44
	24010			553.75	554.01		3	III	0.26
	24530			554.01	554.53		2B	III	0.52
	30040			554.53	560.04		3	III	5.51
561	30970			560.04	561.00		2B	III	0.96
561	0			561.00	561.00		2B	III	0.00
	156			561.00	561.16		2B	III	0.16
	1001	124	9010	561.16	562.00	10.6	3	III	
	1601	86	3654	561.16	562.60	4.7	1A	III	1.45
	2102	84	10295	562.60	563.10	11.9	4	III	0.50
	2700	77	7906	563.10	563.70	9.4	3	III	0.60
	3601	75	5111	563.70	564.60	6.4	2A	III	0.90
	3862			564.60	564.86		3	III	0.26
	7023			564.86	568.02		2B	III	3.16
	8959			568.02	569.96		3	III	1.94
	11010			569.96	572.01		2B	III	2.05
	12590			572.01	573.59		3	III	1.58
	15060			573.59	576.06		2B	III	2.47
	17510			576.06	578.51		2A	III	2.45
	17760			578.51	578.76		2B	III	0.25
	25560			578.76	586.56		2A	III	7.80
	26630			586.56	587.63		2B	III	1.07
	29580			587.63	590.58		2A	III	2.95
	34150			590.58	595.15		2B	III	4.57
	34370			595.15	595.37		3	III	0.22
	35990			595.37	596.99		2B	III	1.62
	37700			596.99	598.70		2A	III	1.71
	38490	65	5052	598.70	599.49	6.3	2A	III	0.79
	39450	84	5373	599.49	600.45	6.7	2A	III	0.96
602	40320	78	5505	600.45	602.00	6.8	2A	III	1.55
	45470			602.00	607.15		1A	III	5.15
	46730			607.15	608.41		2A	III	1.26
	58650			608.41	620.33		1A	III	11.92
	62940			620.33	624.62		2A	II	4.29
	65710			624.62	627.39		3	III	2.77
	66840			627.39	628.52		1A	III	1.13
	68360			628.52	630.04		2A	III	1.52
	70380			630.04	632.06		3	III	2.02
	72470			632.06	634.15		2A	III	2.09
	75050			634.15	636.73		1A	III	2.58
	75970			636.73	637.65		2A	III	0.92

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	79040			637.65	640.72		1A	III	3.07
	79440			640.72	641.12		3	III	0.40
644	80880			641.12	644.00		1A	III	2.88
	81070			644.00	644.19		1A	III	0.19
	81660	86	8950	644.19	644.78	10.5	3	III	0.59
	82320	68	6326	644.78	645.44	7.7	2A	III	0.66
	83000	78	7043	645.44	646.12	8.5	2B	III	0.68
	83810	120	9096	646.12	646.93	10.7	3	III	0.81
	86190			646.93	649.31		3	III	2.38
	88740			649.31	651.86		2A	III	2.55
	89280			651.86	652.40		2B	III	0.54
	92870			652.40	655.99		3	III	3.59
	93620			655.99	656.74		2A	III	0.75
	94980			656.74	658.10		2B	III	1.36
662	99100			658.10	662.00		2A	III	3.90
662	0			662.00	662.00		2A	III	0.00
	140			662.00	662.14		2A	III	0.14
	1051	117	7886	662.14	663.05	9.4	3	III	0.91
	1671	166	16439	663.05	663.67	> 15	5	III	0.62
	2364	127	11252	663.67	664.36	12.9	5	III	0.69
	3002	91	8758	664.36	665.00	10.3	3	III	0.64
	4577			665.00	666.58		2A	III	1.58
	5045	45	5904	666.58	667.05	7.3	2A	III	0.47
	5907	127	9046	667.05	667.91	10.6	3	III	0.86
	13150			667.91	675.15		2A	III	7.24
	14510			675.15	676.51		2B	III	1.36
	18440			676.51	680.44		3	III	3.93
	19520			680.44	681.52		2B	III	1.08
	20890			681.52	682.89		3	III	1.37
	24400			682.89	686.40		2B	III	3.51
	24790			686.40	686.79		2A	III	0.39
	25170			686.79	687.17		2B	III	0.38
	25830			687.17	687.83		2A	III	0.66
	25890			687.83	687.89		3	III	0.06
	28890			687.89	690.89		2A	III	3.00
	29220			690.89	691.22		2B	III	0.33
	31090			691.22	693.09		2A	III	1.87
	35610			693.09	697.61		3	III	4.52
	42170			697.61	704.17		2B	III	6.56
	43910			704.17	705.91		2A	III	1.74
	45890			705.91	707.89		2B	III	1.98
	46190			707.89	708.19		3	III	0.30
	47660			708.19	709.66		2B	III	1.47
	48220			709.66	710.22		2A	III	0.56
711	50700			710.22	711.00		3	III	0.78
	51920			711.00	712.22		2B	III	1.22
	52330			712.22	712.63		3	III	0.41
	57110			712.63	717.41		2B	III	4.78
	58760			717.41	719.06		3	III	1.65
	60320			719.06	720.62		2B	III	1.56
	60500			720.62	720.80		2A	III	0.18

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	65020			720.80	725.32		2B	III	4.52
	66300			725.32	726.60		5	III	1.28
	67400			726.60	727.70		2A	III	1.10
	68160			727.70	728.46		3	III	0.76
	75660			728.46	735.96		2B	III	7.50
736	76100			735.96	736.00		2A	III	0.04
	76840			736.00	736.74		2A	III	0.74
	77400	47	5153	736.74	737.30	6.4	2A	III	0.56
	78000	86	8801	737.30	737.90	10.4	3	III	0.60
	78900	72	4912	737.90	738.80	6.2	2B	III	0.90
	79560	55	5117	738.80	739.46	6.4	2B	III	0.66
	80030	50	6532	739.46	739.93	8.0	2A	III	0.47
	80880			739.93	740.78		2A	III	0.85
	85170			740.78	745.07		1A	III	4.29
	86130			745.07	746.03		2B	III	0.96
	87770			746.03	747.67		2A	III	1.64
	89610			747.67	749.51		3	III	1.84
	96650			749.51	756.55		2A	III	7.04
757	99070			756.55	757.00		3	III	0.45
757	0			757.00	757.00		3	III	0.00
	6339			757.00	763.34		3	III	6.34
	17320			763.34	774.32		2A	III	10.98
	18240			774.32	775.24		1A	III	0.92
	20710			775.24	777.71		3	III	2.47
	24210			777.71	781.21		2A	III	3.50
	25080	163	11504	781.21	782.08	13.2	5	III	0.87
	25780	156	13683	782.08	782.78	> 15	5	III	0.70
	26400	138	13666	782.78	783.40	> 15	5	III	0.62
	27200	130	9978	783.40	784.20	11.6	4	III	0.80
	28700			784.20	785.70		3	III	1.50
	30150			785.70	787.15		2A	III	1.45
	30370			787.15	787.37		3	III	0.22
	31680			787.37	788.68		2A	III	1.31
	32820			788.68	789.82		1A	III	1.14
	38890			789.82	795.89		2A	III	6.07
	41570			795.89	798.57		2B	III	2.68
799	42340			798.57	799.00		2A	III	0.43
	42700			799.00	799.36		2B	III	0.36
	44220			799.36	800.88		2A	III	1.52
	44550			800.88	801.21		2B	III	0.33
	46990			801.21	803.65		2A	III	2.44
	48570			803.65	805.23		1A	III	1.58
	49370			805.23	806.03		2A	III	0.80
	51160			806.03	807.82		2A	III	1.79
	52070	193	13022	807.82	808.73	14.7	5	III	0.91
	53100	189	11267	808.73	809.76	12.9	5	III	1.03
	54040	150	9798	809.76	810.70	11.4	4	III	0.94
	54670	90	8771	810.70	811.33	10.3	3	III	0.63
	56750			811.33	813.41		3	III	2.08
	59170			813.41	815.83		2A	III	2.42
	61000			815.83	817.66		3	III	1.83

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	62070			817.66	818.73		1A	III	1.07
	63960			818.73	820.62		2A	III	1.89
	65130			820.62	821.79		3	III	1.17
	66100			821.79	822.76		2B	III	0.97
	67420			822.76	824.08		1A	III	1.32
	71680			824.08	828.34		2A	III	4.26
	72980			828.34	829.64		3	III	1.30
	75600			829.64	832.26		2A	III	2.62
	78960			832.26	835.62		1A	III	3.36
	82710			835.62	839.37		2A	III	3.75
	83370			839.37	840.03		3	III	0.66
	85220			840.03	841.88		2A	III	1.85
	87110			841.88	843.77		3	III	1.89
	87780			843.77	844.44		2B	III	0.67
	89190			844.44	845.85		3	III	1.41
	91860			845.85	848.52		2A	III	2.67
	95690			848.52	852.35		1A	III	3.83
855	99790			852.35	855.00		3	III	2.65
855	0			855.00	855.00		3	III	0.00
	1369			855.00	856.37		3	III	1.37
	7148			856.37	862.15		2A	III	5.78
	9305			862.15	864.31		2B	III	2.16
	10230			864.31	865.23		3	III	0.92
	12320			865.23	867.32		2B	III	2.09
	13490			867.32	868.49		1B	III	1.17
	14940			868.49	869.94		1A	III	1.45
	15560	104	10299	869.94	870.56	11.9	5	III	0.62
	16030	72	9406	870.56	871.03	11.0	4	III	0.47
	16570	94	10688	871.03	871.57	12.3	5	III	0.54
	17150	92	9739	871.57	872.15	11.3	5	III	0.58
	18200			872.15	873.20		1A	III	1.05
	20060			873.20	875.06		1B	III	1.86
	24060			875.06	879.06		2B	III	4.00
	29050			879.06	884.05		3	III	4.99
	31020			884.05	886.02		2A	III	1.97
887	31870			886.02	887.00		3	III	0.98
	32160			887.00	887.29		2A	III	0.29
	32790			887.29	887.92		3	III	0.63
	35020			887.92	890.15		1A	III	2.23
	36590			890.15	891.72		1B	III	1.57
	40560			891.72	895.69		1A	III	3.97
	41700			895.69	896.83		2B	III	1.14
	42870			896.83	898.00		3	III	1.17
	43210			898.00	898.34		2A	III	0.34
	44430			898.34	899.56		2B	III	1.22
905	49950			899.56	905.00		2B	III	5.44
905	0			905.00	905.00		2B	III	0.00
	2758			905.00	907.76		1A	III	2.76
	3875			907.76	908.88		1B	III	1.12
	4148			908.88	909.15		1A	III	0.27
	5191			909.15	910.19		3	III	1.04

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	6272			910.19	911.27		1A	III	1.08
	6572			911.27	911.57		3	III	0.30
	7677			911.57	912.68		1A	III	1.11
	8614			912.68	913.61		2B	III	0.94
	12320			913.61	917.32		1A	III	3.71
	15120			917.32	920.12		1B	III	2.80
	17090			920.12	922.09		2B	III	1.97
	18010			922.09	923.01		3	III	0.92
	18430			923.01	923.43		2A	III	0.42
	18570			923.43	923.57		2B	III	0.14
	20340			923.57	925.34		3	III	1.77
	22810			925.34	927.81		1B	III	2.47
	25400			927.81	930.40		2B	III	2.59
	25580			930.40	930.58		3	III	0.18
	28480			930.58	933.48		2B	III	2.90
	29420			933.48	934.42		1B	III	0.94
	29650			934.42	934.65		3	III	0.23
	31740			934.65	936.74		2B	III	2.09
	32090			936.74	937.09		1B	III	0.35
	32800			937.09	937.80		3	III	0.71
	35360			937.80	940.36		1B	III	2.56
	36600			940.36	941.60		1A	III	1.24
	37900			941.60	942.90		2A	III	1.30
	41390			942.90	946.39		2B	III	3.49
	41690			946.39	946.69		2A	III	0.30
	42030			946.69	947.03		3	III	0.34
948	43720			947.03	948.00		1A	III	0.97
	45170			948.00	949.45		2B	III	1.45
	46150			949.45	950.43		3	III	0.98
	47130			950.43	951.41		2B	III	0.98
	48190			951.41	952.47		2A	III	1.06
	48360			952.47	952.64		2B	III	0.17
	50220			952.64	954.50		3	III	1.86
	52270			954.50	956.55		2B	III	2.05
	56710			956.55	960.99		2A	III	4.44
	57300	84	8742	960.99	961.58	10.3	3	III	0.59
	58000	75	6579	961.58	962.28	8.0	2B	III	0.70
	59000	91	5587	962.28	963.28	6.9	2A	III	1.00
	59500	56	6877	963.28	963.78	8.3	2A	III	0.50
	60300			963.78	964.58		2A	III	0.80
	63680			964.58	967.96		2B	III	3.38
	64700			967.96	968.98		5	III	1.02
	65420			968.98	969.70		3	III	0.72
	67120			969.70	971.40		1B	III	1.70
	70120			971.40	974.40		2B	III	3.00
	73410			974.40	977.69		2A	III	3.29
	73730			977.69	978.01		3	III	0.32
	74010			978.01	978.29		2B	III	0.28
	74480			978.29	978.76		3	III	0.47
	77060			978.76	981.34		2B	III	2.58
	78870			981.34	983.15		2A	III	1.81

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	79080			983.15	983.36		3	III	0.21
	85980			983.36	990.26		2B	III	6.90
	93760			990.26	998.04		2A	III	7.78
	93880			998.04	998.16		3	III	0.12
	95800			998.16	1000.08		1A	III	1.92
	96300			1000.08	1000.58		2A	III	0.50
	97960			1000.58	1002.24		3	III	1.66
	98760			1002.24	1003.04		2B	III	0.80
	99400			1003.04	1003.68		3	III	0.64
1000	99780			1003.68	1004.06		2B	III	0.38
1000	0			1004.06	1004.06		2B	III	0.00
	136			1004.06	1004.20		3	III	0.14
	1001	298	21153	1004.20	1005.06	> 15	5	III	0.87
	1398	129	19951	1005.06	1005.46	> 15	5	III	0.40
	1735	39	7106	1005.46	1005.80	8.6	2B	III	0.34
	2338	137	13950	1005.80	1006.40	> 15	5	III	0.60
	3340	138	8456	1006.40	1007.40	10.0	3	III	1.00
	4401	148	8565	1007.40	1008.46	10.1	3	III	1.06
	11530			1008.46	1015.59		2B	III	7.13
	12540			1015.59	1016.60		2A	III	1.01
	14890			1016.60	1018.95		2B	III	2.35
	15680			1018.95	1019.74		3	III	0.79
	16500			1019.74	1020.56		2A	III	0.82
	16870			1020.56	1020.93		3	III	0.37
	17020			1020.93	1021.08		2B	III	0.15
	17860			1021.08	1021.92		3	III	0.84
	18380			1021.92	1022.44		2B	III	0.52
	18710			1022.44	1022.77		4	III	0.33
	19300			1022.77	1023.36		2B	III	0.59
	19450			1023.36	1023.51		4	III	0.15
	20150			1023.51	1024.21		2B	III	0.70
	20230			1024.21	1024.29		3	III	0.08
	22860			1024.29	1026.92		1B	III	2.63
	25000			1026.92	1029.06		1A	III	2.14
	25940			1029.06	1030.00		2A	III	0.94
	26490			1030.00	1030.55		2B	III	0.55
	26840			1030.55	1030.90		4	III	0.35
	28180			1030.90	1032.24		2B	III	1.34
	30160			1032.24	1034.22		1A	III	1.98
	31270			1034.22	1035.33		2B	III	1.11
	37360			1035.33	1041.42		3	III	6.09
	33000			1041.42	1037.06		2B	III	-4.36
	36340			1037.06	1040.40		5	III	3.34
	38330			1040.40	1042.39		1A	III	1.99
	39440			1042.39	1043.50		1B	III	1.11
	39550			1043.50	1043.61		3	III	0.11
	40300			1043.61	1044.36		1B	III	0.75
1045	44430			1044.36	1045.00		5	III	0.64
1045	0			1045.00	1045.00		5	III	0.00
	30160			1045.00	1075.16		5	III	30.16
1079	34930			1075.16	1079.00		4	III	3.84

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
1079	0			1079.00	1079.00		4	III	0.00
	6449			1079.00	1085.45		3	III	6.45
	33890			1085.45	1112.89		5	III	27.44
1113	34050			1112.89	1113.00		3	III	0.11
	38620			1113.00	1117.57		2A	III	4.57
	39030			1117.57	1117.98		3	III	0.41
	43070			1117.98	1122.02		2A	III	4.04
	43340			1122.02	1122.29		3	III	0.27
	46140			1122.29	1125.09		2A	III	2.80
	46260			1125.09	1125.21		3	III	0.12
	47160			1125.21	1126.11		2B	III	0.90
	47720			1126.11	1126.67		3	III	0.56
	48810			1126.67	1127.76		2B	III	1.09
	49150			1127.76	1128.10		2A	III	0.34
	49910			1128.10	1128.86		3	III	0.76
	52270			1128.86	1131.22		2B	III	2.36
	53920			1131.22	1132.87		2A	III	1.65
	54060			1132.87	1133.01		3	III	0.14
	55150			1133.01	1134.10		1A	III	1.09
	55440			1134.10	1134.39		3	III	0.29
1135	56000			1134.39	1135.00		2A	III	0.61
1135	0			1135.00	1135.00		2A	III	0.00
	192			1135.00	1135.19		2A	III	0.19
	740	89	9972	1135.19	1135.74	11.6	4	III	0.55
	961	65	18059	1135.74	1135.96	> 15	5	III	0.22
	1424	142	18831	1135.96	1136.42	> 15	5	III	0.46
	2268	196	14259	1136.42	1137.27	> 15	5	III	0.84
	2960	98	8695	1137.27	1137.96	10.3	3	III	0.69
	8886			1137.96	1143.89		2A	III	5.93
	8791			1143.89	1143.79		3	III	-0.10
	11380			1143.79	1146.38		2A	III	2.59
	13000			1146.38	1148.00		1A	III	1.62
	14380			1148.00	1149.38		2A	III	1.38
	19480			1149.38	1154.48		1A	III	5.10
	19770			1154.48	1154.77		3	III	0.29
	22610			1154.77	1157.61		2A	III	2.84
	23480			1157.61	1158.48		3	III	0.87
	23950			1158.48	1158.95		4	III	0.47
	24610			1158.95	1159.61		3	III	0.66
	27100			1159.61	1162.10		2B	III	2.49
	27360			1162.10	1162.36		3	III	0.26
	28880			1162.36	1163.88		2B	III	1.52
	29040			1163.88	1164.04		4	III	0.16
	30100			1164.04	1165.10		3	III	1.06
	32090			1165.10	1167.09		2B	III	1.99
	32230			1167.09	1167.23		4	III	0.14
	34540			1167.23	1169.54		2B	III	2.31
	34710			1169.54	1169.71		3	III	0.17
	39110			1169.71	1174.11		2B	III	4.40
	40110			1174.11	1175.11		3	III	1.00
	40640			1175.11	1175.64		4	III	0.53

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	42450			1175.64	1177.45		3	III	1.81
	43330			1177.45	1178.33		2B	III	0.88
	44490			1178.33	1179.49		5	III	1.16
	46860			1179.49	1181.86		2B	III	2.37
	49080			1181.86	1184.08		1A	III	2.22
	50350			1184.08	1185.35		2A	III	1.27
	51110			1185.35	1186.11		1A	III	0.76
	51340			1186.11	1186.34		5	III	0.23
	51570			1186.34	1186.57		1B	III	0.23
	52020			1186.57	1187.02		5	III	0.45
	52470			1187.02	1187.47		2B	III	0.45
	52600			1187.47	1187.60		5	III	0.13
	52820			1187.60	1187.82		1B	III	0.22
	52920			1187.82	1187.92		4	III	0.10
	53040			1187.92	1188.04		3	III	0.12
	53540			1188.04	1188.54		2B	III	0.50
	54220			1188.54	1189.22		5	III	0.68
	54600	194	31346	1189.22	1189.60	> 15	5	III	0.38
1189	55070	314	41020	1189.60	1189.00	> 15	5	III	-0.60
	55220			1189.00	1189.15		5	III	0.15
	56200			1189.15	1190.13		3	III	0.98
	56650			1190.13	1190.58		5	III	0.45
	57360			1190.58	1191.29		3	III	0.71
	57570			1191.29	1191.50		2B	III	0.21
	58500			1191.50	1192.43		1B	III	0.93
	58270			1192.43	1192.20		3	III	-0.23
	59260			1192.20	1193.19		2B	III	0.99
	59850			1193.19	1193.78		5	III	0.59
	60180	180	33491	1193.78	1194.11	> 15	5	III	0.33
	60400	106	29584	1194.11	1194.33	> 15	5	III	0.22
	60640			1194.33	1194.57		3	III	0.24
	61150			1194.57	1195.08		2B	III	0.51
	61900			1195.08	1195.83		1B	III	0.75
	62250			1195.83	1196.18		5	III	0.35
	63210			1196.18	1197.14		1B	III	0.96
	64080			1197.14	1198.01		2B	III	0.87
	64720			1198.01	1198.65		5	III	0.64
	64960			1198.65	1198.89		2B	III	0.24
	66330			1198.89	1200.26		5	III	1.37
	67090			1200.26	1201.02		3	III	0.76
	67440			1201.02	1201.37		2B	III	0.35
	69490			1201.37	1203.42		5	III	2.05
	72340			1203.42	1206.27		2B	III	2.85
	72680			1206.27	1206.61		2A	III	0.34
	73130			1206.61	1207.06		2B	III	0.45
	73270			1207.06	1207.20		4	III	0.14
	74230			1207.20	1208.16		1B	III	0.96
	74990			1208.16	1208.92		3	III	0.76
	75740			1208.92	1209.67		1B	III	0.75
	76510			1209.67	1210.44		1A	III	0.77
	77610			1210.44	1211.54		3	III	1.10

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	78910			1211.54	1212.84		4	III	1.30
	79410			1212.84	1213.34		2A	III	0.50
	80300			1213.34	1214.23		3	III	0.89
	81080			1214.23	1215.01		5	III	0.78
	82170			1215.01	1216.10		2B	III	1.09
	83560			1216.10	1217.49		4	III	1.39
	84170			1217.49	1218.10		2A	III	0.61
	84460			1218.10	1218.39		2B	III	0.29
	85800			1218.39	1219.73		3	III	1.34
	86450			1219.73	1220.38		5	III	0.65
	86820			1220.38	1220.75		3	III	0.37
	87530			1220.75	1221.46		2B	III	0.71
	88200			1221.46	1222.13		4	III	0.67
	88930			1222.13	1222.86		3	III	0.73
	89640			1222.86	1223.57		4	III	0.71
	89870			1223.57	1223.80		3	III	0.23
	91440			1223.80	1225.37		4	III	1.57
	92000			1225.37	1225.93		2B	III	0.56
	92390			1225.93	1226.32		3	III	0.39
	93860			1226.32	1227.79		4	III	1.47
	94510			1227.79	1228.44		3	III	0.65
	94910			1228.44	1228.84		2B	III	0.40
	95130			1228.84	1229.06		3	III	0.22
	95400			1229.06	1229.33		2A	III	0.27
	96360			1229.33	1230.29		3	III	0.96
1231	97260			1230.29	1231.00		5	III	0.71
1231	0			1231.00	1231.00		5	III	0.00
	1535			1231.00	1232.54		4	III	1.54
	1925			1232.54	1232.93		2B	III	0.39
	2008			1232.93	1233.01		4	III	0.08
	2739			1233.01	1233.74		1A	III	0.73
	3574			1233.74	1234.57		1B	III	0.84
	3960			1234.57	1234.96		1A	III	0.39
	5698			1234.96	1236.70		4	III	1.74
	6605			1236.70	1237.61		2B	III	0.91
	8640			1237.61	1239.64		2A	III	2.04
	10650			1239.64	1241.65		3	III	2.01
	10840			1241.65	1241.84		2A	III	0.19
	11340			1241.84	1242.34		4	III	0.50
	12200			1242.34	1243.20		2A	III	0.86
	13020			1243.20	1244.02		4	III	0.82
	13560			1244.02	1244.56		2A	III	0.54
	13630			1244.56	1244.63		3	III	0.07
	13800			1244.63	1244.80		2A	III	0.17
	14090			1244.80	1245.09		4	III	0.29
	17480			1245.09	1248.48		1B	III	3.39
	17740			1248.48	1248.74		2A	III	0.26
	18110			1248.74	1249.11		3	III	0.37
	18410			1249.11	1249.41		2B	III	0.30
	19260			1249.41	1250.26		1A	III	0.85
	19600			1250.26	1250.60		2B	III	0.34

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	19710			1250.60	1250.71		1A	III	0.11
	19930			1250.71	1250.93		3	III	0.22
	23390			1250.93	1254.39		1A	III	3.46
	26170			1254.39	1257.17		2A	III	2.78
	29100			1257.17	1260.10		3	III	2.93
	30260			1260.10	1261.26		2A	III	1.16
	30470			1261.26	1261.47		3	III	0.21
	31260			1261.47	1262.26		2A	III	0.79
	31580			1262.26	1262.58		3	III	0.32
	31900			1262.58	1262.90		2A	III	0.32
	32040			1262.90	1263.04		4	III	0.14
	32150			1263.04	1263.15		2A	III	0.11
	32270			1263.15	1263.27		4	III	0.12
	32600			1263.27	1263.60		1A	III	0.33
	33470			1263.60	1264.47		3	III	0.87
	33870			1264.47	1264.87		5	III	0.40
	35050			1264.87	1266.05		1A	III	1.18
	35340			1266.05	1266.34		4	III	0.29
	39600			1266.34	1270.60		2A	III	4.26
	39860			1270.60	1270.86		2B	III	0.26
1270	40410			1270.86	1270.00		2A	III	-0.86
	43700			1270.00	1273.29		2A	III	3.29
	44200			1273.29	1273.79		2B	III	0.50
	45660			1273.79	1275.25		4	III	1.46
	48800			1275.25	1278.39		2B	III	3.14
	49030			1278.39	1278.62		4	III	0.23
	49210			1278.62	1278.80		3	III	0.18
	53090			1278.80	1282.68		2B	III	3.88
	54930			1282.68	1284.52		3	III	1.84
	55260			1284.52	1284.85		2B	III	0.33
	56150			1284.85	1285.74		3	III	0.89
1298	68280			1285.74	1298.00		2A	III	12.26
1298	0			1298.00	1298.00		2A	III	0.00
	408			1298.00	1298.41		4	III	0.41
	3531			1298.41	1301.53		3	III	3.12
	4207			1301.53	1302.21		2B	III	0.68
	4949			1302.21	1302.95		2A	III	0.74
	6511			1302.95	1304.51		2B	III	1.56
	8977			1304.51	1306.98		1B	III	2.47
	10330			1306.98	1308.33		2B	III	1.35
	12140			1308.33	1310.14		1A	III	1.81
	12580			1310.14	1310.58		1B	III	0.44
	15320			1310.58	1313.32		2B	III	2.74
	15550			1313.32	1313.55		3	III	0.23
	17620			1313.55	1315.62		2B	III	2.07
	19920			1315.62	1317.92		1B	III	2.30
	20970			1317.92	1318.97		2B	III	1.05
	21230			1318.97	1319.23		1B	III	0.26
	23030			1319.23	1321.03		2B	III	1.80
	23410			1321.03	1321.41		3	III	0.38
	26050			1321.41	1324.05		2B	III	2.64

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	26840			1324.05	1324.84		3	III	0.79
	27640			1324.84	1325.64		1B	III	0.80
	27770			1325.64	1325.77		4	III	0.13
	29330			1325.77	1327.33		3	III	1.56
	30220			1327.33	1328.22		2B	III	0.89
	32910			1328.22	1330.91		3	III	2.69
	34490			1330.91	1332.49		2A	III	1.58
	36040			1332.49	1334.04		3	III	1.55
	36250			1334.04	1334.25		1B	III	0.21
	38480			1334.25	1336.48		2B	III	2.23
	40290			1336.48	1338.29		3	III	1.81
	43940			1338.29	1341.94		1B	III	3.65
	44780			1341.94	1342.78		3	III	0.84
	45500			1342.78	1343.50		1A	III	0.72
	46170			1343.50	1344.17		2B	III	0.67
	51110			1344.17	1349.11		2A	III	4.94
	55370			1349.11	1353.37		1A	III	4.26
	56570			1353.37	1354.57		2B	III	1.20
	59160			1354.57	1357.16		1A	III	2.59
	59460			1357.16	1357.46		1B	III	0.30
	63290			1357.46	1361.29		2B	III	3.83
	64480			1361.29	1362.48		1A	III	1.19
	65470			1362.48	1363.47		1B	III	0.99
	66240			1363.47	1364.24		2B	III	0.77
	67230			1364.24	1365.23		1A	III	0.99
	68100			1365.23	1366.10		2B	III	0.87
	70720			1366.10	1368.72		1A	III	2.62
	72600			1368.72	1370.60		2A	III	1.88
	73310			1370.60	1371.31		2B	III	0.71
	78430			1371.31	1376.43		1B	III	5.12
1375	78670			1376.43	1375.00		1A	III	-1.43
1375	0			1375.00	1375.00		1A	III	0.00
	1769			1375.00	1376.77		1B	III	1.77
	3648			1376.77	1378.65		1A	III	1.88
	4072			1378.65	1379.07		2A	III	0.42
	5206			1379.07	1380.21		2B	III	1.13
	6332			1380.21	1381.33		2A	III	1.13
	6638			1381.33	1381.64		2B	III	0.31
	7308			1381.64	1382.31		2A	III	0.67
	8475			1382.31	1383.48		3	III	1.17
	9159			1383.48	1384.16		2B	III	0.68
	11170			1384.16	1386.17		2A	III	2.01
	13250			1386.17	1388.25		2B	III	2.08
	14750			1388.25	1389.75		1B	III	1.50
	15050			1389.75	1390.05		2B	III	0.30
	16060			1390.05	1391.06		1B	III	1.01
	18120			1391.06	1393.12		1A	III	2.06
	19210			1393.12	1394.21		1B	III	1.09
	19420			1394.21	1394.42		2B	III	0.21
	21230			1394.42	1396.23		1B	III	1.81
	24860			1396.23	1399.86		2B	III	3.63

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	26130			1399.86	1401.13		2A	III	1.27
	26450			1401.13	1401.45		2B	III	0.32
	26660			1401.45	1401.66		2A	III	0.21
	26810			1401.66	1401.81		1A	III	0.15
	27500	63	5606	1401.81	1402.50	6.9	2A	III	0.69
	28340	91	6652	1402.50	1403.34	8.1	1A	III	0.84
	29340	52	3193	1403.34	1404.34	4.2	1A	III	1.00
	30200	43	3070	1404.34	1405.20	4.1	1A	III	0.86
	31120	51	3404	1405.20	1406.12	4.5	2A	III	0.92
	31320	28	8596	1406.12	1406.32	10.2	2A	III	0.20
	32270			1406.32	1407.27		2A	III	0.95
	32880			1407.27	1407.88		3	III	0.61
	34720			1407.88	1409.72		2A	III	1.84
	36960			1409.72	1411.96		2B	III	2.24
	38670			1411.96	1413.67		3	III	1.71
	40690			1413.67	1415.69		2A	III	2.02
	43430			1415.69	1418.43		3	III	2.74
	44700			1418.43	1419.70		2B	III	1.27
	45340			1419.70	1420.34		3	III	0.64
	46180			1420.34	1421.18		2B	III	0.84
	47150			1421.18	1422.15		3	III	0.97
	48680			1422.15	1423.68		2B	III	1.53
	50110			1423.68	1425.11		3	III	1.43
	51650			1425.11	1426.65		2B	III	1.54
	55190			1426.65	1430.19		3	III	3.54
	56230			1430.19	1431.23		2B	III	1.04
	57330			1431.23	1432.33		2A	III	1.10
	61580			1432.33	1436.58		3	III	4.25
	63210			1436.58	1438.21		2B	III	1.63
	65030			1438.21	1440.03		2A	III	1.82
	65720	70	6229	1440.03	1440.72	7.6	2A	III	0.69
	66300	52	5505	1440.72	1441.30	6.8	1A	III	0.58
	67250	80	5171	1441.30	1442.25	6.5	1A	III	0.95
	67500	33	8105	1442.25	1442.50	9.6	3	III	0.25
1443	68630			1442.50	1443.00		2A	III	0.50
	70500			1443.00	1444.87		2A	III	1.87
	70770			1444.87	1445.14		2B	III	0.27
	73850			1445.14	1448.22		2A	III	3.08
	75510			1448.22	1449.88		2B	III	1.66
	81900			1449.88	1456.27		1A	III	6.39
	84360			1456.27	1458.73		1B	III	2.46
	86550			1458.73	1460.92		2B	III	2.19
	86700			1460.92	1461.07		3	III	0.15
	88140			1461.07	1462.51		2B	III	1.44
	88820			1462.51	1463.19		3	III	0.68
	89560	74	6140	1463.19	1463.93	7.5	2A	III	0.74
	90050	68	8521	1463.93	1464.42	10.1	3	III	0.49
	90360	55	10894	1464.42	1464.73	12.5	5	III	0.31
	91180	117	8761	1464.73	1465.55	10.3	3	III	0.82
	91750	70	7540	1465.55	1466.12	9.0	3	III	0.57
	92220	71	9275	1466.12	1466.59	10.9	1A	III	0.47

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	94560			1466.59	1468.93		3	III	2.34
	95230			1468.93	1469.60		1A	III	0.67
	96020			1469.60	1470.39		2B	III	0.79
	96370			1470.39	1470.74		3	III	0.35
1472	98490			1470.74	1472.00		1B	III	1.26
1472	0			1472.00	1472.00		1B	III	0.00
	146			1472.00	1472.15		3	III	0.15
	1194	159	9315	1472.15	1473.19	10.9	3	III	1.05
	2147	147	9471	1473.19	1474.15	11.1	4	III	0.95
	2787	105	10073	1474.15	1474.79	11.7	4	III	0.64
	3450	104	9631	1474.79	1475.45	11.2	4	III	0.66
	4276	161	11968	1475.45	1476.28	13.6	5	III	0.83
	4487	32	9312	1476.28	1476.49	10.9	4	III	0.21
	7839			1476.49	1479.84		3	III	3.35
	9190			1479.84	1481.19		4	III	1.35
	10040			1481.19	1482.04		3	III	0.85
	10800			1482.04	1482.80		2A	III	0.76
	10940			1482.80	1482.94		4	III	0.14
	14700			1482.94	1486.70		3	III	3.76
	15280	79	8363	1486.70	1487.28	9.9	3	III	0.58
	15680	60	9210	1487.28	1487.68	10.8	4	III	0.40
	16970			1487.68	1488.97		4	III	1.29
	19070			1488.97	1491.07		2B	III	2.10
	20330			1491.07	1492.33		2A	III	1.26
	20600			1492.33	1492.60		3	III	0.27
	21210			1492.60	1493.21		2B	III	0.61
	22400			1493.21	1494.40		4	III	1.19
	24260			1494.40	1496.26		3	I	1.86
	32720			1496.26	1504.72		4	I	8.46
	33160	66	9210	1504.72	1505.16	10.8	3	I	0.44
	33340	29	9892	1505.16	1505.34	11.5	4	I	0.18
	36020			1505.34	1508.02		4	I	2.68
	38330			1508.02	1510.33		3	I	2.31
	39260			1510.33	1511.26		4	I	0.93
	42850			1511.26	1514.85		3	I	3.59
	43220			1514.85	1515.22		4	I	0.37
	45650			1515.22	1517.65		3	I	2.43
1518	45980			1517.65	1518.00		3	I	0.35

Неровность дороги / состояние поверхности
Road Roughness, Surface Condition and Road Category

Калибрационфактор; C=6,14
Callibrationfactor ; C = 6.14

A340, Актюбинск - Субаркудук - Доссор
A 340, Aktjubinsk - Subarkuduk - Dossor

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Road Chainage (km)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
0	0			0.00				3	II	0
3	3000			3.00	0.00	3.00		3	II	3.00
4	3970			4.00	3.00	4.00		4	III	1.00
	7860			7.89	4.00	7.89		3	III	3.89
	11220			11.25	7.89	11.25		4	III	3.36
12	12730			12.00	11.25	12.00		3	III	0.75
	12900			12.17	12.00	12.17		2A	III	0.17
	13550	88	8313	12.82	12.17	12.82	9.9	3	III	0.65
	14240	83	7386	13.51	12.82	13.51	8.9	3	III	0.69
	14550	38	7526	13.82	13.51	13.82	9.0	3	III	0.31
	15300	178	14572	14.57	13.82	14.57	> 15	5	III	0.75
	15760	69	9210	15.03	14.57	15.03	10.8	4	III	0.46
	16190	85	12137	15.46	15.03	15.46	13.8	5	III	0.43
16	16910			16.00	15.46	16.00		4	III	0.54
16	0			16.00	16.00	16.00		4	III	0.00
	907			16.91	16.00	16.91		2A	III	0.91
	2291			18.29	16.91	18.29		3	III	1.38
	3272			19.27	18.29	19.27		4	III	0.98
	4755			20.76	19.27	20.76		2B	III	1.48
	6695			22.70	20.76	22.70		4	III	1.94
	7965			23.97	22.70	23.97		2A	III	1.27
	9330			25.33	23.97	25.33		4	III	1.37
	11120			27.12	25.33	27.12		3	III	1.79
	18710			34.71	27.12	34.71		4	III	7.59
	21170			37.17	34.71	37.17		3	III	2.46
	21890			37.89	37.17	37.89		4	III	0.72
	23590			39.59	37.89	39.59		3	III	1.70
	24840			40.84	39.59	40.84		2B	III	1.25
	25300			41.30	40.84	41.30		3	III	0.46
	27300			43.30	41.30	43.30		4	II	2.00
	28390			44.39	43.30	44.39		4	III	1.09
	29430			45.43	44.39	45.43		3	III	1.04
	29740			45.74	45.43	45.74		5	III	0.31
	30880			46.88	45.74	46.88		3	III	1.14
	32630			48.63	46.88	48.63		2B	III	1.75
	32970			48.97	48.63	48.97		3	III	0.34
	33490			49.49	48.97	49.49		2B	III	0.52
	33870			49.87	49.49	49.87		3	III	0.38
	36550			52.55	49.87	52.55		2B	III	2.68
	39590			55.59	52.55	55.59		3	III	3.04

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Road Chainage (km)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	41340			57.34	55.59	57.34		2A	III	1.75
	41660			57.66	57.34	57.66		2B	III	0.32
	42400			58.40	57.66	58.40		3	III	0.74
	42830			58.83	58.40	58.83		4	III	0.43
	43780			59.78	58.83	59.78		3	III	0.95
	44280			60.28	59.78	60.28		4	III	0.50
	45310			61.31	60.28	61.31		3	III	1.03
	45900	117	12176	61.90	61.31	61.90	13.8	5	III	0.59
	46370	58	7577	62.37	61.90	62.37	9.1	3	III	0.47
	46700	46	8559	62.70	62.37	62.70	10.1	3	III	0.33
	48470			64.47	62.70	64.47		2A	III	1.77
	51560			67.56	64.47	67.56		3	III	3.09
	53730			69.73	67.56	69.73		2B	III	2.17
	54180			70.18	69.73	70.18		2A	III	0.45
	54780			70.78	70.18	70.78		3	III	0.60
	55450			71.45	70.78	71.45		2A	III	0.67
	59650			75.65	71.45	75.65		3	III	4.20
	60560			76.56	75.65	76.56		2B	III	0.91
	61470			77.47	76.56	77.47		3	III	0.91
	61900			77.90	77.47	77.90		4	III	0.43
	62240			78.24	77.90	78.24		3	III	0.34
	63260			79.26	78.24	79.26		5	III	1.02
	64470			80.47	79.26	80.47		3	III	1.21
	64820			80.82	80.47	80.82		2B	III	0.35
	65100			81.10	80.82	81.10		4	III	0.28
	66670			82.67	81.10	82.67		3	III	1.57
	67140			83.14	82.67	83.14		2B	III	0.47
	67570			83.57	83.14	83.57		4	III	0.43
84	69660			84.00	83.57	84.00		2B	III	0.43
	69850			84.19	84.00	84.19		2B	III	0.19
	70440	88	9158	84.78	84.19	84.78	10.7	3	III	0.59
	71120	50	4515	85.46	84.78	85.46	5.7	1A	III	0.68
	72000	64	4465	86.34	85.46	86.34	5.7	1B	III	0.88
	72130	9	4251	86.47	86.34	86.47	5.4	1B	III	0.13
	74020			88.36	86.47	88.36		1B	III	1.89
	77150			91.49	88.36	91.49		1A	III	3.13
	77760			92.10	91.49	92.10		1B	III	0.61
	79710			94.05	92.10	94.05		2B	III	1.95
95	80910			95.00	94.05	95.00		1B	III	0.95
95	0			95.00	95.00	95.00		1B	III	0.00
	1149			96.15	95.00	96.15		2B	III	1.15
	2098			97.10	96.15	97.10		2A	III	0.95
	4075			99.08	97.10	99.08		3	III	1.98
	5375			100.38	99.08	100.38		2A	III	1.30
	8186			103.19	100.38	103.19		3	III	2.81
	8997			104.00	103.19	104.00		2B	III	0.81
	9171			104.17	104.00	104.17		4	III	0.17
	11080			106.08	104.17	106.08		3	III	1.91
	11870			106.87	106.08	106.87		2B	III	0.79
	16650			111.65	106.87	111.65		1A	III	4.78
	19320			114.32	111.65	114.32		2B	III	2.67

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Road Chainage (km)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	20070			115.07	114.32	115.07		3	III	0.75
	21570			116.57	115.07	116.57		2B	III	1.50
	22580			117.58	116.57	117.58		3	III	1.01
	24010			119.01	117.58	119.01		2B	III	1.43
	24480			119.48	119.01	119.48		1B	III	0.47
	24970			119.97	119.48	119.97		2B	III	0.49
	25900			120.90	119.97	120.90		2A	III	0.93
	26390			121.39	120.90	121.39		2B	III	0.49
	26700			121.70	121.39	121.70		2A	III	0.31
	27470			122.47	121.70	122.47		3	III	0.77
	29260			124.26	122.47	124.26		2A	III	1.79
	29870			124.87	124.26	124.87		3	III	0.61
	31060			126.06	124.87	126.06		2A	III	1.19
	31580			126.58	126.06	126.58		2B	III	0.52
	31800			126.80	126.58	126.80		3	III	0.22
	33600			128.60	126.80	128.60		2B	III	1.80
	34060			129.06	128.60	129.06		3	III	0.46
	35970			130.97	129.06	130.97		4	III	1.91
	36970			131.97	130.97	131.97		2A	III	1.00
	37340			132.34	131.97	132.34		3	III	0.37
	37640			132.64	132.34	132.64		2B	III	0.30
	38570			133.57	132.64	133.57		3	III	0.93
	39860			134.86	133.57	134.86		2B	III	1.29
	41080			136.08	134.86	136.08		3	III	1.22
	41910			136.91	136.08	136.91		5	III	0.83
	42280			137.28	136.91	137.28		4	III	0.37
	44470			139.47	137.28	139.47		3	III	2.19
	47920			142.92	139.47	142.92		2A	III	3.45
	49490			144.49	142.92	144.49		3	III	1.57
	49740			144.74	144.49	144.74		2B	III	0.25
	50000			145.00	144.74	145.00		3	III	0.26
	50270			145.27	145.00	145.27		4	III	0.27
	51310			146.31	145.27	146.31		2B	III	1.04
	52020			147.02	146.31	147.02		3	III	0.71
	52260			147.26	147.02	147.26		4	III	0.24
	54090			149.09	147.26	149.09		3	III	1.83
	54830			149.83	149.09	149.83		5	III	0.74
150	55010			150.00	149.83	150.00		4	III	0.17
	55120			150.11	150.00	150.11		3	III	0.11
	61870			156.86	150.11	156.86		2B	III	6.75
	62940			157.93	156.86	157.93		3	III	1.07
	63630			158.62	157.93	158.62		4	III	0.69
	63920			158.91	158.62	158.91		3	III	0.29
	64000			158.99	158.91	158.99		2B	III	0.08
	66100			161.09	158.99	161.09		3	III	2.10
	66750			161.74	161.09	161.74		2B	III	0.65
	67270			162.26	161.74	162.26		3	III	0.52
	67530			162.52	162.26	162.52		4	III	0.26
	69080			164.07	162.52	164.07		3	III	1.55
	72170			167.16	164.07	167.16		2A	III	3.09
	72870			167.86	167.16	167.86		3	III	0.70

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Road Chainage (km)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	74030			169.02	167.86	169.02		1A	III	1.16
169	74340			169.00	169.02	169.00		3	III	-0.02
	74480			169.14	169.00	169.14		2A	III	0.14
	75250	147	11722	169.91	169.14	169.91	13.4	5	III	0.77
	75690	113	15769	170.35	169.91	170.35	> 15	5	III	0.44
	76450	104	8402	171.11	170.35	171.11	10.0	3	III	0.76
	77610			172.27	171.11	172.27		1A	III	1.16
	78460			173.12	172.27	173.12		2A	III	0.85
	78750			173.41	173.12	173.41		3	III	0.29
	81300			175.96	173.41	175.96		1A	III	2.55
	81430			176.09	175.96	176.09		1B	III	0.13
	85800			180.46	176.09	180.46		1A	III	4.37
182	87980			182.00	180.46	182.00		2A	III	1.54
182	0			182.00	182.00	182.00		2A	III	0.00
	174			182.17	182.00	182.17		1A	III	0.17
	2882			184.88	182.17	184.88		1B	III	2.71
	3574			185.57	184.88	185.57		1A	III	0.69
	7212			189.21	185.57	189.21		2B	III	3.64
	10170			192.17	189.21	192.17		3	III	2.96
	10430			192.43	192.17	192.43		5	III	0.26
	10890			192.89	192.43	192.89		3	III	0.46
	14520			196.52	192.89	196.52		2B	III	3.63
	17950			199.95	196.52	199.95		3	III	3.43
	19030			201.03	199.95	201.03		4	III	1.08
	19760			201.76	201.03	201.76		5	III	0.73
	20420			202.42	201.76	202.42		2B	III	0.66
	22460			204.46	202.42	204.46		1A	III	2.04
	23980			205.98	204.46	205.98		5	III	1.52
	24300			206.30	205.98	206.30		3	III	0.32
	24920			206.92	206.30	206.92		5	III	0.62
	25780			207.78	206.92	207.78		4	III	0.86
	27610			209.61	207.78	209.61		5	III	1.83
	27830			209.83	209.61	209.83		3	III	0.22
	28240			210.24	209.83	210.24		5	III	0.41
	29940			211.94	210.24	211.94		4	III	1.70
	31800			213.80	211.94	213.80		5	III	1.86
	32790			214.79	213.80	214.79		3	III	0.99
	33580			215.58	214.79	215.58		5	III	0.79
	35250			217.25	215.58	217.25		4	III	1.67
	35380			217.38	217.25	217.38		5	III	0.13
	36640			218.64	217.38	218.64		4	III	1.26
	39650			221.65	218.64	221.65		3	III	3.01
	40100			222.10	221.65	222.10		4	III	0.45
	40360			222.36	222.10	222.36		5	III	0.26
	40720			222.72	222.36	222.72		4	III	0.36
	44670			226.67	222.72	226.67		5	III	3.95
	45150			227.15	226.67	227.15		3	III	0.48
	46160			228.16	227.15	228.16		5	III	1.01
	46520			228.52	228.16	228.52		4	III	0.36
	47060			229.06	228.52	229.06		3	III	0.54
	47810			229.81	229.06	229.81		4	III	0.75

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Road Chainage (km)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	57050			239.05	229.81	239.05		5	III	9.24
	57590	151	17169	239.59	239.05	239.59	> 15	5	III	0.54
	58240	341	32211	240.24	239.59	240.24	> 15	5	III	0.65
239	59610	400	17927	239.00	240.24	239.00	> 15	5	III	-1.24
	60310			239.70	239.00	239.70		4	III	0.70
	62660			242.05	239.70	242.05		2A	III	2.35
	62920			242.31	242.05	242.31		2B	III	0.26
	63660			243.05	242.31	243.05		2A	III	0.74
	68150			247.54	243.05	247.54		2B	III	4.49
	80200			259.59	247.54	259.59		3	III	12.05
	82740			262.13	259.59	262.13		3	III	2.54
	83510			262.90	262.13	262.90		2B	III	0.77
	86150			265.54	262.90	265.54		3	III	2.64
	88850			268.24	265.54	268.24		4	III	2.70
	89400	143	15964	268.79	268.24	268.79	> 15	5	III	0.55
	89930	147	17030	269.32	268.79	269.32	> 15	5	III	0.53
	90910			270.30	269.32	270.30		2B	III	0.98
	92900			272.29	270.30	272.29		4	III	1.99
280	101400			280.00	272.29	280.00		3	III	7.71
280	0			280.00	280.00	280.00		3	III	0.00
	13000			293.00	280.00	293.00		3	III	13.00
	16460			296.46	293.00	296.46		4	III	3.46
	21020			301.02	296.46	301.02		3	III	4.56
	21890			301.89	301.02	301.89		4	III	0.87
	22720			302.72	301.89	302.72		3	III	0.83
	23410			303.41	302.72	303.41		2B	III	0.69
	24010			304.01	303.41	304.01		5	III	0.60
	26450			306.45	304.01	306.45		2A	III	2.44
	31470			311.47	306.45	311.47		2B	III	5.02
	41960			321.96	311.47	321.96		2A	III	10.49
	42220	38	8974	322.22	321.96	322.22	10.6	3	III	0.26
	42520	117	23946	322.52	322.22	322.52	> 15	5	III	0.30
	42920	108	16578	322.92	322.52	322.92	> 15	5	III	0.40
	43160	35	8954	323.16	322.92	323.16	10.5	3	III	0.24
	43610	107	14600	323.61	323.16	323.61	> 15	5	III	0.45
	44100			324.10	323.61	324.10		5	III	0.49
325	46140			325.00	324.10	325.00		4	III	0.90
	48860			327.72	325.00	327.72		4	III	2.72
	49500			328.36	327.72	328.36		3	III	0.64
	51420			330.28	328.36	330.28		5	III	1.92
	53500			332.36	330.28	332.36		3	III	2.08
	53780			332.64	332.36	332.64		5	III	0.28
	58370			337.23	332.64	337.23		3	III	4.59
	63720			342.58	337.23	342.58		2A	III	5.35
	66200			345.06	342.58	345.06		1A	III	2.48
	67200			346.06	345.06	346.06		2B	III	1.00
	73130			351.99	346.06	351.99		3	III	5.93
	73430			352.29	351.99	352.29		2B	III	0.30
	75760			354.62	352.29	354.62		3	III	2.33
	76680			355.54	354.62	355.54		2A	III	0.92
	78320			357.18	355.54	357.18		3	III	1.64

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Road Chainage (km)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	79250			358.11	357.18	358.11		2A	III	0.93
	79460			358.32	358.11	358.32		2B	III	0.21
	83800			362.66	358.32	362.66		5	III	4.34
	84160			363.02	362.66	363.02		3	III	0.36
	84340			363.20	363.02	363.20		5	III	0.18
	84740			363.60	363.20	363.60		2B	III	0.40
	85530			364.39	363.60	364.39		5	III	0.79
	86120			364.98	364.39	364.98		2B	III	0.59
	88010			366.87	364.98	366.87		4	III	1.89
	89090			367.95	366.87	367.95		5	III	1.08
	91750			370.61	367.95	370.61		3	III	2.66
375	98990			375.00	370.61	375.00		2B	II	4.39
375	0			375.00	375.00	375.00		2B	II	0.00
	3950			378.95	375.00	378.95		2B	II	3.95
	6291			381.29	378.95	381.29		3	II	2.34
	13980			388.98	381.29	388.98		2B	II	7.69
	14710			389.71	388.98	389.71		3	II	0.73
	15750			390.75	389.71	390.75		2B	II	1.04
	18900			393.90	390.75	393.90		4	III	3.15
	19310			394.31	393.90	394.31		3	III	0.41
	20110			395.11	394.31	395.11		5	III	0.80
	21190			396.19	395.11	396.19		1B	III	1.08
	21550			396.55	396.19	396.55		2B	III	0.36
	23000			398.00	396.55	398.00		5	III	1.45
	24030			399.03	398.00	399.03		3	III	1.03
409	34780			409.00	399.03	409.00		2B	III	9.97
	36270			410.49	409.00	410.49		2B	III	1.49
	36560			410.78	410.49	410.78		1B	III	0.29
	37090			411.31	410.78	411.31		3	III	0.53
	41170			415.39	411.31	415.39		1B	III	4.08
	48520			422.74	415.39	422.74		1A	III	7.35
	49730			423.95	422.74	423.95		1B	III	1.21
	51060			425.28	423.95	425.28		1A	III	1.33
	54270			428.49	425.28	428.49		1B	III	3.21
	58380			432.60	428.49	432.60		1A	III	4.11
	58820			433.04	432.60	433.04		2B	III	0.44
	60430			434.65	433.04	434.65		1A	III	1.61
	60660			434.88	434.65	434.88		2B	III	0.23
442	68550			442.00	434.88	442.00		2A	III	7.12
	68710			442.16	442.00	442.16		1A	III	0.16
	69680	88	5570	443.13	442.16	443.13	6.9	2A	III	0.97
	70690	102	6201	444.14	443.13	444.14	7.6	2A	III	1.01
	71700	100	6079	445.15	444.14	445.15	7.5	2B	III	1.01
	72760	90	5213	446.21	445.15	446.21	6.5	2B	III	1.06
	72900	15	6579	446.35	446.21	446.35	8.0	2B	III	0.14
	77250			450.70	446.35	450.70		1B	III	4.35
	77980			451.43	450.70	451.43		2B	III	0.73
	78460			451.91	451.43	451.91		1B	III	0.48
	78800			452.25	451.91	452.25		3	III	0.34
	81130			454.58	452.25	454.58		2B	III	2.33
	81430			454.88	454.58	454.88		3	III	0.30

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Road Chainage (km)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	83380			456.83	454.88	456.83		1B	III	1.95
	83460			456.91	456.83	456.91		2B	III	0.08
	90300			463.75	456.91	463.75		3	III	6.84
	91220			464.67	463.75	464.67		5	III	0.92
	91610	192	30228	465.06	464.67	465.06	> 15	5	III	0.39
	92010	216	33156	465.46	465.06	465.46	> 15	5	III	0.40
	92550	299	33997	466.00	465.46	466.00	> 15	5	III	0.54
	92800	113	27753	466.25	466.00	466.25	> 15	5	III	0.25
	106600			480.05	466.25	480.05		5	III	13.80
470	107200			470.00	480.05	470.00		5	III	-10.05
470	0			470.00	470.00	470.00		5	III	0.00
	1348			471.35	470.00	471.35		5	III	1.35
	1573			471.57	471.35	471.57		4	III	0.23
	4253			474.25	471.57	474.25		3	III	2.68
	4684			474.68	474.25	474.68		2B	III	0.43
	5028			475.03	474.68	475.03		3	III	0.34
	9865			479.87	475.03	479.87		2B	III	4.84
	10160			480.16	479.87	480.16		3	III	0.30
	12270			482.27	480.16	482.27		2B	III	2.11
	14000			484.00	482.27	484.00		3	III	1.73
	14150			484.15	484.00	484.15		4	III	0.15
	15040			485.04	484.15	485.04		2B	III	0.89
	16660			486.66	485.04	486.66		4	III	1.62
	23200			493.20	486.66	493.20		2B	III	6.54
Dossor	25940			495.94	493.20	495.94		3	III	2.74
	26960			496.96	495.94	496.96		2B	III	1.02
498	28160			498.00	496.96	498.00		3	III	1.04

KOCKS
INGENIEURE

Неровность дороги / состояние поверхности
Road Roughness, Surface Condition and Road Category

Калибрационфактор; C=6,14
Callibrationfactor ; C = 6.14

R-1, Доссор (примыкание А340) - Кульсары - Безное - Сетпе
R -1, Dossor (Junction A 340) - Kul'sary - Bejneu - Setpe

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Road Chainage (km)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
0	0			0.00						0
	3157			3.16	0.00	3.16		3	III	3.16
5	4119			4.12	3.16	4.12		2B	III	0.96
5	0			5.00	4.12	5.00		2B	III	0.88
	605			5.61	5.00	5.61		2B	III	0.61
	12090			17.09	5.61	17.09		3	III	11.49
	13540			18.54	17.09	18.54		2B	III	1.45
	17160			22.16	18.54	22.16		1A	III	3.62
28	23090			28.00	22.16	28.00		2B	III	5.84
	23180			28.09	28.00	28.09		2B	III	0.09
	24000	124	9285	28.91	28.09	28.91	10.9	2B	III	0.82
	24920	204	13615	29.83	28.91	29.83	> 15	3	III	0.92
	25800	162	11303	30.71	29.83	30.71	13.0	2B	III	0.88
	26270	37	4834	31.18	30.71	31.18	6.1	2B	III	0.47
	26560	34	7199	31.47	31.18	31.47	8.7	2B	III	0.29
	37500			42.41	31.47	42.41		3	III	10.94
	38830			43.74	42.41	43.74		5	III	1.33
	42490			47.40	43.74	47.40		4	III	3.66
	43780			48.69	47.40	48.69		3	III	1.29
	44880			49.79	48.69	49.79		4	III	1.10
	46040			50.95	49.79	50.95		3	III	1.16
	46540			51.45	50.95	51.45		4	III	0.50
	49550			54.46	51.45	54.46		3	III	3.01
	52770			57.68	54.46	57.68		2B	III	3.22
	53920			58.83	57.68	58.83		1B	III	1.15
	54540			59.45	58.83	59.45		2B	III	0.62
	56170			61.08	59.45	61.08		1B	III	1.63
	61000			65.91	61.08	65.91		2B	III	4.83
	62640			67.55	65.91	67.55		1B	III	1.64
	63850			68.76	67.55	68.76		1A	III	1.21
72	68320			72.00	68.76	72.00		1B	III	3.24
	68440			72.12	72.00	72.12		1B	III	0.12
	69370	80	5282	73.05	72.12	73.05	6.6	1B	III	0.93
	70200	74	5474	73.88	73.05	73.88	6.8	2B	III	0.83
	70550	28	4912	74.23	73.88	74.23	6.2	1A	III	0.35
	71500	44	2844	75.18	74.23	75.18	3.8	1A	III	0.95
	73100			76.78	75.18	76.78		1A	III	1.60
	74080			77.76	76.78	77.76		1B	III	0.98
	76640			80.32	77.76	80.32		2B	III	2.56
	76850			80.53	80.32	80.53		3	III	0.21
	77110			80.79	80.53	80.79		5	IV	0.26
	78360			82.04	80.79	82.04		3	IV	1.25

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Road Chainage (km)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	79180			82.86	82.04	82.86		2B	IV	0.82
	80390			84.07	82.86	84.07		3	IV	1.21
	80840			84.52	84.07	84.52		2B	IV	0.45
	81940			85.62	84.52	85.62		3	IV	1.10
	84530			88.21	85.62	88.21		2B	IV	2.59
	88300			91.98	88.21	91.98		1B	IV	3.77
	93350			97.03	91.98	97.03		1A	IV	5.05
	95530			99.21	97.03	99.21		2A	IV	2.18
	95860	26	4838	99.54	99.21	99.54	6.1	1A	IV	0.33
	96930	112	6427	100.61	99.54	100.61	7.8	2A	IV	1.07
	97110	50	17056	100.79	100.61	100.79	> 15	5	IV	0.18
	97180	44	38594	100.86	100.79	100.86	> 15	5	IV	0.07
	98230	82	4795	101.91	100.86	101.91	6.0	1B	IV	1.05
102	98970			102.00	101.91	102.00		1B	IV	0.09
102	0			102.00	102.00	102.00		1B	IV	0.00
	927			102.93	102.00	102.93		1B	IV	0.93
	6100			108.10	102.93	108.10		2B	IV	5.17
	10480			112.48	108.10	112.48		1A	IV	4.38
	11790			113.79	112.48	113.79		2A	III	1.31
	12310			114.31	113.79	114.31		5	III	0.52
	13860			115.86	114.31	115.86		2B	III	1.55
	14180			116.18	115.86	116.18		2A	III	0.32
	17370			119.37	116.18	119.37		2B	III	3.19
	18760			120.76	119.37	120.76		1B	III	1.39
	20990			122.99	120.76	122.99		1A	III	2.23
	23670			125.67	122.99	125.67		1B	III	2.68
	30840			132.84	125.67	132.84		2B	III	7.17
	32910			134.91	132.84	134.91		2A	III	2.07
	36590			138.59	134.91	138.59		3	III	3.68
	38240			140.24	138.59	140.24		2A	III	1.65
	40740			142.74	140.24	142.74		3	III	2.50
	42680			144.68	142.74	144.68		5	III	1.94
	43310			145.31	144.68	145.31		2B	III	0.63
	43640			145.64	145.31	145.64		4	III	0.33
	44680			146.68	145.64	146.68		2B	III	1.04
	44980			146.98	146.68	146.98		5	III	0.30
	45580			147.58	146.98	147.58		2B	III	0.60
	45790			147.79	147.58	147.79		5	III	0.21
147	46570			147.00	147.79	147.00		2A	III	-0.79
	47300			147.73	147.00	147.73		3	III	0.73
	48030			148.46	147.73	148.46		2B	III	0.73
	48480			148.91	148.46	148.91		3	III	0.45
	50240			150.67	148.91	150.67		2B	III	1.76
	55600			156.03	150.67	156.03		2A	III	5.36
157	56540			156.97	156.03	156.97		4	III	0.94
	62020			162.45	156.97	162.45		2B	III	5.48
	62740			163.17	162.45	163.17		1B	III	0.72
	66780			167.21	163.17	167.21		2B	III	4.04
	67590	70	5306	168.02	167.21	168.02	6.6	1B	III	0.81
	68680	99	5577	169.11	168.02	169.11	6.9	1B	III	1.09
	69200	59	6967	169.63	169.11	169.63	8.4	2B	III	0.52
	71280			171.71	169.63	171.71		1B	III	2.08
	72200			172.63	171.71	172.63		3	III	0.92

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Road Chainage (km)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	74120			174.55	172.63	174.55		2A	III	1.92
Spring	85230			185.66	174.55	185.66		5	III	11.11
	0			185.66	185.66	185.66		5	none*	0.00
221	39170			221.00	185.66	221.00		5	none	35.34
221	0			221.00	221.00	221.00		5	none	0.00
	9950			230.95	221.00	230.95		5	III	9.95
308.40	87400			308.40	230.95	308.40		5	none	77.45
308.40	0			308.40	308.40	308.40		5	none	0.00
317	8722			317.12	308.40	317.12		1A	III	8.72
	9459	77	6415	317.86	317.12	317.86	7.8	1A	III	0.74
	9759			318.16	317.86	318.16		1A	III	0.30
	10172	50	7433	318.57	318.16	318.57	8.9	2A	III	0.41
	10688	57	6783	319.09	318.57	319.09	8.2	2A	III	0.52
	17788			326.19	319.09	326.19		1A	III	7.10
	19030			327.43	326.19	327.43		1A	III	1.24
	19580			327.98	327.43	327.98		1B	III	0.55
	21050			329.45	327.98	329.45		2B	III	1.47
	22170			330.57	329.45	330.57		1B	III	1.12
331	22960			331.00	330.57	331.00		1A	III	0.43
331	0			331.00	331.00	331.00		1A	III	0.00
	1452			332.45	331.00	332.45		1A	III	1.45
	3151			334.15	332.45	334.15		2A	III	1.70
	4782			335.78	334.15	335.78		2B	III	1.63
	5623	81	5914	336.62	335.78	336.62	7.3	2B	III	0.84
	6151	54	6280	337.15	336.62	337.15	7.7	2B	III	0.53
	6684	50	5760	337.68	337.15	337.68	7.1	2B	III	0.53
	7158	78	10104	338.16	337.68	338.16	11.7	4	III	0.47
	7481	28	5323	338.48	338.16	338.48	6.6	2B	III	0.32
	8229			339.23	338.48	339.23		3	III	0.75
	9513			340.51	339.23	340.51		1B	III	1.28
	13980			344.98	340.51	344.98		2B	III	4.47
	15330			346.33	344.98	346.33		1A	III	1.35
	18170			349.17	346.33	349.17		2B	III	2.84
	19450			350.45	349.17	350.45		1A	III	1.28
	21360			352.36	350.45	352.36		1B	III	1.91
	21870			352.87	352.36	352.87		1A	III	0.51
	22180			353.18	352.87	353.18		2B	III	0.31
	23650			354.65	353.18	354.65		2A	III	1.47
	25550			356.55	354.65	356.55		1A	III	1.90
	26790			357.79	356.55	357.79		2A	III	1.24
	27310			358.31	357.79	358.31		2B	III	0.52
	29660			360.66	358.31	360.66		1A	III	2.35
	30130	18	2351	361.13	360.66	361.13	3.2	1A	III	0.47
	30880	34	2783	361.88	361.13	361.88	3.7	0	III	0.75
	31500	37	3664	362.50	361.88	362.50	4.8	1B	III	0.62
	42130			373.13	362.50	373.13		2B	III	10.63
	42500			373.50	373.13	373.50		3	III	0.37
	43200			374.20	373.50	374.20		2B	III	0.70
384	56200			384.00	374.20	384.00		5	III	9.80
384	0			384.00	384.00	384.00		5	III	0.00
487	100300			487.00	384.00	487.00		5	III	103.00
487	0			487.00	487.00	487.00		5	III	0.00
	29760			516.76	487.00	516.76		5	III	29.76

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Road Chainage (km)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
517	30780			517.00	516.76	517.00		1A	III	0.24
	32560			518.78	517.00	518.78		1A	III	1.78
	33110			519.33	518.78	519.33		5	III	0.55
	35040			521.26	519.33	521.26		1B	III	1.93
	35250			521.47	521.26	521.47		2A	III	0.21
	36000	90	7368	522.22	521.47	522.22	8.9	2B	III	0.75
	37100	132	7368	523.32	522.22	523.32	8.9	2B	III	1.10
	38000	135	9210	524.22	523.32	524.22	10.8	3	III	0.90
	38200	30	9210	524.42	524.22	524.42	10.8	3	III	0.20
	45750			531.97	524.42	531.97		2A	III	7.55
	46920			533.14	531.97	533.14		5	III	1.17
	47040	91	46562	533.26	533.14	533.26	> 15	5	III	0.12
	47240	88	27016	533.46	533.26	533.46	> 15	5	III	0.20
583	99240			583.00	533.46	583.00		5	III	49.54
583	0			583.00	583.00	583.00		5	III	0.00
	14240			597.24	583.00	597.24		5	III	14.24
	14760			597.76	597.24	597.76		2B	III	0.52
	15400	152	14583	598.40	597.76	598.40	> 15	5	III	0.64
	15720	214	41061	598.72	598.40	598.72	> 15	5	III	0.32
	15960	53	13559	598.96	598.72	598.96	> 15	5	III	0.24
	16830	106	7481	599.83	598.96	599.83	9.0	3	III	0.87
	17330	53	6508	600.33	599.83	600.33	7.9	2A	III	0.50
	20460			603.46	600.33	603.46		2A	III	3.13
	22370			605.37	603.46	605.37		1A	III	1.91
	28040			611.04	605.37	611.04		2A	III	5.67
	31510			614.51	611.04	614.51		2B	III	3.47
	32660			615.66	614.51	615.66		2A	III	1.15
	33470			616.47	615.66	616.47		2B	III	0.81
	38640			621.64	616.47	621.64		2A	III	5.17
	41460			624.46	621.64	624.46		2B	III	2.82
	42590			625.59	624.46	625.59		2A	III	1.13
	43040			626.04	625.59	626.04		2B	III	0.45
	44180			627.18	626.04	627.18		3	III	1.14
	44800	107	10596	627.80	627.18	627.80	12.2		III	0.62
	45400	85	8698	628.40	627.80	628.40	10.3		III	0.60
	46200	82	6294	629.20	628.40	629.20	7.7		III	0.80
	46500	29	5935	629.50	629.20	629.50	7.3		III	0.30
	50190			633.19	629.50	633.19		2A	III	3.69
633	50780			633.00	633.19	633.00		1A	III	-0.19
633	0			633.00	633.00	633.00		1A	III	0.00
	5756			638.76	633.00	638.76		2A	III	5.76
	6058			639.06	638.76	639.06		3	III	0.30
	6605			639.61	639.06	639.61		2B	III	0.55
	8421			641.42	639.61	641.42		3	III	1.82
	8943			641.94	641.42	641.94		1A	III	0.52
	10700			643.70	641.94	643.70		2B	III	1.76
	11410			644.41	643.70	644.41		3	III	0.71
	12190			645.19	644.41	645.19		3	III	0.78
3	14810			647.81	645.19	647.81		2B	III	2.62

* none = unpaved / earthroad

KOCKS
INGENIEURE

Неровность дороги / состояние поверхности
Road Roughness, Surface Condition and Road Category

Калибрационфактор; C=6,14
Callibrationfactor ; C = 6.14

R-2, Шетпе - Куйбышево - Актау
R - 2, Setpe - Kujbysevo - Aktau

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Road Chainage (km)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
3	0			3.00						0
	5735			8.74	3.00	8.74		2B	III	5.74
	8766			11.77	8.74	11.77		1A	III	3.03
	9128			12.13	11.77	12.13		1B	III	0.36
	12000			15.00	12.13	15.00		2A	III	2.87
	14540			17.54	15.00	17.54		2B	III	2.54
	15750			18.75	17.54	18.75		1A	III	1.21
	18140			21.14	18.75	21.14		2A	III	2.39
	18730	91	9470	21.73	21.14	21.73	11.1	4	III	0.59
	19400	86	7881	22.40	21.73	22.40	9.4	3	III	0.67
	19800	50	7675	22.80	22.40	22.80	9.2	3	III	0.40
	29270			32.27	22.80	32.27		2A	III	9.47
	34930			37.93	32.27	37.93		1A	III	5.66
	40390			43.39	37.93	43.39		2B	III	5.46
	41490			44.49	43.39	44.49		2A	III	1.10
	42940			45.94	44.49	45.94		1A	III	1.45
	50570			53.57	45.94	53.57		2A	III	7.63
	51780			54.78	53.57	54.78		2B	III	1.21
	53060			56.06	54.78	56.06		2A	III	1.28
	57620			60.62	56.06	60.62		2B	III	4.56
	58900			61.90	60.62	61.90		1A	III	1.28
184.52*	59970			62.97	61.90	62.97		2A	III	1.07
187	62450			65.45	62.97	65.45		3	III	2.48
187	0			65.45	65.45	65.45		3	III	0.00
	4167			69.62	65.45	69.62		2B	III	4.17
	5925			71.38	69.62	71.38		2A	III	1.76
	7826			73.28	71.38	73.28		2B	III	1.90
	9799			75.25	73.28	75.25		2A	III	1.97
	11440			76.89	75.25	76.89		3	III	1.64
	13190			78.64	76.89	78.64		2B	III	1.75
	14240			79.69	78.64	79.69		3	III	1.05
	14750			80.20	79.69	80.20		2A	III	0.51
	15570	66	4942	81.02	80.20	81.02	6.2	1A	III	0.82
	16200	55	5360	81.65	81.02	81.65	6.7	1B	III	0.63
	20580			86.03	81.65	86.03		1B	III	4.38
	23360			88.81	86.03	88.81		2B	III	2.78
	28350			93.80	88.81	93.80		1A	III	4.99
	30660			96.11	93.80	96.11		1B	III	2.31
	32300			97.75	96.11	97.75		1A	III	1.64
	32810			98.26	97.75	98.26		1B	III	0.51
	34480			99.93	98.26	99.93		1A	III	1.67

KOCKS
INGENIEURE

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Road Chainage (km)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage (km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	35740			101.19	99.93	101.19		1B	III	1.26
	42090			107.54	101.19	107.54		1A	III	6.35
	44420			109.87	107.54	109.87		2A	III	2.33
	46240			111.69	109.87	111.69		2B	III	1.82
92*	48310			113.76	111.69	113.76		1B	III	2.07
	59540			124.99	113.76	124.99		1A	III	11.23
	63020			128.47	124.99	128.47		1B	III	3.48
	64390	120	5378	129.84	128.47	129.84	6.7	2B	III	1.37
	64830	40	5582	130.28	129.84	130.28	6.9	2B	III	0.44
	65840	98	5958	131.29	130.28	131.29	7.3	2B	III	1.01
	66750	67	4521	132.20	131.29	132.20	5.7	1B	III	0.91
	79580			145.03	132.20	145.03		1B	III	12.83
	83790			149.24	145.03	149.24		1A	III	4.21
Aktau	89260			154.71	149.24	154.71		1B	III	5.47

* Road Crossing

TRACECA - PMS
PILOT SECTIONS FOR PAVEMENT MANAGEMENT SYSTEM

TURKMENISTAN

Section 1

M 37, Ashgabad -Turkmenbashi

Length of Section 13 km, Chainage km 0 (km Post) to km 13, Direction to Turkmenbashi, and km 13 (km Post) to km 0, Direction to Ashgabad

TM - 1.1 Thickness of Pavement Layers

Ch. km 0.55	Ch. km 3.00	Ch. km 6.74	Ch. km 8.81
200 mm Asphalt 310 mm Gravel Subgrade	210 mm Asphalt 200 mm Gravel Subgrade	230 mm Asphalt 240 mm Gravel Subgrade	210 mm Asphalt 230 mm Gravel Subgrade: Silty Sand

Ch. km 12.88	Ch. km 14.88	Ch. km 17.0	Ch. km 20.0
240 mm Asphalt 240 mm Gravel Subgrade: Sandy Silt	220 mm Asphalt 270 mm Gravel Subgrade	200 mm Asphalt 280 mm Gravel Subgrade: Sandy Silt	210 mm Asphalt 260 mm Gravel Subgrade: Silty Sand

TM - 1.2 Roughness

Direction Ashgabad -Turkmenbashi		**Direction Turkmenbashi - Ashgabad**	
Chainage [km]	IRI [m/km]	Chainage [km]	IRI [m/km]
0.0 -1.0	6.69	13.0 - 12.0	4.95
1.0 - 2.0	5.65	12.0 - 11.0	4.45
2.0 - 3.0	5.61	11.0 - 10.0	4.68
3.0 - 4.0	6.95	10.0 - 9.0	4.14
4.0 - 5.0	6.35	9.0 - 8.0	4.45
5.0 - 6.0	6.78	8.0 - 7.0	4.99
6.0 - 7.0	7.84	7.0 - 6.0	7.12
7.0 - 8.0	7.33	6.0 - 5.0	9.21
8.0 - 9.0	6.65	5.0 - 4.0	7.03
9.0 - 10.0	7.16	4.0 - 3.0	7.20
10.0 - 11.0	6.35	3.0 - 2.0	7.71
11.0 - 12.0	5.43	2.0 - 1.0	6.95
12.0- 13.0	8.80	1.0 - 0.0	9.25

Section 2

M 37, Mary - Tedjen

Length of Section 20 km, Marked Chainage km 0 + 20 km.

TM - 2.1 Thickness of Pavement Layers

Ch. km 0.55	Ch. km 4.59	Ch. km 6.74	Ch. km 8.81
110 mm Asphalt 170 mm Gravel Subgrade	115 mm Asphalt 105 mm Gravel Subgrade	200 mm Asphalt 190 mm Gravel Subgrade	130 mm Asphalt 65 mm Gravel Subgrade: Silty Sand

Ch. km 12.88	Ch. km 14.88	Ch. km 17.0	Ch. km 20.0
180 mm Asphalt 180 mm Gravel Subgrade: Sandy Silt	180 mm Asphalt 120 mm Gravel Subgrade	180 mm Asphalt 150 mm Gravel Subgrade: Sandy Silt	115 mm Asphalt 350 mm Gravel Subgrade: Silty Sand

TM - 2.2 Roughness

Chainage [km]	IRI [m/km]	Chainage [km]	IRI [m/km]
0.0 - 1.0	8.0	10 - 11	6.9
1.0 - 2.0	10.7	11 - 12	6.1
2.0 - 3.0	7.7	12 - 13	5.3
3.0 - 4.0	8.6	13 - 14	4.2
4.0 - 5.0	8.7	14 - 15	5.0
5.0 - 6.0	7.9	15 - 16	4.9
6.0 - 7.0	5.7	16 - 17	5.2
7.0 - 8.0	8.2	17 - 18	5.0
8.0 - 9.0	4.3	18 - 19	6.0
9.0 - 10.0	7.2	19 - 20	5.8

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

Фактор калибрации; C = 3.87
Callibrationfactor ; C = 3.87

М37, Чарджоу - Мары - Ашхабад (км 47 - км 656)
M 37, Chardjev - Mary - Ashgabat (km 47 - km 656)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	0								
	3400			0.00	3.40		2B	III	3.40
	12900			3.40	12.90		2A	III	9.50
	14000			12.90	14.00		3	III	1.10
	17600			14.00	17.60		2A	III	3.60
	19100			17.60	19.10		2B	III	1.50
	23900			19.10	23.90		2A	III	4.80
	30900			23.90	30.90		3	III	7.00
* (1)	--						--	--	--
* (2)	--						--	--	--
47	0								
49	2000			47.00	49.00		1B	III	2.00
	3214	75	2862	49.20	50.21	3.8	0	III	1.01
	4400	125	4079	50.21	51.40	5.2	1B	III	1.19
	5100	71	3925	51.40	52.10	5.1	1B	III	0.70
	6000	91	3913	52.10	53.00	5.0	1B	III	0.90
	6350	48	5307	53.00	53.35	6.6	2B	III	0.35
	7503	150	5035	53.35	54.50	6.3	2B	III	1.15
	7899			54.50	54.90		1A	III	0.40
57	10100			54.90	57.10		1B	III	2.20
57	0			57.10	57.10		2B	III	0.00
	7013			57.10	64.11		1B	III	7.01
	7816			64.11	64.92		1A	III	0.80
	9000			64.92	66.10		1B	III	1.18
	9660			66.10	66.76		1A	III	0.66
	10500			66.76	67.60		2A	III	0.84
	11630			67.60	68.73		1A	III	1.13
	12340			68.73	69.44		2A	III	0.71
	13100	141	7180	69.44	70.20	8.7	3	III	0.76
	14100	138	5341	70.20	71.20	6.6	2A	III	1.00
	15000	122	5246	71.20	72.10	6.5	2A	III	0.90
	15400	76	7353	72.10	72.50	8.8	3	III	0.40
	16220	147	6938	72.50	73.32	8.4	3	III	0.82
	17000	110	5458	73.32	74.10	6.8	2A	III	0.78
	17500	97	7508	74.10	74.60	9.0	3	III	0.50
	18450	138	5622	74.60	75.55	7.0	2B	III	0.95
	19410	196	7901	75.55	76.51	9.4	3	III	0.96

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	19980	87	5907	76.51	77.08	7.3	2B	III	0.57
	21070	180	6391	77.08	78.17	7.8	2B	III	1.09
	21940	120	5338	78.17	79.04	6.6	2A	III	0.87
	22800	132	5940	79.04	79.90	7.3	2A	III	0.86
	23240	74	6509	79.90	80.34	7.9	2A	III	0.44
	25870			80.34	82.97		2A	III	2.63
	27070			82.97	84.17		3	III	1.20
	28610			84.17	85.71		2A	III	1.54
	32330			85.71	89.43		3	III	3.72
	34810			89.43	91.91		2A	III	2.48
	36860			91.91	93.96		3	III	2.05
	42320			93.96	99.42		2B	III	5.46
	44210			99.42	101.31		2A	III	1.89
106	49270			101.31	106.37		2B	III	5.06
	49500			106.37	106.60		3	III	0.23
	50400	180	7740	106.60	107.50	9.2	3	III	0.90
	51700	245	7293	107.50	108.80	8.8	3	III	1.30
	52720	203	7702	108.80	109.82	9.2	3	III	1.02
	53670	206	8392	109.82	110.77	9.9	3	III	0.95
	54670	203	7856	110.77	111.77	9.4	3	III	1.00
	55670	197	7624	111.77	112.77	9.1	3	III	1.00
	56730	198	7229	112.77	113.83	8.7	3	III	1.06
114	57290	105	7256	113.83	114.39	8.7	3	III	0.56
	58170	152	6685	114.39	115.27	8.1	2B	III	0.88
	61720			115.27	118.82		2B	III	3.55
	62170			118.82	119.27		2A	III	0.45
	67710			119.27	124.81		2B	III	5.54
	69430			124.81	126.53		2B	III	1.72
	73210			126.53	130.31		1B	III	3.78
	74290			130.31	131.39		2B	III	1.08
	79480			131.39	136.58		1B	III	5.19
138	81940			136.58	139.04		1A	III	2.46
	82100			139.04	139.20		1A	III	0.16
	83100	241	9327	139.20	140.20	10.9	4	III	1.00
	84140	256	9526	140.20	141.24	11.1	4	III	1.04
	85140	239	9249	141.24	142.24	10.8	4	III	1.00
	86140	253	9791	142.24	143.24	11.4	4	III	1.00
	87140	240	9288	143.24	144.24	10.9	4	III	1.00
	88000	222	9990	144.24	145.10	11.6	4	III	0.86
	89000	228	8824	145.10	146.10	10.4	4	III	1.00
	90000	198	7663	146.10	147.10	9.2	3	III	1.00
	91000	146	5650	147.10	148.10	7.0	2B	III	1.00
	93000	223	8630	149.10	150.10	10.2	3	III	1.00
	94000	214	8282	150.10	151.10	9.8	3	III	1.00
	95000	196	7585	151.10	152.10	9.1	3	III	1.00
	96000	207	8011	152.10	153.10	9.5	3	III	1.00
	97000	189	7314	153.10	154.10	8.8	3	III	1.00
	98000	206	7972	154.10	155.10	9.5	3	III	1.00
	99000	254	9830	155.10	156.10	11.4	4	III	1.00
155	99310	64	7990	156.10	156.41	9.5	3	III	0.31

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
155	0			156.41	156.41		2B	III	0.00
	8200			156.41	164.61		2B	III	8.20
	11650			164.61	168.06		1B	III	3.45
	13440			168.06	169.85		1B	III	1.79
	18370			169.85	174.78		2B	III	4.93
	19500			174.78	175.91		1B	III	1.13
	20170			175.91	176.58		2B	III	0.67
	20360			176.58	176.77		1A	III	0.19
	23200			176.77	179.61		2B	III	2.84
	24150			179.61	180.56		1B	III	0.95
	26050			180.56	182.46		1A	III	1.90
	30260			182.46	186.67		1B	III	4.21
	31330			186.67	187.74		2B	III	1.07
	35860			187.74	192.27		1B	III	4.53
	36450			192.27	192.86		2B	III	0.59
192	40590			192.86	197.00		1B	III	4.14
	47000			197.00	203.41		1B	III	6.41
	47500			203.41	203.91		1A	III	0.50
	47920			203.91	204.33		1B	III	0.42
	48610			204.33	205.02		1A	III	0.69
	49310			205.02	205.72		2B	III	0.70
	50210			205.72	206.62		3	III	0.90
	51900			206.62	208.31		1B	III	1.69
	55920			208.31	212.33		2B	III	4.02
	57360			212.33	213.77		1B	III	8.20
	65560			130.10	221.97		1A	III	0.64
	66200			130.10	222.61		2A	III	0.64
	66660			222.61	223.07		1B	III	0.46
	70540			223.07	226.95		1A	III	3.88
	73010			226.95	229.42		1B	III	2.47
	78190			229.42	234.60		2A	III	5.18
	81830			234.60	238.24		1B	III	3.64
	83260			238.24	239.67		2A	III	1.43
235	85920			239.67	242.33		2B	III	2.66
	87500			242.33	243.91		2A	III	1.58
	88460			243.91	244.87		2B	III	0.96
	88900			244.87	245.31		3	III	0.44
	92840			245.31	249.25		2B	III	3.94
	94960	176	6426	250.31	251.37	7.8	2B	III	1.06
	96000	197	7331	251.37	252.41	8.8	3	III	1.04
	97000	157	6076	252.41	253.41	7.5	2B	III	1.00
	98220	165	5234	253.41	254.63	6.5	2A	III	1.22
	99080	113	5085	254.63	255.49	6.4	2A	III	0.86
	100000	138	5805	255.49	256.41	7.2	2B	III	0.92
	101700			256.41	258.11		1A	III	1.70
255	103400			258.11	259.81		1B	III	1.70
255	0			259.81	259.81		3	I	0.00
	4509			259.81	264.32		1B	I	4.51
	8848			264.32	268.66		1A	I	4.34
	10430			268.66	270.24		2A	I	1.58
	10740			270.24	270.55		2B	I	0.31

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	11780			270.55	271.59		2B	I	1.04
	14110			271.59	273.92		1B	I	2.33
	16680			273.92	276.49		1B	I	2.57
	21550			278.11	281.36		1A	I	3.25
	26750			281.36	286.56		1B	I	5.20
	28440			286.56	288.25		1A	I	1.69
	29910			288.25	289.72		1B	I	1.47
	30790			289.72	290.60		1A	I	0.88
	32340			290.60	292.15		2A	I	1.55
	33590			292.15	293.40		1A	I	1.25
Br.An.St.	34570			293.40	294.38		2B	I	0.98
Mary	0			294.38	294.38		1A	I	0.00
Mary	1529			294.38	295.91		1A	III	1.53
	2140			295.91	296.52		3	III	0.61
	4485			297.47	298.87		3	III	1.40
	7153			298.87	301.53		2B	III	2.67
	8853			301.53	303.23		1B	III	1.70
	9013			303.23	303.39		1A	III	0.16
	9638			303.39	304.02		1B	III	0.63
	10670			304.02	305.05		3	III	1.03
	12440			305.05	306.82		2B	III	1.77
304	13130			306.82	307.51		1B	II	0.69
304	0			307.51	307.51		2B	II	0.00
	2100			307.51	309.61		2B	II	2.10
	3100	165	6386	309.61	310.61	7.8	2B	II	1.00
	3724	84	5210	310.61	311.23	6.5	2B	II	0.62
	3900			311.23	311.41		1B	II	0.18
	5000	103	3624	311.41	312.51	4.7	1B	II	1.10
	5520	109	8112	312.51	313.03	9.6	3	II	0.52
	7000	114	2981	313.03	314.51	4.0	1B	II	1.48
	7542	69	4927	314.51	315.05	6.2	2B	II	0.54
	8700	151	5046	315.05	316.21	6.3	2B	II	1.16
	10370	155	3592	316.21	317.88	4.7	1B	II	1.67
	11300	82	3412	317.88	318.81	4.5	1B	II	0.93
	13350			318.81	320.86		2B	II	2.05
	15230			320.86	322.74		1B	II	1.88
	15870			322.74	323.38		1A	II	0.64
	17450			323.38	324.96		1B	II	1.58
	17820			324.96	325.33		1A	II	0.37
323	19870			325.33	327.38		1B	II	2.05
	21230			327.38	328.74		1B	II	1.36
	21560			328.74	329.07		3	II	0.33
	23670			329.07	331.18		2B	II	2.11
	25290			331.18	332.80		2A	II	1.62
	27790			332.80	335.30		2B	II	2.50
332	28850			335.30	336.36		1B	II	1.06
	29840			336.36	337.35		1A	II	0.99
	31370			337.35	338.88		3	II	1.53
	34240			338.88	341.75		2B	II	2.87
	38930			341.75	346.44		1B	II	4.69
	40440			346.44	347.95		1A	II	1.51

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	41040			347.95	348.55		2A	II	0.60
	42250			348.55	349.76		3	II	1.21
	42680			349.76	350.19		5	II	0.43
	43850			350.19	351.36		1A	II	1.17
	44140			351.36	351.65		2A	II	0.29
	45050			351.65	352.56		3	II	0.91
354	46460			352.56	353.97		2A	II	1.41
	46700			353.97	354.21		2A	II	0.24
	47700	111	4296	354.21	355.21	5.5	2A	II	1.00
	49000	123	3662	355.21	356.51	4.8	1A	II	1.30
	50000	93	3599	356.51	357.51	4.7	1A	II	1.00
	50420	36	3317	357.51	357.93	4.4	1A	II	0.42
	50900	43	3467	357.93	358.41	4.5	1A	II	0.48
	52190	124	3720	358.41	359.70	4.8	1A	II	1.29
361	53680	172	4467	359.70	361.19	5.7	1A	II	1.49
	54290	61	3870	361.19	361.80	5.0	1A	II	0.61
	55700	171	4693	361.80	363.21	5.9	1B	II	1.41
	56930	143	4499	363.21	364.44	5.7	1B	II	1.23
	57300	36	3765	364.44	364.81	4.9	1B	II	0.37
	58090	77	3772	364.81	365.60	4.9	1B	II	0.79
	59450	185	5264	365.60	366.96	6.6	2A	II	1.36
	60310	124	5580	366.96	367.82	6.9	2A	II	0.86
	61170			367.82	368.68		2B	II	0.86
	64230			368.68	371.74		3	II	3.06
	65830			368.68	371.74		2B	II	3.06
	68410			371.74	373.34		1B	II	1.60
	69910			373.34	374.84		1A	II	1.50
	71950			374.84	376.88		1B	II	2.04
	72890			376.88	377.82		1A	II	0.94
	75020			377.82	379.95		2A	II	2.13
	76160			379.95	381.09		1B	II	1.14
	77510			381.09	382.44		2A	II	1.35
	78400			382.44	383.33		1B	II	0.89
	78760			383.33	383.69		3	II	0.36
	79500			383.69	384.43		1A	II	0.74
	80000			384.43	384.93		2A	II	0.50
	82210			384.93	387.14		1A	II	2.21
	82710			387.14	387.64		1B	II	0.50
	85740			387.64	390.67		1A	II	3.03
	86790			390.67	391.72		2B	II	1.05
	88790			391.72	393.72		1B	II	2.00
	90000			393.72	394.93		2A	II	1.21
	98510			394.93	403.44		1B	II	8.51
	99340			403.44	404.27		3	II	0.83
	99600			404.27	404.53		2B	II	0.26
	105100	85	4112	409.23	410.03	5.3	1B	II	0.80
	105900	100	4838	410.03	410.83	6.1	2B	II	0.80
	106700	135	6531	410.83	411.63	8.0	2B	II	0.80
	107900	101	3257	411.63	412.83	4.3	1A	II	1.20
	109000	75	2639	412.83	413.93	3.5	0	II	1.10
	110000	85	3290	413.93	414.93	4.3	1A	II	1.00

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	111700	143	3255	414.93	416.63	4.3	1A	II	1.70
	112800			416.63	417.73		1A	II	1.10
Tekebay	0			417.73	417.73			II	0.00
Tekebay	393			417.73	418.12		1A	II	0.39
	1154			418.12	418.88		3	II	0.76
	3593			418.88	421.32		2A	II	2.44
	4291			421.32	422.02		1A	II	0.70
	10300			422.02	428.03		2A	II	6.01
	10540			428.03	428.27		1A	II	0.24
	12350			428.27	430.08		1B	II	1.81
	14470			430.08	432.20		3	II	2.12
	15220			432.20	432.95		1B	II	0.75
	16210			432.95	433.94		2A	II	0.99
	17030			433.94	434.76		1A	II	0.82
	17340			434.76	435.07		2A	II	0.31
	22860			435.07	440.59		1A	II	5.52
	23800			440.59	441.53		2A	II	0.94
	26430			441.53	444.16		1A	II	2.63
449	28820			444.16	446.55		1B	II	2.39
	30170			446.55	447.90		1B	II	1.35
	30510			447.90	448.24		2B	II	0.34
	43790			448.24	461.52		1A	II	13.28
	45110			461.52	462.84		1B	II	1.32
	46360			462.84	464.09		2B	II	1.25
	48190			464.09	465.92		1A	II	1.83
	53290			465.92	471.02		2A	II	5.10
	53930			471.02	471.66		1B	II	0.64
	57360			471.66	475.09		2B	II	3.43
	57720			475.09	475.45		2A	II	0.36
	59320			475.45	477.05		2B	II	1.60
	59590			477.05	477.32		1B	II	0.27
	61380			477.32	479.11		3	II	1.79
	64560			479.11	482.29		2A	II	3.18
	65580			482.29	483.31		1A	II	1.02
	67600			483.31	485.33		1B	II	2.02
	68800	143	4612	485.33	486.53	5.8	1A	II	1.20
	69550	85	4386	486.53	487.28	5.6	1A	II	0.75
	70720	98	3242	487.28	488.45	4.3	1A	II	1.17
	71810	106	3763	488.45	489.54	4.9	1A	II	1.09
	72910	261	9182	489.54	490.64	10.8	3	II	1.10
	73250	32	3642	490.64	490.98	4.7	1A	II	0.34
	74740	200	5195	490.98	492.47	6.5	2B	II	1.49
	75100	55	5913	492.47	492.83	7.3	2B	II	0.36
499	78960			492.83	496.69		2B	II	3.86
	79760			496.69	497.49		2B	II	0.80
	80090			497.49	497.82		3	II	0.33
	81120			497.82	498.85		1A	II	1.03
	83300			498.85	501.03		2B	II	2.18
	83460			501.03	501.19		1A	II	0.16
	84170			501.19	501.90		3	II	0.71
	84760			501.90	502.49		1A	II	0.59

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	88390			502.49	506.12		3	II	3.63
	92630			506.12	510.36		2A	II	4.24
	94090			510.91	511.82		2B	II	0.91
	95210			511.82	512.94		1B	II	1.12
	96360			512.94	514.09		2B	II	1.15
	96830			514.09	514.56		1A	II	0.47
	97260			514.56	514.99		2B	II	0.43
	98130			514.99	515.86		1A	II	0.87
	98420			515.86	516.15		1B	II	0.29
517	98970			516.15	516.70		2B	II	0.55
517	0			516.70	516.70			II	0.00
	1276			516.70	517.98		2B	II	1.28
	1539			517.98	518.24		2A	II	0.26
	4282			518.24	520.98		2B	II	2.74
	7792			520.98	524.49		3	II	3.51
	14610			524.49	531.31		2B	II	6.82
	20100			531.31	536.80		1A	II	5.49
	20440			536.80	537.14		2B	II	0.34
	21230			537.14	537.93		1B	II	0.79
	21550			537.93	538.25		1A	II	0.32
	24150			538.25	540.85		2A	II	2.60
	24840			540.85	541.54		1A	II	0.69
	28050			541.54	544.75		2B	II	3.21
	28700			544.75	545.40		1B	II	0.65
	29810			545.40	546.51		2B	II	1.11
	30860			546.51	547.56		1B	II	1.05
	31510	49	2917	547.56	548.21	3.9	1B	II	0.65
	32220	96	5233	548.21	548.92	6.5	2B	II	0.71
	32690	43	3541	548.92	549.39	4.6	1B	II	0.47
	34000	103	3043	549.39	550.70	4.0	1A	II	1.31
	35000	104	4025	550.70	551.70	5.2	1A	II	1.00
551	35720	70	3763	551.70	552.42	4.9	1A	II	0.72
	36720	77	2980	552.42	553.42	4.0	1A	II	1.00
	37700	98	3870	553.42	554.40	5.0	1A	II	0.98
	39130	149	4032	554.40	555.83	5.2	1A	II	1.43
	39830	60	3317	555.83	556.53	4.4	1A	II	0.70
	40370	45	3225	556.53	557.07	4.2	1A	II	0.54
	41250	135	5937	557.07	557.95	7.3	2A	II	0.88
	44950			557.95	561.65		2A	II	3.70
	45610			561.65	562.31		2B	II	0.66
	48750			562.31	565.45		2A	II	3.14
	51000			565.45	567.70		1A	II	2.25
	52190			567.70	568.89		2A	II	1.19
	52740			568.89	569.44		1A	II	0.55
	54790			569.44	571.49		2A	II	2.05
	55830			571.49	572.53		1A	II	1.04
	57270			572.53	573.97		1B	II	1.44
	58160			573.97	574.86		1A	II	0.89
	59610			574.86	576.31		2B	II	1.45
	60260			576.31	576.96		1B	II	0.65
	60480			576.96	577.18		2B	II	0.22

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	61450			577.18	578.15		1B	II	0.97
	62210			578.15	578.91		3	II	0.76
	62790			578.91	579.49		1B	II	0.58
	63730			579.49	580.43		3	II	0.94
	64670			580.43	581.37		2B	II	0.94
	65930			581.37	582.63		1A	II	1.26
	67380			582.63	584.08		2A	II	1.45
	68570			584.08	585.27		1B	II	1.19
	72300			585.27	589.00		2A	II	3.73
	73670			589.00	590.37		1B	II	1.37
	74500			590.37	591.20		2A	II	0.83
	75010			591.20	591.71		2A	II	0.51
	75340			591.71	592.04		2A	II	0.33
	78000			592.04	594.70		2A	II	2.66
	84900			594.70	601.60		2A	II	6.90
	87600			601.60	604.30		3	II	2.70
	89000			604.30	605.70		4	II	1.40
	89800			605.70	606.50		2B	II	0.80
	90900			606.50	607.60		3	II	1.10
	91900			607.60	608.60		1A	II	1.00
	97300			608.60	614.00		2B	II	5.40
	98800			614.00	615.50		2A	II	1.50
	99800			615.50	616.50		4	II	1.00
	107100			616.50	623.80		2A	II	7.30
	121500			623.80	638.20		2B	II	14.40
	124000			638.20	640.70		3	II	2.50
	129800			640.70	646.50		2B	II	5.80
	136600			646.50	653.30		4	II	6.80
	142200			653.30	658.90		2B	II	5.60
	149600			658.90	666.30		2A	II	7.40
Ashgabat	156000			666.30	672.70		1A	II	6.40

* (1) = Pontonbridge across AMUDAR'JA River
* (2) = Access Road to and Townpassage CHARDJEV

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

Фактор калибрации; C = 3.87
Callibrationfactor ; C = 3.87

М3, Ашхабад - Туркменбаши
M 37, Ashgabat - Turkmenbashi

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
0	0								
	1000	139	5379	0.00	1.00	6.7	2A	II	1.00
	2000	115	4451	1.00	2.00	5.7	1A	II	1.00
	3000	114	4412	2.00	3.00	5.6	1B	II	1.00
	4000	145	5612	3.00	4.00	6.9	2B	II	1.00
	5000	131	5070	4.00	5.00	6.3	2B	II	1.00
	6000	141	5457	5.00	6.00	6.8	2B	II	1.00
	7000	166	6424	6.00	7.00	7.8	2B	II	1.00
	8000	154	5960	7.00	8.00	7.3	2B	II	1.00
	9000	138	5341	8.00	9.00	6.6	1B	II	1.00
	10000	150	5805	9.00	10.00	7.2	2B	II	1.00
	11000	131	5070	10.00	11.00	6.3	2B	II	1.00
	12000	110	4257	11.00	12.00	5.4	1B	II	1.00
13	12910	172	7315	12.00	12.91	8.8	2B	II	0.91
	13700			12.91	13.70		1A	II	0.79
	14730			13.70	14.73		1B	II	1.03
	18770			14.73	18.77		1A	II	4.04
	25090			18.77	25.09		1B	II	6.32
	26460			25.09	26.46		1A	II	1.37
	28260			26.46	28.26		1B	II	1.80
	28670			28.26	28.67		1A	II	0.41
31	30070			28.67	30.07		2B	II	1.40
	200			30.07	30.27		1B	II	0.20
	1690	159	4130	30.27	31.76	5.3	1B	II	1.49
	3000	130	3840	31.76	33.07	5.0	1B	II	1.31
	3800	75	3628	33.07	33.87	4.7	1B	II	0.80
	4423	65	4038	33.87	34.49	5.2	1B	II	0.62
	4996	116	7835	34.49	35.07	9.4	3	II	0.57
36	5371	46	4747	35.07	35.44	6.0	1B	II	0.38
	6721	138	3956	35.44	36.79	5.1	1B	II	1.35
	8300	129	3162	36.79	38.37	4.2	1A	II	1.58
40	9424	96	3305	38.37	39.49	4.3	1A	II	1.12
	11500	182	3393	39.49	41.57	4.4	1A	II	2.08
	12600	106	3729	41.57	42.67	4.8	1B	II	1.10
44	13600	84	3251	42.67	43.67	4.3	1B	II	1.00
	15350			43.67	45.42		1B	II	1.75

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	16800			45.42	46.87		3	II	1.45
	17950			46.87	48.02		2B	II	1.15
	19210			48.02	49.28		1B	II	1.26
50	20670			49.28	50.74		2A	II	1.46
	20800			50.74	50.87		2A	II	0.13
	22100	129	3840	50.87	52.17	5.0	1B	II	1.30
	23100	113	4373	52.17	53.17	5.6	1B	II	1.00
	23370	39	5590	53.17	53.44	6.9	2B	II	0.27
	24080	61	3325	53.44	54.15	4.4	1B	II	0.71
55	25980	277	5642	54.15	56.05	7.0	2B	II	1.90
	27200	143	4536	56.05	57.27	5.7	1B	II	1.22
	29000			57.27	59.07		2B	II	1.80
	33940			59.07	64.01		1A	II	4.94
	36220			64.01	66.29		2B	II	2.28
	36900			66.29	66.97		1A	II	0.68
	37850			66.97	67.92		2B	II	0.95
	38870			67.92	68.94		1B	II	1.02
	39370			68.94	69.44		1B	II	0.50
	40040			69.44	70.11		1B	II	0.67
	43960			70.11	74.03		1A	II	3.92
82	53070			74.03	83.14		1A	II	9.11
	53230			83.14	83.30		1A	II	0.16
	54420			83.30	84.49		1B	II	1.19
	57800			84.49	87.87		1A	II	3.38
	59030			87.87	89.10		1B	II	1.23
	61230			89.10	91.30		1A	II	2.20
	62330			91.30	92.40		2A	II	1.10
	65410			92.40	95.48		1B	II	3.08
	67650			95.48	97.72		1A	II	2.24
	68770			97.72	98.84		2B	II	1.12
99	69800			98.84	99.87		1B	II	1.03
	1900			99.87	101.77		1A	II	1.90
	3000	117	4116	101.77	102.87	5.3	1A	II	1.10
	4000	118	4567	102.87	103.87	5.8	1B	II	1.00
	5000	95	3677	103.87	104.87	4.8	1A	II	1.00
	6000	80	3096	104.87	105.87	4.1	1A	II	1.00
	7000	55	2129	105.87	106.87	2.9	0	II	1.00
	8000	77	2980	106.87	107.87	4.0	1B	II	1.00
	8642	55	3315	107.87	108.51	4.3	1B	II	0.64
	9035	24	2363	108.51	108.91	3.2	0	II	0.39
109	9997	90	3621	108.91	109.87	4.7	1B	II	0.96
	11100	101	3544	109.87	110.97	4.6	1B	II	1.10
	12300	85	2741	110.97	112.17	3.7	0	II	1.20
	13170	99	4404	112.17	113.04	5.6	1A	II	0.87
	14200	137	5147	113.04	114.07	6.4	2B	II	1.03
	14910	60	3270	114.07	114.78	4.3	1A	II	0.71
	16000	117	4154	114.78	115.87	5.3	1A	II	1.09
	17000	94	3638	115.87	116.87	4.7	1A	II	1.00
117	17910	79	3360	116.87	117.78	4.4	1A	II	0.91
	19220	169	4993	117.78	119.09	6.3	2A	II	1.31

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	20530	178	5258	119.09	120.40	6.6	2B	II	1.31
	21530	67	2593	120.40	121.40	3.5	0	II	1.00
	25300			121.40	125.17		1A	II	3.77
	26960			125.17	126.83		2A	II	1.66
	27320			126.83	127.19		2B	II	0.36
	31070			127.19	130.94		1A	II	3.75
	31570			130.94	131.44		2B	II	0.50
	32810			131.44	132.68		1A	II	1.24
	34900			132.68	134.77		1B	II	2.09
	36040			134.77	135.91		1B	II	1.14
	38390			135.91	138.26		3	II	2.35
138	40530			138.26	140.40		2B	II	2.14
	40620			140.40	140.49		1A	II	0.09
	40890	58	8313	140.49	140.76	9.9	3	II	0.27
	41130	66	10643	140.76	141.00	12.3	5	II	0.24
	42500	192	5424	141.00	142.37	6.7	2A	II	1.40
	43900	224	6192	142.37	143.77	7.6	2B	II	1.00
	44900	113	4373	143.77	144.77	5.6	1A	II	1.00
	45900	99	3831	144.77	145.77	4.9	1A	II	1.00
	46900	122	4721	145.77	146.77	6.0	2B	II	1.00
	47900	145	5612	146.77	147.77	6.9	2B	II	1.00
	48600	86	4755	147.77	148.47	6.0	2B	II	0.70
	49900	176	5239	148.47	149.77	6.5	2B	II	1.30
	50800	121	5203	149.77	150.67	6.5	1B	II	0.90
	51550	111	5728	150.67	151.42	7.1	2B	II	0.75
	52020	128	10540	151.42	151.89	12.2	5	II	0.47
	52700	110	6260	151.89	152.57	7.7	2B	II	0.68
	53600	76	3268	152.57	153.47	4.3	1B	II	0.90
	55380	146	3174	153.47	155.25	4.2	1B	II	1.78
	56360	104	4107	155.25	156.23	5.3	1B	II	0.98
	56520			156.23	156.39		2B	II	0.16
	58620			156.39	158.49		1A	II	2.10
	60420			158.49	160.29		1B	II	1.80
	62820			160.29	162.69		1A	II	2.40
	67020			162.69	166.89		2B	II	4.20
	68120			166.89	167.99		2B	II	1.10
	69620			167.99	169.49		2B	II	1.50
	72720			169.49	172.59		2B	II	3.10
	90720			172.59	190.59		3	II	18.00
	91320			190.59	191.19		3	II	0.60
	92620			191.19	192.49		3	II	1.30
	93820			192.49	193.69		2B	II	1.20
	97420			193.69	197.29		2B	II	3.60
	98220			197.29	198.09		2B	II	0.80
	99420			198.09	199.29		1B	II	1.20
	102020			199.29	201.89		2B	II	2.60
	106720			201.89	206.59		1B	II	4.70
	123020			206.59	222.89		3	II	16.30
	123520			222.89	223.39		2B	II	0.50
	124820			223.39	224.69		2B	II	1.30
	128520			224.69	228.39		1B	III	3.70

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	131220			228.39	231.09		3	III	2.70
	138720			231.09	238.59		2B	III	7.50
	139520			238.59	239.39		2B	III	0.80
	143320			239.39	243.19		1B	III	3.80
	152120			243.19	251.99		1A	III	8.80
	153320			251.99	253.19		1B	III	1.20
	157820			253.19	257.69		1B	III	4.50
	169320			257.69	269.19		2A	III	11.50
	181220			269.19	281.09		2B	III	11.90
	182320			281.09	282.19		1B	III	1.10
	188620			282.19	288.49		1B	III	6.30
	195720			288.49	295.59		3	III	7.10
	199820			295.59	299.69		2B	III	4.10
	207720			299.69	307.59		1B	III	7.90
	219920			307.59	319.79		2B	III	12.20
	224020			319.79	323.89		1B	III	4.10
	230020			323.89	329.89		2B	III	6.00
	230320			329.89	330.19		1B	III	0.30
	235220			330.19	335.09		1B	III	4.90
	239020			335.09	338.89		2B	III	3.80
	241020			338.89	340.89		1B	III	2.00
	255320			340.89	355.19		2B	III	14.30
	256320			355.19	356.19		1B	III	1.00
	259720			356.19	359.59		1B	III	3.40
	265220			359.59	365.09		1B	III	5.50
	265720			365.09	365.59		1B	III	0.50
	272020			365.59	371.89		2B	III	6.30
	272820			371.89	372.69		1B	III	0.80
	273520			372.69	373.39		2B	III	0.70
	279120			373.39	378.99		3	III	5.60
	280320			378.99	380.19		1B	III	1.20
	284320			380.19	384.19		1B	III	4.00
	288720			384.19	388.59		1A	III	4.40
	289720			388.59	389.59		2B	III	1.00
	332820			389.59	432.69		1B	III	43.10
	334920			432.69	434.79		1B	III	2.10
	338320			434.79	438.19		1A	III	3.40
	348420			438.19	448.29		1A	III	10.10
	349320			448.29	449.19		1A	III	0.90
	352620			449.19	452.49		1A	III	3.30
	355620			452.49	455.49		2A	III	3.00
	360420			455.49	460.29		1A	III	4.80
	367220			460.29	467.09		1B	III	6.80
	367820			467.09	467.69		2B	III	0.60
	371320			467.69	471.19		2B	III	3.50
	373120			471.19	472.99		1B	III	1.80
	610			472.99	473.60		2A	III	0.61
	7810			473.60	480.80		3	III	7.20
	14610			480.80	487.60		2B	III	6.80
	16110			487.60	489.10		2A	III	1.50
	21310			489.10	494.30		2B	III	5.20

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	22310			494.30	495.30		2A	III	1.00
	30710			495.30	503.70		3	III	8.40
	40510			503.70	513.50		2B	III	9.80
	41210			513.50	514.20		3	III	0.70
	43510			514.20	516.50		2A	III	2.30
	47310			516.50	520.30		2B	III	3.80
	63010			520.30	536.00		2A	III	15.70
	70210			536.00	543.20		2B	III	7.20
	77210			543.20	550.20		2A	III	7.00
	78510			550.20	551.50		3	III	1.30
	80610			551.50	553.60		2B	III	2.10
	82610			553.60	555.60		2A	III	2.00
* (1)	86010			555.60	559.00		--	--	3.40
	87610			559.00	560.60		1A	III	1.60
	91110			560.60	564.10		2A	III	3.50
	92610			564.10	565.60		2B	III	1.50
* (2)	95010			565.60	568.00		--	--	2.40

* (1) = Townpassage TURKMENBASHI VILLAGE
* (2) = Townpassage TURKMENBASHI

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

M34, Душанбе - Айни (примыкание A377)
M 34, Dushanbe - Ajni (Junction A 377)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
10	0							II	0
	3281			10.00	13.28		2B	II	3.28
	5261			13.28	15.26		1B	III	1.98
	6975			15.26	16.98		2B	III	1.71
	9142			16.98	19.14		1B	III	2.17
	10900			19.14	20.90		2B	III	1.76
	11600			20.90	21.60		1B	III	0.70
	12570			21.60	22.57		2B	III	0.97
	14160			22.57	24.16		1B	III	1.59
	14600			24.16	24.60		2A	III	0.44
	19400			24.60	29.40		2B	III	4.80
	19680			29.40	29.68		5	III	0.28
	19980			29.68	29.98		2B	III	0.30
	20090			29.98	30.09		5	III	0.11
	20920			30.09	30.09		2B	III	0.00
	21040			30.09	30.21		5	III	0.12
	21950			30.21	31.12		1B	III	0.91
	22100			31.12	31.27		5	III	0.15
	23030			31.27	32.20		2B	III	0.93
	23370			32.20	32.54		2A	III	0.34
	25700			32.54	34.87		2B	III	2.33
	26110			34.87	35.28		1B	III	0.41
	26250			35.28	35.42		5	III	0.14
	26490			35.42	35.66		2B	III	0.24
	26540			35.66	35.71		5	III	0.05
	31000			35.71	40.17		2B	III	4.46
	32170			40.17	41.34		3	III	1.17
	33710			41.34	42.88		2A	III	1.54
45	35270			42.88	44.44		2B	III	1.56
45	0			44.44	44.44		2B	II	0.00
	60			44.44	44.50		1B	III	0.06
	170			44.50	44.61		5	III	0.11
	634			44.61	45.07		3	III	0.46
	1021			45.07	45.46		2B	III	0.39
	1165			45.46	45.61		5	III	0.14
	2381			45.61	46.82		2B	III	1.22
	3794			46.82	48.23		3	III	1.41
	4891			48.23	49.33		2B	III	1.10
	5160			49.33	49.60		5	III	0.27
	15280			49.60	59.72		3	III	10.12

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	15340			59.72	59.78		5	III	0.06
	19240			59.78	63.68		3	III	3.90
	19330			63.68	63.77		5	III	0.09
	20730			63.77	65.17		3	III	1.40
66	20980			65.17	65.42		4	III	0.25
	22050			65.17	66.49		4	III	1.07
	22110			66.49	66.55		5	III	0.06
	22450			66.55	66.89		4	III	0.34
	23270			66.89	67.71		5	III	0.82
	24510			67.71	68.95		4	III	1.24
69	0			68.95	68.95		4	III	0.00
	130			68.95	69.08		4	III	0.13
	465			69.08	69.42		5	III	0.33
	1372			69.42	70.32		3	III	0.91
	2103			70.32	71.05		4	III	0.73
	2151			71.05	71.10		5	III	0.05
	4704			71.10	73.65		3	III	2.55
	5760			73.65	74.71		2A	III	1.06
	6195			74.71	75.15		3	III	0.44
	6980			75.15	75.93		2A	III	0.78
	7847			75.93	76.80		5	III	0.87
	8027			76.80	76.98		3	III	0.18
	8668			76.98	77.62		5	III	0.64
	9428			77.62	78.38		2B	III	0.76
	10280			78.38	79.23		3	III	0.85
	12630			79.23	81.58		2A	III	2.35
83	14130			81.58	83.08		3	III	1.50
Pass	15630			83.08	84.58		4	III	1.50
Ansob	0			84.58	84.58		4	III	0.00
86	1770			84.58	86.35		5	III	1.77
	3788			86.35	88.37		5	III	2.02
	4469			88.37	89.05		3	III	0.68
	5124			89.05	89.70		4	III	0.66
	5408			89.70	89.99		3	III	0.28
	6604			89.99	91.18		4	III	1.20
102	17920			91.18	102.50		5	III	11.32
102	0			102.50	102.50		5	III	0.00
	4169			102.50	106.67		5	III	4.17
	4918			106.67	107.42		4	III	0.75
	6225			107.42	108.73		3	III	1.31
	6573			108.73	109.07		5	III	0.35
	8190			109.07	110.69		2A	III	1.62
	9056			110.69	111.56		3	III	0.87
	9380			111.56	111.88		5	III	0.32
119	17680			111.88	120.18		3	III	8.30
	18730			120.18	121.23		3	III	1.05
	20430			121.23	122.93		2A	III	1.70
	20830			122.93	123.33		3	III	0.40
	21430			123.33	123.93		2A	III	0.60
	21790			123.93	124.29		5	III	0.36

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	25740			124.29	128.24		4	III	3.95
130	28320			128.24	130.82		2A	III	2.58
	29960			130.82	132.46		2A	III	1.64
	30330			132.46	132.83		4	III	0.37
	32790			132.83	135.29		3	III	2.46
	33270			135.29	135.77		2B	III	0.48
	33380			135.77	135.88		5	III	0.11
	35250			135.88	137.75		2B	III	1.87
	35610			137.75	138.11		5	III	0.36
	36160			138.11	138.66		2B	III	0.55
	37760			138.66	140.26		3	III	1.60
142	39230			140.26	141.73		2B	III	1.47
	40470			141.73	142.97		3	III	1.24
	40610			142.97	143.11		5	III	0.14
	42380			143.11	144.88		3	III	1.77
	42720			144.88	145.22		5	III	0.34
	43280			145.22	145.78		2B	III	0.56
	43320			145.78	145.82		5	III	0.04
	45900			145.82	148.40		3	III	2.58
	46790			148.40	149.29		4	III	0.89
	48090			149.29	150.59		3	III	1.30
	48280			150.59	150.78		5	III	0.19
	49460			150.78	151.96		3	III	1.18
	49950			151.96	152.45		4	III	0.49
	50390			152.45	152.89		3	III	0.44
	50540			152.89	153.04		5	III	0.15
153	51420			153.04	153.92		3	III	0.88
	52640			153.92	155.14		3	III	1.22
	53100			155.14	155.60		4	III	0.46
	55210			155.60	157.71		3	III	2.11
	55860			157.71	158.36		2B	III	0.65
	56730			158.36	159.23		4	III	0.87
Ajni	58250			159.23	160.75		3	III	1.52

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

M41, Душанбе - граница Узбекистана
M 41, Dushanbe - Border Uzbekistan

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
9	0								0
	1231			9.00	10.23		1B	III	1.23
	2546			10.23	11.55		1A	III	1.32
	4068			11.55	13.07		1B	III	1.52
	5645			13.07	14.65		1A	III	1.58
	6530			14.65	15.53		1B	III	0.89
	8636			15.53	17.64		2B	III	2.11
	9691			17.64	18.69		1B	III	1.06
	10130			18.69	19.13		2A	III	0.44
	11100			19.13	20.10		2B	III	0.97
	12520			20.10	21.52		1B	III	1.42
	14710			21.52	23.71		2B	III	2.19
26	17330			23.71	26.33		1B	III	2.62
27	18330			26.33	27.33		1B	III	1.00
27	0			27.33	27.33		1B	III	0.00
	1630			27.33	28.96		1B	III	1.63
	2595			28.96	29.93		2B	III	0.97
	7011			29.93	34.34		1B	III	4.42
	8670			34.34	36.00		2B	III	1.66
	15370			36.00	42.70		1B	III	6.70
	17160			42.70	44.49		2B	III	1.79
	19170			44.49	46.50		1B	III	2.01
	19560			46.50	46.89		2B	III	0.39
	20320			46.89	47.65		1B	III	0.76
47	20700			47.65	48.03		1A	III	0.38
	24270			48.03	51.60		1B	III	3.57
	25030			51.60	52.36		2B	III	0.76
	25640			52.36	52.97		1B	III	0.61
	26080			52.97	53.41		2B	III	0.44
	27320			53.41	54.65		1B	III	1.24
	28600			54.65	55.93		2B	III	1.28
	31140			55.93	58.47		1B	III	2.54
	32270			58.47	59.60		2B	III	1.13
	33600			59.60	60.93		1B	III	1.33
	33920			60.93	61.25		3	III	0.32
	35390			61.25	62.72		2B	III	1.47
65.00	38670			62.72	66.00		3	III	3.28
Customs Post	38820			66.00	66.15		3	III	0.15

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

A377, Айни (примыкание M34) - граница Узбекистана
A 377, Ajni (Junction M 34) - Border Uzbekistan

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
0	0								0
	2500			0.00	2.50		3		2.50
	5200			2.50	5.20		2B		2.70
	12150			5.20	12.15		3		6.95
	13300			12.15	13.30		4		1.15
	14750			13.30	14.75		3		1.45
	15400			14.75	15.40		5		0.65
	16100			15.40	16.10		3		0.70
	17500			16.10	17.50		5		1.40
	18450			17.50	18.45		4		0.95
	19050			18.45	19.05		5		0.60
	23650			19.05	23.65		4		4.60
24	24300			23.65	24.30		5		0.65
	25450			24.30	25.45		4		1.15
	28100			25.45	28.10		3		2.65
	31650			28.10	31.65		4		3.55
	32100			31.65	32.10		5		0.45
	33450			32.10	33.45		3		1.35
	35470			33.45	35.47		4		2.02
	37050			35.47	37.05		3		1.58
	37400			37.05	37.40		2B		0.35
	38160			37.40	38.16		5		0.76
	39180			38.16	39.18		3		1.02
	48400			39.18	48.40		4		9.22
	49170			48.40	49.17		3		0.77
	52700			49.17	52.70		4		3.53
	54400			52.70	54.40		5		1.70
	55000			54.40	55.00		2A		0.60
	59400			55.00	59.40		3		4.40
	63900			59.40	63.90		2A		4.50
	67430			63.90	67.43		3		3.53
	68400			67.43	68.40		5		0.97
	70100			68.40	70.10		2A		1.70
	85100			70.10	85.10		3		15.00
	89000			85.10	89.00		4		3.90
	108900			89.00	108.90		2B		19.90
	111100			108.90	111.10		1B		2.20
	112250			111.10	112.25		2B		1.15

Неровность дороги, состояние поверхности и категория дороги
Road Roughness, Surface Condition and Road Category

A 384, Душанбе - Кызыл Кала (км 9.9 - км 100) и участок дороги Кызыл Кала - Курган Тюбе (км0 - км 9)

A 384, Dushanbe - Kzyl Kala (km 9.9 - km 100) a n d Road Section Kzyl Kala - Kurgan Tjube (km 0 - km 9)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	0								0
	1103			9.90	11.00		2B	I	1.10
	3234			11.00	13.13		1B	I	2.13
	5630			13.13	15.53		2B	I	2.40
	6000			15.53	15.90		1B	I	0.37
	8758			15.90	18.66		3	III	2.76
	11360			18.66	21.26		2B	III	2.60
22	11650			21.26	21.55		1B	III	0.29
	12470			21.55	22.37		3	III	0.82
	15560			22.37	25.46		2B	III	3.09
	16500			25.46	26.40		1B	III	0.94
	17550			26.40	27.45		2B	III	1.05
	18830			27.45	28.73		1B	III	1.28
	19110			28.73	29.01		1A	III	0.28
	21920			29.01	31.82		1B	III	2.81
	24640			31.82	34.54		2B	III	2.72
38	28500			34.54	38.40		1A	III	3.86
	33259			38.40	43.16		1B	III	4.76
	33568			43.16	43.47		2A	III	0.31
	34289			43.47	44.19		2B	III	0.72
	0			44.19	44.19		2B	III	0.00
45	1521			44.19	45.71		3	III	1.52
	2098			45.71	46.29		3	III	0.58
	3022			46.29	47.21		1B	III	0.92
	3523			47.21	47.71		3	III	0.50
	4050			47.71	48.24		1B	III	0.53
	4737			48.24	48.93		3	III	0.69
	4974			48.93	49.16		2B	III	0.24
	5878			49.16	50.07		3	III	0.90
	7039			50.07	51.23		2B	III	1.16
	7507			51.23	51.70		3	III	0.47
	9577			51.70	53.77		2B	III	2.07
	14440			53.77	58.63		1B	III	4.86
	18000			58.63	62.19		2B	III	3.56
63	19600			62.19	63.79		3	III	1.60
	20840			63.79	65.03		2B	III	1.24
	21950			65.03	66.14		4	III	1.11

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	22600			66.14	66.79		2B	III	0.65
	24040			66.79	68.23		3	III	1.44
	26070			68.23	70.26		2A	III	2.03
	26300			70.26	70.49		3	III	0.23
	26650			70.49	70.84		2B	III	0.35
	27090			70.84	71.28		4	III	0.44
	29330			71.28	73.52		2B	III	2.24
	29890			73.52	74.08		1B	III	0.56
	31050			74.08	75.24		2B	III	1.16
	32520			75.24	76.71		1B	III	1.47
	34260			76.71	78.45		2B	III	1.74
78	34800			78.45	78.99		1B	III	0.54
	35050			78.99	79.24		1B	III	0.25
	36980			79.24	81.17		3	III	1.93
	37260			81.17	81.45		4	III	0.28
	39800			81.45	83.99		3	III	2.54
	40060			83.99	84.25		5	III	0.26
84	40730			84.25	84.92		4	III	0.67
	40925			66.14	85.11		2B	III	0.19
	41922			66.79	86.11		4	III	1.00
	42477			68.23	86.67		4	III	0.55
	44377			70.26	88.57		3	III	1.90
	45535			70.49	89.72		4	III	1.16
	46250			70.84	90.44		3	III	0.72
	47010			71.28	91.20		1A	III	0.76
	48469			73.52	92.66		1B	III	1.46
	48770			74.08	92.96		3	III	0.30
	49480			75.24	93.67		1A	III	0.71
	50309			76.71	94.50		2B	III	0.83
	51270			78.45	95.46		1A	III	0.96
	51780			78.99	95.97		1B	III	0.51
	53630			79.24	97.82		2B	III	1.85
100	56560			81.17	100.75		1B	III	2.93
Kyzyl Kala									
0	0								0
	670			0.00	0.67		2B	III	0.67
	3820			0.67	3.82		1B	III	3.15
	6690			3.82	6.69		2B	III	2.87
8	7910			6.69	7.91		2B	III	1.22
	9630			7.91	9.63		1B	III	1.72
	9900			9.63	9.90		1B	III	0.27
	10010			9.90	10.01		3	III	0.11

TRACECA - PMS
PILOT SECTIONS FOR PAVEMENT MANAGEMENT SYSTEM

U Z B E K I S T A N

Section 1

M39, Kazakhstan Border - Tashkent

Length of Section 5 km, Chainage km 810 (km Post) to 815

UZ - 1.1 Thickness of Pavement Layers

Ch. km 810.01	Ch. km 812.13	Ch. km 814.7
140 mm Asphalt*	140 mm Asphalt	110 mm Asphalt*
150 mm Gravel - Sand	40 mm Gravel	100 mm Silty - Sand
Subgrade: Sandy - Silt with cobble stones	Subgrade: Silty-gavely Sand	100 mm cobbles(old rd?) on Gravel
* 40 mm 1st layer 100 mm 2nd layer	* 40 mm 1st layer 100 mm 2nd layer	* 40 mm 1st layer 70 mm 2nd layer

UZ - 1.2 Roughness

Chainage [km]	IRI [m/km]
807.5 - 812.3	6.0
812.3 - 813.2	8.0
813.2 -815.75	6.0

Section 2

M39, Tashkent - Samarkand

Length of Section 5 km, Chainage km 975 (km Post) to 980

UZ - 2.1 Thickness of Pavement Layers

Ch. km 975
100 mm Asphalt*
200 mm Concrete
120 mm Crushed Stone
180 mm Gravel
Subgrade

* 40 mm 1st layer (hot mix, small grain size)
60 mm 2nd layer (hot mix, medium grain size)

UZ - 2.2 Roughness

Chainage [km]	IRI [m/km]
975.0 - 977.0	5.0
977.0 - 978.9	7.5
978.9 - 979.9	5.0
979.9 - 980.9	7.8

Section 3

M39, Tashkent - Samarkand

Length of Section 5 km, Chainage km 990 (km Post) to 995

UZ - 3.1 Thickness of Pavement Layers

Ch. km 992.9
200 mm Asphalt*
180 mm Crushed Stone
Subgrade

* 40 mm 1st layer (cold mix, medium grain size)
50 mm 2nd layer (cold mix, medium grain size)
50 mm 3rd layer (cold mix, medium grain size)
60 mm 4th layer (cold mix, coarse grain size)

UZ - 3.2 Roughness

Chainage [km]	IRI [m/km]
990.0 - 991.0	7.3
991.0 - 992.0	5.2
992.0 - 993.0	8.5
993.0 - 994.0	8.3
994.0 -995.0	5.3

Section 4

M39, Tashkent - Samarkand

Length of Section 5 km, Chainage km 856 (km Post) to 861

UZ - 4.1 Thickness of Pavement Layers

Ch. km 857
200 to 210 mm Concrete
Subgrade

UZ - 4.2 Roughness

Chainage [km]	IRI [m/km]
856.0 - 857.0	7.6
857.0 - 859.0	7.5
859.0 - 860.0	8.0
860.0 - 861.0	7.5

Section 5

M 37, Samarkand -Buchara - Border Turkmenistan

Length of Section 5 km, Chainage km 273 (km Post) to 278 Direction to Turkmenistan and km 278 (km Post) to 273 Direction to Buchara

UZ - 5.1 Thickness of Pavement Layers

Ch. km	Ch. km	Ch. km
80 mm Asphalt 420 mm Gravel - Sand Subgrade	95 mm Asphalt 350 mm Gravel -Sand Subgrade	50 mm Asphalt 400 mm Gravel - Sand Subgrade

UZ - 5.2 Roughness

Direction Buchara - Border Turkmenistan		**Direction to Buchara**	
Chainage [km]	IRI [m/km]	Chainage [km]	IRI [m/km]
273.00 - 273.81	5.21	278.00 - 277.37	8.53
273.81 - 274.49	5.19	277.37 - 276.30	4.32
274.49 - 274.85	7.63	276.30 - 275.37	5.13
274.85 - 275.49	4.71	275.37 - 274.73	5.27
275.49 - 276.29	6.03	274.73 - 273.93	5.82
276.29 - 277.15	5.50	273.93 - 272.99	5.55
277.15 - 278.00	5.25	272.99 - 272.69	7.16

Section 6

A 376, Dzizak - Bekabad (Direction to Bekabad)

Length of Section 10 km, Chainage km 291 (km Post) to 286 and Chainage km 285 to 280

UZ - 6.1 Thickness of Pavement Layers

Ch. km 285
180 mm Asphalt*
150 mm Gravel - Sand
Subgrade

* 40 mm 1st layer (cold mix)
40 mm 2nd layer (cold mix)
50 mm 3rd layer (hot mix)
50 mm 4th layer (hot mix)

UZ - 6.2 Roughness

Chainage [km]	IRI [m/km]	Chainage [km]	IRI [m/km]
291 - 290	6.4	285 - 284	8.1
290 - 289	7.1	284 - 283	6.9
289 - 288	7.1	283 - 282	7.1
288 - 287	6.5	282 - 281	6.1
287 - 286	6.5	281 - 280	6.7

KOCKS
INGENIEURE

Неровность дороги / состояние поверхности
Road Roughness, Surface Condition and Road Category

Калибрационфактор C=2.57
Callibrationfactor; C= 2.57

М39, Ташкент-Термез (Граница Афганистана)
M 39, Tashkent - Termez (Border Afghanistan)

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категория состояния (визуальн)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Integ. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
817									
	1000	163	4189	817.0	818.0	5.4	1 a	I	1.00
	1000	157	4035	818.0	819.0	5.2	1 a	I	1.00
	1000	185	4755	819.0	820.0	6.0	1 a	I	1.00
	1000	253	6502	820.0	821.0	7.9	2 b	I	1.00
	1000	337	8661	821.0	822.0	10.2	3	I	1.00
	1000	235	6040	822.0	823.0	7.4	2 b	I	1.00
	1000	222	5705	823.0	824.0	7.1	2 b	I	1.00
	1000	190	4883	824.0	825.0	6.1	2 a	I	1.00
	1000	221	5680	825.0	826.0	7.0	2 a	I	1.00
	1000	179	4600	826.0	827.0	5.8	1 a	I	1.00
	1000	201	5166	827.0	828.0	6.5	2 b	I	1.00
	1000	160	4112	828.0	829.0	5.3	1 a	I	1.00
	1000	175	4498	829.0	830.0	5.7	1 b	I	1.00
	1000	222	5705	830.0	831.0	7.1	2 b	I	1.00
	1000	222	5705	831.0	832.0	7.1	2 b	I	1.00
	1000	201	5166	832.0	833.0	6.5	2b	I	1.00
	1000	246	6322	833.0	834.0	7.7	2 b	I	1.00
	1000	205	5269	834.0	835.0	6.6	2 b	I	1.00
	1000	232	5962	835.0	836.0	7.3	2 b	I	1.00
	1000	228	5860	836.0	837.0	7.2	2 b	I	1.00
	1000	181	4652	837.0	838.0	5.9	1 a	I	1.00
	1000	192	4934	838.0	839.0	6.2	2 b	I	1.00
	1000	208	5346	839.0	840.0	6.7	2 b	I	1.00
	1000	202	5191	840.0	841.0	6.5	2 b	I	1.00
	1000	270	6939	841.0	842.0	8.4	2 b	I	1.00
	1000	174	4472	842.0	843.0	5.7	1 b	I	1.00
	1000	175	4498	843.0	844.0	5.7	1 b	I	1.00
	1000	188	4832	844.0	845.0	6.1	2 b	I	1.00
	1000	197	5063	845.0	846.0	6.3	2 b	I	1.00
	1000	190	4883	846.0	847.0	6.1	2 b	I	1.00
	1000	208	5346	847.0	848.0	6.7	2 b	I	1.00
	1000	215	5526	848.0	849.0	6.9	2 b	I	1.00
	1000	207	5320	849.0	850.0	6.6	2 b	I	1.00
	1000	177	4549	850.0	851.0	5.8	1 b	I	1.00
	1000	207	5320	851.0	852.0	6.6	2 b	I	1.00
	1000	214	5500	852.0	853.0	6.8	2 b	I	1.00
	1000	278	7145	853.0	854.0	8.6	3	I	1.00
	1000	195	5012	854.0	855.0	6.3	2 b	I	1.00
	1000	244	6271	855.0	856.0	7.7	2 b	I	1.00
	1000	241	6194	856.0	857.0	7.6	2 a	I	1.00

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категория состояния (визуальн)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Integ. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	1000			857.0	858.0		2 a	I	1.00
	1000			858.0	859.0		2 a	I	1.00
	1000			859.0	860.0		2 b	I	1.00
	1000			860.0	861.0		2 a	I	1.00
	1000			861.0	862.0		2 b	I	1.00
	1000			862.0	863.0		2 b	I	1.00
	1000			863.0	864.0		3	I	1.00
	1000			864.0	865.0		1 b	I	1.00
	1000			865.0	866.0		1 b	I	1.00
	1000			866.0	867.0		1 b	I	1.00
	1000			867.0	868.0		1 b	I	1.00
	1000			868.0	869.0		1 b	I	1.00
	1000			869.0	870.0		3	I	1.00
	1000			870.0	871.0		3	I	1.00
	1000			871.0	872.0		1a	I	1.00
	1000			872.0	873.0		2a	I	1.00
	1000			873.0	874.0		2b	I	1.00
	1000	273	7016	874.0	875.0	8.5	2a	I	1.00
	1000	282	7247	875.0	876.0	8.7	2b	I	1.00
877	1000	273	7016	876.0	877.0	8.5	2a	I	1.00
	1000	252	6476	877.0	878.0	7.9	2a	I	1.00
	1000	234	6014	878.0	879.0	7.4	2 a	I	1.00
	1000	231	5937	879.0	880.0	7.3	2 b	I	1.00
	1000	227	5834	880.0	881.0	7.2	2 b	I	1.00
	1000	286	7350	881.0	882.0	8.8	2 b	I	1.00
	1000	300	7710	882.0	883.0	9.2	3	I	1.00
	1000	240	6168	883.0	884.0	7.6	2 b	I	1.00
	1000	271	6965	884.0	885.0	8.4	2 b	I	1.00
	1000	267	6862	885.0	886.0	8.3	2 b	I	1.00
	1000	262	6733	886.0	887.0	8.2	2 b	I	1.00
	1000	248	6374	887.0	888.0	7.8	2 b	I	1.00
	1000	241	6194	888.0	889.0	7.6	2 b	I	1.00
	1000	253	6502	889.0	890.0	7.9	2a	I	1.00
	1000	250	6425	890.0	891.0	7.8	2 b	I	1.00
	1000	286	7350	891.0	892.0	8.8	2 b	I	1.00
	1000	268	6888	892.0	893.0	8.3	2 b	I	1.00
	1000	284	7299	893.0	894.0	8.8	3	I	1.00
	1000	311	7993	894.0	895.0	9.5	3	I	1.00
	1000	289	7427	895.0	896.0	8.9	3	I	1.00
	1000	276	7093	896.0	897.0	8.6	3	I	1.00
	1000	327	8404	897.0	898.0	10.0	3	I	1.00
	1000	306	7864	898.0	899.0	9.4	3	I	1.00
	1000	280	7196	899.0	900.0	8.7	3	I	1.00
	1000	316	8121	900.0	901.0	9.7	3	I	1.00
	1000	298	7659	901.0	902.0	9.2	3	I	1.00
	1000	318	8173	902.0	903.0	9.7	3	I	1.00
	1000	316	8121	903.0	904.0	9.7	3	I	1.00
	1000	326	8378	904.0	905.0	9.9	3	I	1.00
	1000	324	8327	905.0	906.0	9.9	3	I	1.00
	1000	266	6836	906.0	907.0	8.3	2 b	I	1.00
	1000	367	9432	907.0	908.0	11.0	4	I	1.00

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категория состояния (визуальн)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Integ. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	1000	390	10023	908.0	909.0	11.6	4	I	1.00
	1000	342	8789	909.0	910.0	10.4	4	I	1.00
	1000	394	10126	910.0	911.0	11.7	4	I	1.00
	1000	432	11102	911.0	912.0	12.8	5	I	1.00
	1000	331	8507	912.0	913.0	10.1	5	I	1.00
	1000	310	7967	913.0	914.0	9.5	3	I	1.00
	1000	283	7273	914.0	915.0	8.8	3	I	1.00
	1000	256	6579	915.0	916.0	8.0	3	I	1.00
	1000	304	7813	916.0	917.0	9.3	3	I	1.00
	1000	298	7659	917.0	918.0	9.2	3	I	1.00
	1000	236	6065	918.0	919.0	7.4	2 b	I	1.00
	1000	158	4061	919.0	920.0	5.2	1 b	I	1.00
	1000	156	4009	920.0	921.0	5.2	1 b	I	1.00
	1000	138	3547	921.0	922.0	4.6	1 b	I	1.00
	1000	153	3932	922.0	923.0	5.1	1 b	I	1.00
	1000	144	3701	923.0	924.0	4.8	1 b	I	1.00
	1000	220	5654	924.0	925.0	7.0	2 b	I	1.00
	1000	106	2724	925.0	926.0	3.7	0	I	1.00
	1000	92	2364	926.0	927.0	3.2	0	I	1.00
	1000	138	3547	927.0	928.0	4.6	1 b	I	1.00
	1000	155	3984	928.0	929.0	5.1	1 a	I	1.00
	1000	150	3855	929.0	930.0	5.0	1 a	I	1.00
	1000	134	3444	930.0	931.0	4.5	1 b	I	1.00
	1000	194	4986	931.0	932.0	6.3	2 b	I	1.00
	1000	161	4138	932.0	933.0	5.3	1 b	I	1.00
	1000	153	3932	933.0	934.0	5.1	1 b	I	1.00
	1000	171	4395	934.0	935.0	5.6	1 b	I	1.00
	1000	209	5371	935.0	936.0	6.7	2 a	I	1.00
	1000	134	3444	936.0	937.0	4.5	1 a	I	1.00
	1000	184	4729	937.0	938.0	6.0	1 a	I	1.00
	1000	201	5166	938.0	939.0	6.5	2 a	I	1.00
	1000	137	3521	939.0	940.0	4.6	1 a	I	1.00
	1000	125	3213	940.0	941.0	4.2	1 a	I	1.00
	1000	116	2981	941.0	942.0	4.0	1 a	I	1.00
	1000	158	4061	942.0	943.0	5.2	1 a	I	1.00
	1000	148	3804	943.0	944.0	4.9	1 b	I	1.00
	1000	166	4266	944.0	945.0	5.4	1 b	I	1.00
	1000	135	3470	945.0	946.0	4.5	1 b	I	1.00
	1000	137	3521	946.0	947.0	4.6	1 b	I	1.00
	1000	151	3881	947.0	948.0	5.0	1 a	I	1.00
	1000	162	4163	948.0	949.0	5.3	1 b	I	1.00
	1000	161	4138	949.0	950.0	5.3	1 a	I	1.00
	1000	368	9458	950.0	951.0	11.1	3	I	1.00
	1000	164	4215	951.0	952.0	5.4	1 b	I	1.00
	1000	135	3470	952.0	953.0	4.5	1 b	I	1.00
	1000	170	4369	953.0	954.0	5.6	1 b	I	1.00
	1000	179	4600	954.0	955.0	5.8	1 b	I	1.00
	1000	171	4395	955.0	956.0	5.6	1 b	I	1.00
	1000	150	3855	956.0	957.0	5.0	1 a	I	1.00
	1000	130	3341	957.0	958.0	4.4	1 a	I	1.00
	1000	136	3495	958.0	959.0	4.6	1 a	I	1.00

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категория состояния (визуальн)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Integ. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	1000	126	3238	959.0	960.0	4.3	1 a	I	1.00
	1000	130	3341	960.0	961.0	4.4	1 a	I	1.00
	1000	152	3906	961.0	962.0	5.0	1 b	I	1.00
	1000	129	3315	962.0	963.0	4.3	2 b	I	1.00
	1000	178	4575	963.0	964.0	5.8	3	I	1.00
	1000	201	5166	964.0	965.0	6.5	3	I	1.00
	1000	115	2956	965.0	966.0	3.9	1 b	I	1.00
	1000	170	4369	966.0	967.0	5.6	1 b	I	1.00
	1000	169	4343	967.0	968.0	5.5	1 b	I	1.00
	1000	189	4857	968.0	969.0	6.1	2 a	I	1.00
	1000	111	2853	969.0	970.0	3.8	0	I	1.00
	1000	110	2827	970.0	971.0	4.0	1 a	I	1.00
	1000	117	3007	971.0	972.0	4.0	1 a	I	1.00
	1000	133	3418	972.0	973.0	4.5	1 a	I	1.00
	1000	156	4009	973.0	974.0	5.2	1 a	I	1.00
975	1000	178	4575	974.0	975.0	5.8	1b	I	1.00
	2000			975.0	977.0		1b	I	2.00
	3910			977.0	978.9		2b	I	1.91
	4850			978.9	979.9		1 a	I	0.94
	5900			979.9	980.9		2b	I	1.05
	8180			980.9	983.2		3	I	2.28
985	9929			983.2	984.9		1b	I	1.75
	1000	195	5012	985.0	986.0	6.3	1b	I	1.00
	1000	200	5140	986.0	987.0	6.4		I	1.00
	1000	160	4112	987.0	988.0	5.3	1 a	I	1.00
	1000	217	5577	988.0	989.0	6.9	2a	I	1.00
	1000	133	3418	989.0	990.0	4.5	1 a	I	1.00
	1000	232	5962	990.0	991.0	7.3	1 b	I	1.00
	1000	156	4009	991.0	992.0	5.2	2 a	I	1.00
	1000	274	7042	992.0	993.0	8.5	2 a	I	1.00
	1000	268	6888	993.0	994.0	8.3	2 a	I	1.00
	1000	160	4112	994.0	995.0	5.3	2 a	I	1.00
	1000	137	3521	995.0	996.0	4.6	2 b	I	1.00
	1000	144	3701	996.0	997.0	4.8	1 b	I	1.00
	1000	116	2981	997.0	998.0	4.0	1 b	I	1.00
	1000	161	4138	998.0	999.0	5.3	1 b	I	1.00
	15444			999.0	1000.3		2 b	I	1.31
	16750			1000.3	1000.6		1 a	I	0.30
	17050			1000.6	1001.2		2 a	I	0.59
	17640			1001.2	1001.4		3	I	0.25
	17890			1001.4	1004.0		2 a	I	2.53
	20420			1004.0	1004.3		2 b	I	0.35
	20770			1004.3	1005.6		3	I	1.27
	22040			1005.6	1007.4		1 a	I	1.81
	23850			1007.4	1008.4		2 b	I	0.95
	24800			1008.4	1011.6		3	II	3.22
	28017			1011.6	1012.9		2 b	II	1.28
	29300			1012.9	1013.5		2 a	I	0.62
	29920			1013.5	1014.9		3	I	1.47
	31390			1014.9	1016.5		1 b	I	1.51
	32900			1016.5	1016.6		2 b	I	0.16

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категория состояния (визуальн)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Integ. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	33060			1016.6	1017.6		3	I	1.02
	34080			1017.6	1022.4		2 a	I	4.79
	38870			1022.4	1023.5		2 b	I	1.03
	39900			1023.5	1024.4		1 b	I	0.93
	40830			1024.4	1025.3		1 a	I	0.92
	41750			1025.3	1027.2		3	I	1.91
	43660			1027.2	1031.5		2 b	I	4.24
	47900			1031.5	1032.3		1 b	I	0.89
	48790			1032.3	1033.0		2 a	I	0.70
	49490			1033.0	1033.8		2 b	I	0.76
	50250			1033.8	1035.0		3	I	1.23
	51480			1035.0	1036.8		2 a	I	1.74
	53220			1036.8	1038.8		2 b	I	2.03
	55250			1038.8	1039.5		3	I	0.74
	55990			1039.5	1041.0		2 b	I	1.47
	57460			1041.0	1044.2		2 a	I	3.14
	60600			1044.2	1044.4		1 b	I	0.20
	60800			1044.4	1045.1		2a	I	0.79
	61590			1045.1	1046.9		1 a	I	1.71
	63300			1046.9	1048.7		2 b	I	1.83
	65130			1048.7	1054.1		2 a	I	5.37
	70500			1054.1	1054.5		1 a	I	0.45
	70950			1054.5	1055.8		1 b	I	1.34
	72290			1055.8	1056.1		1 b	I	0.23
	72520			1056.1	1057.7		4	I	1.60
	74120			1057.7	1060.7		2 b	I	3.03
	77150			1060.7	1061.4		2 a	I	0.68
	77830			1061.4	1062.6		2 b	I	1.23
	79060			1062.6	1063.6		2 b	I	0.98
	80040			1063.6	1065.0		3	I	1.36
	81400			1065.0	1066.8		2 b	I	1.80
	83200			1066.8	1068.1		3	I	1.33
	84530			1068.1	1068.8		1 a	I	0.76
	85290			1068.8	1073.7		2 b	I	4.85
1076	90143			1073.7	1075.6		1 a	I	1.86
	92000			1075.6	1076.5		1 a	I	0.90
	92900			1076.5	1078.6		1 b	I	2.10
	95000			1078.6	1083.6		2 b	I	5.09
1087	100090			1083.6	1088.7		3	I	5.09
	2320			1087.0	1089.3		3	I	2.32
	5240			1089.3	1092.2		2 a	I	2.92
	7742			1092.2	1094.7		2 b	I	2.50
	14120			1094.7	1101.1		1 a	I	6.38
	15420			1101.1	1102.4		2 a	I	1.30
	21820			1102.4	1108.8		1 a	I	6.40
	23800			1108.8	1110.8		2 a	I	1.98
	27310			1110.8	1114.3		2 b	II	3.51
	30990			1114.3	1118.0		2 a	II	3.68
	31600			1118.0	1118.6		3	II	0.61
	38370			1118.6	1125.4		2 a	IV	6.77
	43500			1125.4	1130.5		4	IV	5.13

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категория состояния (визуальн)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Integ. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	46900			1130.5	1133.9		3	IV	3.40
	47750			1133.9	1134.8		1 a	III	0.85
	49340			1134.8	1136.3		2 a	III	1.59
	51780			1136.3	1138.8		1 a	III	2.44
	55530			1138.8	1142.5		2 a	III	3.75
	56490			1142.5	1143.5		3	III	0.96
	60560			1143.5	1147.6		1 a	I	4.07
	61560			1147.6	1148.6		1 a	II	1.00
1159	71600			1148.6	1159.0		1 a	I	10.44
	5670			1159.0	1164.7		1 a	II	5.67
	6280			1164.7	1165.3		1 a	I	0.61
	9300			1165.3	1168.3		1 a	I	3.02
	10600			1168.3	1169.6		1 a	II	1.30
	11770			1169.6	1170.8		1 b	II	1.17
	12740			1170.8	1171.7		1 a	II	0.97
	13600			1171.7	1172.6		1 b	II	0.86
	14970			1172.6	1174.0		1 a	II	1.37
	16310			1174.0	1175.3		1 a	I	1.34
	17490			1175.3	1176.5		2 a	I	1.18
	21700			1176.5	1180.7		1 a	I	4.21
	22610			1180.7	1181.6		1 b	I	0.91
	24950			1181.6	1184.0		1 a	I	2.34
	30470			1184.0	1189.5		1 b	II	5.52
	31190			1189.5	1190.2		1 b	I	0.72
	47600			1190.2	1206.6		1a	I	16.41
	50940			1206.6	1209.9		1 b	I	3.34
	56670			1209.9	1215.7		1 a	I	5.73
	58350			1215.7	1217.4		1 b	I	1.68
	66700			1217.4	1225.7		1 a	I	8.35
	67520			1225.7	1226.5		2 a	I	0.82
	70300			1226.5	1229.3		2 b	I	2.78
	71780			1229.3	1230.8		2 a	I	1.48
	73230			1230.8	1232.2		1 a	I	1.45
	77090			1232.2	1236.1		1 b	I	3.86
	78820			1236.1	1237.8		1 a	II	1.73
	79480			1237.8	1238.5		2 b	II	0.66
1242	80888			1238.5	1239.9		1 a	II	1.41
	84690			1239.9	1243.7		1 a	II	3.80
	85000			1243.7	1244.0		2 a	III	0.31
	89150			1244.0	1248.2		2 b	III	4.15
	90960			1248.2	1250.0		1 a	III	1.81
	95770			1250.0	1254.8		2 a	III	4.81
	96600			1254.8	1255.6		3	III	0.83
	97000			1255.6	1256.0		2 a	III	0.40
	97900			1256.0	1256.9		3	III	0.90
1258	99020			1256.9	1258.0		2 b	III	1.12
	1170			1258.0	1259.2		1 b	IV	1.17
	3827			1259.2	1261.8		2 a	IV	2.66
	4820			1261.8	1262.8		2 b	IV	0.99
	6620			1262.8	1264.6		2 a	II	1.80
	12160			1264.6	1270.2		1 a	II	5.54

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категория состояния (визуальн)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Integ. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	12900			1270.2	1270.9		2 a	II	0.74
	14960			1270.9	1273.0		1 a	II	2.06
	18240			1273.0	1276.2		2 b	II	3.28
	19405			1276.2	1277.4		2 a	I	1.16
	24872			1277.4	1282.9		2 a	III	5.47
	27320			1282.9	1285.3		2 a	I	2.45
	29940			1285.3	1287.9		3	II	2.62
	33890			1287.9	1291.9		2 b	IV	3.95
	35480			1291.9	1293.5		3	IV	1.59
	37773			1293.5	1295.8		4	IV	2.29
	39940			1295.8	1297.9		4	III	2.17
	41750			1297.9	1299.8		4	V	1.81
	42940			1299.8	1300.9		4	V	1.19
	43660			1300.9	1301.7		2 a	III	0.72
	48400			1301.7	1306.4		2 b	III	4.74
	53250			1306.4	1311.3		2 a	III	4.85
	54100			1311.3	1312.1		3	III	0.85
	55440			1312.1	1313.4		2 b	III	1.34
	57041			1313.4	1315.0		2 b	III	1.60
	60900			1315.0	1318.9		2a	IV	3.86
	64960			1318.9	1323.0		3	IV	4.06
	65310			1323.0	1323.3		4	IV	0.35
	65600			1323.3	1323.6		1 a	III	0.29
	67140			1323.6	1325.1		2 a	III	1.54
	69670			1325.1	1327.7		1 b	III	2.53
	70950			1327.7	1329.0		2 a	III	1.28
	71620			1329.0	1329.6		2 b	III	0.67
	72620			1329.6	1330.6		1 a	IV	1.00
	74460			1330.6	1332.5		1 a	V	1.84
	74780			1332.5	1332.8		2 b	II	0.32
	77330			1332.8	1335.3		1 a	II	2.55
	79250			1335.3	1337.3		2 a	II	1.92
	88127			1337.3	1346.1		3	II	8.88
	90794			1346.1	1348.8		3	III	2.67
	91120			1348.8	1349.1		3	III	0.33
	92120			1349.1	1350.1		2 a	IV	1.00
	93170			1350.1	1351.2		1 a	II	1.05
	98120			1351.2	1356.1		1 a	II	4.95
	99630			1356.1	1357.6		1 a	III	1.51
1361	100930			1357.6	1358.9		1 b	II	1.30
	8930			1361.0	1369.9		1 a	II	8.93
	10000			1369.9	1371.0		2 a	II	1.07
	12050			1371.0	1373.1		2 a	III	2.05
	13260			1373.1	1374.3		2 b	III	1.21
	14550			1374.3	1375.6		2 a	III	1.29
	14780			1375.6	1375.8		3	III	0.23
	16490			1375.8	1377.5		2 b	III	1.71
	18550			1377.5	1379.6		3	III	2.06
	20730			1379.6	1381.7		2 b	III	2.18
	22930			1381.7	1383.9		1 b	III	2.20
	30710			1383.9	1391.7		1 a	III	7.78

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категория состояния (визуальн)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Integ. (Impulse)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	31630			1391.7	1392.6		2 a	III	0.92
	38500			1392.6	1399.5		1 a	III	6.87
	48650			1399.5	1409.7		1 a	II	10.15
	62550			1409.7	1423.6		1 a	I	13.90
	64400			1423.6	1425.4		1 b	II	1.85
	77750			1425.4	1438.8		1 a	II	13.35
	87040			1438.8	1448.0		1 b	II	9.29
	90020			1448.0	1451.0		1 a	II	2.98
	93790			1451.0	1454.8		1 b	II	3.77
	93870			1454.8	1454.9		1 a	II	0.08
Termez	94820			1454.9	1455.8		1 a	II	0.95

Узбекистан: М39, Ташкент-граница Казахстана
Uzbekistan: M39, Tashkent-Kazakhstan Border

Неровность дороги / состояние поверхности
Road Roughness, Surface Condition and Road Category

Калибрационфактор C=2.57
Callibrationfactor; C= 2.57

М39, Ташкент - граница Казахстана
M 39, Tashkent - Kazakhstan Border

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Vehicle Roughness (mm/km)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категория состояния (визуальн)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Integ. (Impulse)	Vehicle Roughness (mm/km)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
806.70	0									
	1000	235	2350	6040	806.7	807.7	7.4	2b	II	1.00
	1000	240	2400	6168	807.7	808.7	7.6	2b	II	1.00
	1000	194	1940	4986	808.7	809.7	6.3	2a	II	1.00
	1000	257	2570	6605	809.7	810.7	8.0	2b	II	1.00
	1000	203	2030	5217	810.7	811.7	6.5	2a	II	1.00
	1000	280	2800	7196	811.7	812.7	8.7	3	II	1.00
	1000	290	2900	7453	812.7	813.7	8.9	3	II	1.00
	1000	249	2490	6399	813.7	814.7	7.8	2b	II	1.00
	1000	230	2300	5911	814.7	815.7	7.3	2b	II	1.00
	1000	205	2050	5269	815.7	816.7	6.6	2b	II	1.00
817.00	650	177	2723	6998	816.7	817.4	8.5	2b	II	0.65

Неровность дороги / состояние поверхности
Road Roughness, Surface Condition and Road Category

Калибрационфактор C=2.57
Callibrationfactor; C = 2.57

А 376, Джизак-Бекабад
A 376, Dzizak - Bekabad

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Vehicle Roughness (mm/km)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категория состояния (визуальн)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Integ. (Impulse)	Vehicle Roughness (mm/km)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
291.00	0									
	1000	199	1990		291.0	290.0		2a	III	1.00
	1000	223	2230	5731	290.0	289.0	7.1	2a	III	1.00
	1000	225	2250	5783	289.0	288.0	7.1	2a	III	1.00
	1000	202	2020	5191	288.0	287.0	6.5	2a	III	1.00
	1000	202	2020	5191	287.0	286.0	6.5	2a	III	1.00
	1000	318	3180	8173	286.0	285.0	9.7	3	II	1.00
	1000	260	2600	6682	285.0	284.0	8.1	2a	II	1.00
	1000	218	2180	5603	284.0	283.0	6.9	2a	II	1.00
	1000	222	2220	5705	283.0	282.0	7.1	2a	II	1.00
	1000	190	1900	4883	282.0	281.0	6.1	2a	II	1.00

Неровность дороги / состояние поверхности
Road Roughness, Surface Condition and Road Category

Калибрационфактор C=3.87
Callibrationfactor ; C = 3.87

М37, Самарканд - Бухара - граница Туркменистана
M 37, Samarkand - Buchara - Border Turkmenistan

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Vehicle Roughness (mm/km)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Vehicle Roughness (mm/km)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
13	0									
	2820				13.00	15.82		2B	I	2.82
	4025				15.82	17.03		1B	I	1.21
	7361				17.03	20.36		2B	I	3.34
	7660				20.36	20.66		1B	I	0.30
21	8000				20.66	21.00		2B	I	0.34
21	0				21.00	21.00		2B	I	0.00
	470				21.00	21.47		2B	I	0.47
	1017				21.47	22.02		3	I	0.55
	1550				22.02	22.55		2B	I	0.53
	2450	161	1789	6923	22.55	23.45	8.4	3	I	0.90
	3600	158	1374	5317	23.45	24.60	6.6	2B	I	1.15
	4000	54	1350	5225	24.60	25.00	6.5	2B	I	0.40
	4800	103	1288	4983	25.00	25.80	6.3	2B	I	0.80
	5800	154	1540	5960	25.80	26.80	7.3	2B	I	1.00
	6256	85	1864	7214	26.80	27.26	8.7	3	I	0.46
28	7045	140	1774	6867	27.26	28.05	8.3	3	I	0.79
	8300	199	1586	6136	28.05	29.30	7.5	3	I	1.26
	8600	38	1267	4902	29.30	29.60	6.2	3	I	0.30
	11180				29.60	32.18		2B	I	2.58
	11620				32.18	32.62		1B	I	0.44
	13800				32.62	34.80		2B	I	2.18
37	15820				34.80	36.82		3	I	2.02
	16000				36.82	37.00		3	I	0.18
	17000	373	3730	14435	37.00	38.00	>15	5	I	1.00
	18000	439	4390	16989	38.00	39.00	>15	5	I	1.00
	18700	290	4143	16033	39.00	39.70	>15	5	I	0.70
	19440	268	3622	14016	39.70	40.44	>15	5	I	0.74
	20000	206	3679	14236	40.44	41.00	>15	5	I	0.56
	21000	383	3830	14822	41.00	42.00	>15	5	I	1.00
	21600	249	4150	16061	42.00	42.60	>15	5	I	0.60
	22100	191	3820	14783	42.60	43.10	>15	5	I	0.50
44	22300				43.10	43.30		4	I	0.20
	24090				43.30	45.09		1B	I	1.79
	26840				45.09	47.84		2B	I	2.75
	27620				47.84	48.62		3	I	0.78

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Vehicle Roughness (mm/km)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Vehicle Roughness (mm/km)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	28400				48.62	49.40		4	I	0.78
	32420				49.40	53.42		3	I	4.02
	32700				53.42	53.70		4	I	0.28
	34500				53.70	55.50		2B	I	1.80
	37320				55.50	58.32		3	I	2.82
	38000				58.32	59.00		2B	I	0.68
64	41940				59.00	62.94		3	I	3.94
	255				62.94	63.20		3	I	0.26
	3330				63.20	66.27		1A	I	3.08
	4450				66.27	67.39		1B	I	1.12
	6209				67.39	69.15		2B	I	1.76
	7090				69.15	70.03		3	I	0.88
	7900				70.03	70.84		1B	I	0.81
	8848				70.84	71.79		2B	I	0.95
	11130				71.79	74.07		3	I	2.28
	14560				74.07	77.50		2B	I	3.43
80	16280				77.50	79.22		1B	II	1.72
	16500				79.22	79.44		1B	II	0.22
	17100	101	1683	6515	79.44	80.04	7.9	2B	III	0.60
	18410	288	2198	8508	80.04	81.35	10.1	3	III	1.31
	18720	103	3323	12858	81.35	81.66	14.5	5	I	0.31
	19310	87	1475	5707	81.66	82.25	7.1	2B	I	0.59
	19950	113	1766	6833	82.25	82.89	8.3	2B	I	0.64
85	21370	225	1585	6132	82.89	84.31	7.5	2B	I	1.42
	22700	227	1707	6605	84.31	85.64	8.0	2B	III	1.33
	23400	118	1686	6524	85.64	86.34	7.9	2B	III	0.70
	24440	190	1827	7070	86.34	87.38	8.5	3	III	1.04
	25450				87.38	88.39		2B	I	1.01
	28760				88.39	91.70		1B	I	3.31
	29600				91.70	92.54		2A	I	0.84
	31580				92.54	94.52		1B	I	1.98
	32680				94.52	95.62		2B	I	1.10
	36250				95.62	99.19		1B	I	3.57
	37210				99.19	100.15		1A	I	0.96
	39210				100.15	102.15		2B	I	2.00
104	40700				102.15	103.64		1A	I	1.49
	45330				103.64	108.27		2B	I	4.63
	45600				108.27	108.54		3	I	0.27
	46600				108.54	109.54		1B	I	1.00
	47890				109.54	110.83		3	I	1.29
	49660				110.83	112.60		2A	I	1.77
	52360				112.60	115.30		3	I	2.70
	53140				115.30	116.08		2B	I	0.78
	54190				116.08	117.13		1A	I	1.05
	55080				117.13	118.02		2A	I	0.89
	55740				118.02	118.68		1B	I	0.66
	57200				118.68	120.14		1A	I	1.46
	58540				120.14	121.48		2A	I	1.34
	61750				121.48	124.69		2B	I	3.21
	62240				124.69	125.18		1B	I	0.49

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Vehicle Roughness (mm/km)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Vehicle Roughness (mm/km)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	62970				125.18	125.91		2A	I	0.73
128	65170				125.91	128.11		2B	I	2.20
129	66110				128.11	129.05		2A	I	0.94
	66280				129.05	129.22		2A	I	0.17
	67140	168	1953	7560	129.22	130.08	9.1	3	I	0.86
	68110	185	1907	7381	130.08	131.05	8.9	3	II	0.97
	69160	201	1914	7408	131.05	132.10	8.9	3	II	1.05
	70090	197	2118	8198	132.10	133.03	9.7	3	II	0.93
	70810	148	2056	7955	133.03	133.75	9.5	3	II	0.72
	71400	119	2017	7806	133.75	134.34	9.3	3	III	0.59
	72000	94	1567	6063	134.34	134.94	7.4	2A	III	0.60
	72930	118	1269	4910	134.94	135.87	6.2	2A	III	0.93
	73340	95	2317	8967	135.87	136.28	10.5	3	III	0.41
	73690	75	2143	8293	136.28	136.63	9.8	3	III	0.35
144	82220				136.63	145.16		1A	III	8.53
	84610				145.16	147.55		1A	II	2.39
	89430				147.55	152.37		1A	II	4.82
	91400				152.37	154.34		1A	II	1.97
	93000				154.34	155.94		2A	II	1.60
	94580				155.94	157.52		1A	II	1.58
	96170				157.52	159.11		1B	II	1.59
	97110				159.11	160.05		1A	II	0.94
160	98410				160.05	161.35		1B	I	1.30
	7000				161.35	168.35		1A	I	7.00
	7851				168.35	169.20		2A	I	0.85
	8387				169.20	169.74		1A	I	0.54
	10740				169.74	172.09		1B	I	2.35
182	22890				172.09	184.24		1A	I	12.15
	24830				184.24	186.18		1A	I	1.94
196	36060				186.18	197.41		1B	I	11.23
	41400				197.41	202.75		1B	I	5.34
	41630				202.75	202.98		1A	I	0.23
	44700				202.98	206.05		1B	II	3.07
	46640				206.05	207.99		1A	II	1.94
	51000				207.99	212.35		2B	I	4.36
213	52130				212.35	213.48		2B	I	1.13
	52280				213.48	213.63		2B	I	0.15
	53350	398	3720	14395	213.63	214.70	>15	5	I	1.07
	54400	434	4133	15996	214.70	215.75	>15	5	I	1.05
	55200	350	4375	16931	215.75	216.55	>15	5	I	0.80
	56000	327	4088	15819	216.55	217.35	>15	5	I	0.80
	56800	239	2988	11562	217.35	218.15	13.2	5	I	0.80
	57240	140	3182	12314	218.15	218.59	14.0	5	I	0.44
	58700				218.59	220.05		2B	I	1.46
	62480				220.05	223.83		1B	I	3.78
	65550				223.83	226.90		2B	I	3.07
	71930				226.90	233.28		1B	I	6.38
	72670				233.28	234.02		3	II	0.74
235	73930				234.02	235.28		2B	II	1.26
	77430				235.28	238.78		2B	I	3.50
	78920				238.78	240.27		1B	I	1.49

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Vehicle Roughness (mm/km)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Vehicle Roughness (mm/km)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	79160				240.27	240.51		3	I	0.24
245	83360				240.51	244.71		2B	I	4.20
	84900				244.71	246.25		2B	I	1.54
	92450				246.25	253.80		1B	I	7.55
	97630				253.80	258.98		1A	I	5.18
251	99390				258.98	260.74		1B	I	1.76
	200				260.74	260.94		2A	I	0.20
	1090	146	1640	6349	260.94	261.83	7.8	2B	I	0.89
	1925	100	1198	4635	261.83	262.67	5.9	1B	I	0.83
	2557	100	1582	6123	262.67	263.30	7.5	2B	I	0.63
	3930	274	1996	7723	263.30	264.67	9.2	3	I	1.37
	5300	185	1350	5226	264.67	266.04	6.5	2B	I	1.37
257	5990	80	1159	4487	266.04	266.73	5.7	1B	I	0.69
	6721	65	889	3441	266.73	267.46	4.5	1B	I	0.73
	8440	218	1268	4908	267.46	269.18	6.2	2B	I	1.72
	9295	147	1719	6654	269.18	270.04	8.1	2B	I	0.86
	10180	93	1051	4067	270.04	270.92	5.2	1B	I	0.88
	11030	94	1106	4280	270.92	271.77	5.5	1B	I	0.85
	11760	102	1397	5407	271.77	272.50	6.7	2B	I	0.73
	12250	54	1102	4265	272.50	272.99	5.4	1B	I	0.49
	12490	86	3583	13868	272.99	273.23	>15	5	I	0.24
	13040	61	1109	4292	273.23	273.78	5.5	1B	I	0.55
	14200	136	1172	4537	273.78	274.94	5.8	1B	I	1.16
	14720	89	1712	6624	274.94	275.46	8.1	2B	I	0.52
267	15220	62	1240	4799	275.46	275.96	6.0	1B	I	0.50
	16970				275.96	277.71		2B	I	1.75
	18220				277.71	278.96		1B	I	1.25
	19600				278.96	280.34		2B	II	1.38
	20260				280.34	281.00		3	I	0.66
273	21410				281.00	282.15		1B	I	1.15
	22220	85	1049	4061	282.15	282.96	5.2	1B	I	0.81
	22900	71	1044	4041	282.96	283.64	5.2	1A	I	0.68
	23260	58	1611	6235	283.64	284.00	7.6	2B	I	0.36
	23900	60	938	3628	284.00	284.64	4.7	1B	I	0.64
	24700	99	1238	4789	284.64	285.44	6.0	1B	I	0.80
	25560	96	1116	4320	285.44	286.30	5.5	1A	I	0.86
278	26440	89	1011	3914	286.30	287.18	5.0	1A	I	0.88
	5590				287.18	292.77		1A	I	5.59
	9692				292.77	296.87		2A	I	4.10
	13610				296.87	300.79		1A	I	3.92
	14430				300.79	301.61		1B	I	0.82
294	15440				301.61	302.62		2B	I	1.01
	22700				302.62	309.88		2B	I	7.26
	23310				309.88	310.49		1B	I	0.61
	25510				310.49	312.69		2B	I	2.20
	26420				312.69	313.60		1B	I	0.91
307	28390				313.60	315.57		2B	I	1.97
310	31350				315.57	318.53		1A	I	2.96
	32400				318.53	319.58		2A	I	1.05
	33200	136	1700	6579	319.58	320.38	8.0	3	I	0.80
	34490	230	1783	6900	320.38	321.67	8.4	2B	II	1.29

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Vehicle Roughness (mm/km)	Неровность BI (мм/км)	Дорожный пикетаж (км) от	до	IRI (м/км)	Категор состоян (визуал)	Категория дороги	Длина уч-ка (км)
Location km - Post etc.	Measured Length (m)	Bump Int. (Impulse)	Vehicle Roughness (mm/km)	Road Roug. BI (mm/km)	Road Chainage from km	to km	IRI (m/km)	Condition Category (Visual)	Road Category	Section Length (km)
	35420	146	1570	6075	321.67	322.60	7.5	2B	I	0.93
	36170	119	1587	6140	322.60	323.35	7.5	2B	I	0.75
	36870	95	1357	5252	323.35	324.05	6.6	2B	I	0.70
	38440	287	1828	7074	324.05	325.62	8.5	3	I	1.57
	39440	139	1390	5379	325.62	326.62	6.7	2B	I	1.00
	39950	143	2804	10851	326.62	327.13	12.5	5	I	0.51
319	40470	83	1596	6177	327.13	327.65	7.6	2B	I	0.52
	41070	128	2133	8256	327.65	328.25	9.8	3	I	0.60
	41810	274	3703	14329	328.25	328.99	16.0	5	I	0.74
321	42530	115	1597	6181	328.99	329.71	7.6	2B	I	0.72
322	43550	174	1706	6602	329.71	330.73	8.0	2B	I	1.02
	48960				330.73	336.14		2B	II	5.41
	51300				336.14	338.48		3	II	2.34
	53060				338.48	340.24		2B	II	1.76
	59060				340.24	346.24		1B	II	6.00
	61300				346.24	348.48		1A	II	2.24
341	62753				346.24	348.48		1B	II	2.24
	1419				348.48	349.90		1B	II	1.42
	3548				349.90	352.03		1A	II	2.13
	7611				352.03	356.09		1B	II	4.06
	13990				356.09	362.47		1A	II	6.38
	15790				362.47	364.27		2A	II	1.80
	21870				364.27	370.35		2B	II	6.08
Customs Usbekistan	25330				370.35	373.81		1A	II	3.46

Неровность дороги / состояние поверхности
Road Roughness, Surface Condition and Road Category

А377: Примыкание на М39 - граница Таджикистана
A 377: Junction at M 39 - Border Tadjikistan

Место км-пост etc.	Измерен длина (м)	Толчкомер (импул)	Неровность BI (мм/км)	IRI (м/км)	Категор состоян (визуал)	Длина уч-ка (км)	Категор дороги
Location km - Post etc.	**Measured Length (m)**	**Bump Int. (Impulse)**	**Road Roug. BI (mm/km)**	**IRI (m/km)**	**Condition Category (Visual)**	**Section Length (km)**	**Road Category**
Junction M 39	0.00						
Start 4 lanes	4.00			9.00	3	3.86	III
	6.15			9.00	3	2.08	I
Roundabout &	7.00			10.50	3-4	0.82	I
end of 4 lanes							
	8.35			10.50	3-4	1.30	III
12	10.05			9.50	3	1.64	III
13	11.10			9.50	3	1.01	III
20	18.30			9.50	3	6.96	III
25	23.47			9.50	3	5.00	III
	24.60			10.00	3-4	1.09	III
31	29.65			9.50	3	4.88	III
	30.40			9.50	3	0.72	III
	31.10			11.00	4	0.68	III
	33.60			9.00	3	2.42	III
35	33.65			10.00	3-4	0.05	III
	34.40			10.00	3-4	0.72	III
Uzbek Border	34.75			10.00	3-4	0.34	III
Post (36)							

APPENDIX 6
Seminars and Training for the PMS/BMS Programme System

EUROPEAN UNION - TACIS

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

SEMINARS AND TRAINING FOR THE

PMS/BMS PROGRAMME SYSTEM

DECEMBER 1997

KOCKS CONSULT GMBH
Consulting Engineers
Koblenz / Germany

in association with

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

PHØNIX
Pavement Consultants
Vejen / Denmark

1. Introduction

The TRACECA Project, Implementation of PMS, includes the supply of hardware and software for the Pavement Management System (PMS) and Bridge Management System (BMS). Software has been provided in Russian Language as well as a comprehensive training in using PMS/BMS - System. Training was carried out in all recipient countries in 1996 and a further training in 1997.

2. Seminars

The target group of the PMS seminar is primarily the management level staff but technical staff and computer operators will benefit from receiving a broader knowledge of the PMS aspects. Therefore this seminar does not cover computer hands-on lessons but a presentation and discussion between participants.

- Implementation of PMS/BMS
  The aim is to discuss the different stages, tasks, methods, procedures and timing aspects involved when implementing PMS/BMS

  - The TRACECA Project (framework, scope and limitations)
  - Institutional strengthening
  - Centralisation vs. decentralisation
  - Stages and timing
  - 4 main actors of PMS/BMS (Road users - decision makers in administration and on the political level - the PMS/BMS unit - staff for road maintenance works)
  - Future developments for the PMS/BMS project

- Methodology, components and structure
  The aim is to describe the various components and data structure in an overview form without going into very technical engineering terminology.

  - System overview RoSy PMS
  - RoSy data base design
  - RoSy PMS flow chart
  - Cost parameters
  - VOC, deterioration and forecast parameters
  - Optimisation and budget planning
  - Time schedule of final programme version with completed Russian translations
  - Adjustment to local conditions
  - Adjustment with use of local models/formulas
  - Advanced issues to be followed up

- PMS related equipment
  Equipment used for collection of road condition and road pavement data to the RoSy PMS and other equipment using new technologies was described in the Project Completion Report. On the pilot sections of the current project all data for VOC, road condition including roughness (IRI), axle load, traffic counting and bearing capacity analysis were collected by equipment provided under the Project.

3. PMS/BMS Integration

We have noticed that particularly three states have had more computer and pavement management experience than the average level. These are: Armenia, Kazakhstan and Tadjikistan. Several other states have shown remarkable interest and willingness to secure a good implementation and integration of the PMS department.

4. Implementation of the PMS/BMS

A number of seminars, demonstrations both of PMS/BMS software and the FWD equipment have taken place during the implementation period. Pilot project sections were selected with every recipient country for carrying out training.

The recipient institutes have generally shown high interest in the implementation of the PMS/BMS. However, their point of starting and capabilities were very different, this covers institutional strength, equipment and manpower situation.

We have observed that:

1. The recipient institutes have absorbed and accepted the PMS idea at different degrees
2. Generally, it was imperative to explain how demanding the process of implementing a PMS is and that it requires a continuous follow-up and adjustment of the system models and parameters
3. Knowledge about repair of products, product life and deterioration was not available during the beginning of training and has been provided later
4. The communication facilities and contact between the recipient institutes and the software supplier must be strengthened/developed to secure a backup to the end-users.

One of the major strengths of a modern PMS is its capability not only to store huge amounts of pavement data in a data base but to make rather complex calculations and optimisation over time on a road network.

The RoSy PMS requires a number of system parameters and calculation models to work. These have been set-up by Phønix Pavement Consultants. However, to make the system unified across the 8 states, the same models and system parameters were used.

Damage development models
Remaining bearing capacity development models
Material prices & service life expectations
Maintenance methods and their influence on VOC

To make full use of the RoSy PMS/BMS, it is very important that a number of parameters and deterioration models are adjusted to local conditions and experience.

It is important to realise that the benefits from results and reports will be complete, parameters have been adjusted. Particularly more pavement products and repair methods for pavement maintenance have to be defined based on local tradition,

availability of local materials, costs and product life. These parameters have great influence on the calculations, chosen optimum solutions and the financial reports.

Beginning further training the PMS version 7.12 with new facilities was provided an implemented including:

- more printouts
- the Rosy Admin Module was released and an introduction to its possibilities was given
- some small corrections and improvements collected from earlier versions

A sytem description is attached in Annex 1 and examples of printouts in Annex 2.

5. PMS/BMS Research and Development

For the further research and development of PMS it is very important that the recipient institutes plan how to obtain required data.

Attention should be focused on:

Condition surveys: damage & IRI
Bearing capacity surveys
Material cost (real prices)
Material service life

6. PMS/BMS Support

There is a great need for facilities such as direct telephone lines, faxes and E-mail addresses at the recipient institutes, to secure the end-users a technical support and backup, when using the RoSy PMS/BMS.

Close communication is important to minimise the disadvantages due to the long distances and lack of local software support. It is important to establish a two way communication to secure fast answers.

Regarding software problems a number of them could have been solved easily, as they resulted from misappropriate use of the programme.

7. Conclusions and Recommendations

The Implementation of PMS has now been finished and the Consultant believes that the majority of the recipient countries have learned using a Pavement Management System for maintenance of road networks. Of course this project is just the beginning of a long process in the recipient countries with a long planning and time horizon. In the future the recipient institutes need more practical training in using PMS/BMS - System and to carry out FWD Measurements. The need for training is varying from state to state and should be adapted in order to get the optimum of benefit from the training.

ANNEX 1
RoSy PMS/BMS
SYSTEM DESCRIPTION

User's Manual for RoSyPLAN 7

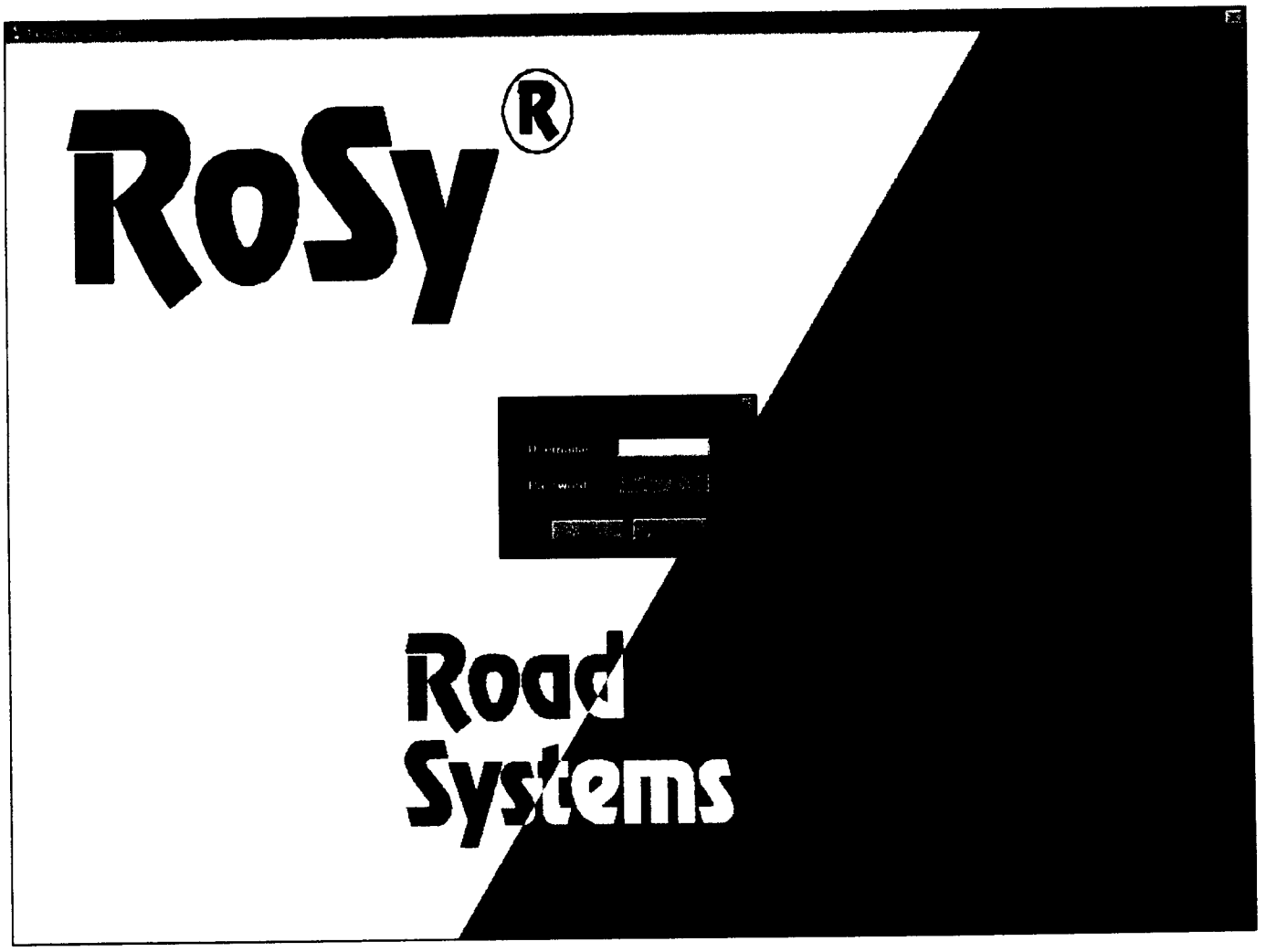


Table of contents:

1. Preface

The user's guide is a brief introduction to the use of RoSyPLAN 7, and step by step it deals with the data input, set-up and processing of a calculation.

RoSyPMS/BMS overview

RoSyBASE 7 for Windows is a computer based tool being a part of a total RoSyPMS/BMS (Pavement Management System) for optimum maintenance and control of a specific road network (see figure 1).

The system has been constructed on the basis of the idea of collecting and storing *road data* and *bridge data* in one place and at the same time to organise the data, so that an optimum possibility of data retrieval and importing of data is obtained. Also the data may form the basis of calculation of advanced short - and long-term maintenance strategies.

Condition data for roads and bridges (damages, roughness, etc.) and physical data (lengths, widths, etc.) are stored in files in RoSyBASE and RoSyBMS data bases. A design part RoSyDESIGN) makes an advanced design of the road pavement possible, while the calculation part (RoSyPLAN) is applied for calculation of maintenance options.

RoSyPMS/BMS is a modular system, which is normally supplied with a data base module, which may be extended as required.

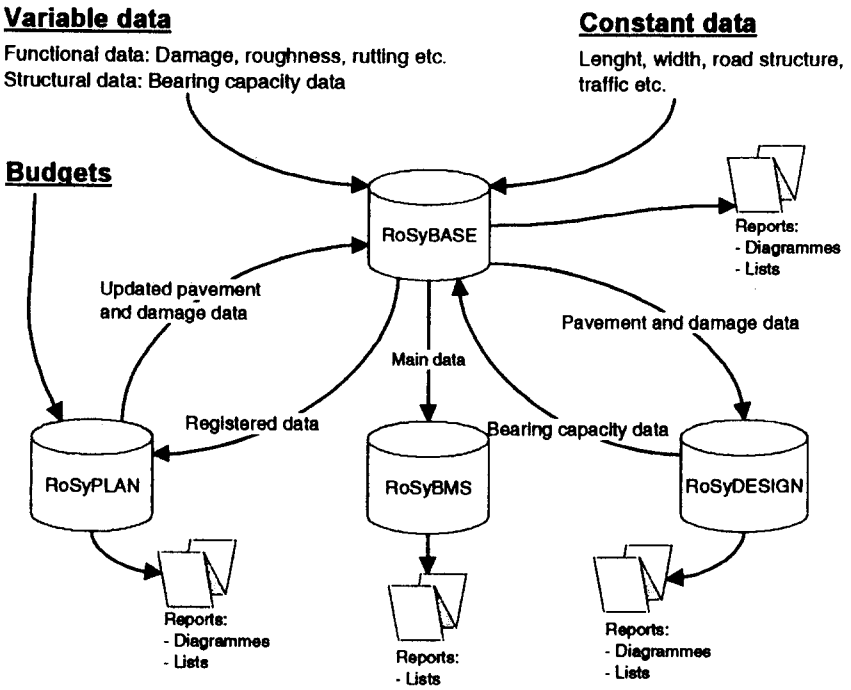


Figure 1 : RoSyPMS/BMS

2. Requirements to data input

This section gives a step by step explanation of the minimum of data that should form the basis of a calculation. These functions are performed in RoSyBASE 7.

It applies to all systems and methods used for planing and road maintenance, that the final result depends on the basis upon which the decision is made. This means that the basic work in connection with the collection of data is extremely important, as bad input material will often result in bad output material.

One road will be created as an example and data will be entered to:

- Width
- Cross-section
- Layers
- Traffic
- Damage
- Bearing capacity
- Product
- Deterioration model
- Traffic prognosis

Creation of a road

In the window *Main* information a road is created. Press *F4* to enter data.

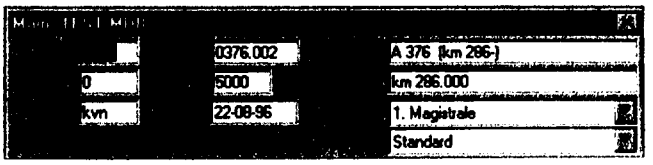


Figure 2 : Creation of a road

Below data should be entered:

- *District*
- *Road No.*
- *Road name*
- *Date*
- *From chainage*
- *To chainage*
- *Chainage 0*
- *Road class*

When all information has been entered, then press *F5* to store data (see figure 2).

Every window can be divided into several sections, but overlapping in *From chainage* and *to chainage* must be avoided

Choose *Windows* on pull-down menu and press : *Open/close windows*

In the window Open/close windows all windows for data registration may be opened and closed. The checked off windows will be usd for the example (see figure 3).

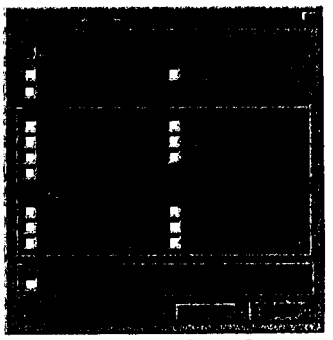


Figure 3 : Opening of windows

Width:

Width data are entered. Press *F4* to enter

Below data must be entered:

- *Lane*
- *From (m)*
- *To (m)*
- *Date*
- *From width (m)*
- *To width (m)*
- *Additional area* (if any)

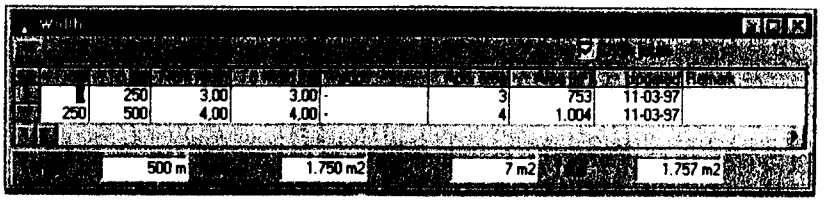


Figure 4 : Entering of width data

When all information has been entered, then press *F5* to store data (see figure 4).

Cross-section:

Cross-section data are entered. Press *F4* to enter.

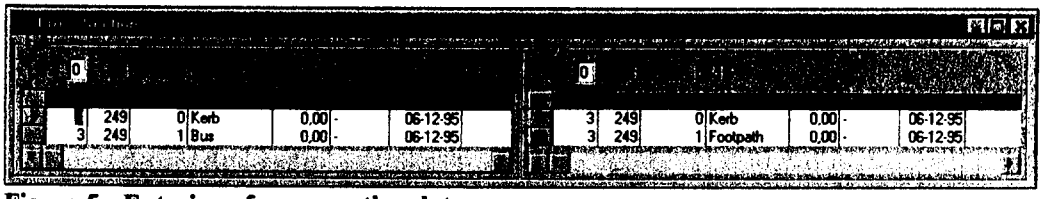


Figure 5 : Entering of cross-section data

Below data must be entered :

- *Lane*
- *From (m)*
- *To (m)*
- *Date*
- *Position* (The position of the element indicated from road lane and outwards beginning with 0)
- *Type*
- *Width*
- *Material*

When the information has been entered, then press *F5* to store data (see figure 5).

Layer:

Data on road pavement layers are entered. Press *F4* to enter.

Figure 6 : Entering of layer data

Below data must be entered :

- *Lane*
- *From (m)*
- *To (m)*
- *Date*
- *Thickness (mm)*
- *Product* (Choose from list in Production file)
- *Product group* (indicates location of layer in road structure)

When the information has been entered, then press *F5* to store data (see figure 6).

Traffic:

Traffic data are entered. Press *F4* to enter.

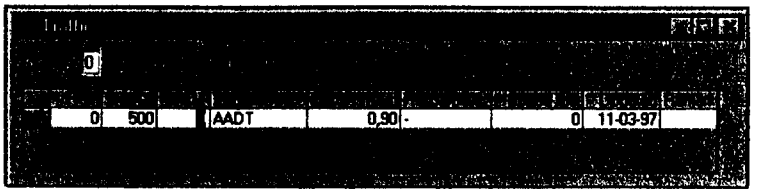


Figure 7 : Entering of traffic data

Below data must be entered :

- *Lane*
- *From (m)*
- *To (m)*
- *Date*
- *AADT* (Annual Average Daily Traffic) and/or (Standard Axle Load)
- *Vehicle type* (if specific vehicletypes are used, each vehicletype must have an AADT value entered)

When all information has been entered, then press *F5* to store data (see figure 7).

Damage:

Damage data are entered. Press *F4* to enter.

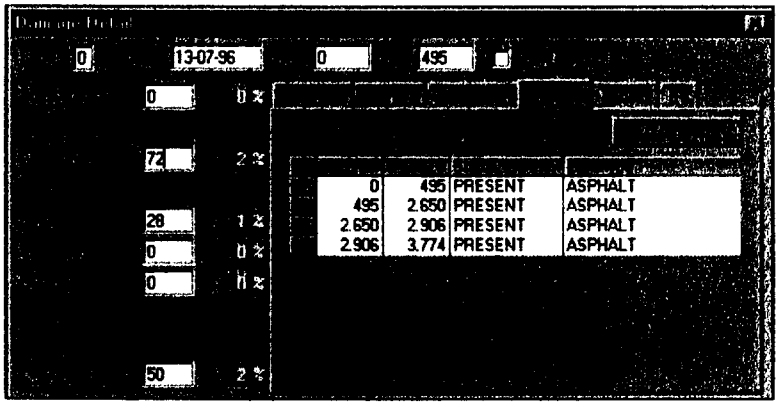


Figure 8 : Entering of damage data

Below data must be entered :

- *Lane*
- *From (m)*
- *To (m)*
- *Date*
- *Status* (present)
- *Pavement type* (indicate kind of road maintenance basis: asphalt road, concrete road or gravel road)
- *Kind of damages present* (Cracks, alligator cracks, potholes, settlement, rutting and patching)
- *Rutting*
- *IRI*
- *Kerb height left* (if any)
- *Kerb height right* (if any)
- *Verges not OK* (if any)
- *Ditch cleaning* (if any)
- *Serv. life section* (if any)
- *Pavement solution year* (if any)
- *Thickness limit* (if any)
- *Ancilliary cost* (if any)
- *Levelling* (if any)
- *Service life of footpath* (if any)
- *Surface dressing* (if any)
- *Kerb raising* (if any)
- *Edge trimming* (if any)

When the information has been entered, then press *F5* to store data (see figure 8).

Bearing capacity:

Bearing capacity data are entered. Press *F4* to enter.

Below data must be entered if FWD measurements have been carried out on the road:

- *Lane*
- *From*
- *To*
- *Date*
- *Status* (present)
- *Calculation date*
- *Layer thickness*
- *Residual life now* (reinforcement to obtain *Residual life after*)
- *Residual life after* (Before reinforcement)

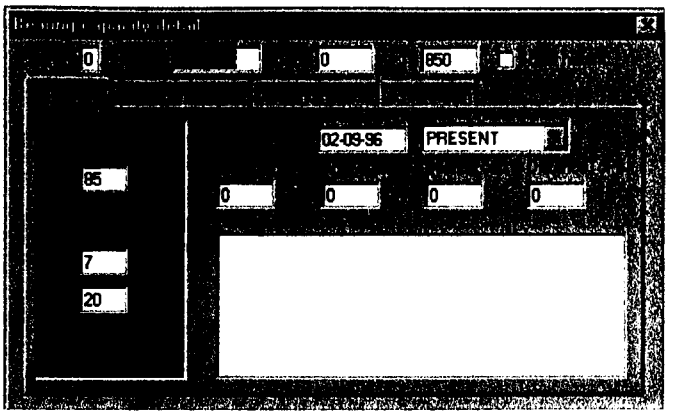


Figure 9 : Entering of bearing capacity data

When all information has been entered, then press *F5* to store data (see figure 9).

Products:

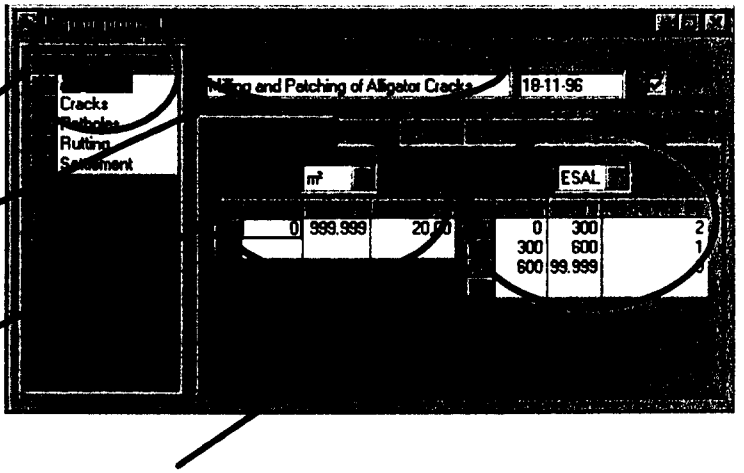
The Product window consists of 2 windows which may be opened by choosing *Tools* on pull-down menu and by pressing *Products*. In these 2 windows products, application methods etc. are entered. According to how a product is described, its application may be limited or specified, and in this way shorter and better calculations may be obtained.

Repair products:

Double click in product name list, answer YES to enter a new product. Write a product name.

Write a more descriptive product name

Choose a unit of quantity (kg, m², tonne etc.). Indicate a quantity interval and a product price depending on whether the quantity interval is active.

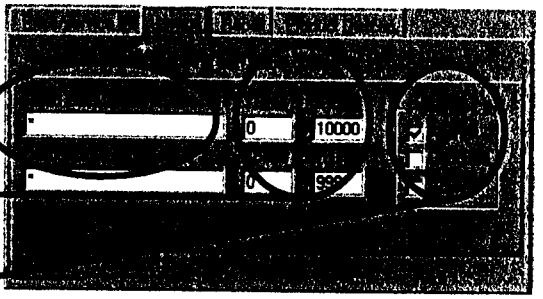


Choose whether traffic should be set to : ESAL or AADT. Indicate service life of a product at a given traffic interval.

Here it is possible to limit the usage of the product to a certain road class or a certain district.
(A star indicates that there are no limitations)

The usage of the product may be limited by a traffic interval (ESAL) or a speed interval (km/h).

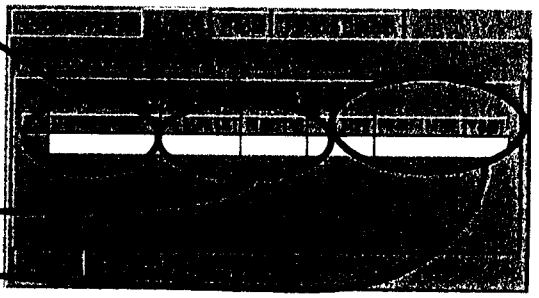
Indicate on which roads the product may be used (Asphalt, concrete or gravel roads). Normally asphalt is checked off.



Indicate damagetype limitations.

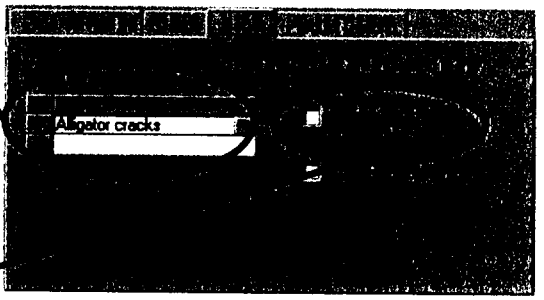
Damages registered on the roadsection must be within the limits stated here.

Finally an interval, expressed as Residual life, may be indicated within which the repair of the damage can take place.



Here is indicated for which damages the product may be used.

Furtermore place a mark if the product is used only for emergency repair.



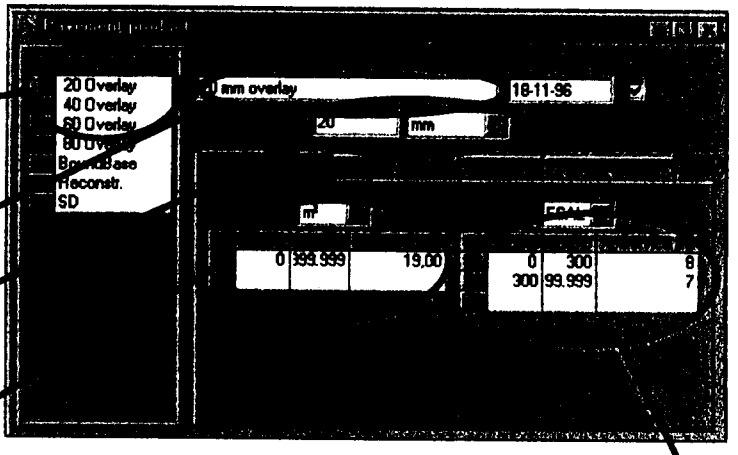
Pavement products:

Double click in product name list, answer YES to create a new product. Write a product card name.

Write a more descriptive product name

Indicate quantity and unit of quantity being a condition for the product.

Choose a unit of quantity (kg, m², tonnes etc.). Indicate a quantity interval an a product price, depending on what the unit of quantity is set to.

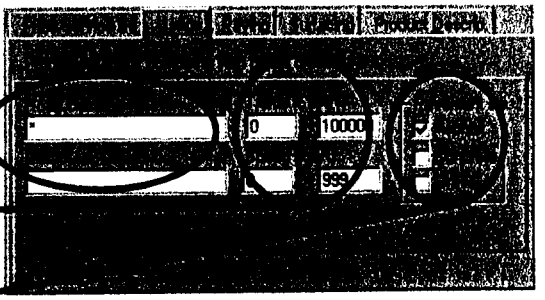


Choose whether traffic should be set to : ESAL el. AADT. Indicate service life of a product at a given time and at a given traffic interval.

It is possible to limit the usage of a product to a certain road class or a certain district.
(A star indicates whether there is a limitation)

The usage of the product is limited by a maximum traffic load (ESAL) or a maximum speed (km/h).

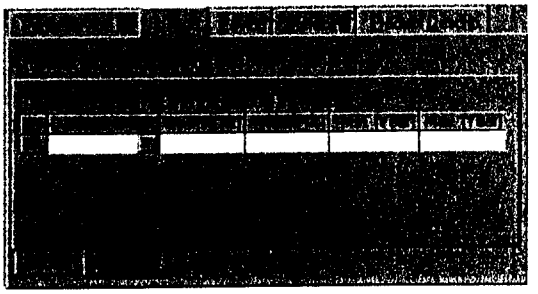
Indicate on which roads the product may be used (Asphalt, concrete or gravel roads). Usually Asphalt is checked off.



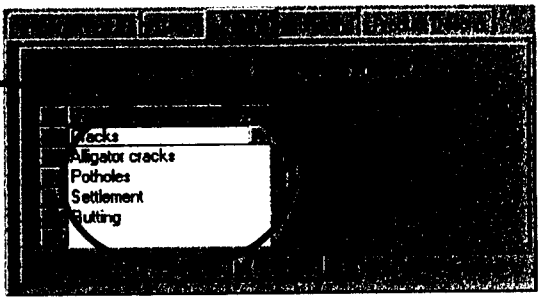
Indicate damagetype with limitations.

Damages registered on the roadsection must be within the limits stated here.

Finally an interval, expressed as Residual life, may be indicated within which the pavement can be used.

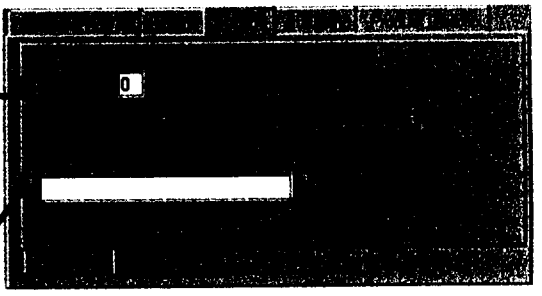


Indicate the damage to be repaired before the product should be used

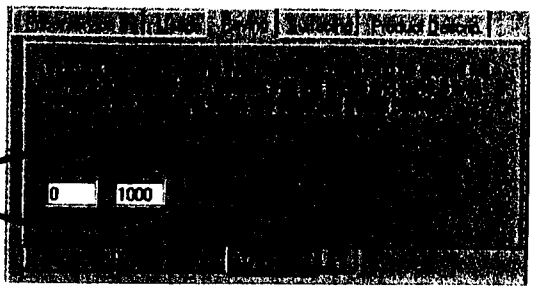


Indicate the number of times a product may be laid on the same section without a layer of another product is laid in-between.

An alias for the product may be indicated. It is possible to indicate an alternative product name "a nick name" in the pavement window instead of using the names created in the product files. If e.g. certain product nick names are used normally, these may be indicated as alias names for a product on the list - e.g. AC nickname: AC2.

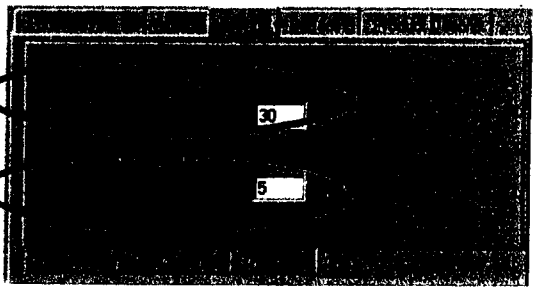


Indicate minimum and maximum layer thickness for the product

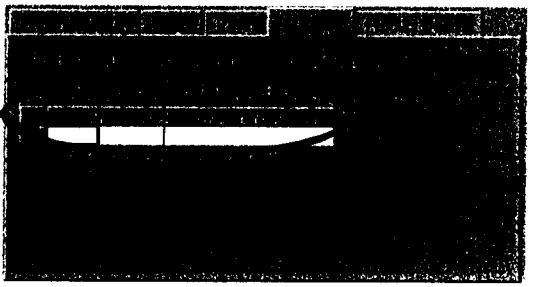


Indicate the maximum percentage at which IRI values may be reduced when laying out this product.

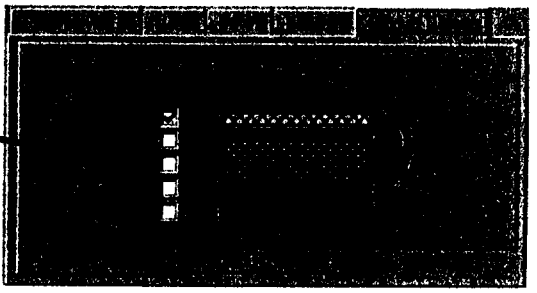
Indicate the lowest IRI value that may be obtained by using this product.



If a road rule indicates that Binder course, Bound base layers should be covered by wearing course in a certain year after paving, this may be indicated here as a function of traffic load.



The location of the products in the road structure is indicated here by checking off. More than one may be checked off.



Indicate volume of the product

Indicate reinforcement property of product in question expressed in percent. E.g. 100% indicates that the layer reinforces with it's full thickness.

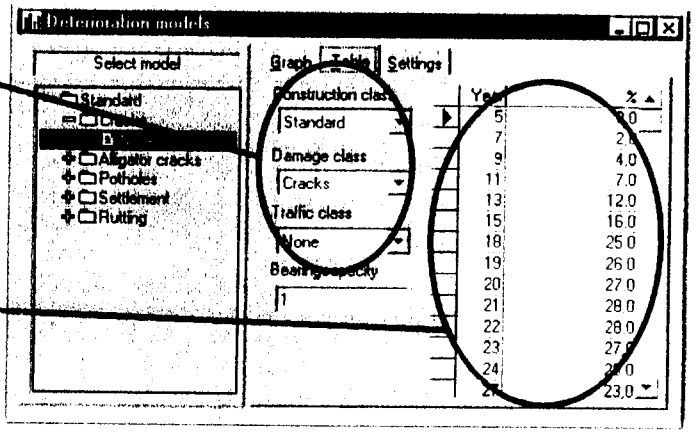
Indicate product strength as elasticity modul

Deterioration model:

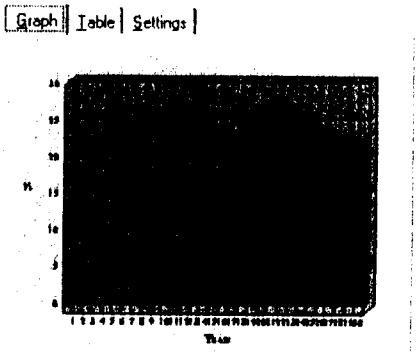
To define *Construction Class*, *Damage Class* and *Traffic Class* start the program RoSyADMIN.

A deterioration model may now be created. The life cycle of each damage is indicated for each individual *construction class*, *damage class* and *traffic class*.

Then must be indicated in which year after the road was constructed the damage type in question appears (damage percentage > 0). After this it must be indicated how the damage develops during the entire life cycle of the road, typically a period of 30 years.



Then the damage development may be analysed graphically

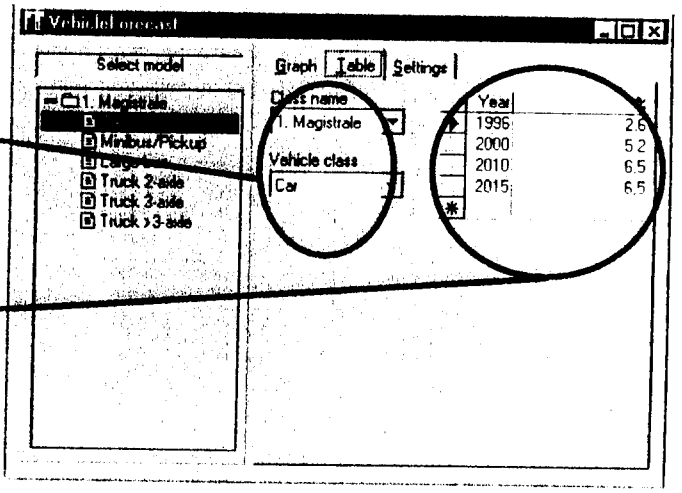


Traffic prognosis

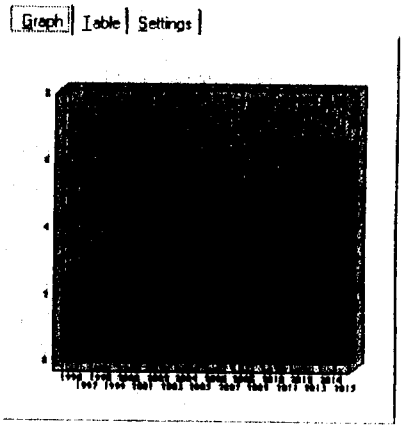
To define *Road Class* and *Vehicle Class* start the program RoSyADMIN.

A traffic load prognosis may be created for each *road class* and *vehicle class*.

Traffic increase/decrease is indicated in percentage per year. If traffic rise/fall is changing, indicate the year this happens and the percentage.



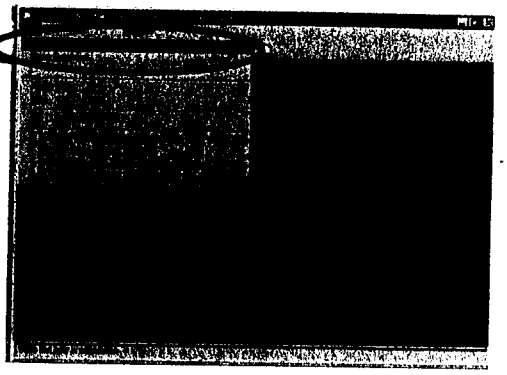
Then the traffic load prognosis may be analysed graphically



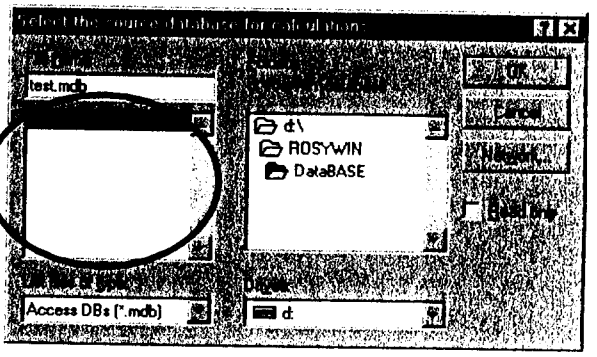
3. Set-up of calculation

The windows being of importance for the calculation in RoSyPLAN will be described. More windows contain predefined values which it is recommended to use. There will only be given a brief introduction to these windows.

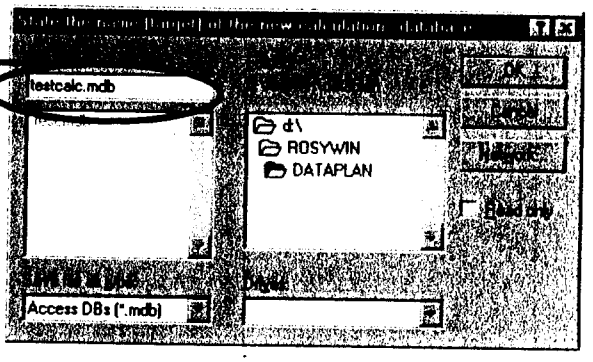
Start *RoSyPLAN*. Choose *File* in pull-down menu and press *New database*.



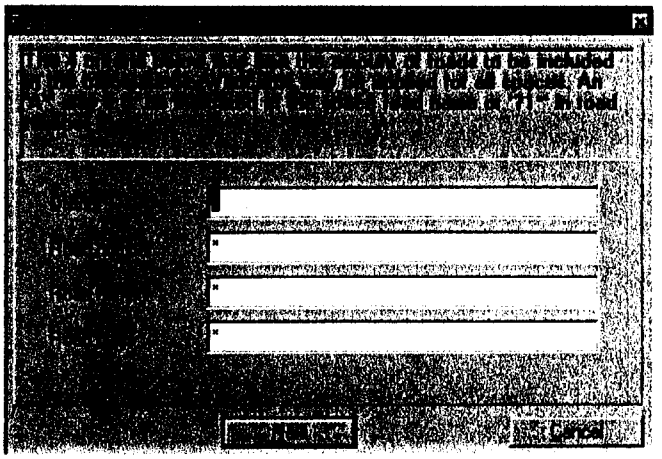
Choose the *RoSyBASE* data base, from which data are to be calculated.
Press *OK*.



Indicate a name for *RoSyPLAN* calculation data base.
Press *OK*.



Here the number of roads that RoSyPLAN is to calculate may be limited.



Select between the criteria:

- *District*
- *Road Number*
- *Road Name*
- *Road Class*

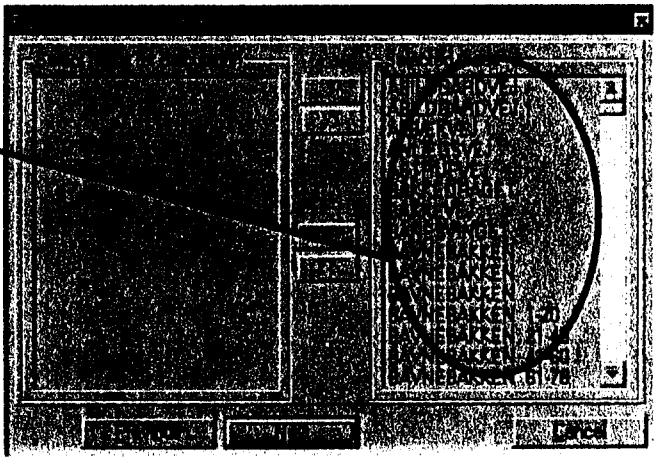
A star indicates that no limitations are requested.

Furthermore it is possible to use truncation (*). E.g. write :*A** in the field *Road Name*, if all roads starting with an *A* are to be calculated.

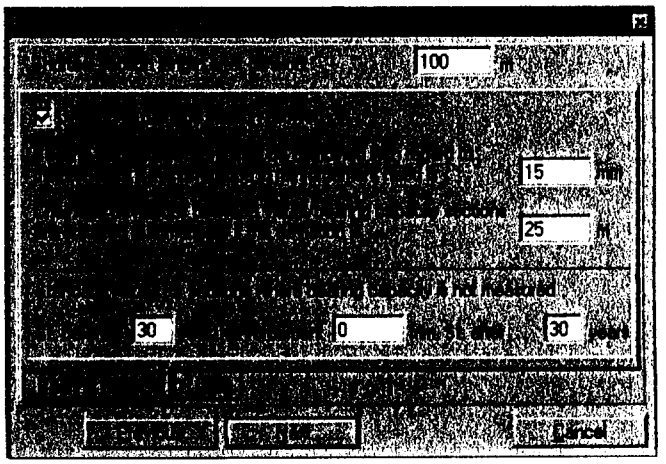
When limitations have been chosen, then press the button : *Next*

Choose the road(s) to be calculated.

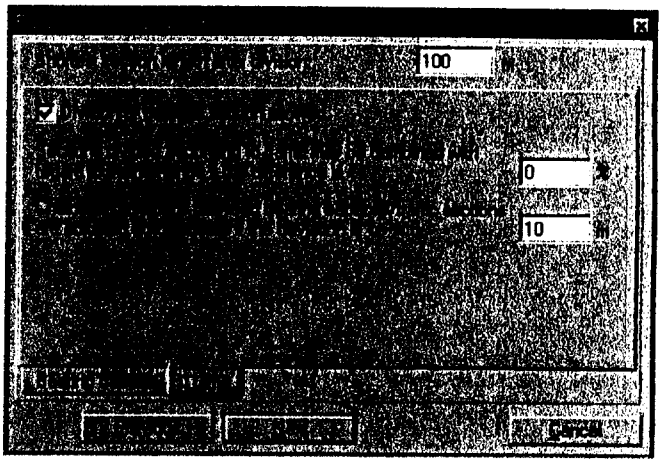
You can now choose from the resultlist. Only roads in selected roads wil be included in the calculation.



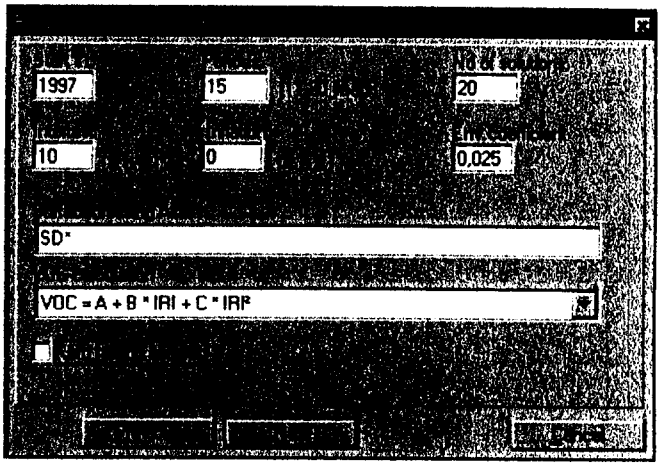
Here criteria for division of maintenance sections on the basis of bearing capacity measurements are determined.



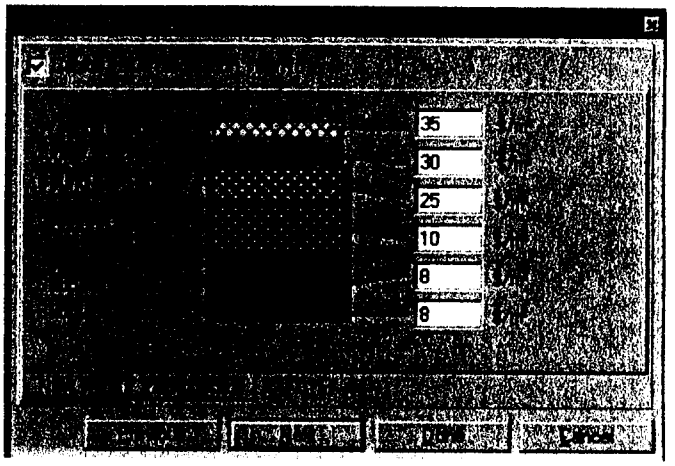
Here criteria for division of maintenance sections on the basis of traffic load is determined.



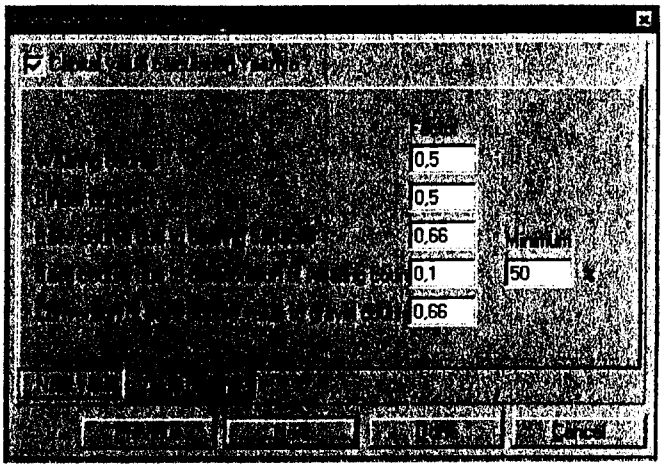
Choose conditions for the calculation.



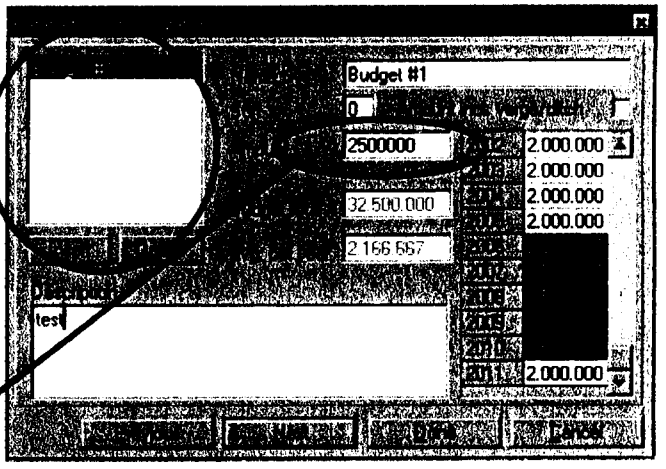
Indicate average values for new values of the individual layers of the road structure.



Here factors for calculation of the value loss of each layer of the road structure are indicated.



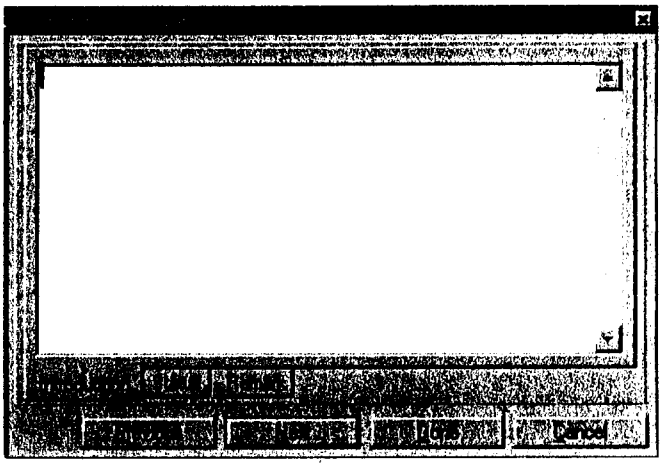
Indicate budgets to be included in the calculation.



Indicate budget amount (consult RoSyHELP for more information).

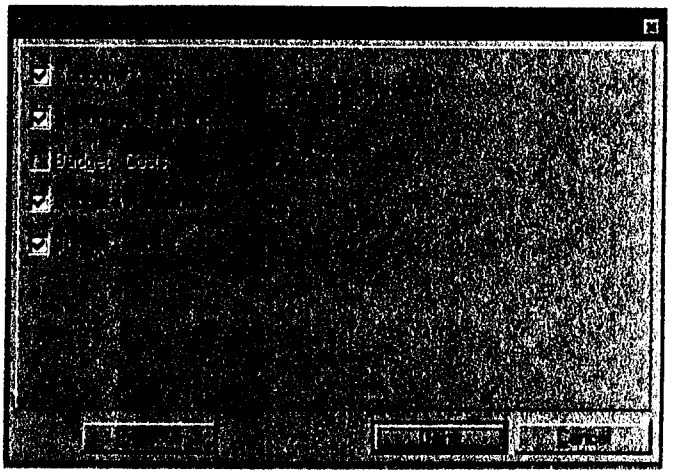
Describe the calculation

These fields can be used in userdefined reports.

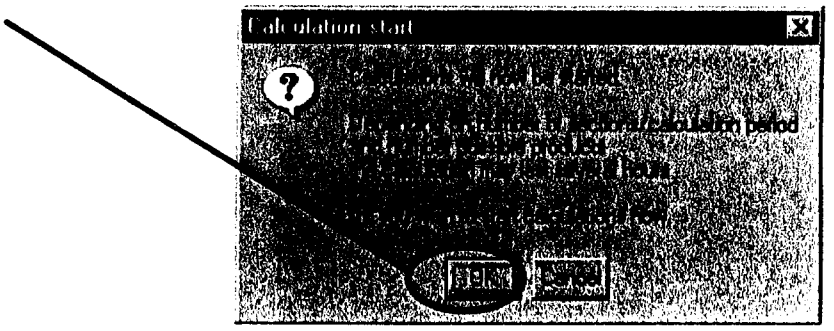


Choose reports to be printed (standard reports)

Later userdefined reports can be made and printed as needed.



To run the calculation press the button *OK*



4. Printouts

RoSyPLAN has the following standardreports :

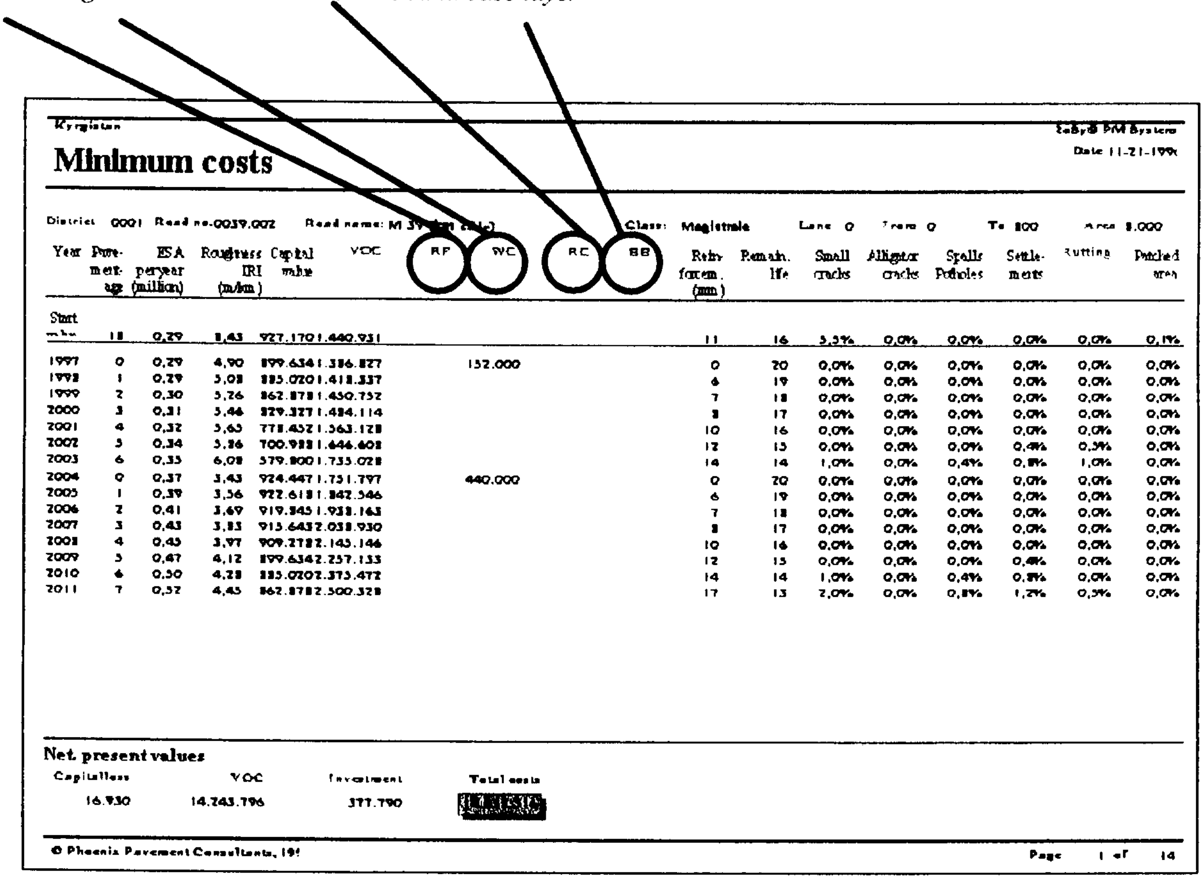
Report name:	**Filename:**
Budgetplan	C:\ROSYWIN\REPORT\BUDGCOMB.RPT
Capitalvalue	C:\ROSYWIN\REPORT\CAPITAL.RPT
Costs	C:\ROSYWIN\REPORT\COSTS.RPT
Minimum costs	C:\ROSYWIN\REPORT\MIN_COST.RPT
Maintainance	C:\ROSYWIN\REPORT\MAINTAIN.RPT
Pavement products	C:\ROSYWIN\REPORT\PAV_PROD.RPT
Repair products	C:\ROSYWIN\REPORT\REP_PROD.RPT

Below is 2 report examples

Minimum cost

The report shows the finance related optimum maintenance solution on the maintenance section in question.

Repair *Wearing course* *Reconstruction* *Bound base layer*



Kyrgistan — RoSyS PM System — Date 11-21-199x

Minimum costs

District 0001 Road no.0039.002 Road name: M 39 ... Class: Magistrale Lane 0 From 0 To 800 Area 8.000

Year	Pavement age	ESA per year (million)	Roughness IRI (m/km)	Capital value	VOC	RF	WC	RC	BB	Reinforcem. (mm)	Remain. life	Small cracks	Alligator cracks	Spalls Potholes	Settlements	Rutting	Patched area
Start value	18	0,29	8,43	927.170	1.440.931					11	16	5,5%	0,0%	0,0%	0,0%	0,0%	0,1%
1997	0	0,29	4,90	899.634	1.386.827		152.000			0	20	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
1998	1	0,29	5,08	885.020	1.418.337					6	19	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
1999	2	0,30	5,26	862.878	1.450.752					7	18	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2000	3	0,31	5,44	829.327	1.484.114					8	17	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2001	4	0,32	5,65	778.452	1.563.128					10	16	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2002	5	0,34	5,86	700.988	1.644.608					12	15	0,0%	0,0%	0,0%	0,4%	0,3%	0,0%
2003	6	0,35	6,08	579.800	1.735.028					14	14	1,0%	0,0%	0,4%	0,8%	1,0%	0,0%
2004	0	0,37	3,43	924.447	1.751.797		440.000			0	20	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2005	1	0,39	3,56	922.618	1.842.546					6	19	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2006	2	0,41	3,69	919.345	1.938.163					7	18	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2007	3	0,43	3,83	915.643	2.038.930					8	17	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2008	4	0,45	3,97	909.278	2.145.146					10	16	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2009	5	0,47	4,12	899.634	2.257.133					12	15	0,0%	0,0%	0,0%	0,4%	0,0%	0,0%
2010	6	0,50	4,28	885.020	2.375.472					14	14	1,0%	0,0%	0,4%	0,8%	0,0%	0,0%
2011	7	0,52	4,45	862.878	2.500.328					17	13	2,0%	0,0%	0,8%	1,2%	0,3%	0,0%

Net present values

Capitalloss	VOC	Investment	Total costs
16.930	14.243.796	377.790	[illegible]

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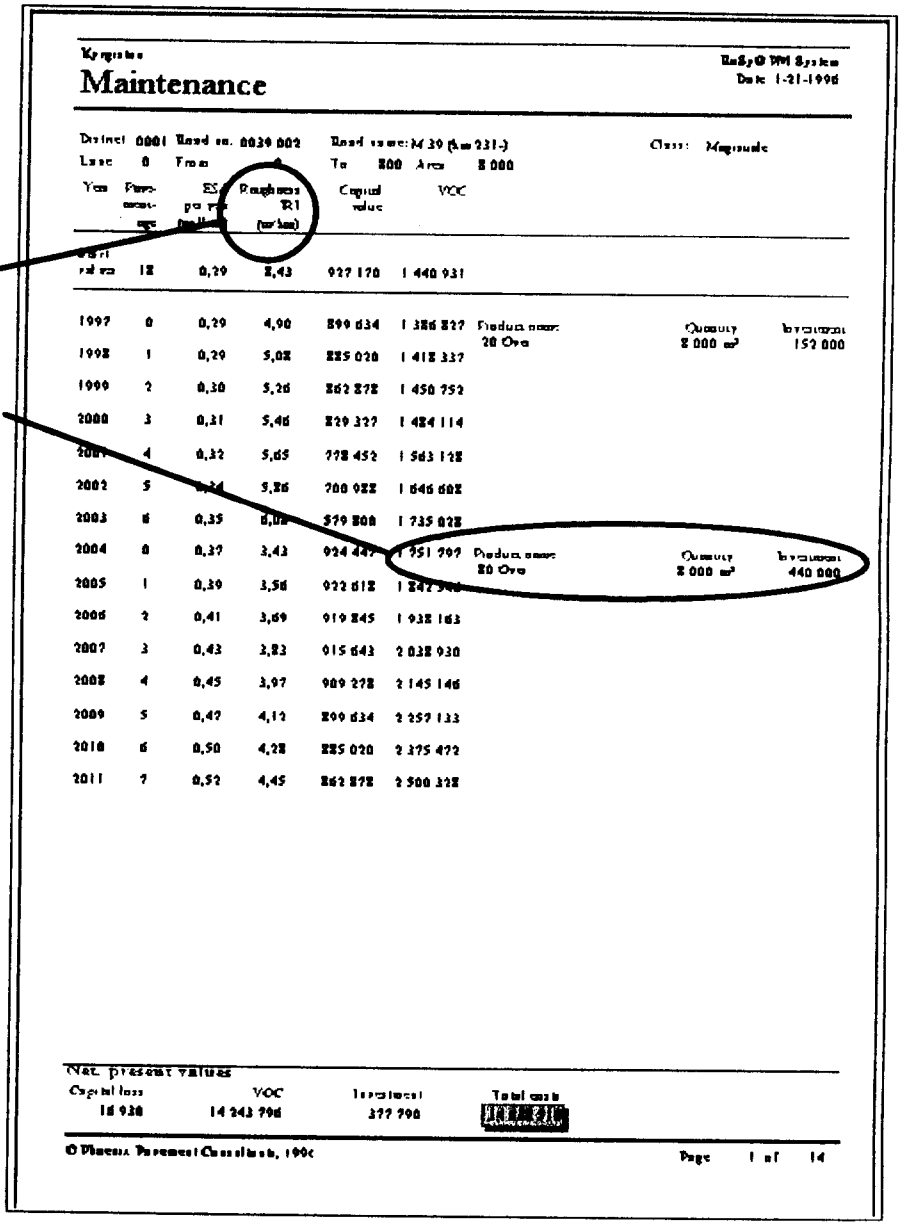
Maintenance

The report shows the optimum product related maintenance solution for the maintenance section in question.

The IRI -value indicates the roughness of the road

Here is indicated in which year to maintain the road and which products to use.



Maintenance

Year	Pavement age	SS per year	Roughness IRI (m/km)	Capital value	VOC			
Start values	12	0,29	3,43	927 170	1 440 931			
1997	0	0,29	4,90	899 634	1 386 827	Product area: 20 Ova	Quantity 2 000 m²	Investment 152 000
1998	1	0,29	5,02	885 020	1 418 337			
1999	2	0,30	5,26	862 878	1 450 752			
2000	3	0,31	5,46	829 327	1 484 114			
2001	4	0,32	5,65	798 452	1 563 128			
2002	5	0,34	5,86	768 982	1 646 602			
2003	6	0,35	6,08	739 908	1 735 028			
2004	8	0,37	3,43	924 447	1 751 799	Product area: 20 Ova	Quantity 2 000 m²	Investment 440 000
2005	1	0,39	3,56	922 612	1 842 [illegible]			
2006	2	0,41	3,69	919 845	1 938 163			
2007	3	0,43	3,83	915 643	2 038 930			
2008	4	0,45	3,97	909 278	2 145 146			
2009	5	0,47	4,12	899 634	2 257 133			
2010	6	0,50	4,28	885 020	2 375 472			
2011	7	0,52	4,45	862 878	2 500 312			

Net present values

Capital loss	VOC	Investment	Total cost
18 938	14 243 796	377 790	[illegible]

Appendix A : PHOENIX RoSy PMS and BMS System Description

Background introduction to TRACECA Project

The systems supplied (version 7.0) are true Windows programs programmed for use under Windows 3.x, Windows 95 and Windows NT.

As concerns TRACECA, the systems will be used under Windows 95.

All systems are supplied as true multi-user systems and can be used in practically all known networks as well as access and use of the systems can be adapted to be done by remote control via e.g. telephone network/satellite.

The supplied version 7.0, replacing version 6.3, is, contrary to version 6.3, based on an open structure and uses the relational data base format ACCESS as standard. The open standard enables adaptation and direct use of data from practically all types of standard systems available on the market today - e.g. GIS, spreadsheet, text processing systems, digital images, etc.

Due to the many advantages of Version 7.0 compared to 6.3, we have for this project chosen to supply 7.0 though Microsoft's delivery of some of the development tools for especially Windows 95 were extremely delayed.

RoSy PMS and BMS are supplied as an integrated software which prevents data redundance and makes the use of the systems very flexible. Furthermore the versions being installed in the TRACECA states are supplied with more facilities than necessary in the present phase. The extra facilities, which will be dealt with briefly in the below description of the system, may, if wished, be used in connection with the user's own later extension of the system or in connection with other studies in the area.

Setting up and adjustment of models, conditions etc. have been done on the basis of information from earlier projects in the area, information received from local authorities, and information received from the World Bank in connection with HDM III and HDM VI studies and finally PPC's own experiences from the application of corresponding systems in the Czech Republic, the Eastern Germany, and Northern Norway. Among other things the models for calculation of IRI and thus VOC in especially areas with cold climates have been adjusted on the basis of the results of the World Bank's latest studies within this sphere (carried out by the Swedish Road Directorate). However, as concerns most of the models, we recommend special studies in the TRACECA area be carried out for the final adjustment of the models.

Models for calculation of Vehicle Operation Cost (VOC) are to be chosen.

The VOC models (equations) are sub-models from HDM III version 4. One of the two models below may be chosen:

1. $VOC = A + B * IRI + C * IRI^2$

where: A, B and C are coefficients

2. $VOC = EXP (A + B * IRI)$

where: A = constant
B = slope

The company TecnEcon has studied the two equations and found that equation 1 has the best fit in the TRACECA states.

These models have been integrated so flexibly in RoSy PLAN that the user only by changing the value of the individual coefficients can adapt the models by changing the future traffic combination.

IRI comes from below progression model:

$RI_t = 0.98 * e^{mt} * [RI_0 + 135\ SNCK_4^{-5} * NE_t] + 0.143 * RDS_t + 0.0068 * CRX_t + 0.056 * PAT_t$

Where $SNCK_4 = 1 + SNC - 0.00004 * HS * CRX_t$

RI_t = roughness at pavement age t, in m/km IRI
RI_0 = initial roughness, m/km IRI
NEt = cumulative equivalent standard axle loads (ESAL) at age t, million ESAL/lane
t = pavement age since rehabilitation or construction, years
m = environmental coefficient
SNC = structural number modified for subgrade strength'
HS = thickness of bound layers, mm
CRX_t = area of indexed cracking at time t, %
RDS_t = standard deviation of rut depths, mm
PAT_t = area of patching, %

This model has been recommended by the World Bank as the best one, especially due to the fact that the model includes distress data and other predictive models for rutting, cracking and patching.

The equation used for determination of IRI has been created on the basis of the World Bank's studies, including studies in cold climate (Sweden) and contains, as appears, also an environmental factor.

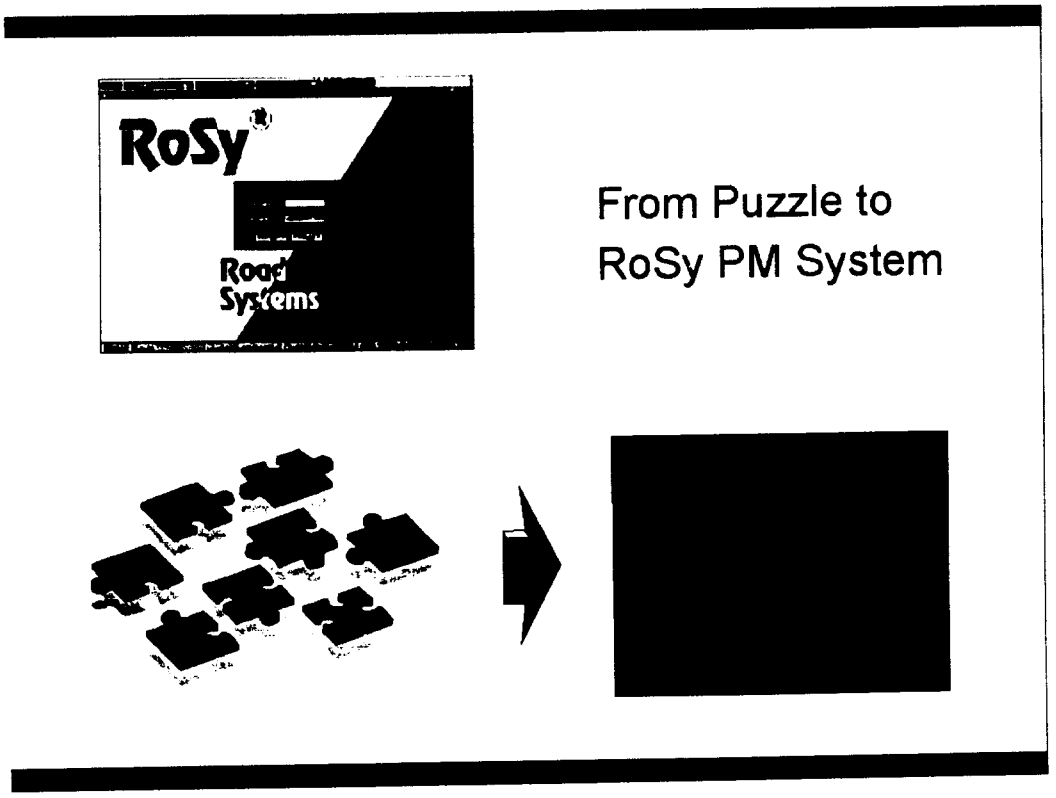
In the case of the TRACECA project, it is necessary to work with various environmental factors due to the varying climatic conditions in the area.

Recommended value for Environmental Factor:

Dry, nonfreeze: m = 0.005 to 0.015 (0.010)
Dry, freeze: m = 0.010 to 0.035 (0.020)
Wet, nonfreeze: m = 0.015 to 0.030 (0.023)
Wet, freeze: m = 0.030 to 0.150 (0.070)

Set-up of the environmental factor may be done in the window where VOC is chosen. By changing the environmental factor it is possible for the user to adapt the change of IRI to the climatic conditions in his local area.

Introduction



This document gives a general description of the management systems - RoSy PMS and RoSy BMS - supplied to TRACECA.

RoSy PMS consists of the modules RoSy BASE, RoSy PLAN and RoSy BMS

- *RoSy BASE is the road data base*
- *RoSy PLAN is the optimisation part for calculation of optimum maintenance solutions as well as consequence analyses.*
- *RoSy BMS uses basically RoSy BASE as road data base but apart from this, RoSy BMS also has a module - BMS - for processing of data about individual bridges on a given road section.*

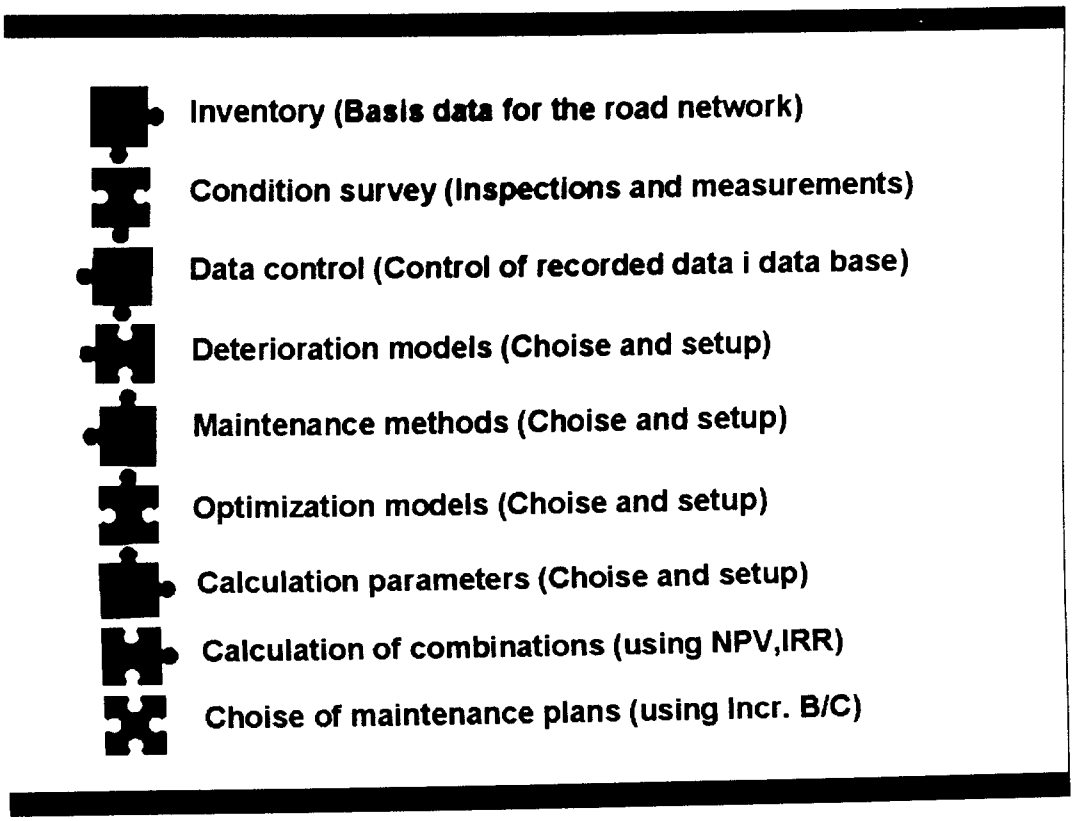
The systems supplied by PPC are adjusted and set up for application by the individual user. This holds for the application possibilities of the systems as well as for the system calculation models.

Apart from the basic user interface the system has an administration part which may only be accessed with a code. If the administration part is accessed with the code, practically all basic conditions in the systems may be altered as well as the way they process data, make calculations etc. It is also possible to change and/or ad new calculation models and methods to the system. The present introduction to the system provides that access authorisation to the administration part has been granted. This enables the user to have several of the set-up possibilities described more in detail. Part of this description may therefore seem rather comprehensive but has been included here only to describe the flexibility of the system. The individual user will only in very rare cases have to go into the heart of the system once it has been supplied and set up by PPC.

Finally the supplied systems may be extended within the road area (e.g. digital traffic signs, equipment, road marking, lightning, GIS etc.) so that if required the system may be extended to function at the same level as the many systems

being used in Western Europe. Due to the open structure of the systems, this may be done at a later state without having to convert already collected data.

Overview



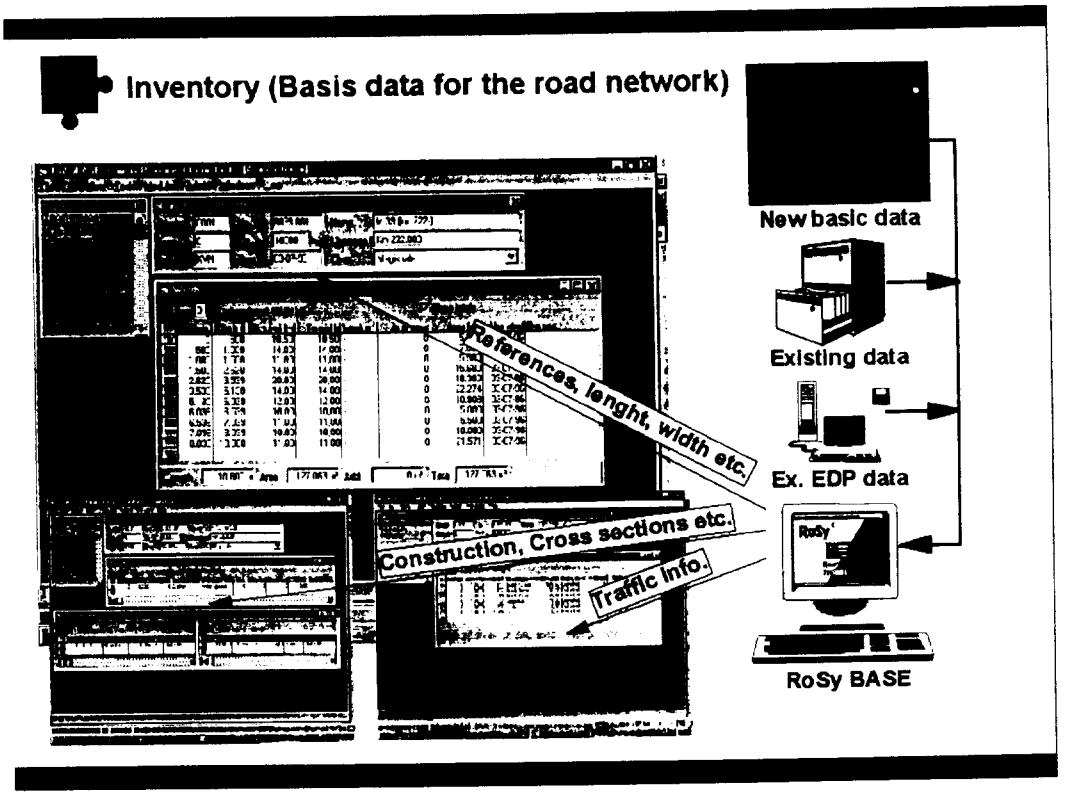
The construction and use of RoSy PMS/BMS may be done in many ways.

Our experience is however that a systematic implementation, which follows the shown order will lead to the goal in the most rational way. The below introduction to the structure of RoSy PMS/BMS will thus follow this methodology.

However, we would like to point out that in the present description, RoSy's
treatment of information and which data to enter to the system will be concentrated on, not how the data were collected.

An example could be the information on a given road section's present IRI (measured with e.g. a bumpmeter). The present introduction will solely describe how RoSy uses the IRI values after they were entered to the system and not how the IRI values were calculated on the basis of the bumpmeter data before they were entered to RoSy.

Inventory



Inventory data or the basic geometric data are entered to RoSy BASE in e.g. below files (windows). The registration may be done manually and/or digital from other recording systems or already existing data bases. The data entered to RoSy may of course also be used by other systems.

Basically the following data are entered:

A: Main Details:

trict, road number, road name, Start chainage (from ch.), end chainage (To ch.), Chainage 0, initials, data and road class.

Also coordinates for e.g. GIS may be entered. This has not been done in this case as this kind of registrations are prohibited in the TRACECA area.

The data may be used for superior recognition of the road network and may form the basis of a later priority and selection of the maintenance efforts.

B: Width Details:

Road widths with chainages and any wedges, traffic islands, additional areas etc.

Later the data form the basis of calculation of the exact areas for each individual maintenance section.

C: Cross Section details:

Widths and types of cross sections, chainages for all elements in a cross section - e.g. verges, ditches, kerbs etc.

Later the data form the basis of the calculation of any additional costs or limitations - e.g. kerb heights in connection with the calculation of maintenance combinations.

Data may be presented (when entered) graphically in cross as well as longitudinal sections of the road network in any point required. Data from the files Width, Cross Section and layers are used for this presentation.

D: Pavement Structure Details

In this window information on the individual courses of a road structure is entered to the extent known. This is thicknesses, type of material, chainage, year, E-moduli, recipe, supplier, guaranty, prices etc.

Later the data will form the basis of the determination of bearing capacity, roughness (IRI), deterioration process, choice of maintenance method etc.

Traffic Details

Data on the expected traffic are entered (as a minimum for the period the maintenance optimisation is to be made for). The traffic may be grouped into vehicle types, and/or AADT and ESAL. Furthermore traffic forecasts may be entered and thus any changes in traffic load during the plan period.

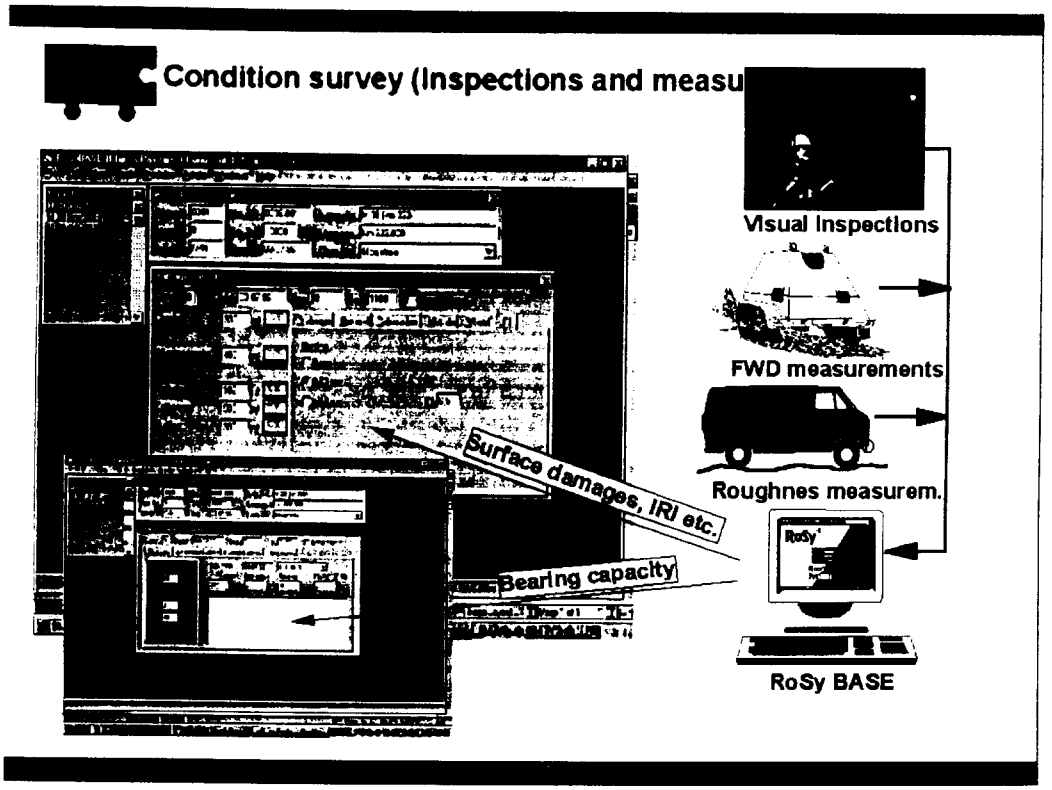
Later the data form the basis of the determination of e.g. IRI, VOC, deterioration of bearing capacity and choice of maintenance methods applicable with the expected traffic load.

F: Other Files (windows)

Apart from the mentioned files, a number of files are available for administrative purposes e.g. files for storage of scanned documents, maps, digital images, etc.

These files are not going to be used in the TRACECA project but will be presented for the user in connection with the training in use of the system, so that the user may later store his own information from e.g. old files.

Condition Survey



When the basic geometric data have been entered to RoSy BASE, the files containing the structural and the functional conditions data of the individual road sections are ready to receive data.

RoSy PMS is a flexible system capable of working with many kinds of condition data. It is thus necessary to select the standard parameters to be worked with when setting up the system.

In TRACECA's case it was chosen basically to work with three kinds of conditions data divided as follows:

1. *Functional parameters in the form of 5 damage types collected visually*
2. *Roughness as IRI values measured with bumpmeter*
3. *The structural conditions expressed in bearing capacity measured by means of a Falling Weight Deflectometer (FWD)*

Furthermore it is possible to enter the damages in accordance with pre-set maintenance laps with uniform lengths or, as has been chosen in the case of TRACECA, according to dynamic section lengths where the length of the individual maintenance section depends of a change in the condition of the road network.

The mentioned conditions and their mutually independent section lengths are entered in RoSy BASE in two independent files (windows) in the following way:

- **Damage Details**

  The functional data (cracks, alligator cracks, potholes, settlements, rutting) are entered together with IRI data. The same road section may have more maintenance sections as the division is done according to the principle "from chainage to chainage" provided a considerable change in the homogeneity of the condition parameters occurs. The damages are entered in m^2 or m in accordance with a pre-set methodology.

  It is possible in connection with later condition surveys to store old condition data as historical data. The historical data will then together with the latest entered data automatically influence on the development of the individual deterioration models as they will then become dynamic models. In other words the more

historical data entered in the system the more will the deterioration models adapt themselves to the actual individual development of the condition and the more accurate will the future maintenance calculations be - the system is in this way self-adapting.

All entered conditions in this file are later used for calculation of the optimum maintenance solution for each condition section.

- **Bearing Capacity Details**

Data on the bearing capacity of the road network are entered grouped according to bearing capacity homogeneous sections. These divisions (from to chainages) often differ from the divisions made in the above-mentioned damage file. This is due to the fact that often there are little coincide between chainages for changes in bearing capacity and chainages for changes of functional conditions found on the road surface.

In the bearing capacity file a large number of data may be entered. In this project solely data from the bearing capacity measurements carried out with FWD are entered. This information contains data on residual life and required reinforcement. This information is used when calculations are to consider reinforcement for a given design period for the individual maintenance sections.

The data in this file are used later together with the data in the damage file and the traffic file for division of the road network into homogeneous maintenance sections. Furthermore the data are used in connection with calculation of the optimum time for the maintenance effort and which method/product would be the optimum at a given time.

Conditions Survey - BMS

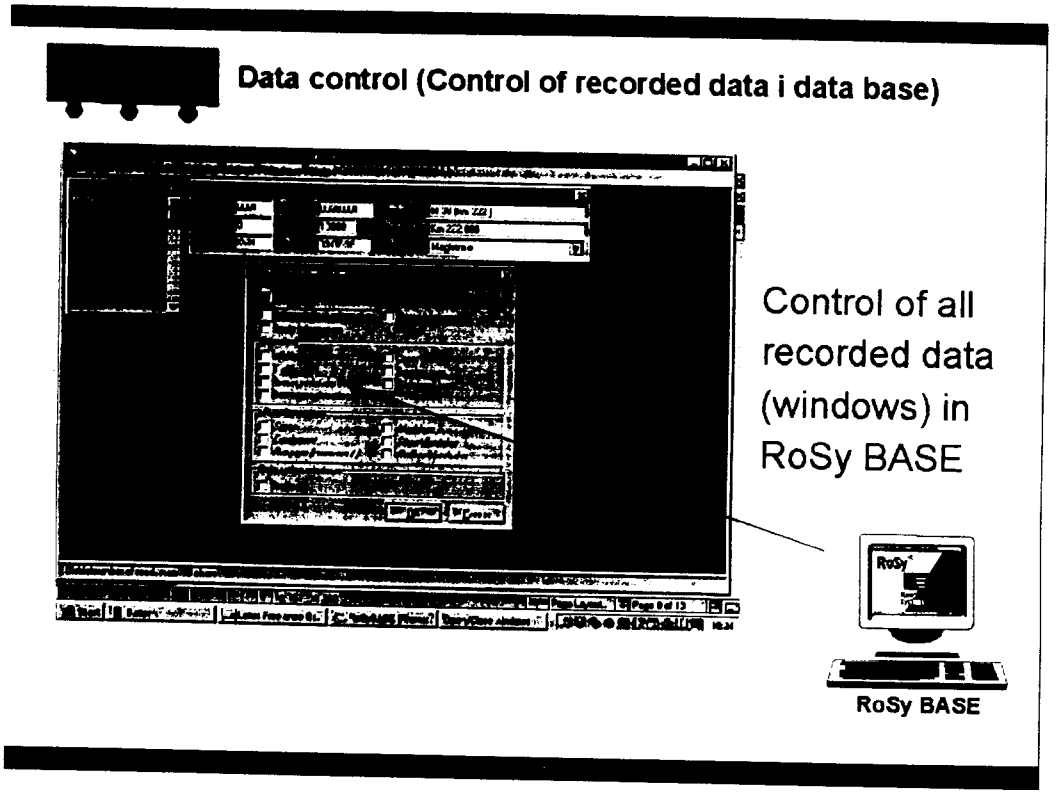
In Rosy BASE it is possible to access the Bridge Management System (BMS).

The BMS module is designed according to the German DIN standard but reduced to more likely conditions in the TRACECA Project.

All bridge data are linked to a particular road. Condition, structure, construction, dimension, span and material data are stored in the BMS file.

Whenever a bridge inspection is done, a special "Bridge Inspection wizard" guides the operator through the different steps when entering data.

Data Control

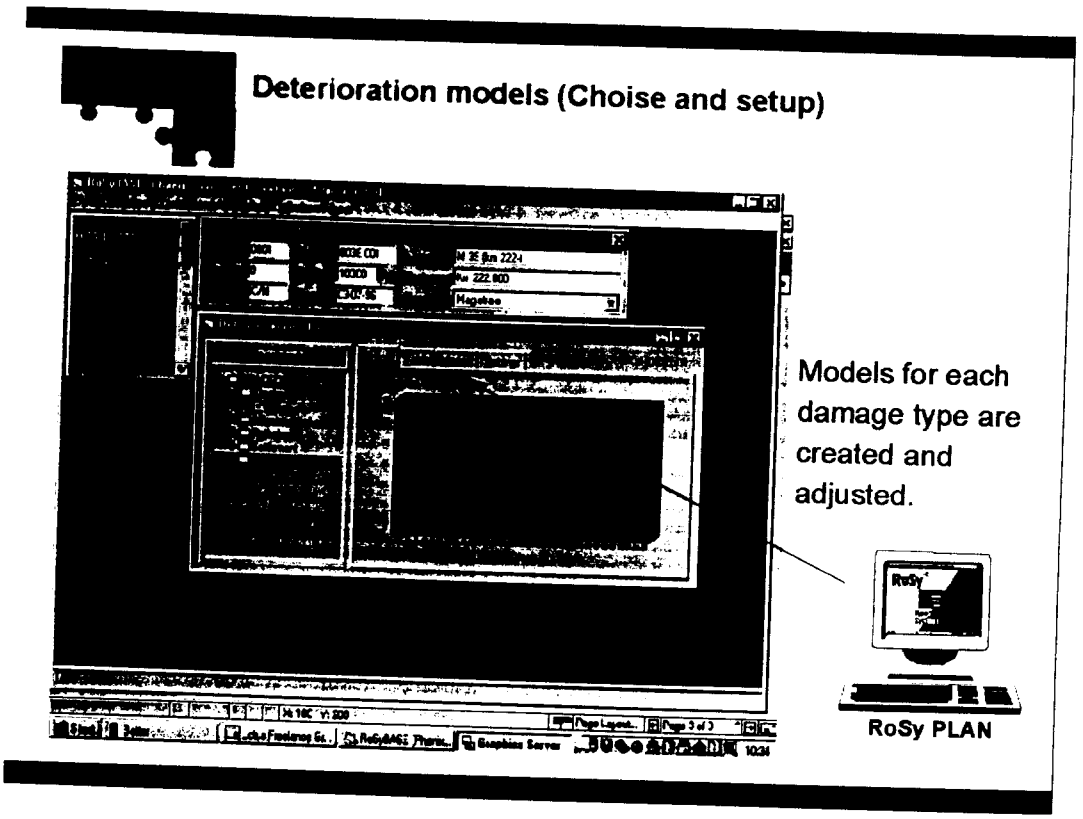


When all inventories and condition data have been entered to RoSy BASE, a control of the contents of the database is made. It is controlled whether data for all required roads have been entered to the system and whether all other data necessary for the maintenance optimisation are present.

It should be considered, which other data should be entered to the parts of the data base not having directly to do with the maintenance calculations but more with pure administrative purposes.

NOW THE NECESSARY INFORMATION HAS BEEN STORED IN THE DATA BASE RoSy BASE AND THE DATA NECESSARY FOR THE MAINTENANCE CALCULATIONS HAVE TO BE ENTERED TO RoSy PLAN.

Deterioration Models



One of the conditions for RoSy PLAN to be capable of making long-term calculations of the road maintenance for each individual maintenance section is the fact that deterioration models have been created. The deterioration models must be capable of simulating the expected condition development of each individual condition parameter under various circumstances.

If required, RoSy PLAN will then be capable of making simulations for up to approx. 100 years. Simulations with such a long horizon are not recommendable as this makes very heavy demands on the capability of the computer. Thus, it will typically be relevant to make calculations with a time horizon of 20 years.

To the deterioration models applies that for each individual condition parameter, models must be created that describes the entire life cycle of the given condition means that the models must often seek to describe a lapse of time of approx. 30 years.

The creation, adjustment and adaptation of deterioration models in RoSy PLAN to local conditions is rather flexible as it is up to the user (the administrator) to decide how many and how detailed the individual models should be. Compulsory for this process is however that minimum one model should be created for each condition parameter to work with. At the same time this means that if e.g. three road classes are applied (e.g. motorways, primary roads and secondary roads), then it will for the same condition parameter be possible to create three individual models as well as the models may, if required, be subdivided so that they are at the same time made traffic load dependent.

The individual models will ensure that the result of e.g. the simulation of crack development probably will give different results from road class to road class and from traffic group to traffic group and in this way reflect the reality to a larger extent than if only one fixed model per condition parameter was used.

The creation of this many models requires, however, that one has the knowledge of and/or carried out a study about the individual condition development as a function of road class and/or traffic load. This is not the case as regards the TRACECA project, where such information or knowledge is not available. Our experiences from the Czech Republic, Northern Norway, and Eastern Germany combined with studies carried out by the World Bank in other parts of world

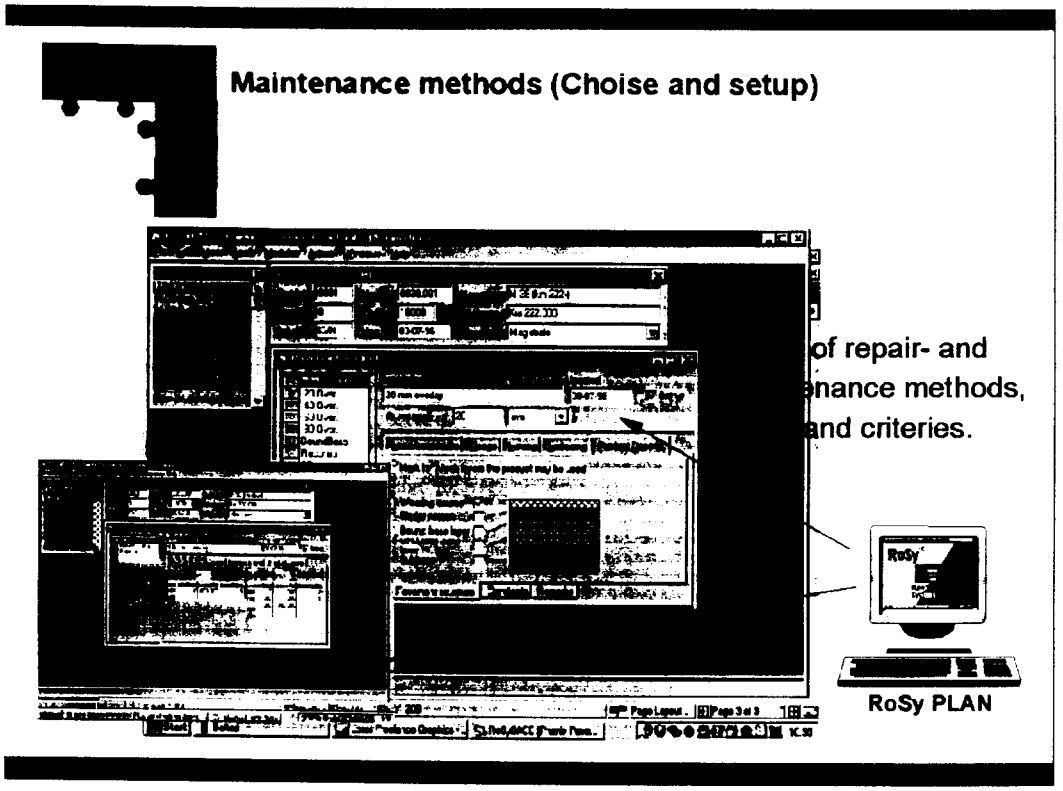
have formed the basis of models for this project. Simultaneously there have only to a very limited extent been created sub-models individually divided according to road classes/traffic.

At the same time we would like to stress that any negative effect (due to lack of studies) from not having created a large number of sub-models will diminish along with the use and with a systematic condition survey becoming a current process e.g. every second year or every third year.

This is due to the fact that the initially created "global" deterioration models will automatically for each individual maintenance section react to the historical data and then create "local" dynamic models reflecting the actual local development on each individual maintenance section.

The future maintenance calculations will therefore become more and more precise the more RoSy PMS is used, as the progression of the future condition will be done on the basis of the actual local development instead of the "global" which would obviously only reflect the average condition development.

Maintenance Developments



Another necessary basis for RoSy PLAN to be capable of performing maintenance calculations is that information on possible methods and products has been created that may be used for routine maintenance, repair and the final maintenance and in this connection also reconstruction etc.

RoSy PLAN works basically with two kinds of files (windows) for creation of these data - Repair products and Pavement products.

- **Repair Products:**

  In this window the products (methods) to be used for repair and routine maintenance are entered.

  Product names, properties, limitations, conditions for applications, price (cost) and grouping according to quantity. Finally if required, information on recipes, suppliers etc.

  The number of methods may be chosen freely by the user. However, it should be remembered that the more models chosen to work with the more maintenance combinations may be calculated. The more combinations, the more RoSy PLAN will calculate - resulting in a rapidly increasing complexity and use of calculation time.

- **Pavement Products:**

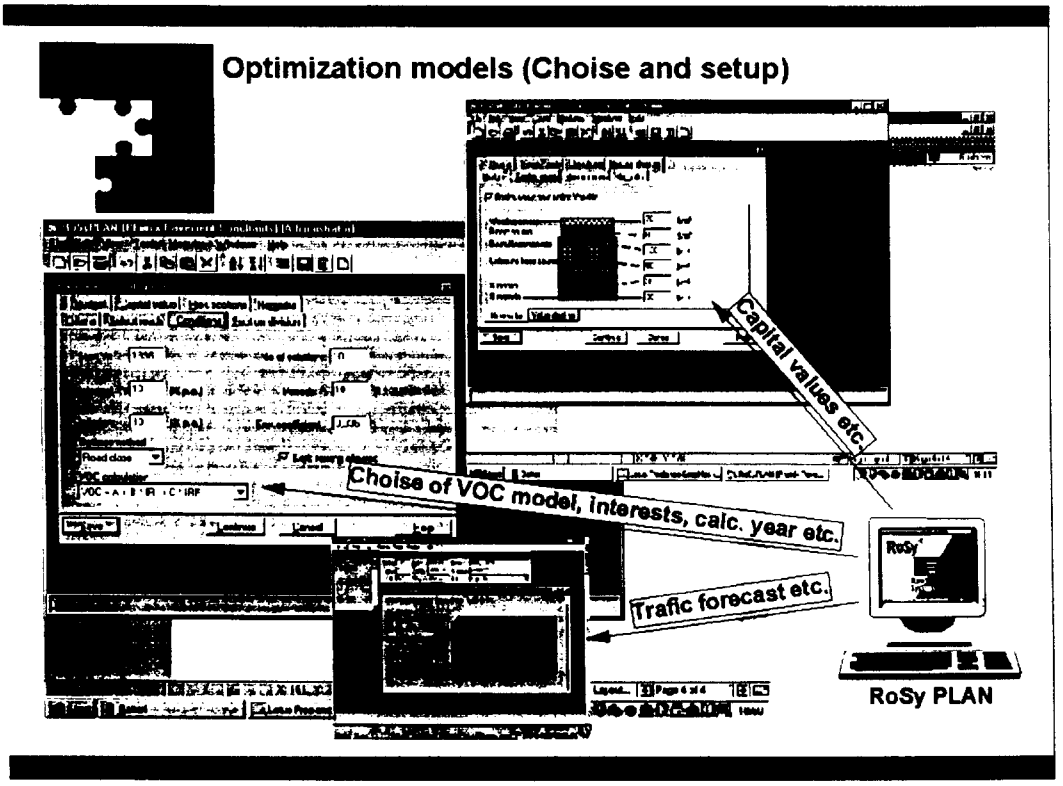
  In this window the products (methods) to be used for the actual maintenance - also reconstruction - are entered.

  All the kinds of sealing, wearing courses, recycling, reconstructions etc. possible to apply are entered. The individual product's name (method's), function, properties, thickness, reinforcement capability, stability,

limitations, conditions for prior measures (e.g. repair of alligator cracks), price (costs) which may be divided according to area and expected service life resulting from e.g. traffic loads. Furthermore information on recipes, suppliers etc. may be entered.

The number of products/methods may be chosen freely by the user. However, it should be remembered that the more methods chosen to work with the more maintenance combinations may be calculated. The more combinations, the more RoSy PLAN will calculate - resulting in an increased use of calculation time but also resulting in a more precise choice of optimum maintenance solution and combination.

Optimization Models



When administration and condition data have been entered to Rosy BASE and the deterioration models together with the available methods for road maintenance have been created in RoSy PLAN, the basis has been formed so that RoSy PLAN can perform optimisation calculations.

Before starting the calculations, the user (and partly the administrator) should make a setup of the optimisation conditions to use and choose the calculation models to form the basis of the calculations.

One of the first conditions to determine is the starting year for the calculations. If the starting year is not identical with the year in which the road condition was entered, the conditions will automatically, before the calculations are started, be progressed to the starting year on the basis of the deterioration models.

Secondly the levels for interest rate and inflation should be applied for the calculations.

As regards the TRACECA calculations, the inflation factor will be set to zero and the interest rate to 10%.

Also the number of calculation combinations to be stored for the later optimisation calculation should be indicated here. With a 20 year calculation horizon the number of combinations per section will often be 500-2000. To store this many solutions will make heavy demands on the disk capacity of the computer, which will often not be desirable. If e.g 20 solutions are indicated, then the 20 most optimum strategies per maintenance section will be stored for later use.

Finally a model for calculation of Vehicle Operation Costs (VOC) should be chosen. The possibilities appear from the menu in the system.

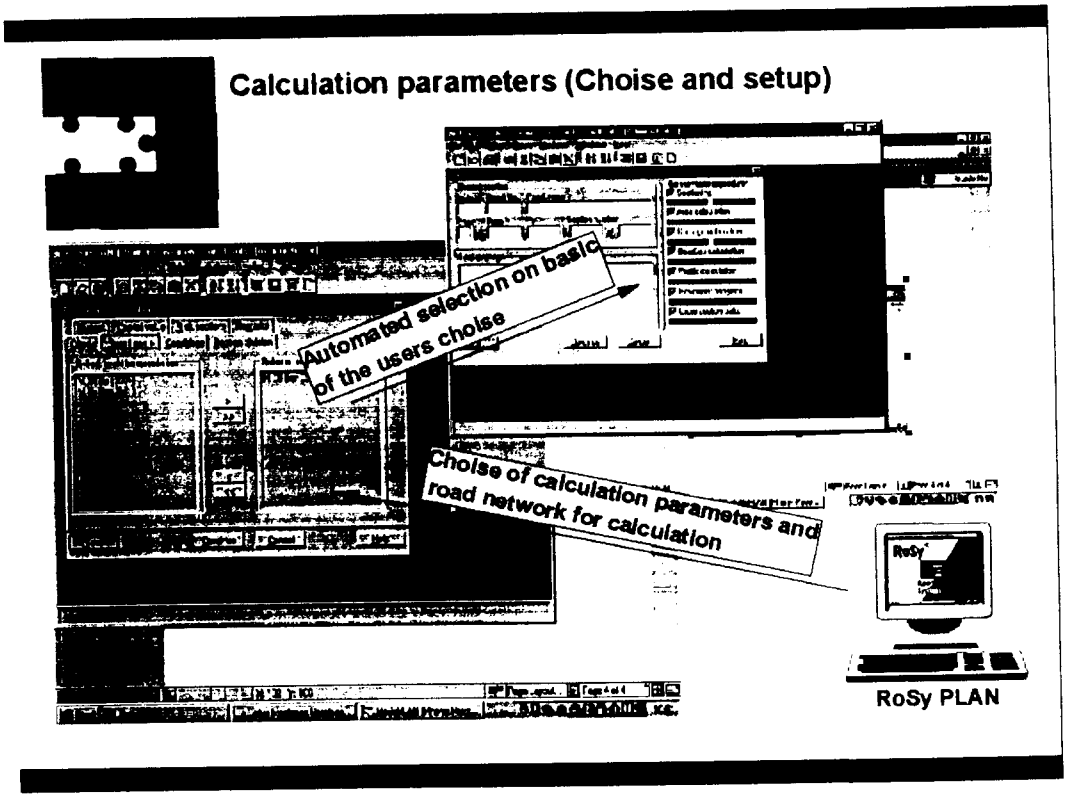
Apart from the VOC models a model for the traffic forecast must be chosen. The traffic forecast models may work with raising as well as decreasing traffic loads - also "jumps" in loads from year to year.

The calculation of the optimum maintenance combinations in RoSy PLAN is done by e.g. comparison of Net Present Value (NPV) and Internal Rate of Return (IRR). It is a known problem that if the NPV compared strategies do not leave a road network of uniform quality at the expiry of a calculation period (normally 20 years) a minor error is incorporated in the comparisons which many often choose to ignore.

In RoSy PMS this problem has been solved by currently to calculate the value of the invested road capital. This means that the difference (expressed in loss or gain of road capital) between the individual strategies at the end of the calculation period may be included in NPV and thus ensure that the comparison between the strategies happens on an absolutely optimum basis.

If this principle is to be used, information on initial pavement values and development of value loss as regards calculation must be entered in the set-up menu.

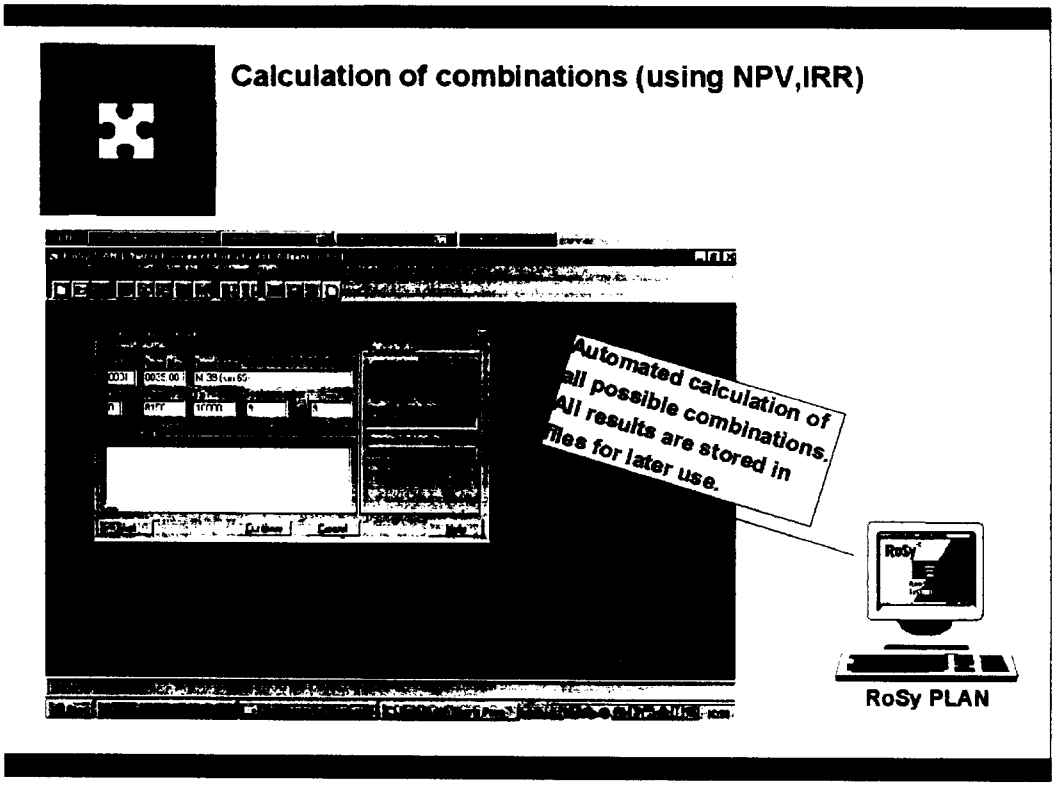
Calculation Parameters



When all necessary models have been chosen, the conditions according to which the calculation is to be performed should be defined.

- First of all the road sections to be calculated should be chosen. In the menu all accessible road sections are shown and from this list the sections to work with can easily be selected.
- Then the criteria for how the system should divide the road network automatically into homogeneous maintenance sections should be chosen. The division made in the damage windows will basically be used for maintenance sections.
- If it then appears that e.g. the division according to bearing capacity and traffic differ from the basic division, the system must be told which criteria should be used for a sub-division. This holds for mutual differences in bearing capacity as well as for differences of the individual chainages.

Calculation



The calculations may now be started by pressing START. The calculations now run automatically until all possible combinations for all selected road sections (road networks) have been processed.

In brief the calculations are running as shown below. In principle the calculations run 3-dimensionally according to the following (X= sequence of years, Y= Strategy, Z= number of possible combinations with the actual strategy):

As a basis for the determination of the value of each individual combination possibility NPV is used to determine the effect of all investments and costs during the calculation period.

The combination giving the lowest NPV of the total transport costs (TTC) with a given strategy corresponds to the most optimum maintenance solution for exactly this strategy, as TTC also contains agency costs (AC).

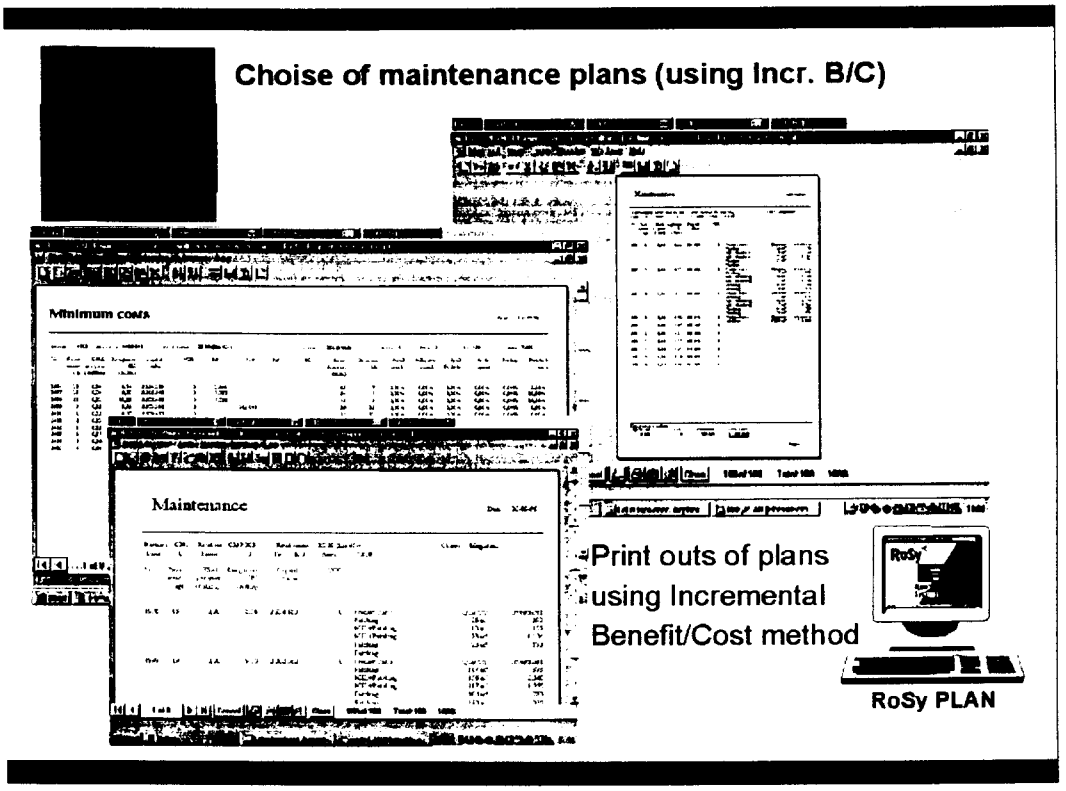
*Thus, for each strategy **ONE** optimum combination will be shown.*

*For a given maintenance section, the optimum maintenance solution and thus the optimum strategy is the maintenance combination which in all performed calculations gives the lowest NPV. At the same time this solution often gives the best IRR when all solutions are compared to the **DO NOTHING strategy**.*

The calculated solutions are stored section for section (the pre-set maximum number) and may be printed out when all sections have been calculated. That is both the optimum solution for each individual selction but also a number of alternative solutions and obviously the solution **DO NOTHING**.

Together with every single solution practically all necessary data for a later calculation of the economic consequence analyses with limited budget funds as well as with unlimited funds have been stored. Furthermore information was stored for the processing of detailed maintenance plans (when, where) when the final strategy for the individual section has been found.

Choice of maintenance plans



When all calculations have been performed, the selected calculations have been stored on the harddisk ready for further analysis and final selection.

If a printout of the economically optimum strategy with optimum solution is wished, all the maintenance combinations for each individual section giving the lowest NPV are retrieved.

In case of a limited budget, then only the solutions which together ensures the lowest possible NPV for the entire road network and not exceeds the available budget amount will be retrieved.

The Incremental Benefit/Cost method (IBC= delta TTC/ delta AC) will be applied for the selection of the optimum strategies when only limited funds are available. During the automatic iteration routines to adapt the budget limitations, the combinations giving the lowest rise in the total transport costs (TTC) and at the same time the largest reduction in agency costs (AC) are stored.

Printouts

A number of examples for printouts generated by the system are enclosed. The number of printouts and the design of these may be varied in innumerable ways as well as "printout" does not only mean printout on paper but also to save data to be used by other data bases, spreadsheet, GIS programs, etc.

In the case of TRACECA, only printouts of the data necessary to give the local users the basic information enabling them to make the road maintenance are made. Furthermore the printouts necessary to ensure the present project's superior goals have been made.

Appendix B : List of abbreviations

ESAL: *Equivalent Standard Axle Load.* Standard axle loads per day indicate the total traffic load converted into one standard axle. E.g.. 5 busses = 1 ESAL

AADT: *Annual Average Daily Traffic.* This factor indicates the average number vehicles passing by each day (24 hours).

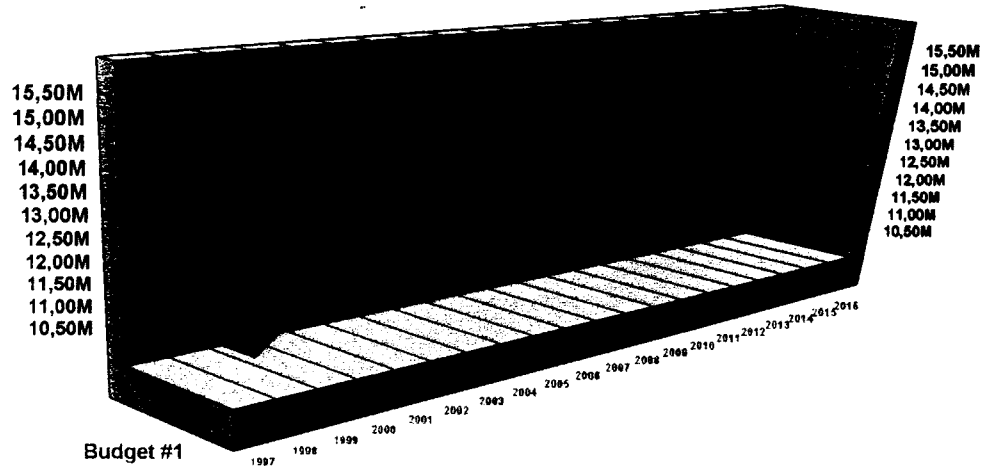
IRI: *International Roughness Index.* The IRI-value (m/km) is a way of expressing the roughness of a road measured by means of e.g. a bumpmeter.

VOC: *Vehicle Operation Cost.* The total costs for the vehicles applying the road. The costs includes e.g.: consumption of fuel, tyre wearing, repairs, etc. VOC is a function of IRI.

ANNEX 2
EXAMPLES OF PRINTOUTS

Capitalvalue: Budget #1

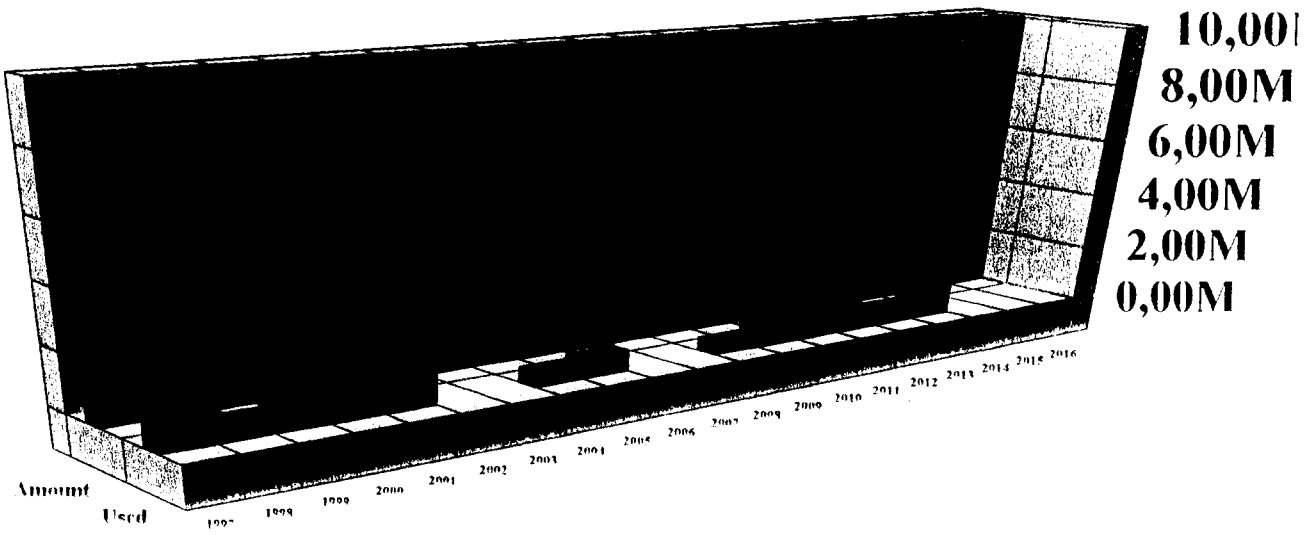
	Budget #1
1997	11.622.761
1998	10.963.303
1999	11.697.647
2000	12.705.921
2001	14.369.867
2002	14.199.564
2003	13.937.383
2004	14.114.456
2005	14.428.931
2006	13.969.797
2007	13.268.456
2008	12.731.396
2009	13.757.503
2010	13.644.788
2011	13.863.455
2012	14.058.915
2013	15.020.963
2014	14.867.411
2015	14.634.381
2016	14.277.611



Budgetplan: Budget #1

Description

Budget / usage



Budgetplan: Budget #1

District: 0001 **Road no.:** 0024.001 **Road name:** A 24 (km 11 - 26) **Class:** Magistrale

From: 0 **To:** 350 **Area:** 3.273 **Length:** 350

Start values: Year	Age	ESA per year (million)	IRI	Cap. value * 1.000	VOC * 1.000	Reinforcement	Remaining life	Small Cracks	Large Cracks	Alligator Cracks	Raveling	Spalls Potholes	Settlements	Rutting	Bleeding	Chip loss	Patched area
	27	0,17	8,1	376	94	31	10	3		2		1	8	3			
1997	0	0,17	3,7	377	70	0	20	Product name					Quantity (m²)				Investment ($)
								Patching					**268**				**4.025**
								Mill.+patching					**105**				**2.095**
								60 Over.					**3.273**				**134.172**
1998	1	0,17	3,8	376	73	7	19										
1999	2	0,17	4,0	375	75	8	18										
2000	3	0,18	4,1	372	78	9	17										
2001	4	0,19	4,2	368	84	11	16										
2002	5	0,20	4,4	362	91	13	15										
2003	6	0,22	4,5	353	99	15	14	1					1				
2004	7	0,23	4,7	339	107	18	13	2				1	1				
2005	8	0,25	4,9	318	116	21	12	3		1		1	2	1			
2006	9	0,26	5,1	287	125	25	11	4		2		2	2	1			
2007	10	0,28	5,3	237	136	30	10	5		2		2	2	2			
2008	0	0,30	3,2	378	126	0	20	Product name					Quantity (m²)				Investment ($)
								Mill.+patching					**192**				**3.839**
								80 Over.					**3.273**				**179.988**
2009	1	0,32	3,3	377	136	7	19										
2010	2	0,34	3,4	376	147	8	18										
2011	3	0,37	3,6	375	159	9	17										
2012	4	0,39	3,7	372	172	11	16										
2013	5	0,42	3,8	368	186	13	15										
2014	6	0,45	4,0	362	201	15	14	1					1				
2015	7	0,48	4,1	353	218	18	13	2				1	1				
2016	8	0,51	4,3	339	236	21	12	3		1		1	2	1			

Net. present values

Capitalloss	VOC	Investment	Total costs
5.929	1 011 905	204 722	1.222.556

Combination no. 15

Minimum costs

RoSy® PM System
Date 1-27-1997

District 0001 **Road no.:**0024.001 **Road name:** A 24 (km 11 - 26) **Class:** Magistrale **Lane** 0 **From** 0 **To** 350 **Area** 3.273

Year	Pave-ment-age	ESA per year (million)	Roughness IRI (m/km)	Capital value	VOC	RP	WC	RC	BB	Rein-forcem. (mm)	Remain. life	Cracks	Alligator cracks	Spalls Potholes	Settle-ments	Rutting	Patched area
Start value	27	0,17	8,12	375 504	93.530					31	10	3,0%	2,4%	0,8%	8,2%	3,3%	0,3%
1997	0	0,17	3,72	377 408	70.415	6.120	134.172			0	20	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
1998	1	0,17	3,84	376 273	72.739					7	19	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
1999	2	0,17	3,97	374 555	75.156					8	18	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2000	3	0,18	4,10	371 951	77.673					9	17	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2001	4	0,19	4,24	368 005	84.039					11	16	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2002	5	0,20	4,39	362 028	90.951					13	15	0,0%	0,0%	0,0%	0,4%	0,0%	0,0%
2003	6	0,22	4,54	352 971	98.511					15	14	1,0%	0,0%	0,4%	0,8%	0,0%	0,0%
2004	7	0,23	4,70	339 246	106.731					18	13	2,0%	0,0%	0,8%	1,2%	0,5%	0,0%
2005	8	0,25	4,88	318 435	115.717					21	12	3,0%	0,8%	1,2%	1,6%	1,0%	0,0%
2006	9	0,26	5,06	286 748	125.499					25	11	4,0%	1,6%	1,6%	2,0%	1,5%	0,0%
2007	10	0,28	5,25	237 174	136.186					30	10	5,5%	2,4%	2,0%	2,4%	2,0%	0,0%
2008	0	0,30	3,23	378 156	125.843	3.839	179.988			0	20	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2009	1	0,32	3,34	377 408	135.965					7	19	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2010	2	0,34	3,45	376 273	146.940					8	18	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2011	3	0,37	3,57	374 555	158.845					9	17	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2012	4	0,39	3,69	371 951	171.764					11	16	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2013	5	0,42	3,82	368 005	185.790					13	15	0,0%	0,0%	0,0%	0,4%	0,0%	0,0%
2014	6	0,45	3,95	362 028	201.125					15	14	1,0%	0,0%	0,4%	0,8%	0,0%	0,0%
2015	7	0,48	4,10	352 971	217.798					18	13	2,0%	0,0%	0,8%	1,2%	0,5%	0,0%
2016	8	0,51	4,26	339 246	236.030					21	12	3,0%	0,8%	1,2%	1,6%	1,0%	0,0%

Net. present values

Capitalloss	VOC	Investment	Total costs
5.929	1 011 905	204 722	[redacted]

STANDARD ROADLIST

Road No.: 0004.001 **Class:** 1 **Updated:** 13.10.96 **Name:** M 4 (km 10 - 25)
Length: 15.000,00 m **Area:** 11.690,00 m² **Chainage 0:** Km 10,000

Road No.: 0024.001 **Class:** 1 **Updated:** 13.10.96 **Name:** A 24 (km 11 - 26)
Length: 15.000,00 m **Area:** 32.060,00 m² **Chainage 0:** Km 11,000

District 0001 : Total area **243.750 m²**

Total area **243.750 m²**

REGISTERED BEARING CAPACITY

Lane	Updated	From Ch.	To Ch.	Res. serv. life now	Reinforcem.	Res. serv. life after
Road No.: 0004.001 Class: 1 Name: M 4 (km 10 - 25)			**Chainage 0: Km 10.000**			
0	13.10.96	0	1.250	6	55 mm	20
0	13.10.96	1.250	2.050	18	5 mm	20
0	13.10.96	2.050	2.550	8	65 mm	20
0	13.10.96	2.550	3.050	14	30 mm	20
0	13.10.96	3.050	4.650	8	55 mm	20
0	13.10.96	4.650	5.450	14	15 mm	20
0	13.10.96	5.450	6.150	9	40 mm	20
0	13.10.96	6.150	6.650	6	65 mm	20
0	13.10.96	6.650	7.350	3	85 mm	20
0	13.10.96	7.350	7.950	9	40 mm	20
0	13.10.96	7.950	8.450	16	10 mm	20
0	13.10.96	8.450	9.250	7	55 mm	20
0	13.10.96	9.250	9.650	2	120 mm	20
0	13.10.96	9.650	11.650	13	25 mm	20
0	13.10.96	11.650	12.050	9	40 mm	20
0	13.10.96	12.050	15.000	16	20 mm	20
Road No.: 0024.001 Class: 1 Name: A 24 (km 11 - 26)			**Chainage 0: Km 11.000**			
0	13.10.96	0	350	10	35 mm	20
0	13.10.96	350	1.150	1	120 mm	20
0	13.10.96	1.150	2.050	4	75 mm	20
0	13.10.96	2.050	2.700	1	120 mm	20
0	13.10.96	2.700	3.850	1	145 mm	20
0	13.10.96	3.850	4.350	4	85 mm	20
0	13.10.96	4.350	4.750	0	145 mm	20
0	13.10.96	4.750	5.450	1	120 mm	20
0	13.10.96	5.450	6.050	0	145 mm	20
0	13.10.96	6.050	6.750	1	105 mm	20
0	13.10.96	6.750	7.450	3	80 mm	20
0	13.10.96	7.450	8.350	2	135 mm	20
0	13.10.96	8.350	8.850	4	100 mm	20
0	13.10.96	8.850	9.650	12	35 mm	20
0	13.10.96	9.650	10.050	9	40 mm	20
0	13.10.96	10.050	10.450	3	110 mm	20
0	13.10.96	10.450	10.950	0	145 mm	20
0	13.10.96	10.950	12.050	2	105 mm	20
0	13.10.96	12.050	12.450	0	145 mm	20
0	13.10.96	12.450	12.850	5	80 mm	20
0	13.10.96	12.850	13.250	0	145 mm	20
0	13.10.96	13.250	14.350	2	120 mm	20
0	13.10.96	14.350	15.000	0	145 mm	20

District 0001 : Number of sections 39

District 0001 : Total length 30.000 m

REGISTERED LAYERS

	Lane	Updated	From Ch.	To Ch.	Layer no.	Thickness	Product	Laid out (year)
Road No.: 0004.001	**Class: 1**	**Name: M 4 (km 10 - 25)**			**Chainage 0: Km 10.000**			
	0	1996/10/1	0	5.500	1	80 mm	Asp.	0
	0	1996/10/1	0	5.500	2	270 mm	Gravel	0
	0	1996/10/1	5.500	10.500	1	80 mm	Asp.	0
	0	1996/10/1	5.500	10.500	2	270 mm	Gravel	0
	0	1996/10/1	10.500	15.000	1	90 mm	Asp.	0
	0	1996/10/1	10.500	15.000	2	320 mm	Gravel	0
Road No.: 0024.001	**Class: 1**	**Name: A 24 (km 11 - 26)**			**Chainage 0: Km 11.000**			
	0	1996/10/1	0	5.500	1	90 mm	Asp.	0
	0	1996/10/1	0	5.500	2	250 mm	Gravel	0
	0	1996/10/1	5.500	10.500	1	80 mm	Asp.	0
	0	1996/10/1	5.500	10.500	2	280 mm	Gravel	0
	0	1996/10/1	10.500	15.000	1	80 mm	Asp.	0
	0	1996/10/1	10.500	15.000	2	270 mm	Gravel	0

District 0001 : Number of sections 12

Total number of sections : 12

REGISTERED TRAFFIC LOAD

AADT / ESA (8,16 t)

	Lane	Updated	From Ch.	To Ch.	Vehicletype	AADT	ESA	Remark
Road No.: 0004.001	**Class: 1**	**Name: M 4 (km 10 - 25)**				**Chainage 0: Km 10.000**		
	0	13.10.96	0	15.000	Ëåãêîâàÿ ìàøèíà	1 423.00	0.14	
	0	13.10.96	0	15.000	Ãðóçîâîé àâòîìîáèëü	793.00	1.11	
	0	13.10.96	0	15.000	Àâòîáóñ	216.00	266.57	
	0	13.10.96	0	15.000	Ãðóçîâèê ñ 2 îñÿìè	971.00	158.08	
	0	13.10.96	0	15.000	Ãðóçîâèê ñ 3 îñÿìè	517.00	118.60	
	0	13.10.96	0	15.000	Ãðóçîâèê ñ 3+ îñÿìè	302.00	130.83	
Road No.: 0024.001	**Class: 1**	**Name: A 24 (km 11 - 26)**				**Chainage 0: Km 11.000**		
	0	01.01.97	0	15.000	Ëåãêîâàÿ ìàøèíà	463.00	0.05	
	0	01.01.97	0	15.000	Ãðóçîâîé àâòîìîáèëü	248.00	0.35	
	0	01.01.97	0	15.000	Àâòîáóñ	235.00	290.01	
	0	01.01.97	0	15.000	Ãðóçîâèê ñ 2 îñÿìè	310.00	50.47	
	0	01.01.97	0	15.000	Ãðóçîâèê ñ 3 îñÿìè	178.00	40.83	
	0	01.01.97	0	15.000	Ãðóçîâèê ñ 3+ îñÿìè	168.00	72.78	

REGISTERED CROSS-SECTIONS

Lane	Updated	Side	Pos.	From Ch.	To Ch.	Type	Material	Width	Remark
Road No.: 0004.001	**Class: 1**	**Name: M 4 (km 10 - 25)**					**Chainage 0: Km 10.000**		
0	13.10.96	L	0	0	15.000	Shoulder	Gravel	2.00	
0	13.10.96	R	0	0	15.000	Shoulder	Gravel	2.00	
Road No.: 0024.001	**Class: 1**	**Name: A 24 (km 11 - 26)**					**Chainage 0: Km 11.000**		
0	13.10.96	L	0	0	11.000	Shoulder	Gravel	2.00	
0	13.10.96	L	0	11.000	15.000	Shoulder	Gravel	2.50	
0	13.10.96	R	0	0	11.000	Shoulder	Gravel	2.00	
0	13.10.96	R	0	11.000	15.000	Shoulder	Gravel	2.50	

REGISTERED DAMAGE SECTIONS

	Lane	Updated	From Ch.	To Ch.	Status	Service life of sect.	New Pav. not before
Road No.: 0004.001 Class: 1 Name: M 4 (km 10 - 25) Chainage 0: Km 10,000							
	0	13.10.96	0	2.800	PRESENT	0	0
	0	13.10.96	2.800	6.000	PRESENT	0	0
	0	13.10.96	6.000	9.300	PRESENT	0	0
	0	13.10.96	9.300	12.000	PRESENT	0	0
	0	13.10.96	12.000	14.000	PRESENT	0	0
	0	13.10.96	14.000	15.000	PRESENT	0	0
Road No.: 0024.001 Class: 1 Name: A 24 (km 11 - 26) Chainage 0: Km 11,000							
	0	13.10.96	0	3.000	PRESENT	0	0
	0	13.10.96	3.000	6.500	PRESENT	0	0
	0	13.10.96	6.500	9.000	PRESENT	0	0
	0	23.01.97	9.000	11.000	PRESENT	0	0
	0	23.01.97	11.000	12.250	PRESENT	0	0
	0	13.10.96	12.250	15.000	PRESENT	0	0

District 0001 : Number of sections 12

District 0001 : Total length 30.000 m

Total number of sections : 12

Total length : 30.000 m

ANNEX 3
TRAINING CERTIFICATES
RECIPIENT INSTITUTES

RoSy PMS

additional training

Training was carried out at :	*Armenian Road Directorate* *Highway Project, PIU*
The training was carried out on :	*11/8-1997, 12/8-1997 and 13/8-1997.*
The following personnel was trained:	*Hacob Petrossian and* *Karen Badalian*
The following subjects have been covered:	*What is PMS* *RoSy ADMIN, setup* *RoSy BASE, database* *Printouts from the database* *Models and parameters for calculation* *RoSy PLAN, calculation module* *Printouts from the calclation* *Optimizing/maintenance of models* *Calculation of VOC parameters* *Calculation of ESA*

Yerevan, 13/8-1997

Phonix Pavement Consultants

Customer

RoSy BMS

additional training

Training was carried out at :	*Armenian Road Directorate* *Highway Project, PIU*
The training was carried out on :	*11/8-1997, 12/8-1997 and 13/8-1997.*
The following personnel was trained:	*Karen Badalian and* *Hacob Petrossian*
The following subjects have been covered:	*What is PMS* *RoSy ADMIN, setup* *RoSy BASE, database* *Printouts from the database*

Yerevan, 13/8-1997

Kocks Consult GmbH

Customer

RoSy PMS

additional training

Training was carried out at :	Azeravtoyol,*Azerbaijan*
The training was carried out on :	30/7-*1997, 31/7-1997, 1/8-1997, and 4/8-1997.*
The following personnel was trained:	VALEHOV GIZRAN *from Azeravtoyol*
The following subjects have been covered:	*What is PMS* *RoSy ADMIN, setup* *RoSy BASE, database* *Printouts from the database* *Models and parameters for calculation* *RoSy PLAN, calculation module* *Printouts from the calclation* *Optimizing/maintenance of models* *Calculation of VOC parameters* *Calculation of ESA* *Operation of FWD incl. datacollection* *Phønix Design-program* *Reults from Phønix Design-program*

Baku, 4/8-1997

Phønix Pavement Consultants

Customer

RoSy BMS

additional training

Training was carried out at :	Azeravtoyol, *Azerbaijan*
The training was carried out on :	*30/7-1997, 31/7-1997, 1/8-1997, 4/8-1997 and 18/8-1997*
The following personnel was trained:	*Shakhvelodov Latif, Nurullayev Malik and Valehov Gijran from* *Azeravtoyol*
The following subjects have been covered:	*What is BMS* *RoSy ADMIN, setup* *RoSy BASE, database* *Printouts from the database*

Baku, 18/8-1997

Kocks Consult GmbH

Customer

RoSy PMS

additional training

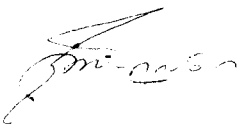
Training was carried out at :	*Sakzameoniereba, Georgia*
The training was carried out on :	*Sakzameniereba, Georgia*
The training was carried out on :	*6/8-1997, 7/8-1997, 8/8-1997, 9/8-1997 and 10/8-1997.*
The following personnel was trained:	*Victor Kopaliani from Sakzameoniereba*
The following subjects have been covered	*1. What is PMS* *2. RoSy ADMIN, setup* *3. RoSy BASE, database* *4. Printouts from the database* *5. Models and parameters for calculation* *6. RoSy PLAN, calculation module* *7. Printouts from the calculation* *8. Optimizing/maintenance of models* *9. Calculation of VOC parameters* *10. Calculation of ESA*

Note: The points 5-10 were discussed in broad outline, because the computer programm was out of order.

Our wishes: 1.We would like to receive the whole computer programme in Russian language; 2.To have the detailed instruction of how to use the programm(in Russian and English languages). 3. We also would like to have a demonstration of the whole system's functions, namely starting from giving in the datas and till getting the expected results.

Tbilisi, 10/8-1997

Jens Preben Pedersen
Phonix Pavement Consultants

Customer 

RoSy BMS

additional training

Training was carried out at:	*Sakzameoniereba,Georgia*
The training was carried out on:	*6/8-1997, 7/8-1997, 8/8-1997, 9/8-1997 and 10/8 1997*
The following personnel was trained:	*Victor Kopaliani and Ramin Dzneladze from Sakgzameznіereba*
The following subjects have been covered:	*What is BMS* *RoSy ADMIN, setup* *RoSy BASE, database* *Printouts from the database*

Tbilisi, 10/8-1997

Kocks Consult GmbH

Customer

RoSy BMS

Дополнительное обучение

Обучение было проведено в:	*Сакгзамецниереба, Грузия*
Обучение было проведено в период:	*6/8-1997, 7/8-1997, 8/8-1997,9/8-1997 и 10/8-1997*
В обучении приняли участие следующие сотрудники:	*Виктор Копалиани и Рамин Дзнеладзе из Сакгзамецниереба*
Были рассмотрены следующие вопросы:	*Что такое BMS* *RoSy ADMIN, устройство* *RoSy BASE, база данных* *Выпечатка из базы данных*

Тбилиси, 10/8-1997

Кокс консалт Гмбх

Заказчик

RoSy PMS

Дополнительное обучение

Обучение было проведено в:	*Сакгзамецниереба, Грузия*
Обучение было проведено в период:	*6/8-1997, 7/8-1997, 8/8-1997,9/8-1997 и 10/8-1997*
В обучении приняли участие следующие сотрудники:	*Виктор Копалиани из Сакгзамецниереба*
Были рассмотрены следующие вопросы:	*1. Что такое PMS* *2. RoSy ADMIN, устройство* *3. RoSy BASE, база данных* *4. Выпечатка из базы данных* *5. Модели и параметры для калькуляции* *6. RoSy PLAN, модуль калькуляции* *7. Выпечатка калькуляции* *8. Сохранение моделей* *9. Калькуляция параметров VOC* *10.Калькуляция ESA*

Примечание: Вопросы с 5го по 10ый пункт были рассмотрены на общем уровне из-за неисправности компютерной программы.

Наши пожелания: 1.Получить всю компютерную программу на русском языке; 2.Получить подробную инструкцию по пользованию программой на русском и английских языках; 3.Произвести демонстрационный показ работы всей системы, а именно начиная с внесения начальных данных и кончая конечным ожидаемым результатом.

Тбилиси, 10/8-1997

Иенс Пребен Педерсен
Консультанты по покрытиям (Феникс)

Заказчик

RoSy BMS

additional training

Training was carried out at :	*Kyrgyzdortransprojekt, Kyrgyzstan*
The training was carried out on :	*11/9 - 12/9 1997*
The following personnel was trained:	*Pronenko V.P., Didenko H.I., Darienko E.G. form Kyrgyzdortransprojekt*
The following subjects have been covered:	*What is BMS* *RoSy ADMIN, setup* *RoSy BASE, database* *Bridge Data input* *Bridge Inspection Data input* *Bridge Economy Model* *Printouts from the database*

Bishkek, 12/9-1997

Kocks Consult GmbH

Customer

10. Completion

Training was carried out at DESIGN INSTITUE, BISHKEK KYRGYZ REPUBLIC

Training period 20. AUG. → 23. AUG.

The following personnel participated:

Department	Position	Name
Computer Centre	Chief Specialist	Yampolskaya E M.
Computer Centre	Chief Eng.	Rokina I.
Road Department	Eng.	Ishenaliev R.
(Road Department	Chief Spec.	Masutenko A. N)
(Road Department	Chief Eng.	Mesheryakova T. N.)
Computer Centre	Comp. Operator	Makorova S.

RoSy PMS
Training Programme

The following subjects have been covered:

		Comments:
Part 1	What is PMS?	✓
Part 2	RoSy® ADMIN, setup	✓
Part 3	RoSy® BASE, database	✓
Part 4	Printouts from the database	✓
Part 5	Models and parameters for the calculation	✓
Part 6	RoSy® PLAN, calculation module	✓
Part 7	Printouts from the calculation	✓
Part 8	Updating existing data	✓
Part 9	Optimizing/maintenance of models, etc.	✓

B.SHAEM (date) 22-8 1997
Ishenaliev Rustam

Customer

KLAUS VERNER NIELSEN

Phønix Pavement Consultants

RoSy BMS

additional training

Training was carried out at :	*KazdorNII, Kazahkstan*
The training was carried out on :	*09/09 -10/09 1997*
The following personnel was trained:	*Pavlovskaya E.P., Medvedyeva T.V.* *Kurapova V.B., KazdorNII*
The following subjects have been covered:	*What is BMS* *RoSy ADMIN, setup* *RoSy BASE, database* *Bridgt Data input* *Bridge Inspection Data input* *Bridge Economy Model* *Printouts from the database*

Almaty, 10/09-1997

Kocks Consult GmbH

Customer

10. Completion

Training was carried out at KAZDORNII, ALMATY, KAZAKHSTAN

Training period 25-26-27/8 - 1997

The following personnel participated:

Department	Position	Name
Kazdornii	engineer	Pavlovskaya E.
Kazdornii	engineer	Soltseva V.
Kazdornii	engineer	Medvedeva T.

The following subjects have been covered:

		Comments:
Part 1	What is PMS?	✓
Part 2	RoSy® ADMIN, setup	✓
Part 3	RoSy® BASE, database	✓
Part 4	Printouts from the database	✓
Part 5	Models and parameters for the calculation	✓
Part 6	RoSy® PLAN, calculation module	✓
Part 7	Printouts from the calculation	✓
Part 8	Updating existing data	✓
Part 9	Optimizing/maintenance of models, etc.	✓

27/8 (date) 1997

Customer

Klaus Verner Nielsen
KLAUS VERNER NIELSEN
Phønix Pavement Consultants

RoSy BMS

additional training

Training was carried out at :	*Turkmenavtoyollari, Turkmenistan*
The training was carried out on :	*19/8 - 22/8 1997*
The following personnel was trained:	*Kerven Bairamov, Turkmenavtoyollari*
The following subjects have been covered:	*What is BMS* *RoSy ADMIN, setup* *RoSy BASE, database* *Bridgt Data input* *Bridge Inspection Data input* *Bridge Economy Model* *Printouts from the database*

Asgabat, 22/8-1997

Kocks Consult GmbH

Customer

10. Completion

Training was carried out at Concern Turkmenneftegazlari

Training period 8/9 - 10/9 - 1997

The following personnel participated:

Department	Position	Name
CONCERN TURKMENAVTO EDARA Pİ	Head Engineer	BAYRAMOV KERVENGELDİ

The following subjects have been covered:

		Comments:
Part 1	What is PMS? ✓	
Part 2	RoSy® ADMIN, setup ✓	
Part 3	RoSy® BASE, database ✓	
Part 4	Printouts from the database ✓	
Part 5	Models and parameters for the calculation ✓	
Part 6	RoSy® PLAN, calculation module ✓	
Part 7	Printouts from the calculation ✓	
Part 8	Updating existing data ✓	
Part 9	Optimizing/maintenance of models, etc. ✓	

10-9 (date) 1997

Customer

Phønix Pavement Consultants

RoSy BMS

additional training

Training was carried out at :	*Tadjikgiprotransstroy, Tadjikistan*
The training was carried out on :	*1/9 - 3/9 1997*
The following personnel was trained:	*Davlatbekov Komil, Yuldashev Yuri, Shirandjanov Zafar, Shakirov Rachim form Tadjikgiprotransstroy*
The following subjects have been covered:	*What is BMS* *RoSy ADMIN, setup* *RoSy BASE, database* *Bridge Data input* *Bridge Inspection Data input* *Bridge Economy Model* *Printouts from the database*

Dushanbe, 3/9-1997

Kocks Consult GmbH

Customer

10. Completion

Training was carried out at Tadjikgiprotransstroy

Training period 1/3 - 3/3 - 97

The following personnel participated:

Department	Position	Name	
BRIDGE DEPARTMENT	ENGINEER	DAULATBEKOV	KOMIL
TADJIKGIPROTRANSSTROY	CHEEF ENG.	FULDASHEV	YURY
TADJIK TECHNICAL UNIV.	TEACHER	SHIRANDJANOV	ZAFAR
TADJIKGIPROTRANSSTROY	TECHN. DEP. MANAGER	SHARIROV	RACHIM

The following subjects have been covered:

		Comments:
Part 1	What is PMS? ✓	
Part 2	RoSy® ADMIN, setup ✓	
Part 3	RoSy® BASE, database ✓	
Part 4	Printouts from the database ✓	
Part 5	Models and parameters for the calculation ✓	
Part 6	RoSy® PLAN, calculation module ✓	
Part 7	Printouts from the calculation ✓	
Part 8	Updating existing data ✓	
Part 9	Optimizing/maintenance of models, etc. ✓	

1/9 (date) 1997

Customer

Phønix Pavement Consultants

RoSy BMS

additional training

Training was carried out at :	*Uzavtoyol, Uzbekistan*
The training was carried out on :	*4/9 - 5/9 and 8/9 1997*
The following personnel was trained:	*Mirzaev T.L., Matveev E.D., Ahmedov B.R., Majidov D. A., Ismatov I. Z.,*
The following subjects have been covered:	*What is BMS* *RoSy ADMIN, setup* *RoSy BASE, database* *Bridge Data input* *Bridge Inspection Data input* *Bridge Economy Model* *Printouts from the database*

Tashkent, 8/9-1997

Kocks Consult GmbH

Customer

8.09.97г

10. Completion

Training was carried out at UZAVTOYOL, TASHKENT, UZBEKISTAN

Training period 14 AUG.–16 AUG, + 18 AUG. 1997

The following personnel participated:

Department	Position	Name
	manager of consultants	
UZAVTOYOL		KHudayberdiev Ziyadulla
–11–	TECHNIC	Ahmedov Bahtiyour
–11–	ingineer	Madgidov Davron
–11–	Deputy Derector	Tokhirjon MIRZAEV

The following subjects have been covered:

		Comments:
Part 1	What is PMS?	OK
Part 2	RoSy® ADMIN, setup	OK
Part 3	RoSy® BASE, database	OK
Part 4	Printouts from the database	OK
Part 5	Models and parameters for the calculation	OK
Part 6	RoSy® PLAN, calculation module	OK
Part 7	Printouts from the calculation	OK
Part 8	Updating existing data	OK
Part 9	Optimizing/maintenance of models, etc.	OK

TASHKENT (date) 18/8 1997

Customer

Phønix Pavement Consultants