

APPENDIX 3.2.4 HOME INTERVIEW SURVEY FORMS

ROAD DEVELOPMENT STUDY IN NORTHEASTERN REGION
HOME INTERVIEW QUESTIONNAIRE (SHEET 1)

GENERAL

Member No.	Age	Sex		Occupation										Regular Trip (from house to destination)										
				Earners					Student					Destination (Name of Ban, Amphoe, School, etc.)	Distance (km)	Purpose	Major Mode of Trans- portation	Reason for Selection of Mode	Using Mode after Road Improvement	Frequency /week /month /year	Cost per trip (baht)			
		Farm		Non- Farm	Fixed Salary	House- wife	Other	Univ.	High School	Primary School	Kinder- garten													
		Own	Rent																					
1																								
2																								
3																								
4																								
5																								
6																								
TOTAL																								

Date: _____
Study Route: _____
Village Name: _____
Interviewer: _____

Number of Person Trips to Amphoe Center

/week
 /month
 /year

Major Mode

VEHICLE OWNERSHIP

Vehicle Type Code	Model of Vehicle	Engine Size	Vehicle Purchase			Running Km. (km/month)	Fuel Cost (baht/month)	Other Running Costs (baht/month)
			Price (baht)	Purchase Year	New Second-hand (yr)			
		CC			n s ()			
		CC			n s ()			
		CC			n s ()			
		CC			n s ()			
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Note:

Purpose	Mode	Reason
1. To Farm	1. On Foot	1. Cheap
2. To Office	2. By Bicycle	2. Convenient
3. To School	3. By Tricycle W/ Engine	3. Comfortable
4. Business	4. By Tricycle W/O Engine	4. Cannot use other mode
5. Shopping	5. By Cart or Tractor	5. Not so far
6. Entertain	6. By Motorcycle	6. Other
7. To Hospital	7. By Light Bus	
8. Other	8. By Heavy Bus	
	9. By Pickup Truck	
	10. By Heavy Truck	
	11. By Passenger Car	
	12. E-Tan	
	13. Other	

HOUSEHOLD INCOME

ROAD DEVELOPMENT STUDY IN NORTHEASTERN REGION
HOME INTERVIEW QUESTIONNAIRE (SHEET 2)

1. WAGES AND SALARIES

(baht/month)

JOB	MEMBER No. ____	MEMBER No. ____	MEMBER No. ____	MEMBER No. ____	MEMBER No. ____	MEMBER No. ____	MEMBER No. ____	MEMBER No. ____
1. Pro. Admin., Tech. Workers								
2. Clerical, Sales & Service Workers								
3. Production & Construction Workers								
4. General Laborers								

Sub Total (baht/year)

Total

--

2. FARM INCOME

BAHT/YEAR

PLANTATION OR LIVESTOCK	SELLING QUANTITY	SELLING PLACE	SELLING INCOME
1. Rice (glutinous)			
2. Rice (non-glutinous)			
3. Cassava			
4. Maize			
5. Sugar cane			
6. Kenaf			
7.			
8.			
Total			

4. PROPERTY INCOME

ITEMS	BAHT per.....
1. Land Rent	
2. Other Rents & Royalties	
3. Interest & Dividends	
Total	

5. CURRENT TRANSFER

ITEMS	BAHT per.....
1. Assistance Payments	
2. Pension and Annuities	
3.	
Total	

6. OTHER MONEY RECEIPTS

ITEMS	BAHT per.....
1. Insurance	
2. Lottery Winnings	
3.	
Total	

FARMER ONLY

PLANTATION OR LIVE STOCK	PLANTED AREA (RAI)	VALUE FER-TILIZER USE (BAHT/YEAR)
1. Rice (glutinous)		
2. Rice (non-glutinous)		
3. Cassava		
4. Maize		
5. Sugar cane		
6. Kenaf		
7.		
8.		

Remarks

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3. NON-FARM INCOME

BAHT/YEAR

(SPECIFIED)	REVENUE	COST
1.		
2.		
3.		
4.		
Total		

ROAD DEVELOPMENT STUDY IN NORTHEASTERN REGION

HOME INTERVIEW QUESTIONNAIRE (SHEET 3)

HOUSEHOLD EXPENDITURE

ITEMS	PURCHASED	RECEIVED AS PART OF PAY	HOME PRODUCED	RECEIVED FREE	TOTAL
	BAHT/WEEK	PxQ/WEEK	PxQ/WEEK	PxQ/WEEK	BAHT/WEEK
1. FOOD & BEVERAGES					
1.1 GRAINS & CEREAL PRODUCTS					
1.2 MEAT & POULTRY					
1.3 FISH & SEAFOOD					
1.4 VEGETABLES					
1.5 PREPARED FOOD					
1.6 OTHERS (MILK, FRUITS, OIL, ETC.)					
SUBTOTAL					
2. TOBACCO & ALCOHOLIC BEVERAGES					
3. CLOTHING					
4. HOUSING					
4.1 RENTAL VALUE OF OWN HOME					
4.2 SHELTER, FUEL, LIGHT, ETC.					
SUBTOTAL					
5. MEDICAL CARE					
6. TRANSPORTATION AND COMMUNICATIONS					
6.1 LOCAL TRANSPORTATION					
6.2 TRAVEL OUT OF AREA					
6.3 VEHICLE OPERATION					

ITEMS	PURCHASED	RECEIVED AS PART OF PAY	HOME PRODUCED	RECEIVED FREE	TOTAL
	BAHT/WEEK	PxQ/WEEK	PxQ/WEEK	PxQ/WEEK	BAHT/WEEK
6.4 VEHICLE PURCHASE					
6.5 COMMUNICATIONS					
SUBTOTAL					
7. RECREATION & READING					
8. MISCELLANEOUS					
9. NON-CONSUMPTION EXPENDITURE					
9.1 DIRECT TAXES					
9.2 GIFTS					
9.3 LOTTERIES					
9.4 INTEREST ON DEBT					
SUBTOTAL					

10. EDUCATION (BAHT/YEAR)

MEMBER OF HOUSEHOLD	No.	No.	No.	No.	No.	No.	No.	No.
10.1 TUITION								
10.2 OTHER CHARGES								
10.3 BOOKS								
10.4 STATIONERY								
10.5 CLOTHING								

TOTAL NON-MONEY INCOME					
TOTAL MONEY EXPENDITURE					

ROAD DEVELOPMENT STUDY IN NORTHEASTERN REGION

EDUCATION SURVEY (SHEET-1)

PRIMARY SCHOOL: Name: _____

SCHOOL LOCATION: Changwat: _____

Amphoe: _____ Tambon: _____

Ban: _____ Study Route: _____

NUMBER OF STUDENTS: _____

LIST OF TEACHERS:

NO.	AGE	SEX		QUALIFICATION OF TEACHERS						REMARKS
		M.	F.	UNIVER- SITY	COLLEGE	HIGH SCHOOL	PRIMARY SCHOOL	NONE	OTHER	
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										
13.										
14.										
15.										

ROAD DEVELOPMENT STUDY IN NORTHEASTERN REGION

MEDICAL CARE SURVEY

NO.	NAME	OWNED		CLASSI- FICATION	ADDRESS			NUMBER OF DOCTORS		NUMBER OF NURSES		NUMBER OF BEDS
		Pri- vate	Govt		CHANGWAT	AMPHOE	TAMBON	Perma- nent	Tempo- rary	Perma- nent	Tempo- rary	
1.												
2.												
3.												
4.												
5.												

Note: 1. Classification

- G-1 = Changwat level hospital
- G-2 = Amphoe level hospital
- G-3 = Public health service center

APPENDIX 3.3.1 FINANCIAL FARMGATE PRICE BY CHANGWAT

(1983)

(UNIT : BAHT / TON)

ZONE CODE	CHANGWAT NAME	PADDY	UPLAND CROPS								
			MAIZE	SORGHUM	BEANS	GROUND NUTS	CASSAVA	KENAF	SUGAR CANE	COTTON	CASTOR BEANS
1	02 UDON THANI	3,130	2,170	3,250	5,000	6,940	850	4,000	432	9,470	-
1	04 SAKHON NAKHON	2,930	2,170	-	5,000	9,310	750	3,860	433	11,500	-
3	06 KHON KAEN	2,850	2,050	-	6,580	6,110	900	4,310	453	-	-
3	09 ROI ET	2,780	1,500	-	6,000	10,000	730	4,100	455	-	-
2	10 YASOTHON	3,090	-	-	5,500	12,060	950	4,050	413	-	-
2	11 UBON RATCHATHANI	3,110	2,240	-	5,000	7,250	710	4,400	430	8,950	-
5	12 CHAIYAPHUM	2,860	2,090	2,520	7,890	7,000	830	4,400	-	9,800	-
5	13 NAKHON RATCHASIMA	2,830	2,520	2,220	5,060	7,770	790	4,730	-	10,650	5,250
4	14 BURI RAM	3,020	2,600	2,300	7,500	10,000	620	4,070	353	-	-
4	15 SURIN	2,810	2,550	-	6,750	9,750	680	4,550	-	-	-
4	16 SI SA KET	2,810	2,500	2,800	6,000	7,040	950	4,340	-	-	-

SOURCE : OFFICE OF AGRICULTURAL ECONOMICS, MINISTRY OF AGRICULTURE AND COOPERATIVES (MAC), FIELD SURVEY DATA.

APPENDIX 3.3.2 ECONOMIC FARMGATE PRICE BY ROUTE

(1983)

(UNIT : BAHT / TON)

ROUTE NO.	PADDY	UPLAND CROPS								
		MAIZE	SORGHUM	BEANS	GROUND NUTS	CASSAVA	KENAF	SUGAR CANE	COTTON	CASTOR BEANS
IM- 1	3,681	2,596	2,287	5,296	8,003	821	4,830	-	10,970	5,408
IM- 4	3,705	2,112	-	-	-	824	-	-	-	-
IM- 5	3,705	-	-	-	-	-	-	489	-	-
IM- 7	4,069	2,235	-	5,150	7,148	876	4,120	467	-	-
IM- 8	4,069	-	-	-	-	876	4,120	467	-	-
IM- 9	4,069	-	-	5,150	7,148	876	4,120	467	-	-
IM-12	3,809	2,235	-	5,150	-	773	3,976	468	-	-
IM-19	3,642	1,545	-	6,180	10,754	786	4,217	-	-	-
IM-24	4,043	2,307	-	5,150	-	731	4,532	-	-	-
IM-25	3,994	-	-	-	-	-	4,172	-	-	-
IM-26	3,653	-	-	-	-	-	4,470	-	-	-
IM-27	3,653	2,627	-	6,953	-	-	4,687	-	-	-
IM-29	3,908	-	-	-	-	-	-	-	-	-
IM-31	3,926	2,678	-	7,725	10,300	639	4,192	381	-	-
IM-33	3,679	2,596	2,287	5,212	8,003	814	4,872	-	10,970	5,408

APPENDIX 3.3.3 ECONOMIC AND FINANCIAL PRODUCTION COST BY CHANGWAT

(1983)

(UNIT : BAHT / TON)

ZONE CODE	CHANGWAT	PADDY			MAIZE			SORGHUM			BEANS			GROUNDNUTS			
		F.C.		E.C.	F.C.		E.C.	F.C.		E.C.	F.C.		E.C.	F.C.		E.C.	
		VAR.	FIXED		VAR.	FIXED		VAR.	FIXED		VAR.	FIXED		VAR.	FIXED		
1	02	UDON THANI	729 (17)	157	704	490 (11)	124	479	-	-	-	472 (36)	125	438	1007 (28)	106	951
1	04	SAKHON NAKHON	725 (17)	156	700	490 (11)	124	479	-	-	-	472 (36)	125	438	1007 (28)	106	951
3	06	KHON KAEN	719 (13)	140	700	638 (11)	106	624	-	-	-	479 (35)	138	445	1074 (27)	129	1016
3	09	ROI ET	719 (13)	141	700	638 (11)	106	624	-	-	-	468 (36)	138	434	1074 (27)	129	1016
2	10	YASOTHON	683 (15)	102	663	611 (9)	116	600	-	-	-	-	-	-	941 (31)	102	883
2	11	UBON RATCHATHANI	681 (15)	102	661	611 (9)	116	600	-	-	-	472 (36)	138	438	941 (31)	102	883
5	12	CHAIYAPHUM	728 (14)	111	708	594 (10)	123	582	328 (13)	101	319	536 (23)	142	511	1060 (26)	119	1005
5	13	NAKHON RATCHASIMA	733 (14)	112	712	594 (10)	123	582	328 (13)	101	319	540 (23)	143	515	1060 (26)	119	1005
4	14	BURI RAM	726 (15)	150	704	528 (11)	131	516	-	-	-	525 (35)	151	488	1073 (25)	128	1019
4	15	SURIN	735 (15)	148	713	528 (11)	131	516	-	-	-	525 (35)	151	488	1073 (28)	128	1013
4	16	SI SA KET	716 (15)	152	695	528 (11)	131	516	-	-	-	525 (35)	151	488	1073 (28)	128	1013

NOTE

F.C. : FINANCIAL COST
 VAR. : VARIABLE COST
 (##) : PERCENTAGE OF MATERIAL AND EQUIPMENT COST TO VARIABLE COST

E.C. : ECONOMIC COST
 FIXED : FIXED COST

SOURCE : OFFICE OF AGRICULTURAL ECONOMICS, MINISTRY OF AGRICULTURE AND COOPERATIVES (MAC).

ECONOMIC AND FINANCIAL PRODUCTION COST BY CHANGWAT

(1983)

(UNIT : BAHT / TON)

ZONE CODE	CHANGWAT	CASSAVA			KENAF			SUGARCANE			COTTON			CASTOR BEANS		
		F.C.		E.C.	F.C.		E.C.	F.C.		E.C.	F.C.		E.C.	F.C.		E.C.
		VAR.	FIXED		VAR.	FIXED		VAR.	FIXED		VAR.	FIXED		VAR.	FIXED	
1	02 UDON THANI	808 (20)	117	776	824 (13)	90	803	2171 (49)	182	1958	-	-	-	-	-	-
1	04 SAKHON NAKHON	808 (20)	117	776	824 (13)	90	803	2171 (49)	182	1958	-	-	-	-	-	-
3	06 KHON KAEN	809 (21)	117	775	642 (14)	107	624	2142 (44)	195	1954	-	-	-	-	-	-
3	09 ROI ET	809 (21)	117	775	642 (14)	107	624	2142 (44)	195	1954	-	-	-	-	-	-
2	10 YASOTHON	872 (20)	123	837	832 (13)	110	810	-	-	-	-	-	-	-	-	-
2	11 UBON RATCHATHANI	872 (20)	123	837	832 (13)	110	810	-	-	-	-	-	-	-	-	-
5	12 CHAIYAPHUM	903 (19)	108	869	708 (13)	98	690	-	-	-	1957 (45)	119	1781	-	-	-
5	13 NAKHON RATCHASIMA	903 (19)	108	869	708 (13)	98	690	-	-	-	1957 (45)	119	1781	497 (34)	61	463
4	14 BURI RAM	832 (23)	119	794	813 (14)	108	790	2351 (44)	207	2144	-	-	-	-	-	-
4	15 SURIN	832 (23)	119	794	813 (14)	108	790	2351 (44)	207	2144	-	-	-	-	-	-
4	16 SI SA KET	832 (23)	119	794	813 (14)	108	790	2351 (44)	207	2144	-	-	-	-	-	-

NOTE

F.C. : FINANCIAL COST
 VAR. : VARIABLE COST
 (##) : PERCENTAGE OF MATERIAL AND EQUIPMENT COST TO VARIABLE COST

E.C. : ECONOMIC COST
 FIXED : FIXED COST

SOURCE : OFFICE OF AGRICULTURAL ECONOMICS, MINISTRY OF AGRICULTURE AND COOPERATIVES (MAC).

APPENDIX 3.4.1 INDICES FOR EACH COMPONENT OF VOC ON DIFFERENT CLASSES OF ROADS AND DIFFERENT SPEEDS

INDICES : FUEL (DIFFERENT SPEED & ROAD CLASS)

(UNIT : % TO BASIC VALUE)

Table with columns for VEHICLE TYPE, ROAD CLASS, and SPEED (KPH) from 10 to 88. Rows include categories M/C, P/C, L/B, M/B, H/B, P/T, 4/T, 6/T, and 10/T.

[1] PAVED (=1), LATERITE GOOD (=2), FAIR (=3), POOR (=4), EARTH (=5) [2] "***" = 100% (CORRESPONDS TO BASIC VALUE)

INDICES : OIL (DIFFERENT SPEED & ROAD CLASS)

(UNIT : % TO BASIC VALUE)

Table with columns for VEHICLE TYPE, ROAD CLASS, and SPEED (KPH) from 10 to 88. Rows include categories M/C, P/C, L/B, M/B, H/B, P/T, 4/T, 6/T, and 10/T.

[1] PAVED (=1), LATERITE GOOD (=2), FAIR (=3), POOR (=4), EARTH (=5) [2] "***" = 100% (CORRESPONDS TO BASIC VALUE)

INDICES : TIRE AND TUBE (DIFFERENT SPEED & ROAD CLASS)

(UNIT : % TO BASIC VALUE)

Table with columns for VEHICLE TYPE, ROAD CLASS, and SPEED (KPH) from 10 to 88. Rows include categories M/C, P/C, L/B, M/B, H/B, P/T, 4/T, 6/T, and 10/T.

[1] PAVED (=1), LATERITE GOOD (=2), FAIR (=3), POOR (=4), EARTH (=5) [2] "***" = 100% (CORRESPONDS TO BASIC VALUE)

INDICES : CREW (DIFFERENT SPEED & ROAD CLASS)

(UNIT : % TO BASIC VALUE)

VEHICLE TYPE	ROAD CLASS	SPEED (KPH)										
		10	16	24	32	40	48	56	64	72	80	88
M/C	1	560	350	233	175	140	117	***	88	78	70	64
	2	560	350	233	175	140	117	100	88	78	70	64
	3	560	350	233	175	140	117	100	88	78	70	64
	4	560	350	233	175	140	117	100	88	78	70	64
	5	560	350	233	175	140	117	100	88	78	70	64
P/C	1	560	350	233	175	140	117	***	88	78	70	64
	2	560	350	233	175	140	117	100	88	78	70	64
	3	560	350	233	175	140	117	100	88	78	70	64
	4	560	350	233	175	140	117	100	88	78	70	64
	5	560	350	233	175	140	117	100	88	78	70	64
L/B	1	560	350	233	175	140	117	***	88	78	70	64
	2	560	350	233	175	140	117	100	88	78	70	64
	3	560	350	233	175	140	117	100	88	78	70	64
	4	560	350	233	175	140	117	100	88	78	70	64
	5	560	350	233	175	140	117	100	88	78	70	64
M/B	1	560	350	233	175	140	117	***	88	78	70	64
	2	560	350	233	175	140	117	100	88	78	70	64
	3	560	350	233	175	140	117	100	88	78	70	64
	4	560	350	233	175	140	117	100	88	78	70	64
	5	560	350	233	175	140	117	100	88	78	70	64
H/B	1	560	350	233	175	140	117	***	88	78	70	64
	2	560	350	233	175	140	117	100	88	78	70	64
	3	560	350	233	175	140	117	100	88	78	70	64
	4	560	350	233	175	140	117	100	88	78	70	64
	5	560	350	233	175	140	117	100	88	78	70	64
P/T	1	560	350	233	175	140	117	***	88	78	70	64
	2	560	350	233	175	140	117	100	88	78	70	64
	3	560	350	233	175	140	117	100	88	78	70	64
	4	560	350	233	175	140	117	100	88	78	70	64
	5	560	350	233	175	140	117	100	88	78	70	64
4/T	1	560	350	233	175	140	117	***	88	78	70	64
	2	560	350	233	175	140	117	100	88	78	70	64
	3	560	350	233	175	140	117	100	88	78	70	64
	4	560	350	233	175	140	117	100	88	78	70	64
	5	560	350	233	175	140	117	100	88	78	70	64
6/T	1	560	350	233	175	140	117	***	88	78	70	64
	2	560	350	233	175	140	117	100	88	78	70	64
	3	560	350	233	175	140	117	100	88	78	70	64
	4	560	350	233	175	140	117	100	88	78	70	64
	5	560	350	233	175	140	117	100	88	78	70	64
10/T	1	560	350	233	175	140	117	***	88	78	70	64
	2	560	350	233	175	140	117	100	88	78	70	64
	3	560	350	233	175	140	117	100	88	78	70	64
	4	560	350	233	175	140	117	100	88	78	70	64
	5	560	350	233	175	140	117	100	88	78	70	64

[1] PAVED (=1), LATERITE GOOD (=2), FAIR (=3), POOR (=4), EARTH (=5)
 [2] "****" = 100% (CORRESPONDS TO BASIC VALUE)

REDUCTION FOR DOWNHILL GRADE (% OF LEVEL TANGENT ROAD)

MOTORCYCLE, PASSENGER CAR, LIGHT BUS & PICKUP TRUCK

Table with 8 columns: INITIAL SPEED (KPH) and GRADE (%). Rows include grades 1-7 and initial speeds 16, 24, 32, 40, 48, 56, 64, 72, 80, 88.

MEDIUM BUS & 4-WHEEL TRUCK

Table with 8 columns: INITIAL SPEED (KPH) and GRADE (%). Rows include grades 1-7 and initial speeds 16, 24, 32, 40, 48, 56, 64, 72, 80, 88.

REDUCTION FOR DOWNHILL GRADE (% OF LEVEL TANGENT ROAD)

HEAVY BUS & 6-WHEEL TRUCK

Table with 8 columns: INITIAL SPEED (KPH) and GRADE (%). Rows include grades 1-7 and initial speeds 16, 24, 32, 40, 48, 56, 64, 72, 80, 88.

10-WHEEL TRUCK

Table with 8 columns: INITIAL SPEED (KPH) and GRADE (%). Rows include grades 1-7 and initial speeds 16, 24, 32, 40, 48, 56, 64, 72, 80, 88.

ADDITIONAL COST PER SPEED CHANGE CYCLE (% OF LEVEL TANGENT ROAD)

MOTORCYCLE, PASSENGER CAR, LIGHT BUS & PICKUP TRUCK

Table with 10 columns: INITIAL SPEED (KPH) and REDUCED SPEED (KPH). Rows include reduced speeds 16, 24, 32, 40, 48, 56, 64, 72 and initial speeds 16, 24, 32, 40, 48, 56, 64, 72, 80, 88.

MEDIUM BUS & 4-WHEEL TRUCK

Table with 10 columns: INITIAL SPEED (KPH) and REDUCED SPEED (KPH). Rows include reduced speeds 16, 24, 32, 40, 48, 56, 64, 72 and initial speeds 16, 24, 32, 40, 48, 56, 64, 72, 80, 88.

ADDITIONAL COST PER SPEED CHANGE CYCLE (% OF LEVEL TANGENT ROAD)

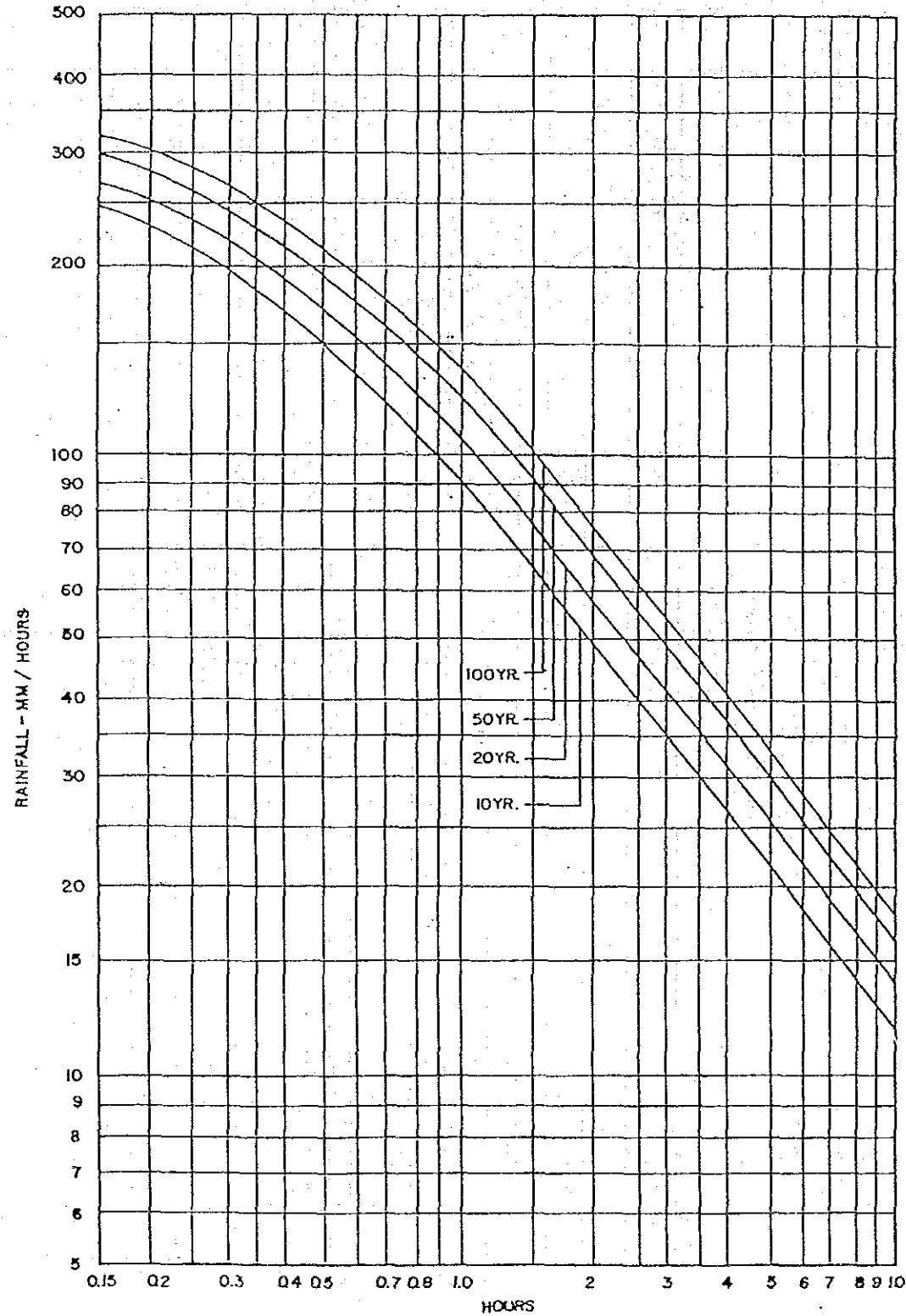
HEAVY BUS & 6-WHEEL TRUCK

Table with 10 columns: INITIAL SPEED (KPH) and REDUCED SPEED (KPH). Rows include reduced speeds 16, 24, 32, 40, 48, 56, 64, 72 and initial speeds 16, 24, 32, 40, 48, 56, 64, 72, 80, 88.

10-WHEEL TRUCK

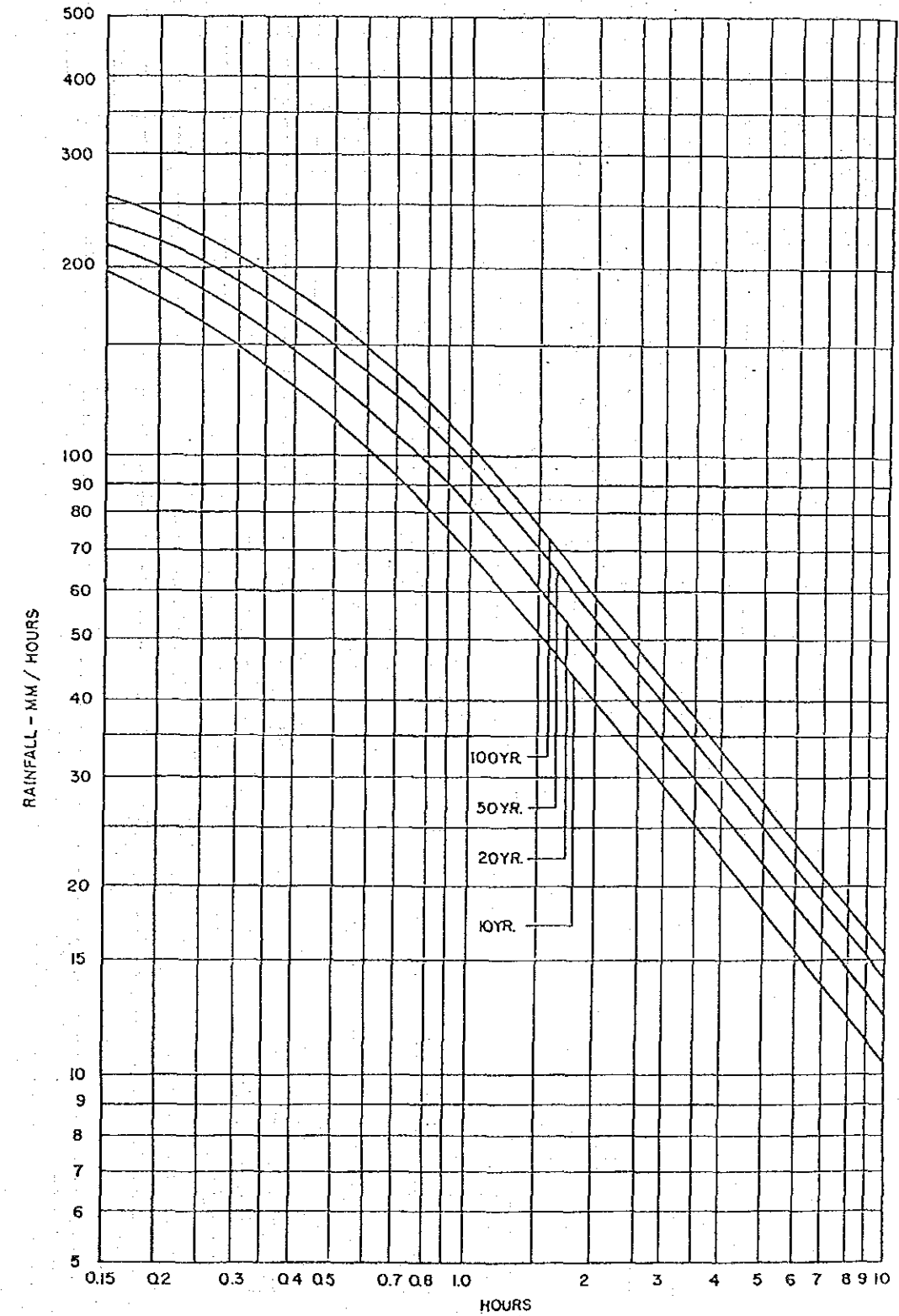
Table with 10 columns: INITIAL SPEED (KPH) and REDUCED SPEED (KPH). Rows include reduced speeds 16, 24, 32, 40, 48, 56, 64, 72 and initial speeds 16, 24, 32, 40, 48, 56, 64, 72, 80, 88.

NAKHON RATCHASIMA STATION
 RAINFALL INTENSITY-DURATION-FREQUENCY CURVES



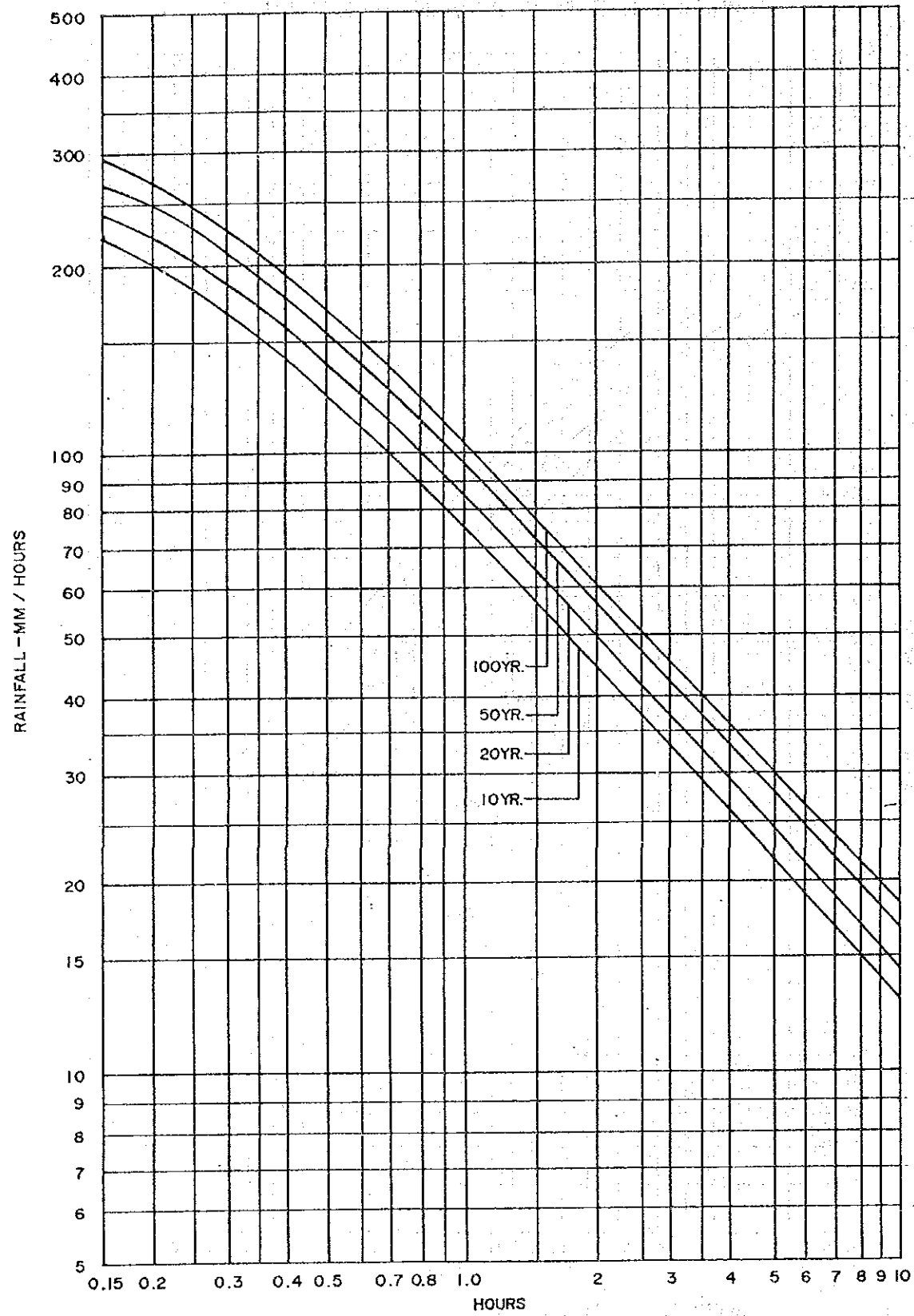
SOURCE : STUDY TEAM

KHON KAEN STATION
 RAINFALL INTENSITY-DURATION-FREQUENCY CURVES



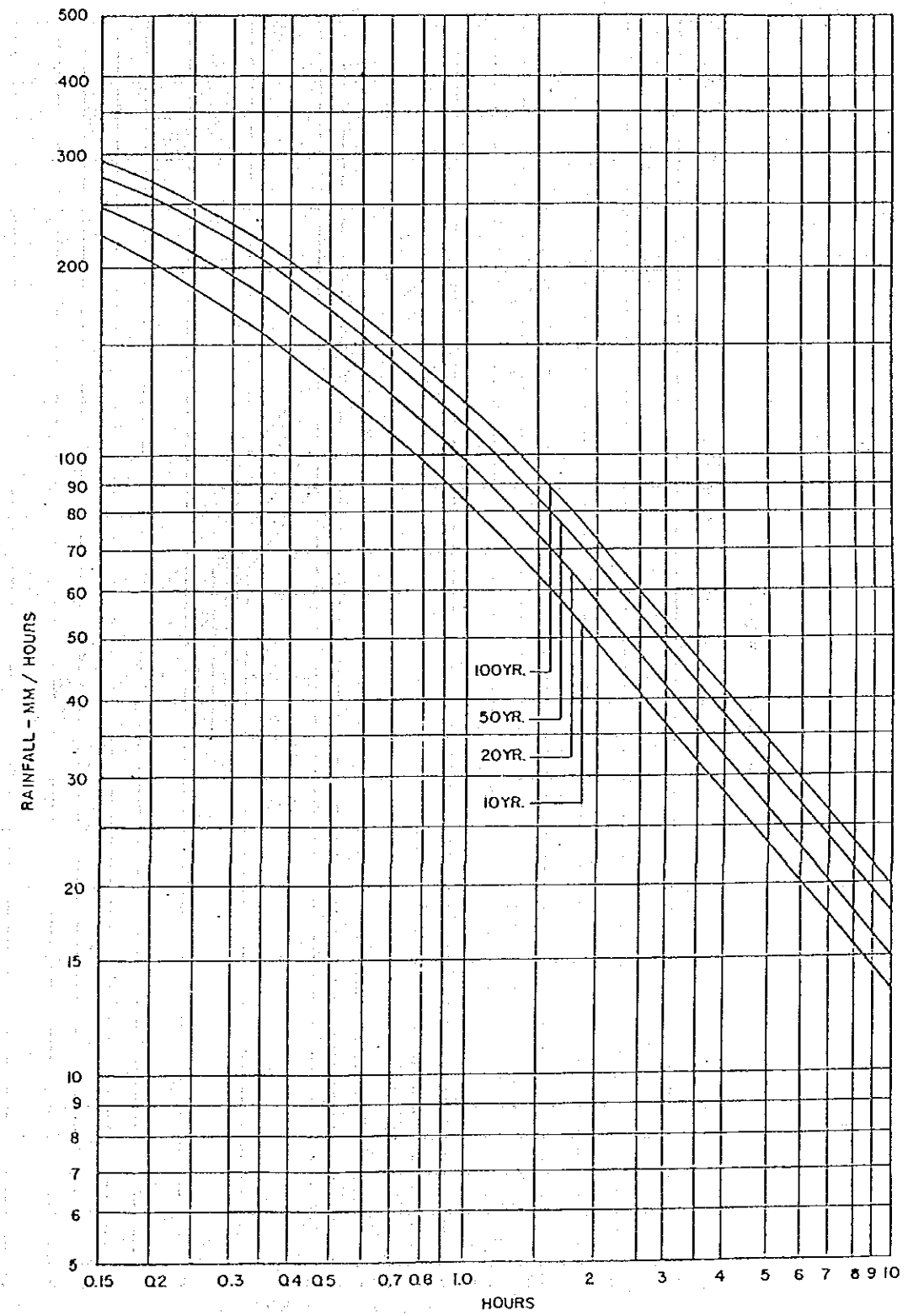
SOURCE : STUDY TEAM

UDON THANI STATION
RAINFALL INTENSITY--DURATION--FREQUENCY CURVES



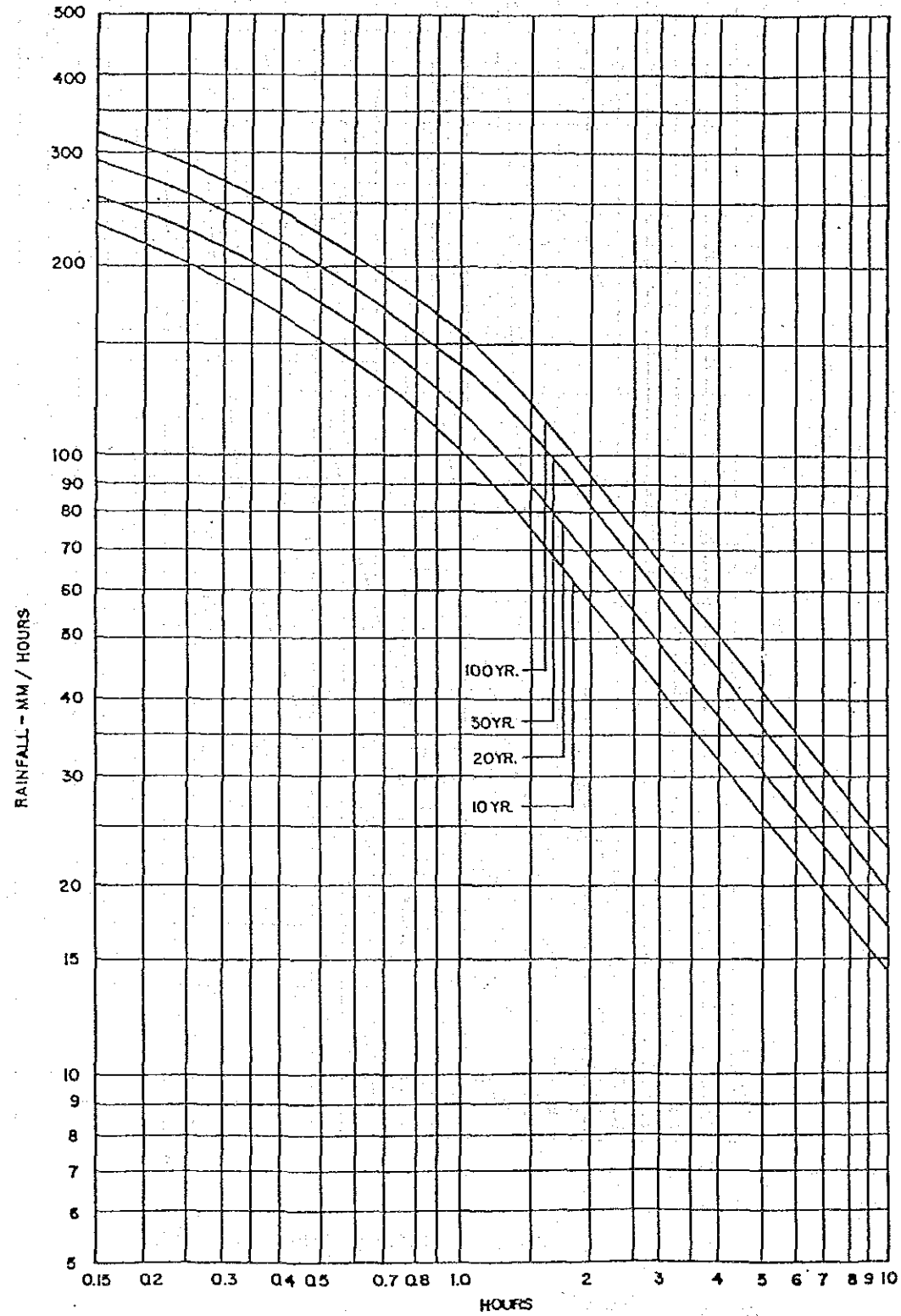
SOURCE : STUDY TEAM

ROI ET STATION
RAINFALL INTENSITY--DURATION--FREQUENCY CURVES



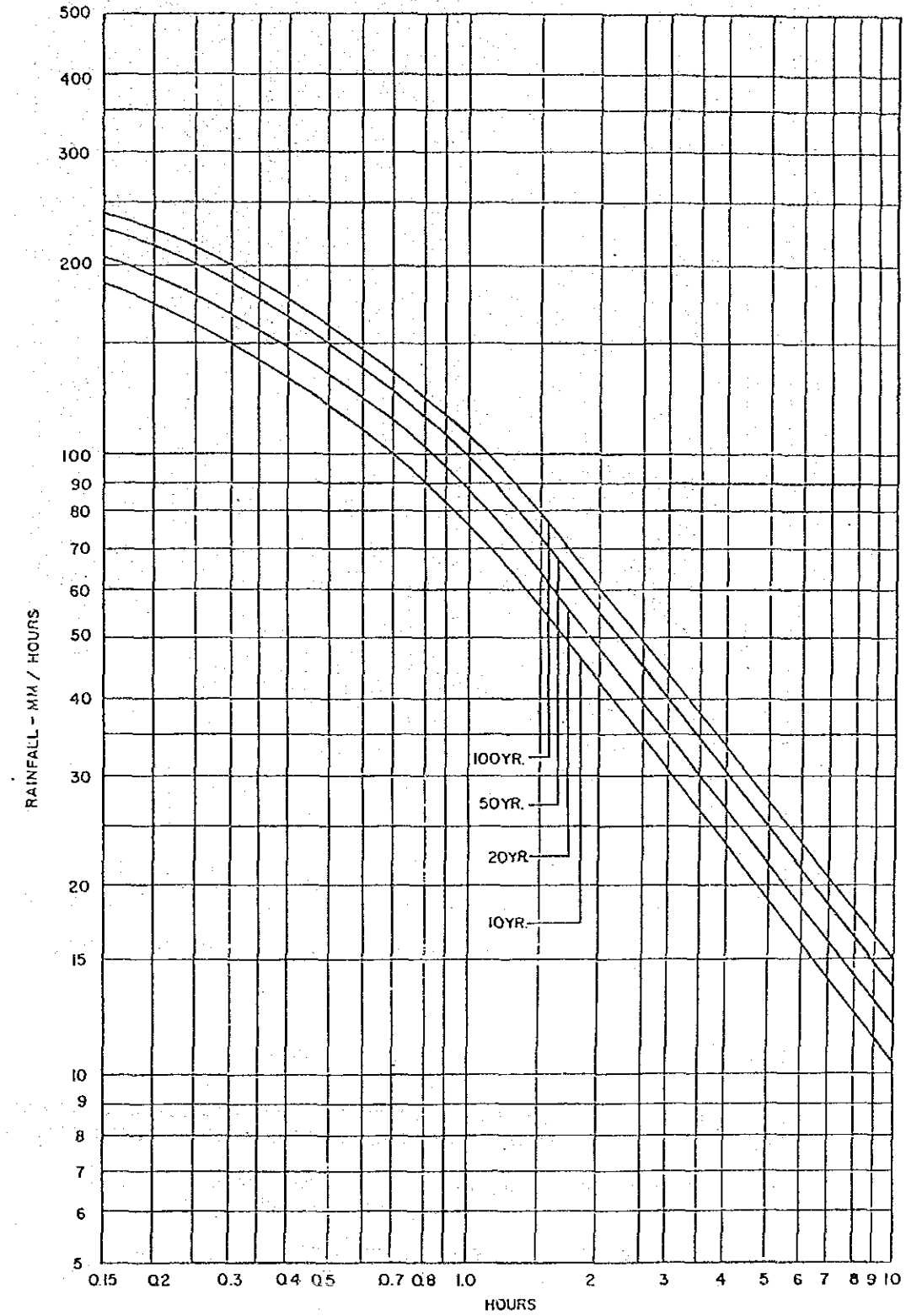
SOURCE : STUDY TEAM

UBON RATCHATHANI STATION
RAINFALL INTENSITY-DURATION-FREQUENCY CURVES



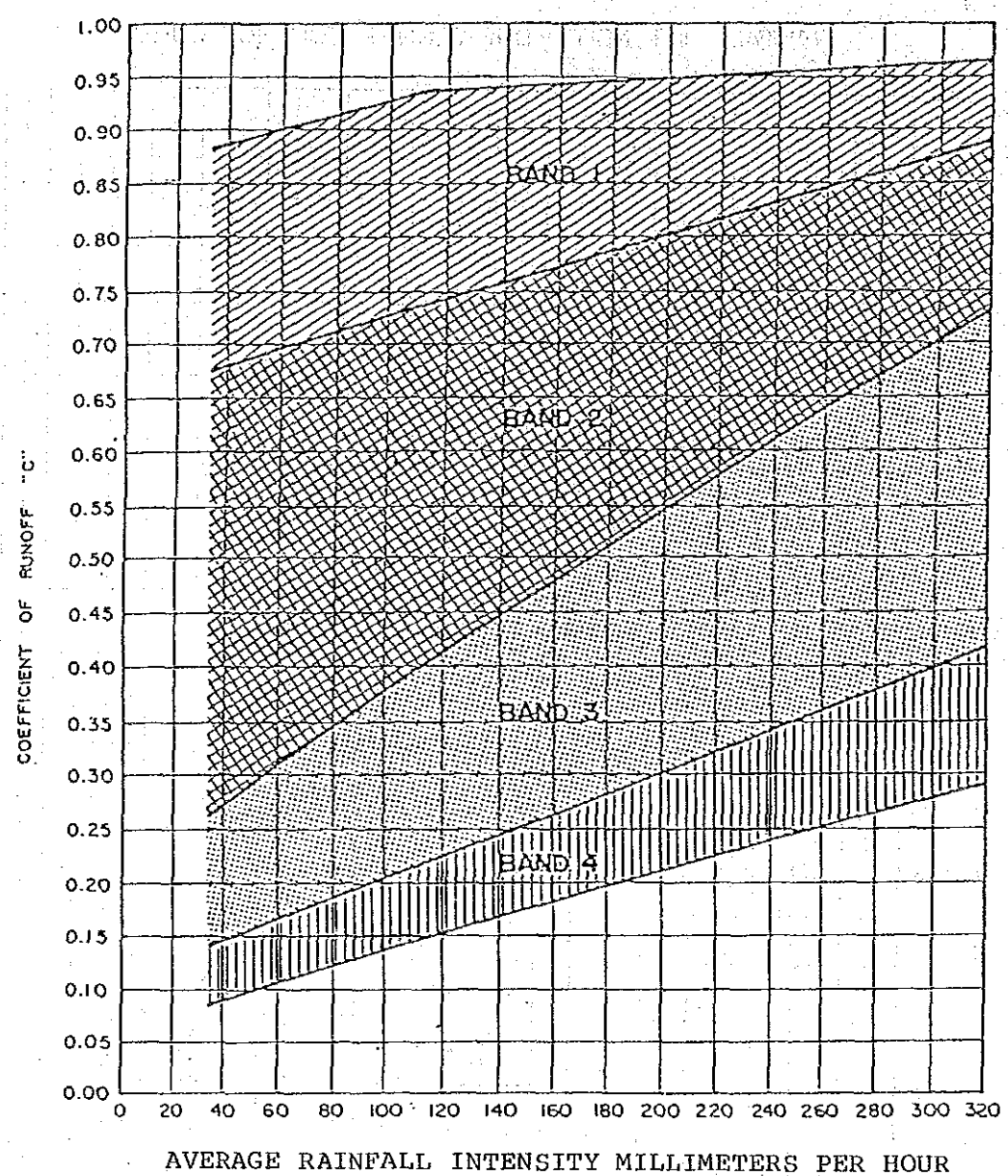
SOURCE : STUDY TEAM

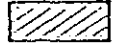



SURIN STATION
RAINFALL INTENSITY-DURATION-FREQUENCY CURVES



SOURCE : STUDY TEAM

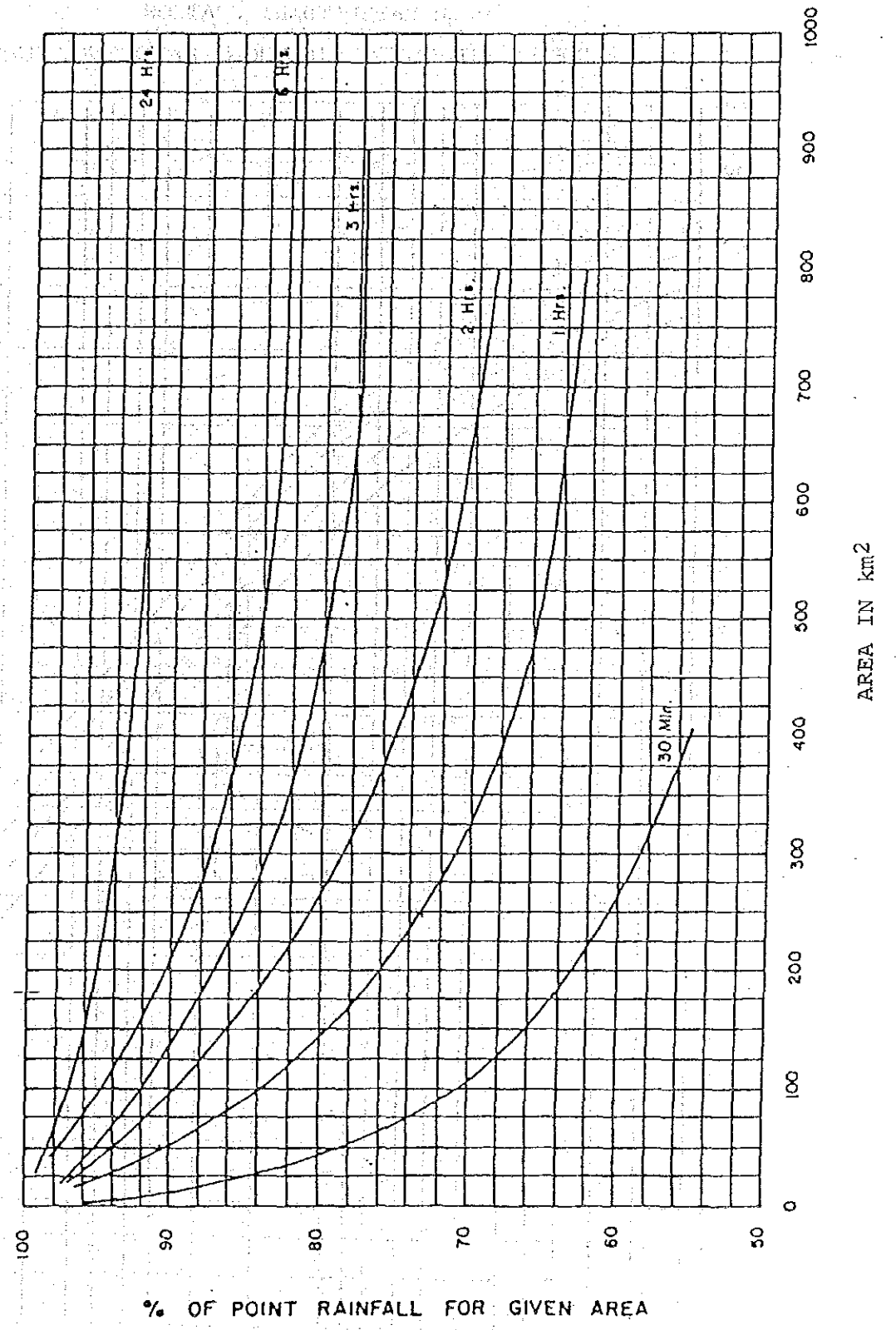
APPENDIX 3.5.2 COEFFICIENT OF RUNOFF



-  BAND 1 STEEP, BARREN, IMPERVIOUS SURFACES
-  BAND 2 ROLLING BARREN IN UPPER BAND VALUES, FLAT BARREN IN LOWER PART OF BAND STEEP FORESTED & STEEP GRASS MEADOWS
-  BAND 3 TIMBER LANDS OF MOODERATE TO STEEP SLOPES, MOUNTAINOUS, FARMING
-  BAND 4 FLAT PERVIOUS SURFACES, FLAT FARMLANDS WOODED AREAS AND MEADOWS

SOURCE : STUDY TEAM

APPENDIX 3.5.3 RAINFALL REDUCTION FACTOR



SOURCE : U.S.W.B.

APPENDIX 3.5.6 INFILTRATION COVER FACTORS

APPENDIX 3.5.4 UNIT HYDROGRAPH PEAK DISCHARGE COEFFICIENTS

Catchment Topography	Peak Discharge Coefficient K_p
Foothills and gently undulating slopes with forest or grass cover	28 - 30
Steep forested terrain in the headwaters; foothills and plain with a cover of forest or grass in the lower reaches	30 - 32
Steep forested slopes of high hills and low mountains	32 - 34

APPENDIX 3.5.5 COVER FACTORS AND INFILTRATION CAPACITY FOR PERMANENT FOREST AND GRASS

Cover Factor	Type	ϕ (mm/hr)		
		Clays	Clay Loams	Sandy Loams
1.0 - 2.0	Poor	2 - 9	4 - 13	5 - 20
2.0 - 4.0	Medium	5 - 17	8 - 27	13 - 45
4.0 - 8.0	Good	10 - 35	15 - 55	25 - 90

Vegetation	Condition	Cover Factor
Forest	Good - dense canopy, thick undergrowth, plant litter and humus more than 25 mm in thickness	4.0 - 8.0
	Medium - thin forest, sparse undergrowth of shrubs and grasses, litter and humus 5-25 mm thick, slight soil erosion	2.0 - 4.0
	Poor - isolated clumps of trees and bamboo, little grass between clumps, humus less than 5 mm thick, area eroded or overgrazed	1.0 - 2.0
Grasses (including rice)	Good - dense vegetal cover of high quality grass, area in grass for several years, not overgrazed, inundated rice at all stages of growth	4.0 - 8.0
	Medium - vegetal density 30-80% that of good areas, area in grass at least 2 years, not overgrazed	2.0 - 4.0
	Poor - density of vegetation less than 30% that of good areas, sparse growth of poor quality grass, area overgrazed	1.0 - 2.0
Close Growing Crops (small grains)	Good - high plant density, soil fertility at a high level	2.5 - 3.0
	Medium - density and fertility 30-80% that of good areas	1.5 - 2.0
	Poor - sparse cover, density and fertility less than 30% that of good areas	1.0 - 1.5
Row Crops	Good - flourishing vegetation, high soil fertility, land in best rotation, good farming practices followed	1.3 - 1.5
	Medium - vegetation good, fertility 30-80% that of good areas, land in fair rotation, conservative farming practices followed	1.1 - 1.3
	Poor - vegetation poor, fertility less than 30% that of good areas, row crops grown continuously, poor farming practices followed	1.0 - 1.1

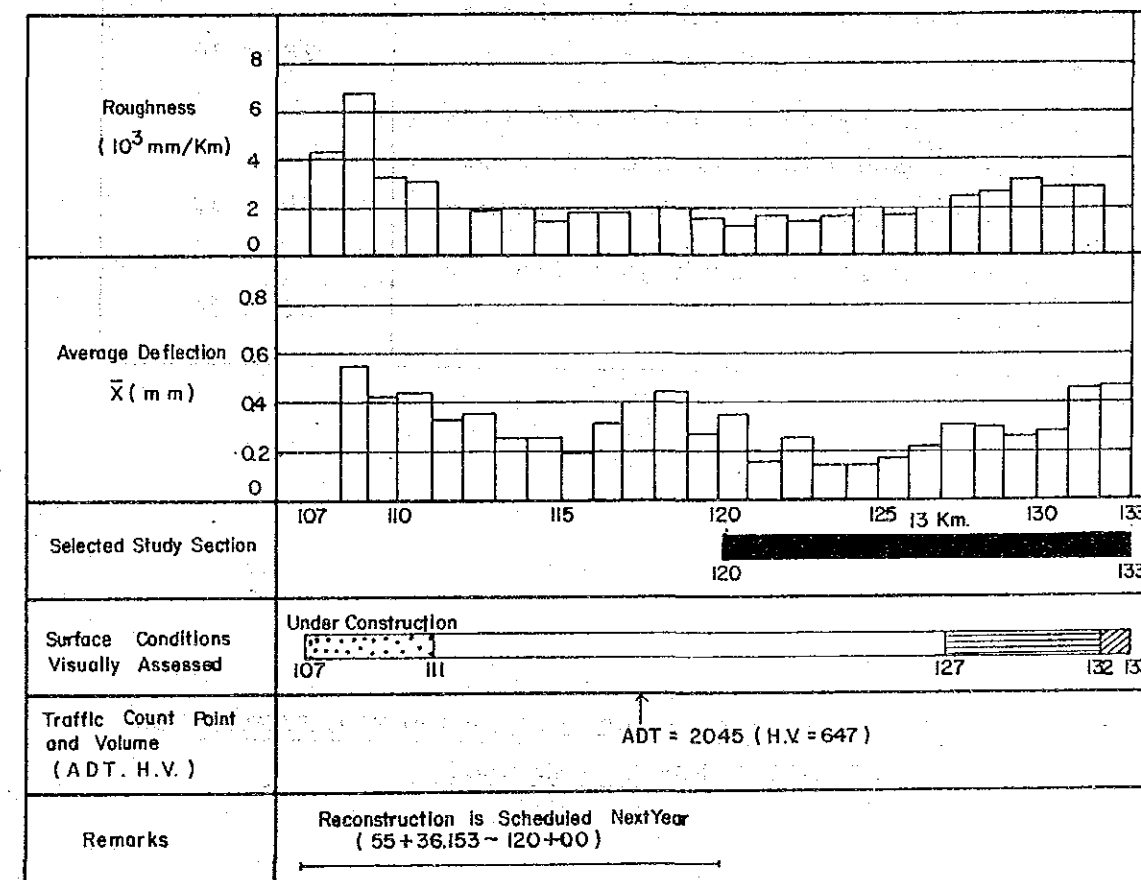
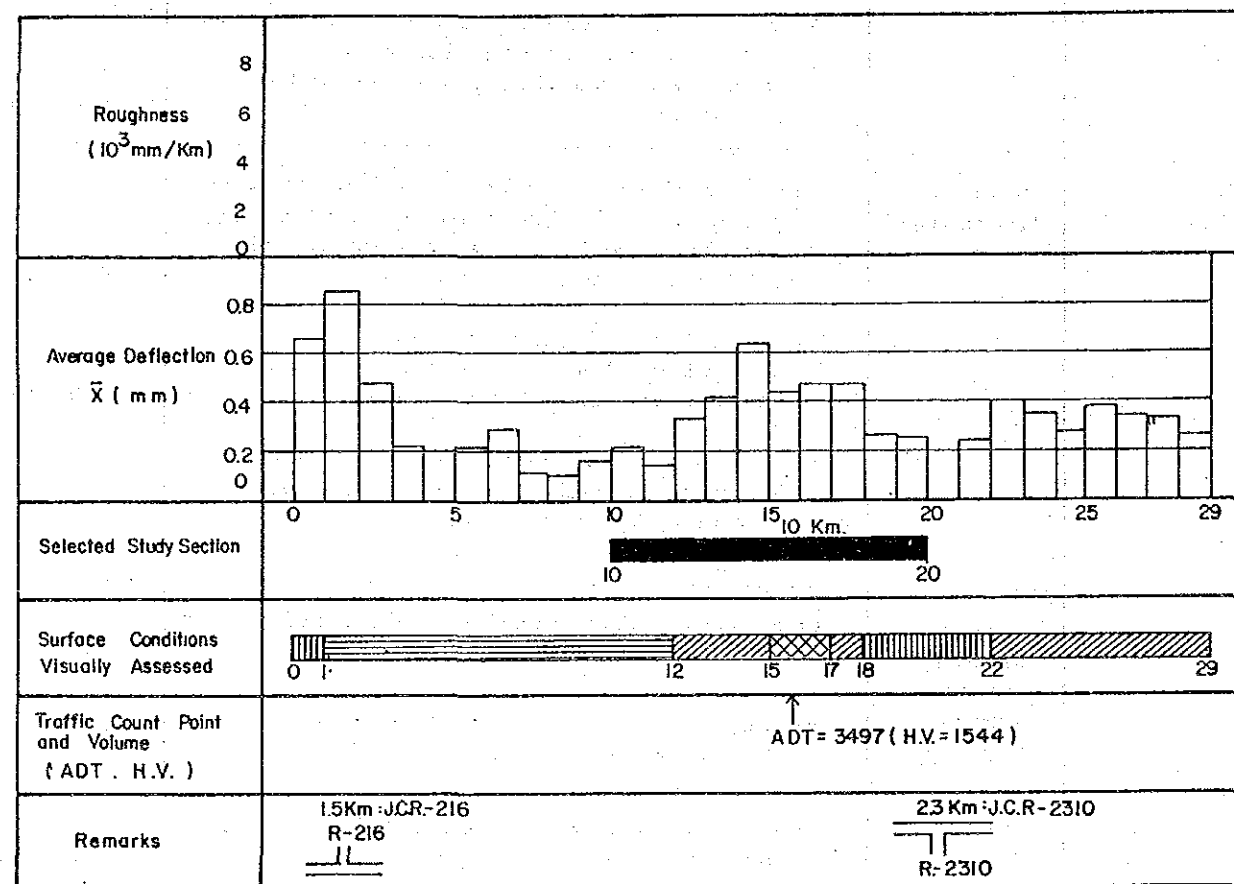
APPENDIX 4.1.1 CHARACTERISTICS OF CASE STUDY ROUTES FOR REHABILITATION

RT - 224 (224-0100)

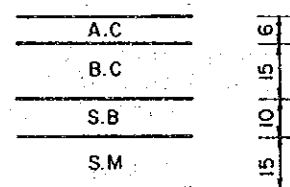
Study Length 10 km.
 Origin and Distinction Nakhon Ratchasima-Chok Chai
 Survey Date of Deflection May 17, 1984

RH- 21 (304 - 0904)

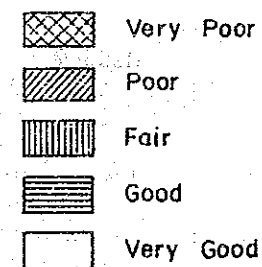
Study Length 13 km.
 Origin and Distinction By Pass Pak Thong Chai-Route No.2
 Survey Date of Deflection February 11, 1984



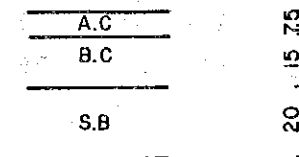
Pavement Structure



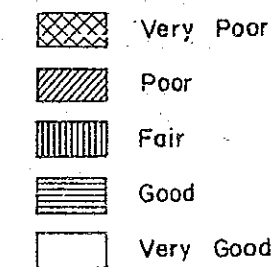
LEGEND



Pavement Structure



LEGEND



RH- 22 (2023-0100)

Study Length

8 km.

Origin and Distinction

Namkong-Kumphawapi-Sithai

Survey Date of Deflection

August 10, 1983

RH- 5 (201-0100)

Study Length

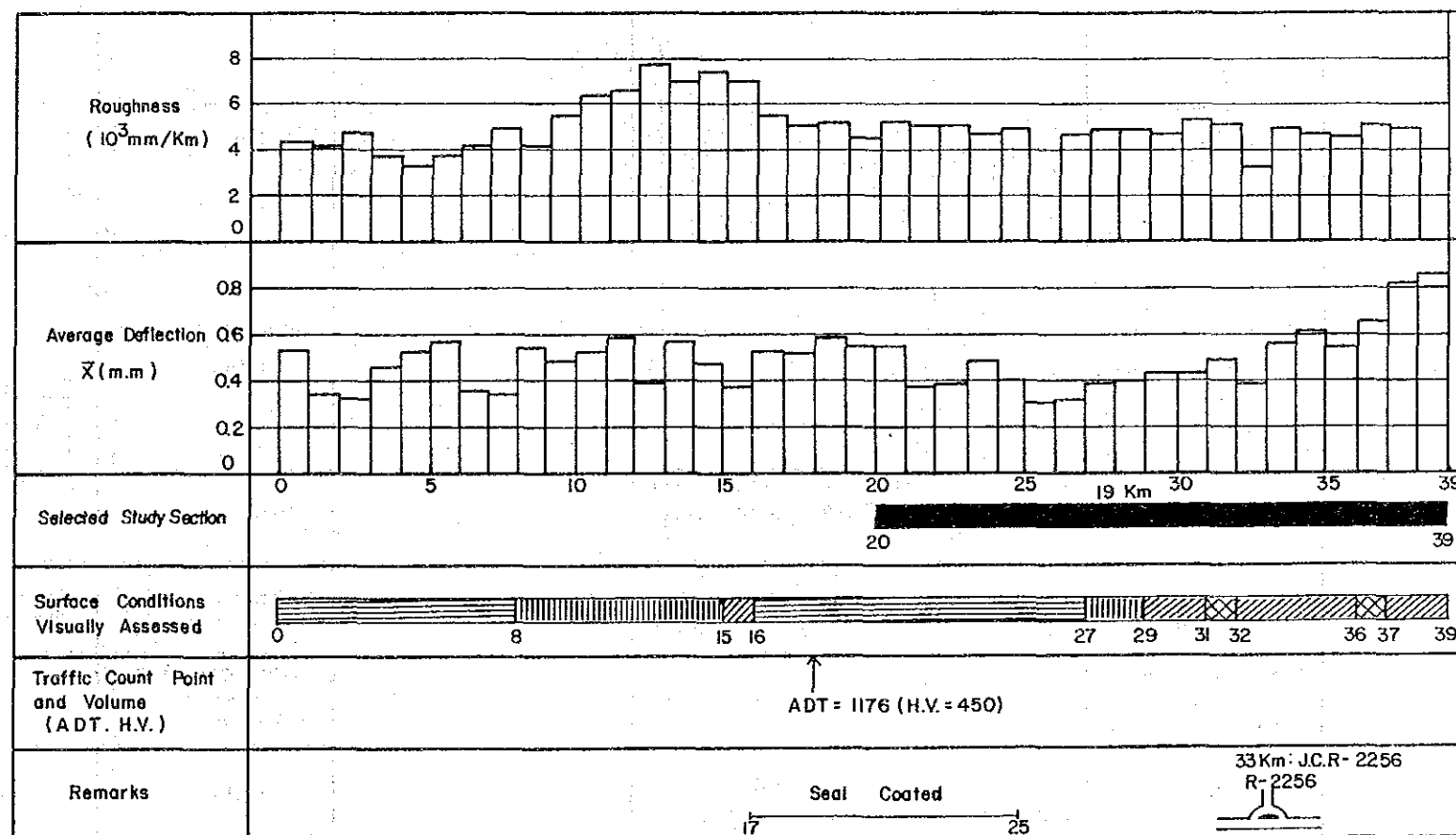
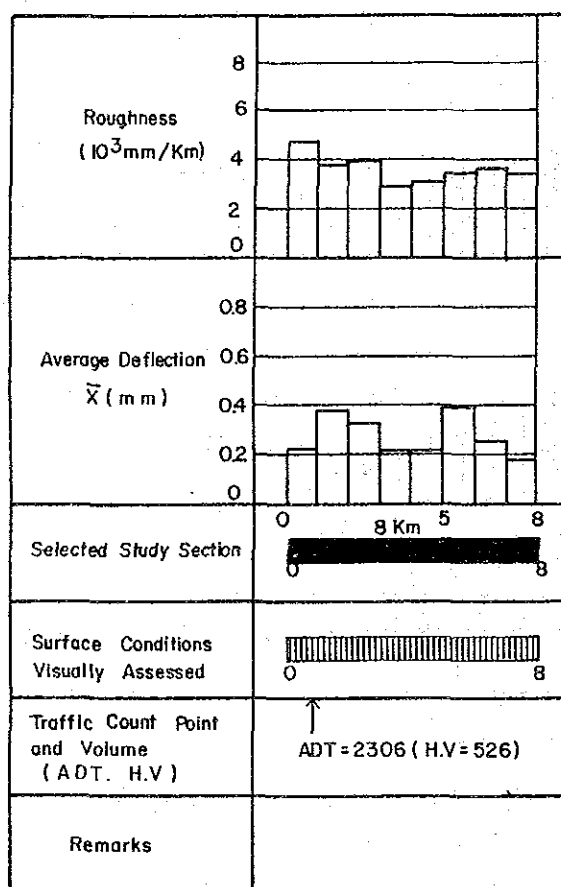
19 km.

Origin and Distinction

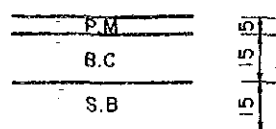
RM 0+400-Yaek Dankhunthod

Survey Date of Deflection

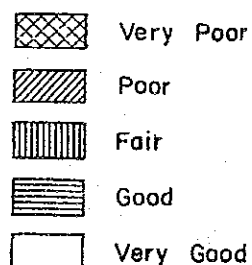
October 8, 1982



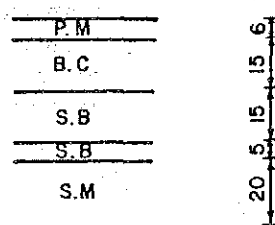
Pavement Structure



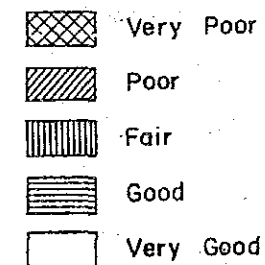
LEGEND



Pavement Structure



LEGEND



RH- 12 (207 -0202)

Study Length 10 km

Origin and Distinction Samyeak Prathai -Nongsonghong

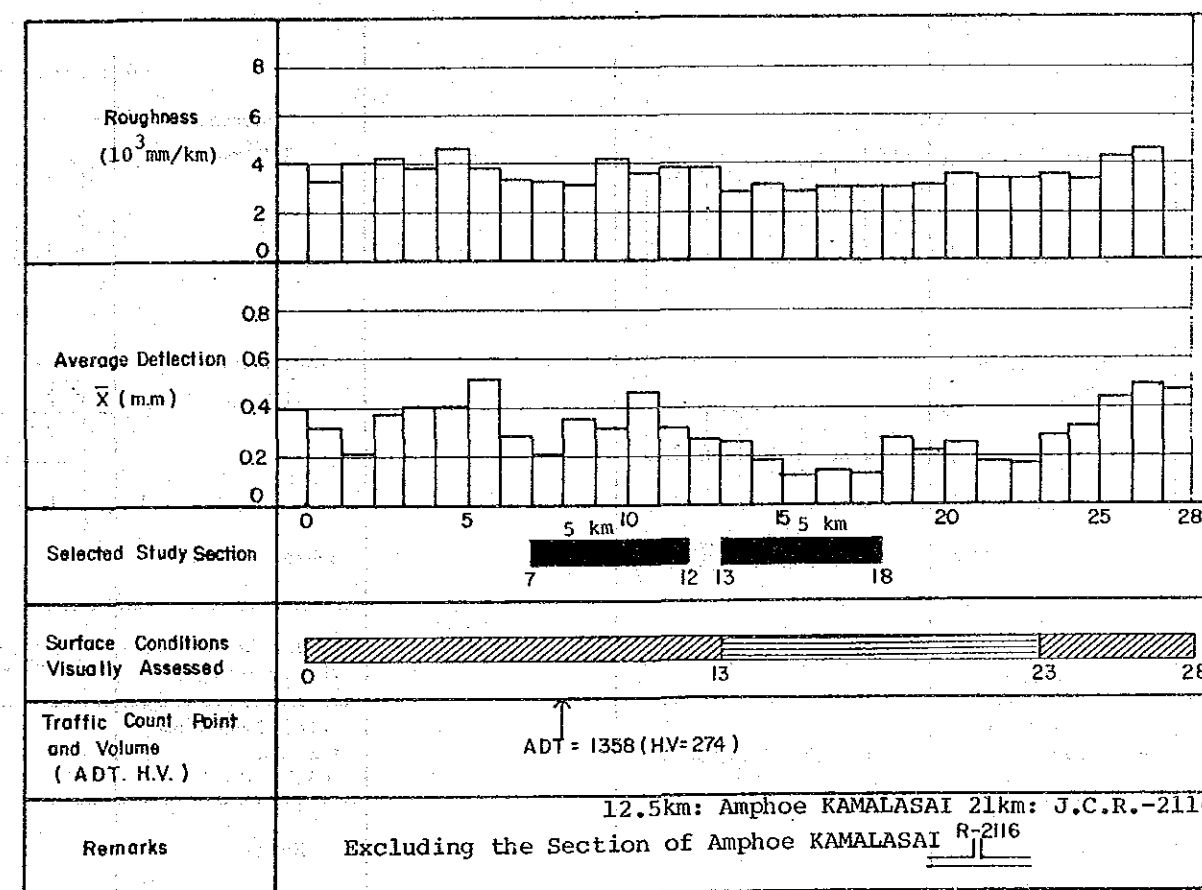
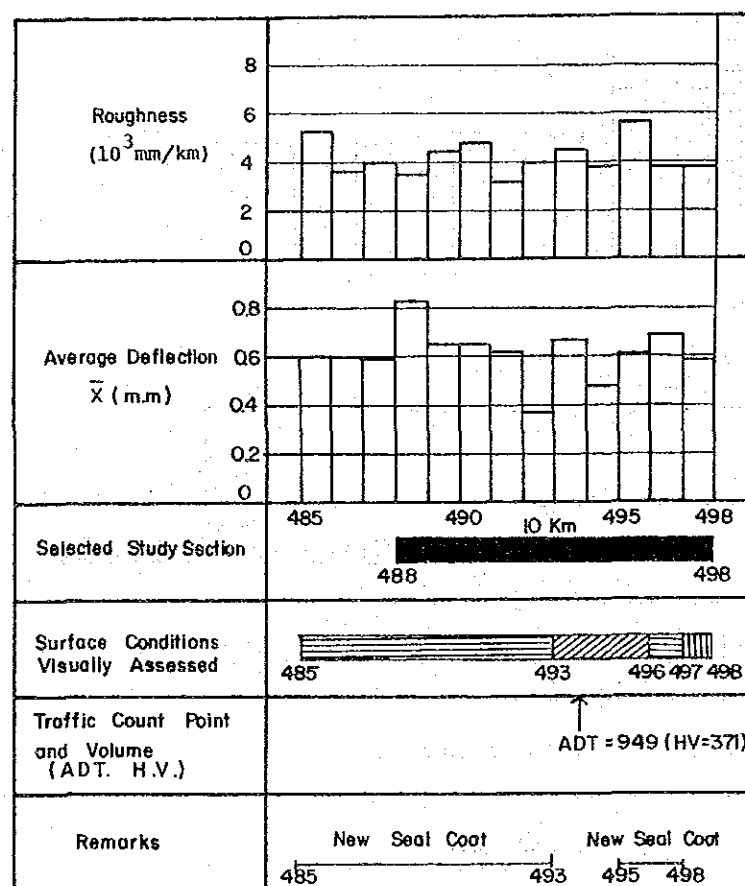
Survey Date of Deflection May 21, 1981

RH- 16 (214-0100)

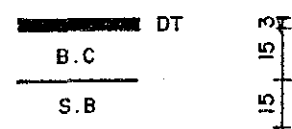
Study Length 10 km

Origin and Distinction Kalasin - Lamshe

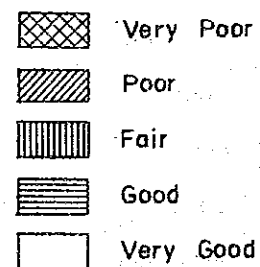
Survey Date of Deflection August 18, 1983



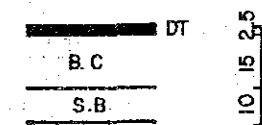
Pavement Constructure



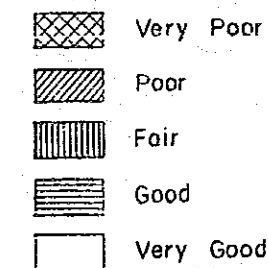
LEGEND



Pavement Structure



LEGEND

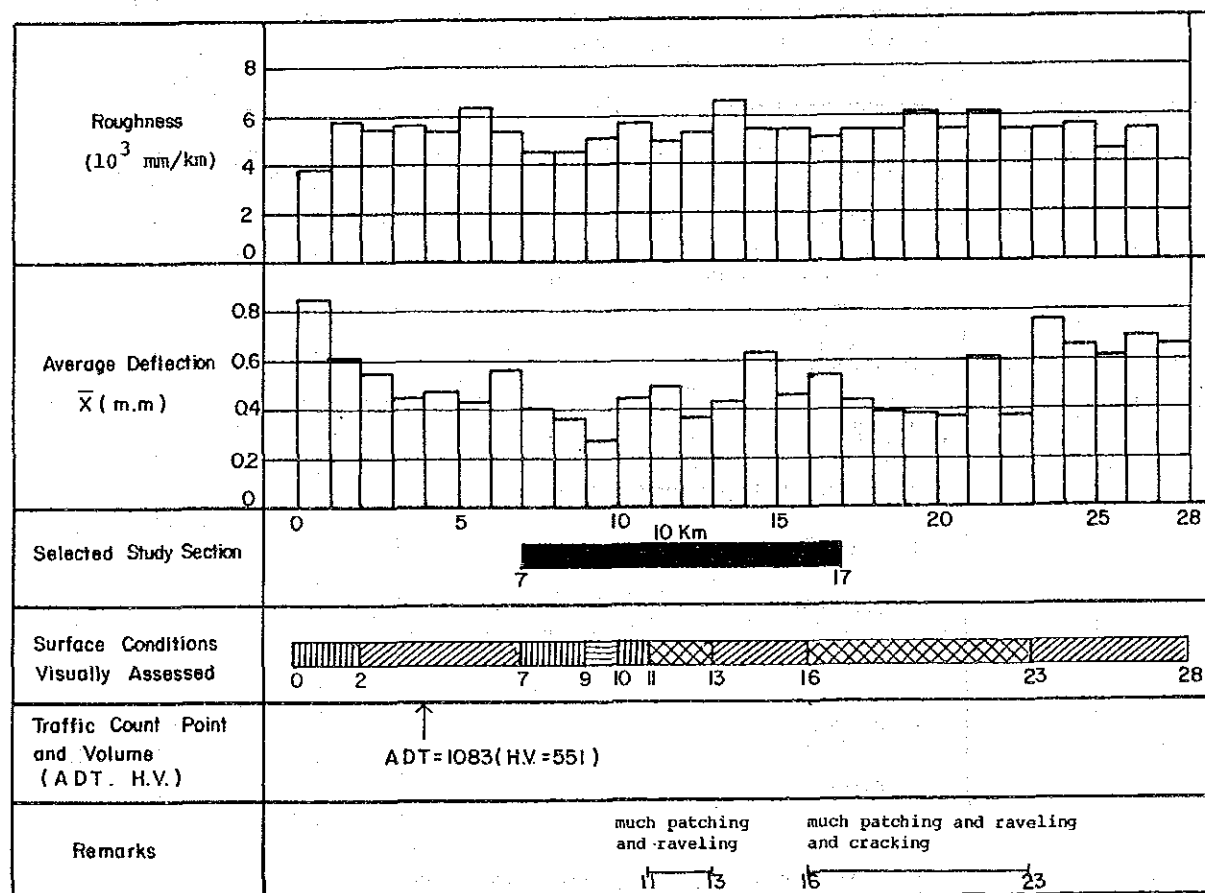


RH- 25 (2071-0100)

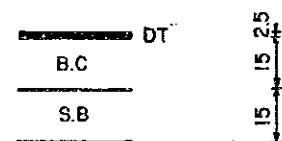
Study Length 10 km.

Origin and Distinction Chok Chai-Khonburi

Survey Date of Deflection October 26, 1981



Pavement Structure



LEGEND

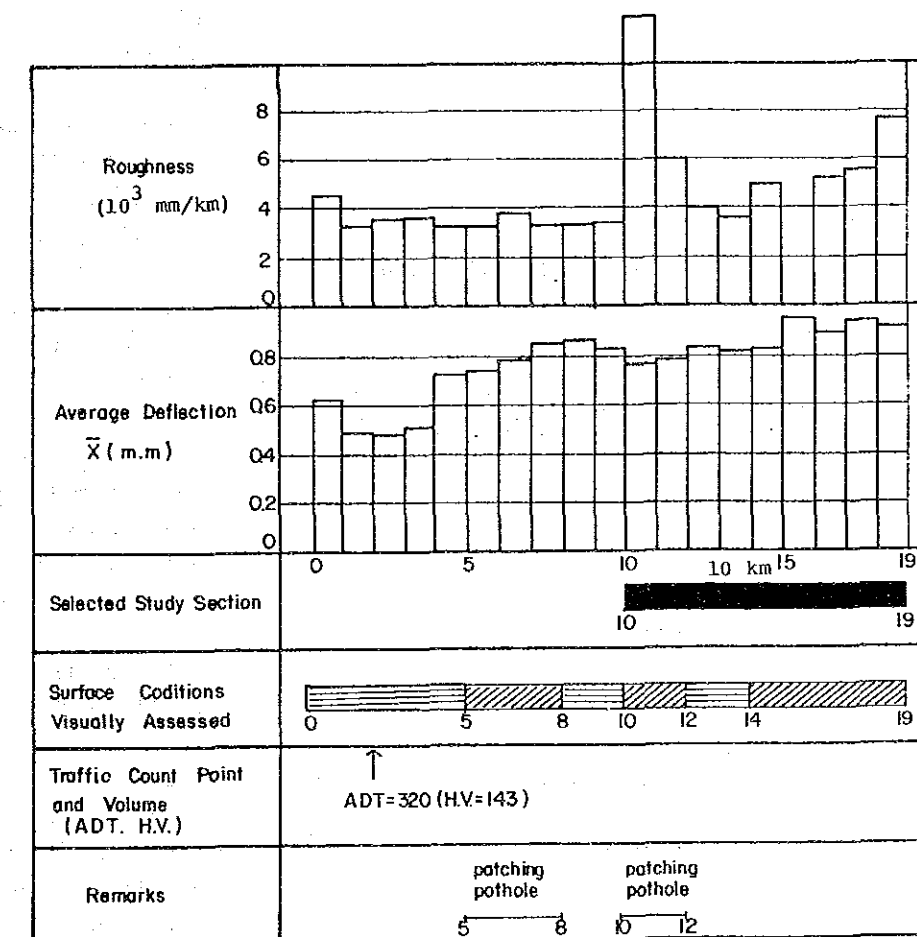
- Very Poor
- Poor
- Fair
- Good
- Very Good

RH-27 (2160-0100)

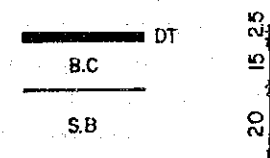
Study Length 10 km.

Origin and Distinction Wat - Muang Khong

Survey Date of Deflection February 9, 1984



Pavement Structure



LEGEND

- Very Poor
- Poor
- Fair
- Good
- Very Good

APPENDIX 4.2.1

PSI RATING ITEMS AND FORM

RATING ITEMS ON PAVEMENT CONDITION SURVEY

PSI RATING FORM

<u>Pavement Deficiency</u>	<u>Description</u>
Rutting/Waves	<ul style="list-style-type: none"> Longitudinal depressions that form under traffic in the wheel paths and have a minimum length of approximately 6 m/longitudinal or transverse undulations in the surface of the pavement, consisting of alternate valleys and crests approximately 60 cm or more apart.
Cracking (Longitudinal/ Transverse)	<ul style="list-style-type: none"> Cracks or breaks in the pavement surface. (Approximately parallel to centerline/at right angles to centerline)
Cracking (Alligator/ Block)	<ul style="list-style-type: none"> Interconnected or interlaced cracks forming a series of small polygons that resemble an alligator's hide/ Interconnected cracks forming a series of large polygons usually with sharp corners or angles.
Potholes	<ul style="list-style-type: none"> Bowl-shaped holes of various sizes in the pavement.
Bumps	<ul style="list-style-type: none"> Localized upward displacement of the pavement.
Bleeding	<ul style="list-style-type: none"> Free bitumen on the surface of the pavement.
Shoving	<ul style="list-style-type: none"> Displacement or bulging of paving material in the direction of loading or pressure.
<u>Other items taken into ratings</u>	
Driving Comfort, Speed Change Cycle due to Surface Defects	<ul style="list-style-type: none"> Owing to the various pavement deficiencies indicated above, operating speed is interrupted thus giving discomfort to passengers.
Patching	<ul style="list-style-type: none"> Partially rehabilitated area with asphaltic materials.

THE ROADS DEVELOPMENT STUDY IN THE NORTHEASTERN REGION IN THE KINGDOM OF THAILAND		PAVEMENT CONDITION RATING																																																																					
FROM :		DISTRICT :																																																																					
TO :		ROUTE :																																																																					
PAVEMENT TYPE : AC <input type="checkbox"/> PM <input type="checkbox"/> ST <input type="checkbox"/>		LINK :																																																																					
		DATE :																																																																					
<p>RATING</p> <p>1. Driving Comfort</p> <p>2. Speed Change Cycle due to surface condition</p> <p>3. Patching</p> <p>4. Rutting</p> <p>5. Longitudinal or Transverse Cracking</p> <p>6. Alligator Cracking</p> <p>7. Pot holes</p> <p>8. Bumping</p> <p>9. Bleeding</p> <p>10. Shoving</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 16.6%;">5</td> <td style="width: 16.6%;">4</td> <td style="width: 16.6%;">3</td> <td style="width: 16.6%;">2</td> <td style="width: 16.6%;">1</td> <td style="width: 16.6%;">0</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>					5	4	3	2	1	0																																																												
5	4	3	2	1	0																																																																		
Summation of Points _____ ÷ 10 = Ride Rating <input style="width: 50px;" type="text"/>																																																																							
<u>REMARK</u>																																																																							

APPENDIX 4.2.2 RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RT-224

LINK NO. : 224-0100

STUDY LENGTH : 10 KM

KM POST : 10 - 20

SURFACE TYPE : AC

SECTION	TESTED LANE	DEFLECTION				PSI BY MEASURING			PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	<1000M> (MM)
		(A)	(B)	(C)				(A)	(B)	(C)		(COUNT)	(MM)	(MM)	
10+150	R	0.463	0.180	151	1.490	0.00	12.00	3.849	4.4	3.8	3.8	4.00	21	106	710
10+300	R	0.380	0.150	206	1.620	0.00	6.00	3.797	4.4	3.8	3.8	4.00	12	61	406
10+450	R	0.417	0.153	242	1.170	0.00	11.00	4.130	4.3	4.0	3.9	4.07	26	132	879
10+600	R	0.303	0.063	580	1.430	0.00	7.00	3.933	4.3	4.0	4.0	4.10	22	112	743
10+750	R	0.290	0.087	394	1.980	0.00	9.00	3.554	4.3	4.0	4.0	4.10	29	147	980
10+900	R	0.327	0.123	240	1.620	0.00	8.00	3.786	4.3	4.0	4.0	4.10	35	177	1183
11+ 50	R	0.345	0.095	342	1.850	0.00	11.00	3.615	4.3	3.9	3.9	4.03	53	269	1791
AVE.		0.361	0.122	308	1.594	0.00	9.14	3.809	4.3	3.9	3.9	4.06	28	143	956
11+150	L	0.480	0.150	222	2.440	0.00	13.00	3.285	2.7	3.1	3.3	3.03	62	314	2095
11+300	L	0.357	0.123	357	1.790	0.00	7.00	3.680	3.7	3.1	3.3	3.37	71	360	2399
11+450	L	0.273	0.077	523	1.590	0.00	10.00	3.793	3.5	3.1	3.4	3.33	14	71	473
11+600	L	0.350	0.087	473	1.560	0.00	17.00	3.741	3.6	3.1	3.3	3.33	30	152	1014
11+750	L	0.417	0.157	206	1.460	0.00	8.00	3.903	4.1	3.3	3.6	3.67	17	86	574
11+900	L	0.350	0.097	348	1.100	0.00	9.00	4.215	4.1	3.5	4.0	3.87	11	56	372
12+ 50	L	0.370	0.105	307	1.230	0.00	10.00	4.082	4.1	3.7	3.3	3.70	9	46	304
AVE.		0.371	0.114	348	1.596	0.00	10.57	3.814	3.7	3.3	3.5	3.47	31	155	1033
12+150	R	0.477	0.180	166	1.660	0.00	19.00	3.643	4.2	3.8	3.8	3.93	34	172	1149
12+300	R	0.397	0.137	258	2.950	0.00	6.00	3.123	3.6	3.4	3.2	3.40	47	238	1588
12+450	R	0.440	0.157	216	1.790	0.00	23.00	3.493	4.0	4.0	3.9	3.97	27	137	912
12+600	R	0.367	0.117	400	2.270	0.00	20.00	3.276	4.0	4.0	4.0	4.00	42	213	1419
12+750	R	0.410	0.167	164	2.920	0.00	17.00	3.036	3.8	3.2	3.1	3.37	25	127	845
12+900	R	0.407	0.097	360	2.630	0.00	20.00	3.110	3.2	3.1	3.1	3.13	51	259	1723
13+ 50	R	0.345	0.090	376	3.050	0.00	8.00	3.075	2.6	2.8	3.2	2.87	84	426	2839
AVE.		0.406	0.135	277	2.467	0.00	16.14	3.251	3.6	3.5	3.5	3.52	44	224	1497
13+150	L	0.460	0.133	246	2.730	0.00	14.00	3.148	2.9	3.2	3.2	3.10	75	380	2535
13+300	L	0.430	0.143	239	3.150	0.00	26.00	2.800	3.4	3.3	3.6	3.43	91	461	3075
13+450	L	0.553	0.160	229	3.280	0.00	9.00	2.986	2.1	3.1	3.4	2.87	102	517	3447
13+600	L	0.353	0.110	296	2.340	0.00	8.00	3.373	2.3	3.0	3.2	2.83	48	243	1622
13+750	L	0.463	0.150	232	1.720	0.00	10.00	3.705	2.7	3.0	3.1	2.93	47	238	1588
13+900	L	0.440	0.133	318	2.560	0.00	11.00	3.249	1.9	2.9	3.2	2.67	69	350	2332
14+ 50	L	0.590	0.155	266	2.270	0.00	10.00	3.393	1.8	3.0	3.7	2.83	106	537	3582
AVE.		0.470	0.141	261	2.579	0.00	12.57	3.236	2.4	3.1	3.3	2.95	77	390	2597

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.125 * \text{Log}(S) - 0.139 * \text{Sqr}(C) - 0.039 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RT-224

LINK NO. : 224-0100

STUDY LENGTH : 10 KM

KM POST : 10 - 20

SURFACE TYPE : AC

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL			ROUGHNESS			
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	<1000M> (MM)
		(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)		
14+150	R	0.720	0.230	148	3.800	0.00	13.00	2.786	1.9	2.8	3.0	2.57	130	659	4393
14+300	R	0.573	0.187	176	3.600	0.00	12.00	2.857	2.2	3.0	3.0	2.73	92	466	3109
14+450	R	0.737	0.297	90	3.470	0.00	18.00	2.828	1.9	2.9	3.1	2.63	81	411	2737
14+600	R	0.673	0.257	115	2.470	0.00	15.00	3.249	2.5	3.1	3.2	2.93	65	329	2197
14+750	R	0.900	0.427	59	3.570	10.40	12.00	2.418	1.9	3.2	3.3	2.80	128	649	4326
14+900	R	0.633	0.177	185	2.920	0.00	6.00	3.134	2.6	3.0	3.0	2.87	75	380	2535
15+ 50	R	0.585	0.170	195	1.850	0.00	12.00	3.606	2.6	3.1	3.1	2.93	37	188	1250
AVE.		0.689	0.249	138	3.097	1.49	12.57	2.983	2.2	3.0	3.1	2.78	87	440	2935
15+150	L	0.577	0.187	177	2.010	0.00	13.00	3.503	3.6	3.3	3.4	3.43	54	274	1825
15+300	L	0.553	0.160	208	4.220	0.00	11.00	2.687	1.6	3.4	3.1	2.70	135	684	4562
15+450	L	0.580	0.140	377	2.760	0.00	7.00	3.193	2.2	3.1	3.2	2.83	150	760	5069
15+600	L	0.647	0.240	119	2.950	4.70	10.00	2.797	3.3	3.2	3.4	3.30	81	411	2737
15+750	L	0.633	0.223	195	2.990	0.00	19.00	2.981	3.4	3.2	3.3	3.30	74	375	2501
15+900	L	0.527	0.187	204	1.750	0.00	12.00	3.668	3.9	3.4	3.9	3.73	52	264	1757
16+ 50	L	0.470	0.130	268	1.530	0.00	14.00	3.799	3.6	3.6	3.3	3.50	50	253	1690
AVE.		0.570	0.181	221	2.601	0.67	12.29	3.232	3.1	3.3	3.4	3.26	85	432	2877
16+150	R	0.400	0.150	185	1.750	0.00	9.00	3.693	2.4	3.0	2.8	2.73	28	142	946
16+300	R	0.373	0.103	348	2.200	0.00	5.00	3.457	2.5	2.9	3.0	2.80	57	289	1926
16+450	R	0.563	0.223	127	2.340	0.00	9.00	3.366	2.5	3.0	2.9	2.80	85	431	2872
16+600	R	0.620	0.247	110	3.120	0.00	7.00	3.055	2.3	3.1	3.2	2.87	76	385	2568
16+750	R	0.687	0.273	101	2.990	0.00	8.00	3.097	2.1	3.1	3.3	2.83	80	406	2703
16+900	R	0.657	0.253	113	2.270	0.00	17.00	3.319	2.0	3.0	3.3	2.77	90	456	3041
17+ 50	R	0.530	0.200	140	3.440	0.00	17.00	2.851	2.4	2.9	3.2	2.83	89	451	3008
AVE.		0.547	0.207	161	2.587	0.00	10.29	3.263	2.3	3.0	3.1	2.80	72	366	2438
17+150	L	0.420	0.140	227	2.370	0.00	21.00	3.211	3.5	3.6	3.9	3.67	104	527	3515
17+300	L	0.423	0.100	346	1.820	0.00	11.00	3.633	3.7	3.4	3.5	3.53	34	172	1149
17+450	L	0.570	0.190	163	3.310	0.00	16.00	2.908	3.1	3.2	3.4	3.23	85	431	2872
17+600	L	0.597	0.230	119	3.860	0.00	5.00	2.825	3.6	3.2	3.2	3.33	139	705	4697
17+750	L	0.407	0.127	245	1.820	0.00	10.00	3.641	3.8	3.6	3.5	3.63	72	365	2433
17+900	L	0.443	0.130	304	2.400	0.00	13.00	3.303	3.8	3.3	3.5	3.53	101	512	3413
18+ 50	L	0.440	0.155	207	2.210	0.00	12.00	3.406	3.7	3.3	3.2	3.40	60	304	2028
AVE.		0.471	0.153	230	2.541	0.00	12.57	3.275	3.6	3.4	3.5	3.48	85	431	2872

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.125 * \log(S) - 0.139 * \log(C) - 0.039 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RT-224

LINK NO. : 224-0100

STUDY LENGTH : 10 KM

KM POST : 10 - 20

SURFACE TYPE : AC

SECTION	TESTED LANE	DEFLECTION				PSI BY MEASURING			PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	<1000M> (MM)
		(A)	(B)	(C)											
18+150	R	0.373	0.097	340	2.500	0.00	23.00	3.117	2.9	3.1	3.3	3.10	72	365	2433
18+300	R	0.353	0.107	460	2.370	0.00	19.00	3.242	3.6	3.2	3.7	3.50	32	162	1081
18+450	R	0.300	0.060	973	2.110	0.00	9.00	3.482	3.8	3.1	3.5	3.47	29	147	980
18+600	R	0.307	0.077	463	2.890	0.00	13.00	3.094	3.7	3.2	3.2	3.37	46	233	1554
18+750	R	0.253	0.043	1159	2.370	0.00	10.00	3.344	3.8	3.3	3.2	3.43	23	117	777
18+900	R	0.253	0.077	455	2.080	0.00	10.00	3.491	3.9	3.5	3.4	3.60	33	167	1115
19+ 50	R	0.255	0.060	594	1.950	0.00	4.00	3.596	4.0	3.5	3.2	3.57	30	152	1014
AVE.		0.299	0.074	635	2.324	0.00	12.57	3.338	3.7	3.3	3.4	3.43	38	192	1279
19+150	L	0.330	0.177	159	1.690	0.00	7.00	3.745	4.2	3.7	3.7	3.87	31	157	1048
19+300	L	0.370	0.083	458	1.360	0.00	6.00	3.994	4.1	3.7	3.9	3.90	28	142	946
19+450	L	0.370	0.113	448	1.620	0.00	17.00	3.699	3.6	3.6	3.6	3.60	53	269	1791
19+600	L	0.347	0.113	282	1.850	0.00	10.00	3.623	3.6	3.6	3.7	3.63	64	324	2163
19+750	L	0.303	0.070	532	2.080	0.00	7.00	3.511	3.4	3.4	3.4	3.40	52	264	1757
19+900	L	0.343	0.077	892	1.820	0.00	9.00	3.649	3.7	3.5	3.9	3.70	61	309	2061
20+ 50	L	0.385	0.110	296	2.110	0.00	9.00	3.482	3.8	3.3	3.9	3.67	40	203	1352
AVE.		0.350	0.106	438	1.790	0.00	9.29	3.672	3.8	3.5	3.7	3.68	47	238	1588

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.125 * \text{Log}(S) - 0.139 * \text{Sqr}(C) - 0.039 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-21

LINK NO. : 304-0904

STUDY LENGTH : 13 KM

KM POST : 120 - 133

SURFACE TYPE : AC

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<100M> (MM)	<100M> (MM)
		(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)		
120+150	L	0.610	0.133	277	1.620	0.00	32.00	3.412	3.7	3.6	3.5	3.60	42	213	1419
120+300	L	0.487	0.103	348	1.530	0.00	25.00	3.632	3.7	3.9	3.8	3.80	46	233	1554
120+450	L	0.490	0.083	479	1.460	0.90	29.00	3.468	3.8	3.8	3.8	3.80	43	218	1453
120+600	L	0.357	0.060	673	1.270	0.00	19.00	3.944	3.9	3.9	3.7	3.83	27	137	912
120+750	L	0.223	0.040	1033	1.010	0.00	14.00	4.266	3.9	3.9	3.9	3.90	44	223	1487
120+900	L	0.153	0.030	1324	1.040	0.70	17.00	4.081	3.9	3.7	3.8	3.80	23	117	777
121+ 50	L	0.165	0.030	1227	1.200	0.00	14.00	4.072	3.9	4.0	3.9	3.93	22	112	743
AVE.		0.355	0.069	766	1.304	0.23	21.43	3.839	3.8	3.8	3.8	3.81	35	179	1192
121+150	R	0.147	0.030	1292	0.880	0.00	9.00	4.466	3.9	4.0	3.9	3.93	23	117	777
121+300	R	0.257	0.047	1415	0.910	0.20	18.00	4.272	4.1	4.0	3.8	3.97	25	127	845
121+450	R	0.227	0.057	640	1.430	0.00	13.00	3.886	3.8	3.9	3.4	3.70	28	142	946
121+600	R	0.303	0.070	503	1.100	0.00	16.00	4.147	4.0	3.9	3.9	3.93	27	137	912
121+750	R	0.180	0.050	1128	1.170	0.00	20.00	4.021	3.9	3.9	3.9	3.90	28	142	946
121+900	R	0.233	0.050	851	1.200	0.00	13.00	4.083	3.9	3.8	3.9	3.87	29	147	980
122+ 50	R	0.300	0.070	491	1.430	0.00	14.00	3.875	3.9	3.9	3.6	3.80	36	182	1217
AVE.		0.235	0.053	903	1.160	0.03	14.71	4.107	3.9	3.9	3.8	3.87	28	142	946
122+150	L	0.413	0.093	406	1.530	0.00	20.00	3.720	3.9	3.8	3.7	3.80	39	198	1318
122+300	L	0.247	0.053	1168	1.400	0.00	17.00	3.863	3.9	3.8	3.8	3.83	44	223	1487
122+450	L	0.280	0.070	528	1.070	0.00	17.00	4.165	4.0	3.9	3.8	3.90	34	172	1149
122+600	L	0.190	0.047	735	1.200	0.00	18.00	4.023	3.9	3.9	3.9	3.90	32	162	1081
122+750	L	0.247	0.060	793	1.400	0.00	15.00	3.888	3.9	3.7	3.8	3.80	35	177	1183
122+900	L	0.167	0.047	702	0.810	0.00	11.00	4.544	4.0	3.9	3.9	3.93	15	76	507
123+ 50	L	0.255	0.060	645	1.270	0.00	10.00	4.046	3.9	3.9	3.8	3.87	30	152	1014
AVE.		0.257	0.061	711	1.240	0.00	15.43	4.035	3.9	3.8	3.8	3.86	33	166	1106
123+150	R	0.243	0.043	1234	2.080	0.00	14.00	3.454	3.9	4.0	3.9	3.93	38	193	1284
123+300	R	0.217	0.047	974	1.560	0.20	20.00	3.636	4.1	3.9	3.8	3.93	25	127	845
123+450	R	0.213	0.057	625	1.530	0.00	16.00	3.776	3.9	3.9	3.6	3.80	36	182	1217
123+600	R	0.200	0.030	1397	1.530	0.00	16.00	3.776	3.9	3.9	3.8	3.87	26	132	879
123+750	R	0.300	0.057	690	1.820	0.00	19.00	3.540	4.2	4.0	3.7	3.97	27	137	912
123+900	R	0.207	0.040	1135	1.300	0.00	19.00	3.918	4.1	4.0	3.9	4.00	24	122	811
124+ 50	R	0.210	0.055	817	0.910	0.00	15.00	4.372	4.2	4.0	3.4	3.87	29	147	980
AVE.		0.227	0.047	982	1.533	0.03	17.00	3.782	4.0	4.0	3.7	3.91	29	148	990

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

PSI = 4.354 - 1.125 * Log(S) - 0.139 * Sq(C) - 0.039 * D ^ 2
 (Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-21

LINK NO. : 304-0904

STUDY LENGTH : 13 KM

KM POST : 120 - 133

SURFACE TYPE : AC

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	<1000M> (MM)
		(A)	(B)	(C)											
124+150	L	0.183	0.040	914	1.620	0.00	14.00	3.735	3.9	3.9	3.9	3.90	24	122	811
124+300	L	0.197	0.053	655	1.040	0.00	18.00	4.184	4.2	4.0	4.0	4.07	37	188	1250
124+450	L	0.170	0.037	1034	1.230	0.00	12.00	4.065	3.9	3.9	3.8	3.87	18	91	608
124+600	L	0.170	0.037	1160	1.360	0.40	20.00	3.764	4.1	4.0	4.0	4.03	21	106	710
124+750	L	0.263	0.050	745	1.300	1.60	14.00	3.807	3.8	3.5	3.7	3.67	23	117	777
124+900	L	0.213	0.033	1335	1.170	0.00	14.00	4.101	4.1	4.0	3.8	3.97	37	188	1250
125+ 50	L	0.370	0.080	478	1.720	0.00	19.00	3.603	4.1	3.9	4.0	4.00	46	233	1554
AVE.		0.224	0.047	903	1.349	0.29	15.86	3.894	4.0	3.9	3.9	3.93	29	149	994
125+150	R	0.253	0.050	740	2.470	1.10	16.00	3.091	3.9	3.9	3.2	3.67	43	218	1453
125+300	R	0.213	0.060	589	1.790	0.00	18.00	3.573	4.0	3.9	3.4	3.77	63	319	2129
125+450	R	0.267	0.043	881	1.950	0.00	15.00	3.515	3.8	3.1	2.8	3.23	53	269	1791
125+600	R	0.257	0.053	785	1.360	2.00	22.00	3.623	4.2	4.0	3.3	3.83	37	188	1250
125+750	R	0.277	0.050	756	1.100	0.00	20.00	4.091	4.0	3.9	3.7	3.87	50	253	1690
125+900	R	0.197	0.043	890	1.590	1.30	13.00	3.608	4.2	3.9	3.9	4.00	44	223	1487
126+ 50	R	0.200	0.050	712	1.200	0.00	28.00	3.843	4.1	3.9	3.6	3.87	28	142	946
AVE.		0.238	0.050	765	1.637	0.63	18.86	3.620	4.0	3.8	3.4	3.75	45	230	1535
126+150	L	0.370	0.077	578	1.300	0.00	18.00	3.932	3.9	3.9	3.8	3.87	28	142	946
126+300	L	0.387	0.113	292	1.530	0.00	25.00	3.632	4.1	3.9	4.0	4.00	35	177	1183
126+450	L	0.357	0.103	349	1.300	0.00	23.00	3.853	3.9	3.9	3.9	3.90	22	112	743
126+600	L	0.270	0.067	576	1.010	0.00	5.00	4.333	3.9	3.9	3.9	3.90	27	137	912
126+750	L	0.173	0.040	912	1.070	0.00	11.00	4.231	3.9	3.8	3.5	3.73	29	147	980
126+900	L	0.180	0.047	720	0.910	0.00	11.00	4.413	3.9	3.9	3.9	3.90	42	213	1419
127+ 50	L	0.195	0.055	593	1.200	0.00	10.00	4.110	3.7	3.8	3.8	3.77	43	218	1453
AVE.		0.276	0.072	574	1.189	0.00	14.71	4.072	3.9	3.9	3.8	3.87	32	164	1091
127+150	R	0.187	0.047	734	2.010	0.00	12.00	3.512	3.4	3.6	3.2	3.40	53	269	1791
127+300	R	0.270	0.067	717	1.880	8.90	16.00	3.129	3.6	3.7	3.1	3.47	44	223	1487
127+450	R	0.277	0.080	415	1.660	1.80	15.00	3.510	4.0	3.7	3.3	3.67	42	213	1419
127+600	R	0.370	0.090	403	1.560	1.80	19.00	3.526	3.9	3.8	3.4	3.70	42	213	1419
127+750	R	0.347	0.087	397	1.430	0.00	19.00	3.811	3.9	3.7	3.7	3.77	30	152	1014
127+900	R	0.437	0.133	253	1.360	0.00	11.00	3.961	3.9	3.3	3.4	3.53	31	157	1048
128+ 50	R	0.440	0.155	192	1.430	0.00	16.00	3.852	3.9	3.2	3.5	3.53	42	213	1419
AVE.		0.332	0.094	444	1.619	1.79	15.43	3.614	3.8	3.6	3.4	3.58	41	206	1371

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.125 * \text{Log}(S) - 0.139 * \text{Sqr}(C) - 0.039 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-21

LINK NO. : 304-0904

STUDY LENGTH : 13 KM

KM POST : 120 - 133

SURFACE TYPE : AC

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	<1000M> (MM)
		(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)		
128+150	L	0.453	0.093	391	1.300	0.00	11.00	4.012	3.7	3.7	3.9	3.77	40	203	1352
128+300	L	0.407	0.057	728	1.620	0.00	15.00	3.724	3.9	3.6	3.6	3.70	40	203	1352
128+450	L	0.340	0.057	788	1.040	0.00	12.00	4.254	3.8	3.7	3.8	3.77	36	182	1217
128+600	L	0.313	0.070	577	1.880	3.10	24.00	3.174	3.6	3.2	3.1	3.30	48	243	1622
128+750	L	0.223	0.047	1100	1.850	20.00	13.00	2.974	3.6	3.2	2.9	3.23	56	284	1892
128+900	L	0.170	0.027	1603	1.790	20.00	20.00	2.921	3.9	3.6	4.0	3.83	58	294	1960
129+ 50	L	0.205	0.035	1090	2.990	23.30	23.00	2.245	3.8	3.5	3.8	3.70	33	167	1115
AVE.		0.302	0.055	897	1.781	9.49	16.86	3.329	3.8	3.5	3.6	3.61	44	225	1501
129+150	R	0.180	0.037	1174	2.860	26.70	30.00	2.103	1.9	1.5	2.2	1.87	47	238	1588
129+300	R	0.217	0.027	1650	1.980	9.30	23.00	2.955	2.0	1.9	2.2	2.03	49	248	1656
129+450	R	0.203	0.040	952	1.590	20.00	30.00	2.860	2.6	1.9	2.4	2.30	61	309	2061
129+600	R	0.287	0.063	666	3.120	20.00	26.00	2.189	1.6	1.8	2.4	1.93	148	750	5001
129+750	R	0.247	0.050	739	2.310	20.00	22.00	2.602	2.6	2.2	2.7	2.50	73	370	2467
129+900	R	0.183	0.033	1126	1.690	30.00	28.00	2.697	2.2	2.2	2.6	2.33	44	223	1487
130+ 50	R	0.170	0.035	1047	1.620	30.00	17.00	2.937	2.2	2.2	3.0	2.47	62	314	2095
AVE.		0.212	0.041	1051	2.167	22.29	25.14	2.620	2.2	2.0	2.5	2.20	69	350	2337
130+150	L	0.210	0.053	672	1.070	1.60	7.00	4.083	3.9	3.7	3.9	3.83	23	117	777
130+300	L	0.343	0.060	990	0.940	1.30	16.00	4.165	3.9	3.6	3.9	3.80	28	142	946
130+450	L	0.333	0.047	912	1.590	6.70	14.00	3.396	3.9	3.8	3.9	3.87	39	198	1318
130+600	L	0.443	0.083	510	1.010	6.70	9.00	3.951	3.7	3.5	2.7	3.30	25	127	845
130+750	L	0.387	0.090	397	0.840	5.30	13.00	4.164	4.0	3.8	3.9	3.90	30	152	1014
130+900	L	0.323	0.087	411	1.270	8.20	10.00	3.648	3.9	3.5	3.9	3.77	35	177	1183
131+ 50	L	0.395	0.085	621	1.750	8.00	10.00	3.292	3.6	3.1	3.7	3.47	60	304	2028
AVE.		0.348	0.072	645	1.210	5.40	11.29	3.814	3.8	3.6	3.7	3.70	34	174	1159
131+150	R	0.373	0.087	464	2.390	12.70	14.00	2.802	2.7	1.8	3.1	2.53	80	406	2703
131+300	R	0.277	0.037	1077	1.590	29.10	14.00	3.006	3.1	2.9	3.4	3.13	55	279	1859
131+450	R	0.363	0.093	367	2.010	30.00	15.00	2.720	2.7	2.5	2.9	2.70	55	279	1859
131+600	R	0.610	0.117	375	1.790	10.00	16.00	3.160	2.3	2.8	3.6	2.90	68	345	2298
131+750	R	0.730	0.107	363	2.920	0.00	11.00	3.101	3.2	2.6	3.4	3.07	78	395	2636
131+900	R	0.513	0.077	549	2.080	0.00	13.00	3.464	3.1	2.8	3.2	3.03	88	446	2974
132+ 50	R	0.505	0.115	309	1.100	0.00	10.00	4.208	3.7	3.0	3.8	3.50	46	233	1554
AVE.		0.482	0.090	501	1.983	11.69	13.29	3.209	3.0	2.6	3.3	2.98	67	340	2269

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

PSI = 4.354 - 1.125 * Log(S) - 0.139 * Sqr(C) - 0.039 * D ^ 2
 (Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-21

LINK NO. : 304-0904

STUDY LENGTH : 13 KM

KM POST : 120 - 133

SURFACE TYPE : AC

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING			PSI BY VISUAL			ROUGHNESS				
		DEFLEC.	DEFLEC.	RADIUS	PROFIL.	CRACK.	RUT DEP.	PSI RATING			<150M>		<1000M>		
		[D0] (MM)	[D30] (MM)	[R] (M)	[S] (MM)	[C] (%)	[D] (MM)	PSI	(A)	(B)	(C)	AVE.	(COUNT)	(MM)	(MM)
132+150	L	0.487	0.107	332	1.170	3.30	27.00	3.641	3.3	3.4	3.5	3.40	44	223	1487
132+300	L	0.310	0.037	1266	1.460	2.90	17.00	3.579	3.4	3.7	3.8	3.63	26	132	879
132+450	L	0.493	0.127	265	1.530	5.30	8.00	3.531	2.8	3.4	3.3	3.17	54	274	1825
132+600	L	0.523	0.077	603	1.590	0.00	8.00	3.807	2.7	3.1	2.9	2.90	68	345	2298
132+750	L	0.355	0.085	451	3.470	4.70	16.00	2.553	2.0	2.2	2.3	2.17	96	487	3244
132+900	L	-	-	-	2.240	22.00	8.00	2.770	2.0	2.6	3.2	2.60	147	745	4968
133+ 50	L	-	-	-	2.810	0.00	22.00	3.003	3.0	3.0	3.2	3.07	47	238	1588
AVE.		0.434	0.086	583	1.844	3.24	15.20	3.422	2.8	3.2	3.2	3.05	58	292	1946

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.125 * \text{Log}(S) - 0.139 * \text{Sq}(C) - 0.039 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-22

LINK NO. : 2023-0100

STUDY LENGTH : 8 KM

KM POST : 0 - 8

SURFACE TYPE : PM

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0]	DEFLEC. [D30]	RADIUS [R]	PROFIL. [S]	CRACK. [C]	RUT DEP. [D]	PSI	PSI RATING			AVE.	<150M>	<1000M>	
		(MM)	(MM)	(M)	(MM)	(%)	(MM)		(A)	(B)	(C)		(COUNT)	(MM)	(MM)
0+150	L	0.670	0.227	156	3.210	0.00	22.00	3.199	3.1	2.7	3.0	2.93	152	770	5137
0+300	L	0.670	0.297	92	2.750	0.00	29.00	3.200	2.9	2.8	2.5	2.73	103	522	3481
0+450	L	0.643	0.360	63	4.510	1.50	35.00	2.601	2.6	2.9	2.8	2.77	215	1090	7266
0+600	L	0.723	0.413	47	3.080	0.00	27.00	3.145	2.6	2.7	2.9	2.73	106	537	3582
0+750	L	0.583	0.313	79	2.500	0.70	22.00	3.378	2.9	2.8	3.0	2.90	108	547	3650
0+900	L	0.673	0.367	57	2.630	0.00	26.00	3.297	3.3	2.9	2.7	2.97	101	512	3413
1+ 50	L	0.680	0.370	59	2.400	0.20	24.00	3.394	3.1	2.7	2.6	2.80	125	634	4224
AVE.		0.663	0.335	79	3.011	0.34	26.43	3.174	2.9	2.8	2.8	2.83	130	659	4393
1+150	R	0.543	0.310	63	2.660	0.00	28.00	3.249	2.7	2.8	3.2	2.90	105	532	3548
1+300	R	0.610	0.323	66	2.790	0.00	26.00	3.248	2.8	2.8	3.0	2.87	102	517	3447
1+450	R	0.920	0.520	39	2.720	0.00	15.00	3.431	2.7	2.9	3.0	2.87	87	441	2940
1+600	R	0.667	0.423	40	2.080	0.00	16.00	3.646	2.8	2.9	3.0	2.90	96	487	3244
1+750	R	0.557	0.303	73	2.240	0.00	11.00	3.632	3.2	2.9	2.9	3.00	93	471	3143
1+900	R	0.807	0.410	54	2.210	0.00	20.00	3.543	3.3	2.8	2.8	2.97	89	451	3008
2+ 50	R	0.910	0.450	51	2.690	0.00	24.00	3.314	2.8	2.9	2.9	2.87	173	877	5846
AVE.		0.716	0.391	55	2.484	0.00	20.00	3.438	2.9	2.9	3.0	2.91	106	539	3597
2+150	L	0.877	0.457	48	2.950	0.00	21.00	3.285	2.8	2.6	1.9	2.43	134	679	4528
2+300	L	1.140	0.527	48	2.660	0.00	18.00	3.415	3.0	2.6	2.3	2.63	112	568	3785
2+450	L	1.057	0.510	53	2.920	0.00	11.00	3.409	2.5	2.4	2.7	2.53	113	573	3819
2+600	L	0.917	0.400	67	3.340	0.00	19.00	3.210	2.7	2.6	2.6	2.63	140	710	4731
2+750	L	0.740	0.333	76	2.310	1.30	18.00	3.491	2.6	2.0	2.0	2.20	126	639	4258
2+900	L	0.653	0.317	73	2.400	0.00	22.00	3.443	2.7	2.7	3.0	2.80	84	426	2839
3+ 50	L	0.720	0.425	45	2.170	0.00	14.00	3.632	2.6	2.6	3.0	2.73	74	375	2501
AVE.		0.872	0.424	59	2.679	0.19	17.57	3.412	2.7	2.5	2.5	2.57	112	567	3780
3+150	R	0.673	0.467	36	1.820	0.00	25.00	3.625	3.3	2.8	3.0	3.03	61	309	2061
3+300	R	0.783	0.483	35	1.660	0.00	26.00	3.684	3.1	2.8	2.8	2.90	65	329	2197
3+450	R	0.543	0.243	119	3.730	1.30	13.00	3.144	2.7	2.6	3.0	2.77	99	502	3346
3+600	R	0.490	0.317	50	1.920	0.00	17.00	3.701	2.6	2.6	3.0	2.73	66	335	2230
3+750	R	0.470	0.257	78	1.720	0.00	31.00	3.552	2.7	2.2	3.0	2.63	58	294	1960
3+900	R	0.663	0.300	82	1.850	0.00	22.00	3.662	3.2	2.4	3.0	2.87	73	370	2467
4+ 50	R	0.540	0.295	70	2.010	0.00	24.00	3.560	3.2	2.7	2.8	2.90	52	264	1757
AVE.		0.595	0.337	67	2.101	0.19	22.57	3.561	3.0	2.6	2.9	2.83	68	343	2288

Note : Symbol "--" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 0.841 * \text{Log}(S) - 0.037 * \text{Ser}(C) - 0.036 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-22

LINK NO. : 2023-0100

STUDY LENGTH : 8 KM

KM POST : 0 - 8

SURFACE TYPE : PM

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0]	DEFLEC. [D30]	RADIUS [R]	PROFIL. [S]	CRACK. [C]	RUT DEP. [D]	PSI	PSI RATING			AVE.	<150M>	<1000M>	
		(MM)	(MM)	(M)	(MM)	(%)	(MM)		(A)	(B)	(C)		(COUNT)	(MM)	(MM)
4+150	L	0.513	0.273	86	1.850	0.00	18.00	3.720	3.1	2.6	2.8	2.83	77	390	2602
4+300	L	0.547	0.297	76	2.180	0.00	19.00	3.569	3.1	2.6	2.2	2.63	83	421	2805
4+450	L	0.537	0.250	98	1.660	0.00	15.00	3.847	2.9	2.5	2.5	2.63	75	380	2535
4+600	L	0.653	0.370	55	1.950	0.00	14.00	3.722	2.9	2.6	2.5	2.67	77	390	2602
4+750	L	0.717	0.390	50	1.820	26.70	26.00	3.416	3.4	2.5	2.5	2.80	71	360	2399
4+900	L	0.793	0.390	62	2.050	3.30	21.00	3.524	2.7	2.4	3.0	2.70	104	527	3515
5+ 50	L	0.795	0.310	99	3.600	9.30	14.00	3.093	2.6	2.2	3.0	2.60	67	340	2264
AVE.		0.651	0.326	75	2.159	5.61	18.14	3.556	3.0	2.5	2.6	2.70	79	401	2675
5+150	R	0.607	0.277	91	2.400	0.00	44.00	2.921	3.2	2.7	3.0	2.97	89	451	3008
5+300	R	0.693	0.297	95	2.470	0.70	39.00	3.015	2.8	2.4	2.5	2.57	90	456	3041
5+450	R	0.865	0.375	69	4.320	13.30	32.00	2.620	2.7	2.8	2.8	2.77	121	613	4089
5+600	R	0.733	0.337	72	2.730	9.30	30.00	3.073	3.0	2.3	1.8	2.37	92	466	3109
5+750	R	0.900	0.433	61	2.950	61.80	37.00	2.660	3.0	2.3	2.3	2.53	106	537	3582
5+900	R	0.700	0.317	79	3.860	32.00	9.00	2.980	3.3	2.7	3.0	3.00	81	411	2737
6+ 50	R	1.020	0.370	79	5.060	27.60	25.00	2.571	2.8	2.6	2.2	2.53	175	887	5914
AVE.		0.788	0.344	78	3.399	20.67	30.86	2.834	3.0	2.5	2.5	2.68	108	546	3640
6+150	L	0.763	0.243	129	3.050	70.00	32.00	2.738	2.8	2.6	2.0	2.47	113	573	3819
6+300	L	0.807	0.383	64	2.470	62.20	39.00	2.754	3.0	2.3	3.0	2.77	88	446	2974
6+450	L	0.797	0.363	71	2.730	30.00	22.00	3.132	3.2	2.6	2.5	2.77	110	558	3717
6+600	L	0.670	0.307	85	3.900	7.60	19.00	2.977	2.6	2.7	2.2	2.50	128	649	4326
6+750	L	0.823	0.340	79	2.530	0.00	21.00	3.415	3.3	2.9	3.0	3.07	100	507	3379
6+900	L	0.770	0.410	56	1.980	0.00	23.00	3.589	3.1	2.7	3.0	2.93	98	497	3312
7+ 50	L	0.845	0.380	74	3.210	0.00	8.00	3.350	2.6	2.8	3.0	2.80	156	791	5272
AVE.		0.782	0.347	80	2.839	24.26	23.43	3.137	2.9	2.7	2.7	2.76	113	574	3828
7+150	R	0.810	0.470	41	4.550	31.10	20.00	2.729	2.7	2.6	2.6	2.63	102	517	3447
7+300	R	0.787	0.443	46	2.370	1.80	10.00	3.543	2.8	2.8	2.7	2.77	105	532	3548
7+450	R	0.780	0.483	35	2.470	0.00	23.00	3.403	3.3	2.7	2.8	2.93	80	406	2703
7+600	R	0.690	0.400	52	2.660	2.20	22.00	3.302	3.0	2.8	2.7	2.83	78	395	2636
7+750	R	0.757	0.413	50	2.270	0.00	28.00	3.382	3.0	2.9	2.8	2.90	93	471	3143
7+900	R	0.637	0.307	73	2.560	0.00	21.00	3.405	3.2	2.7	2.8	2.90	107	542	3616
8+ 50	R	0.660	0.400	44	2.530	3.10	13.00	3.447	3.2	3.2	2.9	3.10	146	740	4934
AVE.		0.731	0.417	49	2.773	5.46	19.57	3.316	3.0	2.8	2.8	2.87	102	515	3432

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 0.841 * \text{Log}(S) - 0.037 * \text{Ser}(C) - 0.036 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-5

LINK NO. : 201-0102

STUDY LENGTH : 19 KM

KM POST : 20 - 39

SURFACE TYPE : PM

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	<1000M> (MM)
		(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)		
20+150	L	0.320	0.050	921	2.180	0.00	13.00	3.638	3.8	3.9	3.6	3.77	54	274	1825
20+300	L	0.257	0.030	1448	2.660	0.00	19.00	3.401	3.9	3.6	3.7	3.73	59	299	1994
20+450	L	0.270	0.040	1294	3.540	0.00	35.00	2.850	3.8	3.4	3.4	3.53	84	426	2839
20+600	L	0.303	0.040	1021	3.670	0.00	23.00	3.070	3.7	3.6	3.7	3.67	77	390	2602
20+750	L	0.297	0.070	575	3.730	0.00	15.00	3.166	3.6	3.4	3.9	3.63	66	335	2230
20+900	L	0.300	0.060	654	2.630	0.00	11.00	3.497	3.8	3.7	3.9	3.80	73	370	2467
21+ 50	L	0.305	0.035	1164	2.790	0.00	14.00	3.421	3.6	3.4	3.7	3.57	76	385	2568
AVE.		0.293	0.046	1011	3.029	0.00	18.57	3.292	3.7	3.6	3.7	3.67	70	354	2361
21+150	R	0.427	0.090	406	3.830	3.60	15.00	3.073	3.3	3.1	3.2	3.20	115	583	3886
21+300	R	0.300	0.070	601	4.960	3.10	34.00	2.526	3.6	3.3	3.5	3.47	87	441	2940
21+450	R	0.370	0.067	628	3.470	6.00	20.00	3.073	3.2	2.9	3.0	3.03	78	395	2636
21+600	R	0.460	0.107	327	3.500	7.10	39.00	2.654	2.2	2.2	2.2	2.20	85	431	2872
21+750	R	0.373	0.103	326	2.860	0.00	27.00	3.208	3.5	3.4	3.2	3.37	79	400	2670
21+900	R	0.347	0.070	618	2.920	0.00	14.00	3.382	3.5	3.6	3.6	3.57	87	441	2940
22+ 50	R	0.305	0.075	475	3.470	0.00	37.00	2.815	3.3	3.1	3.3	3.23	86	436	2906
AVE.		0.369	0.083	483	3.573	2.83	26.57	2.962	3.2	3.1	3.1	3.15	88	447	2979
22+150	L	0.333	0.087	520	2.600	0.00	18.00	3.434	3.5	3.7	3.7	3.63	44	223	1487
22+300	L	0.393	0.077	488	3.570	8.40	28.00	2.894	3.7	3.8	3.9	3.80	81	411	2737
22+450	L	0.383	0.103	331	3.080	20.70	24.00	3.032	3.6	3.5	3.7	3.60	55	279	1859
22+600	L	0.337	0.073	488	3.380	6.00	16.00	3.147	3.3	3.6	3.5	3.47	67	340	2264
22+750	L	0.340	0.063	650	3.440	23.60	22.00	2.961	3.4	3.2	3.4	3.33	78	395	2636
22+900	L	0.347	0.090	381	2.820	0.00	30.00	3.158	3.5	3.1	3.6	3.40	73	370	2467
23+ 50	L	0.315	0.070	510	2.990	0.00	12.00	3.381	3.2	3.2	3.8	3.40	61	309	2061
AVE.		0.350	0.080	481	3.126	8.39	21.43	3.144	3.5	3.4	3.7	3.52	66	332	2216
23+150	R	0.270	0.040	1006	4.840	7.30	15.00	2.847	1.7	2.2	2.8	2.23	76	385	2568
23+300	R	0.287	0.073	472	5.390	6.00	38.00	2.327	2.3	2.3	2.7	2.43	125	634	4224
23+450	R	0.333	0.073	489	3.700	0.00	20.00	3.110	2.5	2.8	3.2	2.83	98	497	3312
23+600	R	0.520	0.110	379	5.030	4.20	21.00	2.761	3.1	2.0	2.7	2.60	80	406	2703
23+750	R	0.383	0.070	638	2.860	2.90	13.00	3.346	3.3	3.3	3.5	3.37	48	243	1622
23+900	R	0.310	0.060	667	2.820	2.20	20.00	3.283	3.7	3.3	3.4	3.47	64	324	2163
24+ 50	R	0.295	0.045	860	3.600	0.90	21.00	3.083	3.5	3.3	3.7	3.50	71	360	2399
AVE.		0.343	0.067	644	4.034	3.36	21.14	2.965	2.9	2.7	3.1	2.92	80	407	2713

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

PSI = 4.354 - 0.841 * Log(S) - 0.037 * Sin(C) - 0.036 * D ^ 2
 (Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-5

LINK NO. : 201-0102

STUDY LENGTH : 19 KM

KM POST : 20 - 39

SURFACE TYPE : PM

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0]	DEFLEC. [D30]	RADIUS [R]	PROFIL. [S]	CRACK. [C]	RUT DEP. [D]	PSI	PSI RATING			AVE.	<150M>	<1000M>	
		(MM)	(MM)	(M)	(MM)	(%)	(MM)		(A)	(B)	(C)		(COUNT)	(MM)	(MM)
24+150	L	0.353	0.083	446	3.120	5.60	18.00	3.193	3.1	3.3	3.4	3.27	76	385	2568
24+300	L	0.417	0.097	634	3.410	1.10	22.00	3.109	2.9	2.5	3.5	2.97	94	476	3177
24+450	L	0.663	0.130	448	3.080	0.00	13.00	3.347	3.1	3.6	3.6	3.43	101	512	3413
24+600	L	0.217	0.057	757	2.690	0.00	18.00	3.405	3.1	3.5	3.6	3.40	93	471	3143
24+750	L	0.260	0.077	440	3.020	0.00	23.00	3.234	3.0	3.2	3.5	3.23	90	456	3041
24+900	L	0.203	0.040	949	3.150	0.00	24.00	3.182	2.8	3.1	3.4	3.10	72	365	2433
25+ 50	L	0.255	0.080	423	3.410	0.00	30.00	2.998	3.0	3.3	3.3	3.20	88	446	2974
AVE.		0.338	0.080	585	3.126	0.96	21.14	3.210	3.0	3.2	3.5	3.23	88	445	2964
25+150	R	0.500	0.127	302	2.820	0.00	10.00	3.446	3.1	3.2	3.4	3.23	80	406	2703
25+300	R	0.280	0.083	403	2.440	1.10	21.00	3.406	3.3	3.4	3.5	3.40	78	395	2636
25+450	R	0.360	0.097	362	2.370	1.10	37.00	3.097	3.1	3.4	3.4	3.30	82	416	2771
25+600	R	0.327	0.070	562	3.180	0.20	13.00	3.304	2.9	3.0	3.0	2.97	80	406	2703
25+750	R	0.283	0.077	576	3.540	1.30	19.00	3.119	3.3	3.3	3.4	3.33	102	517	3447
25+900	R	0.287	0.070	603	2.440	0.00	24.00	3.396	3.2	3.4	3.6	3.40	85	431	2872
26+ 50	R	0.445	0.080	498	3.830	3.10	19.00	3.030	2.6	2.8	3.4	2.93	81	411	2737
AVE.		0.355	0.086	472	2.946	0.97	20.43	3.257	3.1	3.2	3.4	3.22	84	426	2839
26+150	L	0.317	0.083	456	2.950	1.10	19.00	3.275	3.3	3.5	3.8	3.53	57	289	1926
26+300	L	0.367	0.083	444	3.050	1.10	25.00	3.152	3.7	3.6	3.6	3.63	67	340	2264
26+450	L	0.263	0.063	562	2.500	0.00	23.00	3.393	3.5	3.7	3.6	3.60	66	335	2230
26+600	L	0.390	0.077	663	4.290	0.00	16.00	3.037	3.5	3.7	3.7	3.63	86	436	2906
26+750	L	0.413	0.080	595	4.510	0.00	20.00	2.943	3.8	3.6	3.8	3.73	96	487	3244
26+900	L	0.473	0.100	358	3.340	6.40	23.00	3.056	3.7	3.7	3.7	3.70	96	487	3244
27+ 50	L	0.375	0.085	425	3.080	6.40	10.00	3.278	3.6	3.5	3.6	3.57	95	482	3210
AVE.		0.371	0.082	500	3.389	2.14	19.43	3.162	3.6	3.6	3.7	3.63	80	408	2718
27+150	R	0.287	0.060	653	2.760	2.90	26.00	3.194	3.3	3.2	3.2	3.23	95	482	3210
27+300	R	0.267	0.057	645	3.510	9.60	25.00	2.958	3.3	3.0	3.5	3.27	108	547	3650
27+450	R	0.410	0.090	394	3.150	1.10	26.00	3.107	3.5	3.3	3.4	3.40	101	512	3413
27+600	R	0.323	0.063	651	3.050	7.60	16.00	3.222	3.4	3.5	3.7	3.53	101	512	3413
27+750	R	0.347	0.067	556	3.210	0.00	17.00	3.269	3.5	3.4	3.4	3.43	101	512	3413
27+900	R	0.370	0.090	380	2.790	0.00	29.00	3.188	3.6	3.3	3.6	3.50	87	441	2940
28+ 50	R	0.350	0.060	715	2.820	0.00	25.00	3.257	3.6	3.6	3.6	3.60	88	446	2974
AVE.		0.336	0.070	571	3.041	3.03	23.43	3.171	3.5	3.3	3.5	3.42	97	493	3288

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 0.841 * \text{Log}(S) - 0.037 * \text{Sq}(C) - 0.036 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-5

LINK NO. : 201-0102

STUDY LENGTH : 19 KM

KM POST : 20 - 39

SURFACE TYPE : PM

SECTION	TESTED LANE	DEFLECTION				PSI BY MEASURING			PSI BY VISUAL			ROUGHNESS			
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	
		(A)	(B)	(C)											
28+150	L	0.277	0.053	764	2.600	0.00	16.00	3.458	3.6	3.4	3.4	3.47	66	335	2230
28+300	L	0.280	0.087	391	3.180	0.00	20.00	3.237	3.6	3.4	3.7	3.57	88	446	2974
28+450	L	0.350	0.093	415	2.140	0.00	22.00	3.540	3.3	3.5	3.6	3.47	68	345	2298
28+600	L	0.353	0.093	360	3.310	0.00	12.00	3.296	3.3	3.4	3.4	3.37	73	370	2467
28+750	L	0.323	0.083	522	3.210	0.00	26.00	3.130	3.0	3.1	3.4	3.17	78	395	2636
28+900	L	0.307	0.083	394	3.410	0.00	16.00	3.230	3.0	3.2	3.7	3.30	89	451	3008
29+ 50	L	0.300	0.060	691	3.440	1.30	22.00	3.099	3.0	3.3	3.4	3.23	100	507	3379
AVE.		0.313	0.079	505	3.041	0.19	19.14	3.284	3.3	3.3	3.5	3.37	80	407	2713
29+150	R	0.523	0.100	376	3.380	0.00	10.00	3.294	2.9	3.1	3.1	3.03	87	441	2940
29+300	R	0.410	0.120	267	2.890	2.20	16.00	3.314	2.8	3.1	3.1	3.00	89	451	3008
29+450	R	0.463	0.103	352	3.380	0.00	12.00	3.278	3.4	3.2	3.2	3.27	108	547	3650
29+600	R	0.350	0.103	323	3.020	1.80	20.00	3.231	3.2	3.2	3.2	3.20	86	436	2906
29+750	R	0.437	0.123	269	2.730	0.00	21.00	3.351	2.7	3.4	3.4	3.17	81	411	2737
29+900	R	0.403	0.110	299	4.120	2.70	25.00	2.877	2.6	3.3	3.4	3.10	129	654	4359
30+ 50	R	0.575	0.110	333	5.230	0.00	22.00	2.788	2.6	3.2	3.0	2.93	165	836	5576
AVE.		0.452	0.110	317	3.536	0.96	18.00	3.162	2.9	3.2	3.2	3.10	106	539	3597
30+150	L	0.340	0.077	469	3.180	0.00	17.00	3.277	3.7	3.2	3.5	3.47	73	370	2467
30+300	L	0.360	0.083	527	3.150	0.00	20.00	3.245	3.7	3.7	3.8	3.73	95	482	3210
30+450	L	0.330	0.083	551	3.080	0.00	22.00	3.234	3.7	3.5	3.3	3.50	93	471	3143
30+600	L	0.380	0.067	765	3.310	0.00	13.00	3.287	3.5	3.5	3.6	3.53	91	461	3075
30+750	L	0.407	0.060	900	3.150	0.00	24.00	3.182	3.8	3.6	3.9	3.77	129	654	4359
30+900	L	0.553	0.123	287	3.250	0.00	25.00	3.138	3.6	3.3	3.3	3.40	98	497	3312
31+ 50	L	0.420	0.070	549	3.830	0.00	28.00	2.942	3.5	3.3	3.2	3.33	127	644	4292
AVE.		0.399	0.080	578	3.279	0.00	21.29	3.186	3.6	3.4	3.5	3.53	101	511	3408
31+150	R	0.357	0.060	686	3.960	0.00	8.00	3.174	2.5	3.4	3.4	3.10	147	745	4968
31+300	R	0.570	0.100	373	3.730	0.00	18.00	3.130	2.9	3.4	3.2	3.17	132	669	4461
31+450	R	0.240	0.047	811	4.350	0.00	15.00	3.037	3.5	3.4	3.3	3.40	110	558	3717
31+600	R	0.303	0.050	905	4.220	0.00	12.00	3.091	3.5	3.4	3.5	3.47	117	593	3954
31+750	R	0.317	0.060	621	3.050	2.00	27.00	3.101	2.4	2.8	3.4	2.87	137	694	4630
31+900	R	0.300	0.043	963	3.700	0.00	12.00	3.202	2.3	3.0	3.4	2.90	105	532	3548
32+ 50	R	0.405	0.120	275	3.830	0.00	35.00	2.784	2.3	3.2	3.5	3.00	93	471	3143
AVE.		0.356	0.069	662	3.834	0.29	18.14	3.074	2.8	3.2	3.4	3.13	120	609	4060

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 0.841 * \log(S) - 0.037 * \text{SqR}(C) - 0.036 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-5

LINK NO. : 201-0102

STUDY LENGTH : 19 KM

KM POST : 20 - 39

SURFACE TYPE : PM

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	<1000M> (MM)
		(A)	(B)	(C)											
32+150	L	0.357	0.087	463	3.670	0.00	8.00	3.237	2.6	3.2	3.4	3.07	66	335	2230
32+300	L	0.423	0.083	551	3.020	0.00	23.00	3.234	2.8	3.0	2.6	2.80	76	385	2568
32+450	L	0.413	0.077	500	3.730	0.00	10.00	3.211	2.5	3.1	3.5	3.03	85	431	2872
32+600	L	0.310	0.083	419	2.370	0.00	11.00	3.585	2.6	3.3	3.9	3.27	73	370	2467
32+750	L	0.260	0.047	873	2.600	0.70	18.00	3.403	4.1	3.9	4.0	4.00	42	213	1419
32+900	L	0.217	0.067	565	1.490	0.00	9.00	3.989	4.0	3.9	4.0	3.97	27	137	912
33+ 50	L	0.335	0.105	294	1.010	0.00	10.00	4.310	4.0	3.9	3.9	3.93	12	61	406
AVE.		0.331	0.078	524	2.556	0.10	12.71	3.567	3.2	3.5	3.6	3.44	54	276	1839
33+150	R	0.527	0.110	350	1.270	0.00	18.00	4.036	4.0	3.0	4.0	3.67	31	157	1048
33+300	R	0.543	0.080	716	3.380	0.00	16.00	3.238	2.3	3.0	3.0	2.77	117	593	3954
33+450	R	0.620	0.093	444	3.670	0.00	33.00	2.868	2.3	2.8	3.3	2.80	145	735	4900
33+600	R	0.657	0.113	338	3.440	0.00	16.00	3.223	2.2	2.9	3.3	2.80	113	573	3819
33+750	R	0.687	0.107	426	3.340	1.30	27.00	3.035	2.6	3.3	3.0	2.97	153	776	5170
33+900	R	0.467	0.073	565	3.120	0.00	23.00	3.207	3.2	3.3	3.5	3.33	108	547	3650
34+ 50	R	0.650	0.070	718	3.640	4.90	48.00	2.356	2.4	2.9	3.1	2.80	115	583	3886
AVE.		0.593	0.092	508	3.123	0.89	25.86	3.138	2.7	3.0	3.3	3.02	112	566	3775
34+150	L	0.637	0.137	313	3.730	0.00	17.00	3.143	3.7	3.6	3.8	3.70	91	461	3075
34+300	L	0.533	0.193	161	3.050	0.00	33.00	3.024	3.7	3.5	3.7	3.63	90	456	3041
34+450	L	0.543	0.147	232	2.820	0.00	20.00	3.338	3.5	3.4	3.7	3.53	93	471	3143
34+600	L	0.523	0.130	277	2.860	0.00	29.00	3.167	3.7	3.3	3.8	3.60	87	441	2940
34+750	L	0.653	0.117	334	3.210	0.00	18.00	3.257	3.6	3.3	3.6	3.50	67	340	2264
34+900	L	0.563	0.123	362	3.510	0.00	18.00	3.181	3.6	3.0	3.6	3.40	86	436	2906
35+ 50	L	0.610	0.130	292	3.640	0.00	12.00	3.216	3.5	3.4	3.7	3.53	105	532	3548
AVE.		0.580	0.140	281	3.260	0.00	21.00	3.189	3.6	3.4	3.7	3.56	88	448	2988
35+150	R	0.380	0.090	413	2.990	0.00	19.00	3.303	3.6	3.4	3.3	3.43	107	542	3616
35+300	R	0.223	0.043	917	3.210	0.70	17.00	3.238	3.4	3.4	3.2	3.33	103	522	3481
35+450	R	0.343	0.103	822	3.470	1.30	21.00	3.107	2.7	3.3	3.1	3.03	91	461	3075
35+600	R	0.643	0.127	287	3.440	0.90	29.00	2.977	3.5	3.2	3.2	3.30	101	512	3413
35+750	R	0.580	0.137	258	3.250	4.20	23.00	3.096	3.4	3.3	3.5	3.40	98	497	3312
35+900	R	0.663	0.140	270	4.550	3.30	21.00	2.854	3.2	3.3	3.2	3.23	127	644	4292
36+ 50	R	0.525	0.115	312	2.860	0.00	27.00	3.208	3.3	3.1	3.1	3.17	82	416	2771
AVE.		0.480	0.108	468	3.396	1.49	22.43	3.112	3.3	3.3	3.2	3.27	101	513	3423

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

PSI = 4.354 - 0.841 * Log(S) - 0.037 * SqR(C) - 0.036 * D ^ 2
 (Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-5

LINK NO. : 201-0102

STUDY LENGTH : 19 KM

KM POST : 20 - 39

SURFACE TYPE : PM

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<100M> (MM)	<100M> (MM)
		(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)		
36+150	L	0.657	0.170	196	3.830	0.00	21.00	3.066	3.8	3.4	3.5	3.57	85	431	2872
36+300	L	0.713	0.153	235	3.930	2.70	35.00	2.701	2.5	2.8	3.5	2.93	126	639	4258
36+450	L	0.487	0.120	288	3.210	0.00	14.00	3.303	3.2	3.1	3.7	3.33	129	654	4359
36+600	L	0.477	0.133	256	3.540	0.00	9.00	3.262	3.3	3.2	3.2	3.23	114	578	3852
36+750	L	0.600	0.160	211	4.190	8.20	21.00	2.884	3.1	3.5	3.5	3.37	89	451	3008
36+900	L	0.470	0.120	291	3.180	0.00	19.00	3.251	3.2	3.6	3.7	3.50	100	507	3379
37+ 50	L	0.665	0.175	199	2.990	0.00	20.00	3.289	3.6	3.4	3.5	3.50	127	644	4292
AVE.		0.581	0.147	239	3.553	1.56	19.86	3.108	3.2	3.3	3.5	3.35	110	558	3717
37+150	R	0.500	0.113	320	4.250	4.00	15.00	2.982	3.2	3.4	3.2	3.27	119	603	4021
37+300	R	0.507	0.120	286	4.810	11.30	7.00	2.891	2.4	3.4	3.2	3.00	188	953	6353
37+450	R	0.417	0.117	285	4.640	6.20	16.00	2.879	3.3	3.4	3.3	3.33	167	847	5643
37+600	R	0.580	0.153	220	3.670	12.40	17.00	3.026	3.4	3.5	3.5	3.47	118	598	3988
37+750	R	0.553	0.133	267	3.770	0.00	23.00	3.047	3.3	3.4	3.3	3.33	106	537	3582
37+900	R	0.803	0.197	173	4.480	0.00	12.00	3.041	3.2	3.1	3.6	3.30	144	730	4866
38+ 50	R	1.005	0.180	206	3.410	0.00	15.00	3.241	3.7	3.3	3.5	3.50	106	537	3582
AVE.		0.624	0.145	251	4.147	4.84	15.00	3.015	3.2	3.4	3.4	3.31	135	686	4577
38+150	L	0.490	0.160	195	3.830	0.00	24.00	3.017	3.7	3.5	3.5	3.57	107	542	3616
38+300	L	0.497	0.117	302	3.020	0.00	16.00	3.332	3.3	3.5	3.4	3.40	75	380	2535
38+450	L	0.517	0.150	225	3.510	0.00	30.00	2.974	2.6	3.1	3.3	3.00	100	507	3379
38+600	L	0.667	0.173	186	4.190	0.00	10.00	3.113	3.2	3.3	3.5	3.33	122	618	4123
38+750	L	0.590	0.163	239	3.280	0.00	15.00	3.274	2.7	3.3	3.4	3.13	112	568	3785
38+900	L	0.717	0.140	258	3.830	4.00	14.00	3.080	2.0	3.0	3.3	2.77	121	613	4089
39+ 50	L	0.320	0.070	513	4.940	3.10	10.00	2.909	1.9	2.6	2.8	2.43	115	583	3886
AVE.		0.542	0.139	274	3.800	1.01	17.00	3.100	2.8	3.2	3.3	3.09	107	545	3630

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 0.841 * \log(S) - 0.037 * \log(C) - 0.036 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-12

LINK NO. : 207-0202

STUDY LENGTH : 10 KM

KM POST : 488 - 498

SURFACE TYPE : DT/ST

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING			PSI BY VISUAL			ROUGHNESS				
		DEFLEC. [D0]	DEFLEC. [D30]	RADIUS [R]	PROFIL. [S]	CRACK. [C]	RUT DEP. [D]	PSI	PSI RATING			<150M>		<1000M>	
		(MM)	(MM)	(M)	(MM)	(%)	(MM)		(A)	(B)	(C)	AVE.	(COUNT)	(MM)	(MM)
488+150	R	0.853	0.260	155	3.670	22.90	19.00	1.778	2.3	1.9	1.4	1.87	130	659	4393
488+300	R	1.220	0.337	103	3.120	7.10	15.00	2.262	1.8	1.9	1.7	1.80	140	710	4731
488+450	R	0.800	0.263	144	3.120	11.10	9.00	2.219	2.0	1.6	1.5	1.70	98	497	3312
488+600	R	0.733	0.210	167	2.630	62.20	6.00	2.049	1.7	1.0	1.0	1.23	94	476	3177
488+750	R	0.673	0.220	138	2.270	70.00	13.00	2.214	1.6	1.0	1.1	1.23	90	456	3041
488+900	R	0.850	0.300	112	6.200	49.60	22.00	0.710	1.7	1.4	1.3	1.47	192	973	6488
489+ 50	R	1.190	0.430	72	3.340	100.00	11.00	1.452	1.5	1.0	1.0	1.17	112	568	3785
AVE.		0.903	0.289	127	3.479	46.13	13.57	1.812	1.8	1.4	1.3	1.50	122	620	4132
489+150	L	0.817	0.230	154	3.510	46.70	14.00	1.672	1.2	1.0	1.0	1.07	206	1044	6961
489+300	L	0.743	0.197	180	2.530	39.60	15.00	2.238	1.8	1.2	1.0	1.33	111	563	3751
489+450	L	0.727	0.207	181	2.820	31.30	16.00	2.130	1.7	1.0	1.0	1.23	107	542	3616
489+600	L	0.813	0.253	124	2.560	3.80	24.00	2.592	1.2	1.0	1.0	1.07	230	1166	7772
489+750	L	0.567	0.183	174	2.890	12.00	20.00	2.279	1.6	1.0	1.0	1.20	205	1039	6928
489+900	L	0.727	0.180	193	3.930	3.60	13.00	1.982	2.5	2.6	2.6	2.57	147	745	4968
490+ 50	L	0.515	0.120	286	2.920	10.40	13.00	2.321	3.0	1.7	1.5	2.07	132	669	4461
AVE.		0.701	0.196	185	3.023	21.06	16.43	2.173	1.9	1.4	1.3	1.50	163	824	5494
490+150	R	0.317	0.080	525	4.680	10.00	6.00	1.602	2.2	1.5	1.5	1.73	160	811	5407
490+300	R	0.540	0.137	299	4.840	53.30	11.00	1.130	1.6	1.6	1.2	1.47	158	801	5339
490+450	R	0.633	0.213	184	3.990	66.70	18.00	1.320	1.7	1.6	1.1	1.47	125	634	4224
490+600	R	0.633	0.163	222	3.540	48.60	7.00	1.667	1.6	1.2	1.1	1.30	113	573	3819
490+750	R	0.767	0.287	256	5.390	32.40	18.00	1.088	1.5	1.2	1.1	1.27	170	862	5745
490+900	R	0.393	0.137	279	6.400	20.00	24.00	0.898	1.8	1.6	1.5	1.63	169	857	5711
491+ 50	R	0.570	0.175	213	3.510	1.30	31.00	2.115	2.9	2.7	2.6	2.73	136	689	4596
AVE.		0.550	0.170	283	4.621	33.19	16.43	1.403	1.9	1.6	1.4	1.66	147	747	4977
491+150	L	0.473	0.157	340	2.010	0.00	11.00	3.233	3.3	2.6	2.5	2.80	123	623	4157
491+300	L	0.683	0.263	106	2.560	2.70	28.00	2.591	2.8	2.6	2.6	2.67	101	512	3413
491+450	L	0.463	0.183	198	2.660	1.30	14.00	2.668	3.3	2.7	2.7	2.90	103	522	3481
491+600	L	0.613	0.203	178	2.210	2.70	9.00	2.929	2.7	2.6	2.6	2.63	115	583	3886
491+750	L	0.753	0.287	123	3.930	3.30	12.00	1.993	2.7	2.7	3.0	2.80	105	532	3548
491+900	L	1.050	0.387	81	3.250	4.70	21.00	2.214	2.8	2.7	2.8	2.77	217	1100	7333
492+ 50	L	0.910	0.365	94	2.470	4.70	10.00	2.699	2.6	2.5	2.8	2.63	123	623	4157
AVE.		0.707	0.264	160	2.727	2.77	15.00	2.618	2.9	2.6	2.7	2.74	127	642	4282

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.579 * \text{Log}(S) - 0.098 * \text{Ser}(C) - 0.015 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-12

LINK NO. : 207-0202

STUDY LENGTH : 10 KM

KM POST : 488 - 498

SURFACE TYPE : DT/ST

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<100M> (MM)	<100M> (MM)
		(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)		
492+150	R	0.463	0.187	143	2.210	0.00	26.00	3.000	3.4	2.6	2.4	2.80	97	492	3278
492+300	R	0.500	0.215	139	3.050	2.40	31.00	2.297	3.2	2.6	3.0	2.93	134	679	4528
492+450	R	0.797	0.260	117	4.480	4.00	19.00	1.736	2.2	1.6	2.5	2.10	170	862	5745
492+600	R	0.750	0.280	102	3.020	2.00	12.00	2.449	3.0	2.0	1.6	2.20	172	872	5812
492+750	R	0.437	0.133	245	3.730	1.30	14.00	2.134	2.3	2.1	1.7	2.03	103	522	3481
492+900	R	0.523	0.200	176	2.690	2.90	41.00	2.372	2.7	1.5	1.5	1.90	97	492	3278
493+ 50	R	0.910	0.345	115	3.440	5.80	9.00	2.155	2.4	1.6	1.5	1.83	201	1019	6792
AVE.		0.626	0.231	148	3.231	2.63	21.71	2.306	2.7	2.0	2.0	2.26	139	705	4702
493+150	L	1.110	0.423	84	3.440	12.00	9.00	2.052	2.3	1.6	1.7	1.87	166	841	5610
493+300	L	1.117	0.457	65	2.920	26.00	17.00	2.119	1.6	1.2	1.1	1.30	154	781	5204
493+450	L	0.560	0.180	291	4.250	8.90	20.00	1.717	1.8	2.2	2.3	2.10	150	760	5069
493+600	L	0.557	0.203	155	4.450	8.20	13.00	1.691	1.8	1.3	1.0	1.37	173	877	5846
493+750	L	0.585	0.240	112	4.450	30.40	18.00	1.408	2.6	2.2	2.6	2.47	208	1054	7029
493+900	L	0.777	0.297	101	1.850	1.60	27.00	3.149	3.2	2.9	3.0	3.03	101	512	3413
494+ 50	L	0.800	0.180	196	1.950	1.30	10.00	3.173	3.3	3.2	3.2	3.23	83	421	2805
AVE.		0.786	0.283	143	3.330	12.63	16.29	2.187	2.4	2.1	2.1	2.20	148	749	4997
494+150	R	0.913	0.277	128	2.530	6.70	8.00	2.625	1.7	1.3	1.3	1.43	179	907	6049
494+300	R	0.827	0.247	144	3.440	4.90	19.00	2.132	2.3	1.5	1.3	1.70	79	400	2670
494+450	R	1.043	0.420	77	2.600	3.30	14.00	2.638	2.7	2.5	2.4	2.53	112	568	3785
494+600	R	0.637	0.240	118	3.540	15.60	40.00	1.731	2.2	1.8	1.4	1.80	184	933	6218
494+750	R	0.563	0.193	153	4.550	18.90	56.00	1.065	1.3	1.3	1.2	1.27	183	928	6184
494+900	R	0.800	0.230	146	3.540	23.10	9.00	1.875	1.0	1.5	1.4	1.30	152	770	5137
495+ 50	R	0.635	0.210	144	6.100	30.20	8.00	0.951	0.7	1.5	1.0	1.07	377	1911	12740
AVE.		0.774	0.260	130	3.757	14.67	22.00	1.859	1.7	1.6	1.4	1.59	181	917	6112
495+150	L	0.850	0.293	107	4.640	45.10	27.00	1.163	1.4	1.4	1.5	1.43	311	1576	10510
495+300	L	0.580	0.207	172	3.080	3.30	17.00	2.356	2.6	1.7	1.4	1.90	127	644	4292
495+450	L	0.767	0.280	105	2.600	1.10	29.00	2.616	2.8	2.6	2.8	2.73	124	629	4190
495+600	L	0.550	0.173	193	2.270	0.00	8.00	3.050	2.8	2.7	2.6	2.70	109	553	3683
495+750	L	0.710	0.250	148	2.440	4.40	19.00	2.686	2.9	2.6	2.6	2.70	128	649	4326
495+900	L	0.777	0.257	117	3.080	2.70	22.00	2.344	2.6	2.5	2.6	2.57	124	629	4190
496+ 50	L	0.695	0.255	112	2.600	8.90	28.00	2.435	2.4	1.7	1.0	1.70	147	745	4968
AVE.		0.704	0.245	136	2.959	9.36	21.43	2.379	2.5	2.2	2.1	2.25	153	775	5166

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

PSI = 4.354 - 1.579 * Log(S) - 0.098 * Sq(C) - 0.015 * D ^ 2
 (Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-12

LINK NO. : 207-0202

STUDY LENGTH : 10 KM

KM POST : 488 - 498

SURFACE TYPE : DT/ST

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	<1000M> (MM)
		(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)		
496+150	R	0.867	0.283	107	2.530	5.30	12.00	2.641	2.7	1.7	2.0	2.13	137	694	4630
496+300	R	0.667	0.197	208	1.920	2.00	9.00	3.173	2.2	2.5	2.1	2.27	84	426	2839
496+450	R	0.450	0.157	192	2.600	1.80	16.00	2.675	2.8	1.5	1.6	1.97	110	558	3717
496+600	R	0.707	0.243	184	2.500	1.30	20.00	2.735	2.8	1.7	1.7	2.07	103	522	3481
496+750	R	0.743	0.260	112	2.980	11.80	18.00	2.245	1.9	2.0	1.6	1.83	142	720	4799
496+900	R	0.683	0.213	159	4.160	44.00	22.00	1.380	1.8	2.0	2.0	1.93	182	923	6150
497+ 50	R	0.600	0.155	295	4.770	14.00	20.00	1.460	2.0	1.5	1.4	1.63	161	816	5441
AVE.		0.674	0.215	180	3.066	11.46	16.71	2.330	2.3	1.8	1.8	1.98	131	665	4437
497+150	L	1.257	0.497	59	2.440	3.60	21.00	2.693	2.3	1.7	1.8	1.93	97	492	3278
497+300	L	1.457	0.523	55	4.450	25.10	33.00	1.342	1.2	1.4	1.2	1.27	224	1135	7570
497+450	L	1.267	0.327	98	3.210	13.10	8.00	2.148	2.2	1.7	1.7	1.87	106	537	3582
497+600	L	1.023	0.417	70	1.980	7.10	17.00	2.971	2.4	2.8	2.7	2.63	74	375	2501
497+750	L	0.817	0.297	107	2.010	0.00	18.00	3.203	3.2	2.9	2.7	2.93	96	487	3244
497+900	L	1.053	0.310	110	3.990	8.20	12.00	1.867	1.9	1.6	1.7	1.73	203	1029	6860
498+ 50	L	1.380	0.430	73	3.180	7.30	28.00	2.145	3.0	2.7	2.7	2.80	105	532	3548
AVE.		1.179	0.400	82	3.037	9.20	19.57	2.339	2.3	2.1	2.1	2.17	129	655	4369

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.579 * \text{Log}(S) - 0.098 * \text{Sq}(C) - 0.015 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-16

LINK NO. : 214-0100

STUDY LENGTH : 5 KM

KM POST : 7 - 12

SURFACE TYPE : DT/ST

SECTION	TESTED LANE	DEFLECTION				PSI BY MEASURING			PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0]	DEFLEC. [D30]	RADIUS [R]	PROFIL. [S]	CRACK. [C]	RUT DEP. [D]	PSI	PSI RATING			AVE.	<150M>	<1000M>	
		(MM)	(MM)	(M)	(MM)	(%)	(MM)		(A)	(B)	(C)		(COUNT)	(MM)	(MM)
7+150	R	0.707	0.317	79	3.730	0.00	26.00	2.174	2.9	3.4	3.0	3.10	117	593	3954
7+300	R	0.730	0.363	64	3.020	2.20	19.00	2.409	2.7	3.5	3.0	3.07	115	583	3886
7+450	R	0.810	0.437	50	3.540	0.00	18.00	2.309	2.8	2.7	3.0	2.83	87	441	2940
7+600	R	0.693	0.320	88	2.660	0.40	26.00	2.646	2.8	2.7	2.6	2.70	91	461	3075
7+750	R	1.007	0.460	58	2.080	0.00	21.00	3.131	2.7	2.6	3.0	2.77	83	421	2805
7+900	R	0.867	0.400	68	2.050	0.00	25.00	3.127	2.8	2.6	2.3	2.57	96	487	3244
8+ 50	R	0.795	0.310	89	3.120	0.00	48.00	2.212	2.7	2.8	2.6	2.70	105	532	3548
AVE.		0.801	0.372	71	2.886	0.37	26.14	2.573	2.8	2.9	2.8	2.82	99	503	3350
8+150	L	1.053	0.490	50	3.180	1.30	17.00	2.372	2.4	2.4	1.7	2.17	115	583	3886
8+300	L	0.630	0.290	86	2.990	0.00	16.00	2.586	2.6	2.5	2.0	2.37	140	710	4731
8+450	L	1.007	0.483	56	2.050	12.40	34.00	2.702	2.2	1.7	1.4	1.77	103	522	3481
8+600	L	0.860	0.417	58	3.930	46.40	25.00	1.432	2.0	1.5	1.3	1.60	131	664	4427
8+750	L	0.720	0.350	68	2.310	42.20	28.00	2.278	2.4	2.0	1.7	2.03	112	568	3785
8+900	L	0.387	0.213	97	2.790	21.80	30.00	2.141	2.7	1.8	1.7	2.07	130	659	4393
9+ 50	L	0.745	0.385	60	3.180	8.90	16.00	2.197	2.7	2.1	2.0	2.27	134	679	4528
AVE.		0.772	0.375	69	2.919	19.00	23.71	2.244	2.4	2.0	1.7	2.04	124	626	4176
9+150	R	1.107	0.547	43	1.560	0.00	35.00	3.468	2.7	3.0	2.7	2.80	84	426	2839
9+300	R	0.617	0.267	96	5.650	14.90	25.00	1.148	1.7	1.4	1.2	1.43	199	1009	6725
9+450	R	0.497	0.210	126	1.620	2.00	13.00	3.428	2.7	2.7	3.0	2.80	78	395	2636
9+600	R	0.455	0.215	111	1.980	4.00	36.00	2.885	2.2	2.4	2.4	2.33	97	492	3278
9+750	R	0.740	0.390	56	3.930	16.70	16.00	1.754	2.0	1.5	1.7	1.73	164	831	5542
9+900	R	0.600	0.315	73	3.930	4.70	14.00	1.951	2.6	1.5	2.5	2.20	162	821	5475
10+ 50	R	0.755	0.360	65	2.370	0.00	17.00	2.948	2.8	2.6	1.8	2.40	93	471	3143
AVE.		0.681	0.329	81	3.006	6.04	22.29	2.512	2.4	2.2	2.2	2.24	125	635	4234
10+150	L	0.767	0.327	76	2.890	0.20	17.00	2.591	2.8	2.6	2.6	2.67	157	796	5306
10+300	L	0.513	0.227	127	3.640	14.70	22.00	1.866	2.5	1.6	1.5	1.87	115	583	3886
10+450	L	0.530	0.195	149	3.440	6.00	21.00	2.097	2.3	2.6	2.3	2.40	181	917	6117
10+600	L	0.617	0.243	115	4.740	8.40	22.00	1.540	2.2	1.6	1.6	1.80	134	679	4528
10+750	L	0.797	0.360	70	3.670	11.10	31.00	1.830	2.3	1.7	1.7	1.90	109	553	3683
10+900	L	1.210	0.600	39	3.800	22.40	18.00	1.734	1.6	1.2	1.1	1.30	190	963	6421
11+ 50	L	0.985	0.440	58	3.440	4.00	37.00	2.002	2.7	1.9	1.6	2.07	122	618	4123
AVE.		0.774	0.342	91	3.660	9.54	24.00	1.951	2.3	1.9	1.8	2.00	144	730	4866

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.579 * \text{Log}(S) - 0.098 * \text{Sq}(C) - 0.015 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-16

LINK NO. : 214-0100

STUDY LENGTH : 5 KM

KM POST : 7 - 12

SURFACE TYPE : DT/ST

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL			ROUGHNESS			
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	<1000M> (MM)
		(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)		
11+150	R	0.847	0.390	67	1.950	4.90	32.00	2.929	2.0	1.8	1.4	1.73	102	517	3447
11+300	R	0.963	0.470	50	2.530	17.30	30.00	2.346	2.3	2.5	2.5	2.43	93	471	3143
11+450	R	0.823	0.300	125	1.560	29.60	24.00	3.032	2.9	2.7	2.5	2.70	82	416	2771
11+600	R	0.473	0.227	104	1.720	0.00	29.00	3.372	2.7	1.9	1.9	2.17	82	416	2771
11+750	R	0.935	0.450	53	3.210	0.00	21.00	2.446	2.3	1.8	2.0	2.03	104	527	3515
11+900	R	0.843	0.360	75	2.180	0.00	21.00	3.057	2.2	2.0	1.6	1.93	67	340	2264
12+ 50	R	0.460	0.220	107	2.790	0.00	20.00	2.674	2.2	1.6	1.5	1.77	96	487	3244
AVE.		0.764	0.345	83	2.277	7.40	25.29	2.837	2.4	2.0	1.9	2.11	89	453	3022

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.579 * \text{Log}(S) - 0.098 * \text{Sar}(C) - 0.015 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-16

LINK NO. : 214-0100

STUDY LENGTH : 5 KM

KM POST : 13 - 18

SURFACE TYPE : DT/ST

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	<1000M> (MM)
		(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)		
13+150	R	0.770	0.367	68	4.290	18.20	18.00	1.588	2.7	2.0	1.7	2.13	138	700	4663
13+300	R	0.993	0.443	59	3.800	13.30	15.00	1.855	2.5	2.0	1.6	2.03	145	735	4900
13+450	R	0.567	0.213	132	2.600	0.20	13.00	2.776	2.3	1.9	1.6	1.93	107	542	3616
13+600	R	0.490	0.227	122	2.730	0.00	20.00	2.708	2.4	1.7	2.4	2.17	111	563	3751
13+750	R	0.423	0.217	100	2.500	0.00	26.00	2.806	2.7	2.6	3.1	2.80	87	441	2940
13+900	R	0.603	0.313	73	1.790	2.00	18.00	3.247	2.9	2.8	3.2	2.97	94	476	3177
14+ 50	R	0.555	0.275	84	2.680	0.00	19.00	2.743	2.7	2.8	2.8	2.77	99	502	3346
AVE.		0.629	0.294	91	2.913	4.81	18.43	2.532	2.6	2.3	2.3	2.40	112	566	3770
14+150	L	0.523	0.260	88	1.820	0.00	12.00	3.387	3.0	2.9	2.5	2.80	82	416	2771
14+300	L	0.563	0.307	73	1.850	0.00	20.00	3.323	2.8	2.8	2.5	2.70	81	411	2737
14+450	L	0.663	0.283	94	1.790	0.00	17.00	3.391	2.8	2.7	2.4	2.63	69	350	2332
14+600	L	0.577	0.257	100	2.500	0.00	20.00	2.847	2.9	2.5	2.5	2.63	91	461	3075
14+750	L	0.557	0.233	114	2.110	0.00	18.00	3.126	2.7	2.4	2.6	2.57	103	522	3481
14+900	L	0.757	0.327	87	2.400	0.00	27.00	2.862	2.6	2.6	2.5	2.57	134	679	4528
15+ 50	L	0.605	0.295	77	1.590	0.00	20.00	3.562	2.8	2.8	3.0	2.87	94	476	3177
AVE.		0.606	0.280	90	2.009	0.00	19.14	3.214	2.8	2.7	2.6	2.68	93	474	3157
15+150	R	0.500	0.243	98	1.920	0.00	15.00	3.290	2.8	3.6	3.0	3.13	84	426	2839
15+300	R	0.327	0.163	162	1.330	0.00	17.00	3.860	3.4	3.7	3.3	3.47	70	355	2366
15+450	R	0.400	0.223	93	1.200	0.00	27.00	3.957	3.4	3.7	3.0	3.37	57	289	1926
15+600	R	0.610	0.283	87	1.490	0.00	19.00	3.670	2.9	3.5	3.4	3.27	67	340	2264
15+750	R	0.537	0.203	139	2.390	10.00	27.00	2.559	2.7	2.2	2.9	2.60	109	553	3683
15+900	R	0.620	0.327	74	2.370	0.00	13.00	2.966	2.7	3.0	3.1	2.93	79	400	2670
16+ 50	R	0.565	0.250	102	2.110	0.00	11.00	3.157	3.3	3.7	3.4	3.47	81	411	2737
AVE.		0.508	0.242	108	1.830	1.43	18.43	3.351	3.0	3.3	3.2	3.18	78	396	2641
16+150	L	0.843	0.360	73	2.370	0.00	14.00	2.962	2.7	2.6	2.7	2.67	101	512	3413
16+300	L	0.747	0.333	75	2.080	0.00	13.00	3.172	2.7	2.7	3.0	2.80	105	532	3548
16+450	L	0.690	0.327	77	2.140	0.00	17.00	3.109	3.0	2.8	2.9	2.90	93	471	3143
16+600	L	0.513	0.293	84	2.340	0.00	8.00	3.002	3.1	2.5	2.9	2.83	68	345	2298
16+750	L	0.590	0.273	89	1.620	0.00	9.00	3.580	3.2	2.9	3.0	3.03	67	340	2264
16+900	L	0.447	0.213	111	1.620	0.00	8.00	3.583	3.5	3.0	3.2	3.23	57	289	1926
17+ 50	L	0.760	0.365	66	1.660	0.00	15.00	3.520	2.6	2.5	2.8	2.63	118	598	3988
AVE.		0.656	0.309	82	1.976	0.00	12.00	3.275	3.0	2.7	2.9	2.87	87	441	2940

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.579 * \text{Log}(S) - 0.098 * \text{Sq}(C) - 0.015 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-16

LINK NO. : 214-0100

STUDY LENGTH : 5 KM

KM POST : 13 - 18

SURFACE TYPE : DT/ST

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL			ROUGHNESS			
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			<150M>		<1000M>	
		(A)	(B)	(C)	AVE.	(COUNT)	(MM)	(MM)							
17+150	R	0.580	0.277	86	2.050	0.00	20.00	3.161	3.4	3.2	3.4	3.33	74	375	2501
17+300	R	0.650	0.283	92	1.750	0.00	12.00	3.449	3.7	3.6	3.3	3.53	77	390	2602
17+450	R	0.717	0.313	81	2.720	12.00	18.00	2.386	2.1	1.6	1.7	1.80	153	776	5170
17+600	R	0.807	0.363	75	2.180	0.00	10.00	3.108	2.6	3.3	3.1	3.00	81	411	2737
17+750	R	0.537	0.257	93	1.690	0.00	21.00	3.459	3.5	3.4	3.5	3.47	83	421	2805
17+900	R	0.403	0.200	114	2.270	0.00	30.00	2.925	3.6	3.1	3.0	3.23	66	335	2230
18+ 50	R	0.500	0.245	90	1.690	0.00	14.00	3.496	3.3	2.8	3.0	3.03	78	395	2636
AVE.		0.599	0.277	90	2.050	1.71	17.86	3.141	3.2	3.0	3.0	3.06	87	443	2955

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.579 * \text{Log}(S) - 0.098 * \text{Ser}(C) - 0.015 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-25

LINK NO. : 2071-0100

STUDY LENGTH : 10 KM

KM POST : 7 - 17

SURFACE TYPE : DT/ST

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING			PSI BY VISUAL			ROUGHNESS				
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	
								(A)	(B)	(C)					
7+150	R	0.420	0.123	259	3.310	0.00	17.00	2.421	2.6	2.8	2.0	2.47	114	578	3852
7+300	R	0.267	0.093	319	3.310	0.00	24.00	2.378	2.3	2.6	2.7	2.53	106	537	3582
7+450	R	0.350	0.110	295	2.730	0.00	24.00	2.682	2.3	2.6	2.8	2.57	114	578	3852
7+600	R	0.250	0.067	589	3.730	0.00	27.00	2.166	2.7	2.8	3.0	2.83	119	603	4021
7+750	R	0.220	0.063	665	3.770	0.00	10.00	2.244	2.8	2.7	2.8	2.77	119	603	4021
7+900	R	0.360	0.090	614	3.250	0.00	36.00	2.299	2.2	1.5	1.6	1.77	114	578	3852
8+ 50	R	0.420	0.105	317	4.090	2.40	46.00	1.661	1.2	1.5	1.9	1.53	124	629	4190
AVE.		0.327	0.093	437	3.456	0.34	26.29	2.264	2.3	2.4	2.4	2.35	116	587	3910
8+150	L	0.243	0.080	600	3.050	0.00	54.00	2.156	3.0	2.7	2.4	2.70	89	451	3008
8+300	L	0.327	0.090	357	2.760	0.00	33.00	2.588	2.8	2.7	2.7	2.73	106	537	3582
8+450	L	0.307	0.100	298	2.760	0.00	31.00	2.607	2.6	2.8	2.7	2.70	110	558	3717
8+600	L	0.370	0.123	258	2.600	1.60	12.00	2.700	2.4	2.7	2.4	2.50	109	553	3683
8+750	L	0.340	0.097	341	2.950	1.80	9.00	2.502	2.5	2.7	2.5	2.57	111	563	3751
8+900	L	0.310	0.077	541	3.380	1.10	11.00	2.310	2.8	2.7	2.3	2.60	102	517	3447
9+ 50	L	0.340	0.100	317	2.920	6.20	12.00	2.396	2.5	2.5	1.8	2.27	84	426	2839
AVE.		0.320	0.095	387	2.917	1.53	23.14	2.465	2.7	2.7	2.4	2.58	102	515	3432
9+150	R	0.360	0.107	303	3.280	2.70	40.00	2.077	2.5	1.9	1.8	2.07	122	618	4123
9+300	R	0.377	0.083	444	2.730	0.00	13.00	2.743	2.4	2.9	2.9	2.73	139	705	4697
9+450	R	0.373	0.087	403	2.890	18.70	15.00	2.221	1.9	1.6	1.6	1.70	130	659	4393
9+600	R	0.500	0.117	306	3.020	0.00	27.00	2.499	2.8	1.9	1.9	2.20	149	755	5035
9+750	R	0.377	0.103	311	3.180	2.40	17.00	2.332	2.4	1.8	1.8	2.00	130	659	4393
9+900	R	0.460	0.120	280	3.250	4.00	13.00	2.272	1.8	1.9	1.8	1.83	157	796	5306
10+ 50	R	0.470	0.130	277	2.760	2.00	55.00	2.159	1.2	2.0	2.0	1.73	145	735	4900
AVE.		0.417	0.107	332	3.016	4.26	25.71	2.329	2.1	2.0	2.0	2.04	139	704	4692
10+150	L	0.430	0.130	247	3.600	0.90	22.00	2.166	2.1	2.4	2.4	2.30	173	877	5846
10+300	L	0.447	0.097	386	3.700	4.20	19.00	2.033	1.8	1.9	2.0	1.90	135	684	4562
10+450	L	0.343	0.103	436	3.440	1.30	25.00	2.198	1.9	1.8	1.6	1.77	113	573	3819
10+600	L	0.390	0.117	274	2.820	6.40	22.00	2.396	1.9	1.8	1.8	1.83	155	786	5238
10+750	L	0.440	0.123	281	4.480	3.10	14.00	1.784	1.6	1.7	1.8	1.70	116	588	3920
10+900	L	0.407	0.107	320	3.280	8.70	30.00	2.054	1.6	1.8	1.6	1.67	135	684	4562
11+ 50	L	0.495	0.100	377	4.060	6.90	33.00	1.721	0.9	1.6	1.3	1.27	108	547	3650
AVE.		0.422	0.111	332	3.626	4.50	23.57	2.050	1.7	1.9	1.8	1.78	134	677	4514

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.579 * \text{Log}(S) - 0.098 * \text{Sqr}(C) - 0.015 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-25

LINK NO. : 2071-0100

STUDY LENGTH : 10 KM

KM POST : 7 - 17

SURFACE TYPE : DT/ST

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL			ROUGHNESS			
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			<150M>		<1000M>	
									(A)	(B)	(C)	AVE.	(COUNT)	(MM)	(MM)
11+150	R	0.680	0.170	207	4.220	32.70	21.00	1.454	1.1	1.6	1.0	1.23	136	689	4596
11+300	R	0.493	0.103	350	3.280	10.20	18.00	2.117	1.6	1.7	1.6	1.63	128	649	4326
11+450	R	0.493	0.107	389	3.150	0.70	45.00	2.157	2.0	1.5	2.0	1.83	120	608	4055
11+600	R	0.463	0.090	417	3.410	0.00	29.00	2.291	2.4	1.6	2.0	2.00	124	629	4190
11+750	R	0.327	0.060	675	3.280	1.10	30.00	2.241	2.3	1.9	1.9	2.03	133	674	4495
11+900	R	0.313	0.053	706	3.380	2.00	37.00	2.087	2.4	1.6	1.5	1.83	162	821	5475
12+ 50	R	0.395	0.050	824	3.830	7.30	19.00	1.915	1.7	1.4	1.3	1.47	155	786	5238
AVE.		0.452	0.090	510	3.507	7.71	28.43	2.037	1.9	1.6	1.6	1.72	137	694	4625
12+150	L	0.413	0.103	343	3.930	2.20	13.00	2.022	2.1	1.5	1.4	1.67	119	603	4021
12+300	L	0.487	0.097	421	3.250	0.40	23.00	2.352	2.0	1.6	1.6	1.73	113	573	3819
12+450	L	0.503	0.100	363	3.340	17.30	32.00	1.889	1.3	1.4	1.2	1.30	137	694	4630
12+600	L	0.450	0.067	694	4.250	15.10	34.00	1.515	1.2	1.2	1.4	1.27	162	821	5475
12+750	L	0.387	0.067	600	3.960	2.00	27.00	1.933	1.5	1.5	1.3	1.43	151	765	5103
12+900	L	0.407	0.087	529	3.800	0.40	19.00	2.130	2.0	2.0	2.0	2.00	147	745	4968
13+ 50	L	0.465	0.120	278	3.410	8.20	25.00	2.043	1.2	1.4	1.3	1.30	166	841	5610
AVE.		0.445	0.091	461	3.706	6.51	24.71	1.983	1.6	1.5	1.5	1.53	142	721	4803
13+150	R	0.337	0.070	615	4.320	9.80	12.00	1.715	2.5	1.8	1.8	2.03	159	806	5373
13+300	R	0.413	0.103	354	2.950	31.30	18.00	2.049	2.3	2.1	2.0	2.13	123	623	4157
13+450	R	0.283	0.067	588	3.540	68.70	27.00	1.436	1.8	1.7	2.1	1.87	146	740	4934
13+600	R	0.503	0.107	324	4.510	43.30	10.00	1.316	1.7	1.6	1.1	1.47	167	847	5643
13+750	R	0.280	0.073	659	3.440	12.00	18.00	2.015	2.0	1.9	1.6	1.83	139	705	4697
13+900	R	0.290	0.080	433	3.310	15.60	20.00	2.017	1.3	2.5	1.9	1.90	125	634	4224
14+ 50	R	0.350	0.105	292	3.510	3.80	29.00	2.054	2.4	1.9	2.0	2.10	133	674	4495
AVE.		0.351	0.086	466	3.654	26.36	19.14	1.800	2.0	1.9	1.8	1.90	142	718	4789
14+150	L	0.430	0.110	302	4.060	34.70	19.00	1.510	2.0	1.7	1.7	1.80	150	760	5069
14+300	L	0.477	0.123	276	3.860	90.70	23.00	1.209	1.5	1.4	1.8	1.57	147	745	4968
14+450	L	0.550	0.140	256	3.340	31.80	31.00	1.753	1.5	1.4	2.0	1.63	141	715	4765
14+600	L	0.360	0.110	306	3.900	15.80	20.00	1.755	1.8	2.0	2.2	2.00	142	720	4799
14+750	L	0.343	0.107	310	4.250	100.00	11.00	1.071	1.2	1.8	2.0	1.67	154	781	5204
14+900	L	0.447	0.107	315	4.090	45.10	11.00	1.454	1.7	1.7	1.7	1.70	122	618	4123
15+ 50	L	0.650	0.150	250	3.800	40.00	16.00	1.588	1.8	1.8	1.5	1.70	141	715	4765
AVE.		0.465	0.121	288	3.900	51.16	18.71	1.477	1.6	1.7	1.8	1.72	142	722	4813

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.579 * \text{Log}(S) - 0.098 * \text{Sqr}(C) - 0.015 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-25

LINK NO. : 2071-0100

STUDY LENGTH : 10 KM

KM POST : 7 - 17

SURFACE TYPE : DT/ST

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL			ROUGHNESS			
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	<1000M> (MM)
		(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)					
15+150	R	0.387	0.083	543	3.210	30.00	14.00	1.946	2.5	1.7	1.7	1.97	115	583	3886
15+300	R	0.340	0.080	452	3.340	30.00	6.00	1.908	2.4	1.6	1.4	1.80	128	649	4326
15+450	R	0.410	0.113	288	3.250	30.00	26.00	1.855	2.0	1.8	1.7	1.83	152	770	5137
15+600	R	0.390	0.113	280	4.090	34.00	29.00	1.432	1.5	1.5	1.4	1.47	154	781	5204
15+750	R	0.383	0.083	526	3.160	30.00	22.00	1.918	2.2	1.5	1.3	1.67	130	659	4393
15+900	R	0.317	0.090	360	3.440	14.70	40.00	1.787	2.0	1.4	1.3	1.57	128	649	4326
16+ 50	R	0.390	0.085	462	3.570	3.60	22.00	2.086	2.2	1.6	1.7	1.83	118	598	3988
AVE.		0.374	0.093	416	3.440	24.61	22.71	1.847	2.1	1.6	1.5	1.73	132	670	4466
16+150	L	0.233	0.053	692	3.180	0.00	13.00	2.502	1.9	1.6	1.6	1.70	118	598	3988
16+300	L	0.447	0.093	444	2.920	1.10	19.00	2.505	1.6	1.7	1.8	1.70	127	644	4292
16+450	L	0.630	0.113	317	4.030	8.90	13.00	1.836	1.3	1.8	1.8	1.63	153	776	5170
16+600	L	0.520	0.070	714	3.440	17.80	8.00	1.980	1.5	1.9	1.2	1.53	128	649	4326
16+750	L	0.557	0.127	357	3.960	34.70	13.00	1.578	1.7	2.1	1.6	1.80	109	553	3683
16+900	L	0.440	0.080	568	3.250	13.30	18.00	2.087	2.0	1.8	1.1	1.63	123	623	4157
17+ 50	L	0.390	0.075	503	3.570	15.30	7.00	1.954	2.2	1.6	1.3	1.70	136	689	4596
AVE.		0.460	0.087	514	3.479	13.01	13.00	2.063	1.7	1.8	1.5	1.67	128	647	4316

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.579 * \text{Log}(S) - 0.098 * \text{Ser}(C) - 0.015 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-27

LINK NO. : 2160-0100

STUDY LENGTH : 10 KM

KM POST : 9 - 19

SURFACE TYPE : DT/ST

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL			ROUGHNESS			
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	<1000M> (MM)
		(A)	(B)	(C)											
9+150	R	0.790	0.420	49	3.310	0.00	19.00	2.410	2.9	3.3	2.8	3.00	124	629	4190
9+300	R	1.070	0.447	59	3.600	0.00	19.00	2.277	3.5	3.5	2.9	3.30	100	507	3379
9+450	R	0.687	0.360	59	3.470	8.00	24.00	2.026	2.8	3.1	2.9	2.93	118	598	3988
9+600	R	0.797	0.410	56	4.590	14.70	10.00	1.557	2.1	1.5	2.2	1.93	191	968	6455
9+750	R	1.103	0.570	49	3.210	0.00	17.00	2.469	2.7	3.2	2.9	2.93	175	887	5914
9+900	R	0.560	0.297	69	4.320	11.10	17.00	1.674	2.7	2.3	2.7	2.57	127	644	4292
10+ 50	R	0.780	0.390	59	3.700	1.30	35.00	1.993	3.0	2.7	3.0	2.90	119	603	4021
AVE.		0.827	0.413	57	3.743	5.01	20.14	2.058	2.8	2.8	2.8	2.80	136	691	4606
10+150	L	1.013	0.577	35	1.920	1.60	17.00	3.157	1.9	1.9	2.2	2.00	132	669	4461
10+300	L	0.857	0.473	44	2.370	0.00	20.00	2.931	2.3	1.9	2.7	2.30	95	482	3210
10+450	L	1.103	0.667	29	4.250	19.60	44.00	1.345	2.1	1.8	2.3	2.07	122	618	4123
10+600	L	1.030	0.617	35	4.610	0.00	24.00	1.855	1.0	1.0	1.0	1.00	182	923	6150
10+750	L	0.715	0.405	53	5.680	0.00	26.00	1.510	1.0	1.0	1.0	1.00	287	1455	9699
10+900	L	-	-	-	5.980	0.00	26.00	1.429	1.0	1.0	1.0	1.00	239	1211	8077
11+ 50	L	-	-	-	4.640	20.20	39.00	1.262	1.2	1.5	1.9	1.53	226	1146	7637
AVE.		0.944	0.548	39	3.766	4.24	26.20	2.160	1.7	1.5	1.8	1.67	164	829	5529
11+150	R	1.587	0.947	21	5.130	18.00	32.00	1.203	1.6	1.5	2.4	1.83	198	1004	6691
11+300	R	1.733	1.050	51	5.810	69.10	32.00	0.607	1.1	1.6	1.9	1.53	266	1348	8989
11+450	R	1.500	0.895	33	5.290	51.30	14.00	0.992	1.6	1.8	2.7	2.03	195	988	6590
11+600	R	0.880	0.500	49	4.290	34.70	23.00	1.398	1.7	2.0	2.6	2.10	217	1100	7333
11+750	R	0.713	0.397	50	5.750	25.10	36.00	0.907	1.8	1.9	2.2	1.97	162	821	5475
11+900	R	0.877	0.437	63	4.090	3.10	28.00	1.840	1.9	1.7	2.3	1.97	188	953	6353
12+ 50	R	2.055	1.415	11	9.090	11.60	19.00	0.481	1.1	1.3	1.7	1.37	275	1394	9293
AVE.		1.335	0.806	39	5.636	30.41	26.29	1.061	1.5	1.7	2.3	1.83	214	1087	7246
12+150	L	1.343	0.860	34	4.740	4.70	41.00	1.432	1.8	1.5	2.1	1.80	115	583	3886
12+300	L	1.410	0.833	44	3.830	8.90	23.00	1.862	1.5	1.4	1.9	1.60	157	796	5306
12+450	L	1.407	0.750	69	5.160	14.00	29.00	1.270	0.9	1.2	1.7	1.27	192	973	6488
12+600	L	1.093	0.637	31	1.880	1.30	17.00	3.202	2.8	1.8	2.0	2.20	84	426	2839
12+750	L	1.573	0.907	21	2.180	0.00	14.00	3.094	2.9	2.1	2.8	2.60	74	375	2501
12+900	L	1.093	0.590	37	2.140	0.00	20.00	3.093	2.9	2.7	2.8	2.80	76	385	2568
13+ 50	L	1.125	0.865	11	1.920	2.00	10.00	3.170	2.9	2.6	2.7	2.73	87	441	2940
AVE.		1.292	0.777	35	3.121	4.41	22.00	2.446	2.2	1.9	2.3	2.14	112	568	3790

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.579 * \log(S) - 0.098 * \log(C) - 0.015 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-27

LINK NO. : 2160-0100

STUDY LENGTH : 10 KM

KM POST : 9 - 19

SURFACE TYPE : DT/ST

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0]	DEFLEC. [D30]	RADIUS [R]	PROFIL. [S]	CRACK. [C]	RUT DEP. [D]	PSI	PSI RATING			AVE.	<150M>	<1000M>	
		(MM)	(MM)	(M)	(MM)	(%)	(MM)		(A)	(B)	(C)		(COUNT)	(MM)	(MM)
13+150	R	1.703	0.933	28	2.080	4.40	11.00	2.974	3.3	3.7	2.9	3.30	111	563	3751
13+300	R	1.157	0.573	40	3.340	8.70	6.00	2.155	2.7	3.0	2.8	2.83	117	593	3954
13+450	R	1.003	0.577	36	2.440	0.70	12.00	2.842	3.0	3.3	2.9	3.07	71	360	2399
13+600	R	1.477	0.813	53	2.660	0.70	19.00	2.673	3.3	3.5	3.0	3.27	123	623	4157
13+750	R	1.433	0.800	25	3.020	0.70	10.00	2.512	3.1	3.0	3.1	3.07	82	416	2771
13+900	R	2.427	1.127	23	2.790	1.80	16.00	2.564	3.2	2.9	2.9	3.00	156	791	5272
14+ 50	R	1.340	0.830	24	2.110	0.00	20.00	3.115	3.4	3.0	3.0	3.13	80	406	2703
AVE.		1.506	0.808	33	2.634	2.43	13.43	2.691	3.1	3.2	2.9	3.10	106	536	3572
14+150	L	2.530	1.943	17	2.050	5.30	9.00	2.983	2.4	2.1	2.5	2.33	140	710	4731
14+300	L	1.207	0.667	30	2.270	5.10	7.00	2.831	2.6	1.9	2.7	2.40	127	644	4292
14+450	L	1.243	0.823	24	4.380	2.00	21.00	1.817	1.4	1.4	2.2	1.67	180	912	6083
14+600	L	1.037	0.597	39	4.510	8.40	39.00	1.463	1.6	1.9	2.1	1.87	186	943	6286
14+750	L	1.133	0.717	25	6.430	7.10	14.00	1.125	0.8	1.3	2.1	1.40	246	1247	8313
14+900	L	1.647	1.293	8	4.550	5.60	42.00	1.465	0.7	1.3	2.0	1.33	199	1009	6725
15+ 50	L	1.935	1.495	9	3.020	6.00	12.00	2.347	2.0	1.4	2.4	1.93	169	857	5711
AVE.		1.533	1.076	22	3.887	5.64	20.57	2.004	1.6	1.6	2.3	1.85	178	903	6020
15+150	R	1.853	1.193	18	5.840	29.60	15.00	1.001	0.7	1.3	1.2	1.07	275	1394	9293
15+300	R	0.770	0.420	61	4.120	6.40	27.00	1.761	1.9	1.4	2.3	1.87	129	654	4359
15+450	R	0.897	0.530	48	3.340	1.10	26.00	2.246	2.7	2.7	2.8	2.73	147	745	4968
15+600	R	0.860	0.503	39	2.560	0.00	18.00	2.821	2.9	3.0	3.0	2.97	104	527	3515
15+750	R	0.797	0.443	48	2.820	0.00	9.00	2.705	3.0	2.9	3.0	2.97	101	512	3413
15+900	R	0.633	0.330	61	2.690	0.00	8.00	2.782	3.0	2.8	2.9	2.90	84	426	2839
16+ 50	R	0.570	0.275	146	3.470	0.90	7.00	2.289	2.4	2.1	2.7	2.40	146	740	4934
AVE.		0.911	0.528	60	3.549	5.43	15.71	2.229	2.4	2.3	2.6	2.41	141	714	4760
16+150	L	1.730	1.060	17	4.840	10.90	21.00	1.474	2.0	1.8	2.7	2.17	195	988	6590
16+300	L	0.867	0.567	49	3.730	2.20	30.00	1.995	2.4	1.4	2.4	2.07	141	715	4765
16+450	L	0.943	0.477	76	4.940	6.20	10.00	1.573	2.0	1.7	2.2	1.97	156	791	5272
16+600	L	0.777	0.473	87	5.390	1.30	5.00	1.579	2.7	1.8	2.4	2.30	161	816	5441
16+750	L	0.760	0.330	77	5.320	0.00	44.00	1.424	2.5	1.5	2.3	2.10	184	933	6218
16+900	L	1.363	0.670	40	4.290	0.00	25.00	1.961	2.2	2.3	2.5	2.33	147	745	4968
17+ 50	L	1.900	1.115	17	4.220	8.20	17.00	1.757	1.1	1.4	2.3	1.60	122	618	4123
AVE.		1.191	0.670	52	4.676	4.11	21.71	1.680	2.1	1.7	2.4	2.08	158	801	5339

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.579 * \log(S) - 0.098 * \log(C) - 0.015 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

RESULTS OF SURVEYS ON DEFLECTION, PSI & ROUGHNESS

STUDY ROUTE : RH-27

LINK NO. : 2160-0100

STUDY LENGTH : 10 KM

KM POST : 9 - 19

SURFACE TYPE : DT/ST

SECTION	TESTED LANE	DEFLECTION			PSI BY MEASURING				PSI BY VISUAL				ROUGHNESS		
		DEFLEC. [D0] (MM)	DEFLEC. [D30] (MM)	RADIUS [R] (M)	PROFIL. [S] (MM)	CRACK. [C] (%)	RUT DEP. [D] (MM)	PSI	PSI RATING			AVE.	<150M> (COUNT)	<1000M> (MM)	<1000M> (MM)
		(A)	(B)	(C)											
17+150	R	1.143	0.500	50	3.800	11.30	17.00	1.873	1.7	1.9	2.5	2.03	136	689	4596
17+300	R	1.093	0.503	48	3.570	0.90	28.00	2.134	1.7	1.4	2.6	1.90	179	907	6049
17+450	R	1.277	0.583	43	3.960	0.00	14.00	2.152	2.9	2.0	2.5	2.47	174	882	5880
17+600	R	1.350	0.683	34	4.550	6.00	8.00	1.712	2.4	1.8	1.4	1.87	165	836	5576
17+750	R	1.750	0.880	28	4.400	1.80	10.00	1.868	2.8	2.5	2.0	2.43	133	674	4495
17+900	R	1.043	0.613	50	4.320	1.80	13.00	1.887	2.3	2.0	2.1	2.13	198	1004	6691
18+ 50	R	2.595	1.550	24	7.080	34.70	64.00	0.072	0.9	1.4	1.2	1.17	172	872	5812
AVE.		1.465	0.759	40	4.526	8.07	22.00	1.671	2.1	1.9	2.0	2.00	165	838	5586
18+150	L	1.790	1.097	16	7.210	52.20	9.00	0.515	0.5	1.0	1.1	0.87	190	963	6421
18+300	L	1.030	0.613	31	5.750	13.10	31.00	1.093	1.8	1.4	1.4	1.53	196	994	6623
18+450	L	1.823	1.430	9	4.970	2.20	15.00	1.643	1.7	1.2	1.3	1.40	184	933	6218
18+600	L	1.537	1.197	53	5.750	13.80	26.00	1.127	0.8	1.2	1.4	1.13	291	1475	9834
18+750	L	0.670	0.350	75	5.940	50.70	15.00	0.809	0.9	1.6	1.3	1.27	414	2099	13990
18+900	L	0.485	0.260	89	3.900	100.00	32.00	1.071	0.4	1.0	1.0	0.80	463	2347	15646
19+ 50	L	-	-	-	3.410	76.20	20.00	1.502	0.3	1.0	1.0	0.77	291	1475	9834
AVE.		1.223	0.824	45	5.587	38.67	21.33	1.043	1.0	1.2	1.3	1.17	290	1468	9789

Note : Symbol "-" means DATA is UNAVAILABLE at this point.

$$PSI = 4.354 - 1.579 * \text{Log}(S) - 0.098 * \text{Sq}(C) - 0.015 * D^2$$

(Source of Model : Road Repair and Maintenance Manual, Japan Road Association)

APPENDIX 4.2.3 FORM BY PSI MEASUREMENT

TEST FOR EVENNESS OF ROAD SURFACE																
THE ROADS DEVELOPMENT STUDY IN THE NORTHEASTERN REGION IN THE KINGDOM OF THAILAND (PHASE II)																
DISTRICT:							OPENING YEAR:									
ROUTE NO. LINK:							SECTION:									
SURFACE TYPE:							FIELD CONDITION:									
DATE:							TRAFFIC VOLUME:									
GL	1	2	3	4	5	6	7	8	9	10	GI _{max} ①	GI _{min} ②	Ri ①-②			
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
④ C											2.53	2.70	2.85	2.97	3.08	③ Total Σ Ri
⑤ Average Value Ri											③ / 1					
⑥ Standard Deviation:											⑤ / ④					
Where C = a coefficient fixed in accordance with determined number of measurements involved in the group.																
REMARK:																

TEST FOR RUT DEPTH OF ROAD SURFACE																	
THE ROADS DEVELOPMENT STUDY IN THE NORTHEASTERN REGION IN THE KINGDOM OF THAILAND (PHASE II)																	
DISTRICT:							OPENING YEAR:										
ROUTE NO. LINK:							SECTION:										
SURFACE TYPE:							FIELD CONDITION:										
DATE:							TRAFFIC VOLUME:										
STATION	LENGTH	G ₁ ^a				L ₁ ^a				Z ₂ ^b				S ₂ ^b			
		20	40	60	80	20	40	60	80	20	40	60	80	20	40	60	80
	Values Measured																
	Rut Depth																
	Values Measured																
	Rut Depth																
	Values Measured																
	Rut Depth																
	Values Measured																
	Rut Depth																
REMARK:																	

TEST FOR PATCHING AND CRACKING OF ROAD SURFACE													
THE ROADS DEVELOPMENT STUDY IN THE NORTHEASTERN REGION IN THE KINGDOM OF THAILAND (PHASE II)													
DISTRICT:							OPENING YEAR:						
ROUTE NO. LINK:							SECTION:						
SURFACE TYPE:							FIELD CONDITION:						
DATE:							TRAFFIC VOLUME:						
PERSON	1		2		3		Average Value M ²						
Patching Area (m ²)													
Longitudinal or Transverse Cracking Area (m ²)													
Alligator Cracking Area (m ²)													
Total (m ²)													
REMARK:													