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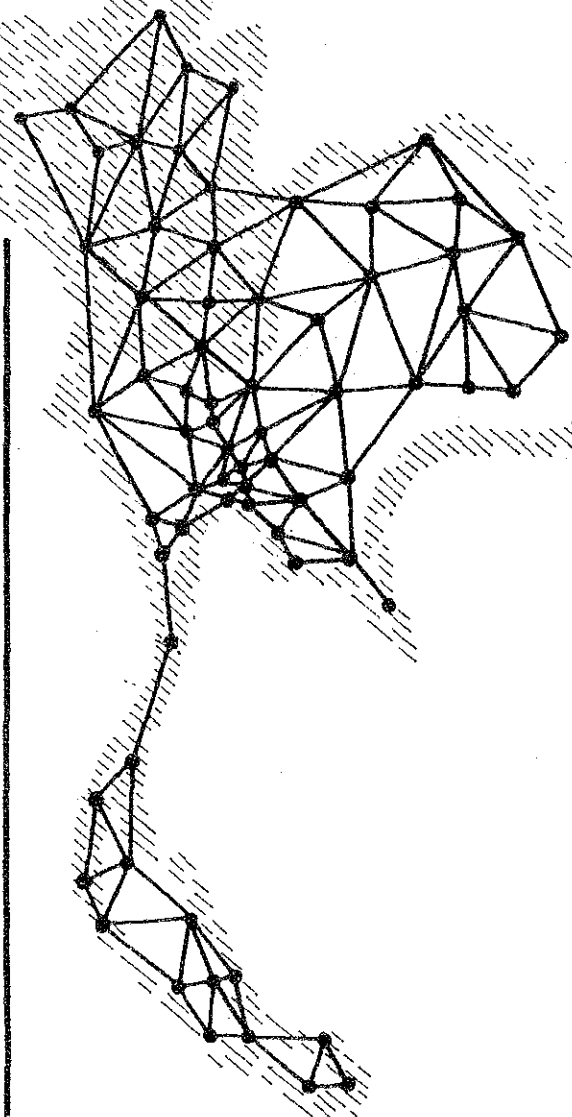


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THE KINGDOM OF THAILAND  
MINISTRY OF COMMUNICATIONS  
DEPARTMENT OF HIGHWAYS

# ROAD DEVELOPMENT STUDY IN THE NORTHERN REGION

PHASE 1: PLANNING



**FINAL REPORT**  
**VOLUME 2 APPENDIXES**  
JUNE 1981

JAPAN INTERNATIONAL  
COOPERATION AGENCY

# ROAD DEVELOPMENT STUDY IN THE NORTHERN REGION PHASE 1: PLANNING VOLUME 2 APPENDIXES

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## Appendix 2-1 POPULATION BY TAMBON IN THE NORTHERN REGION

## NAKHON SAWAN

Amphoe		Tambon		No. of		Amphoe		Tambon		No. of		Amphoe		Tambon		No. of					
Index No.	Name	Index No.	Name	Mu Ban	Popu- lation	Index No.	Name	Index No.	Name	Mu Ban	Popu- lation	Index No.	Name	Index No.	Name	Mu Ban	Popu- lation				
1. Muang Nakhon Sawan		1.	Pak Nam Pho	1*	56,540	4. Kao Lieo		1.	Maha Pho	5	4,730	8. Takhli		1.	Takhli	20	47,760				
		2.	Klang Daet	6	2,810			2.	Kao Lieo	5	6,010			2.	Chong Khae	17	13,290				
		3.	Krieng Krai	10	5,240			3.	Nong Tao	9	5,970			3.	Chan Saen	9	16,190				
		4.	Kwae Yai	10	6,710			4.	Khao Din	11	5,530			4.	Huai Hom	10	5,790				
		5.	Takian Luen	12	5,230			5.	Hua Dong	12	8,230			5.	Hua Whai	10	5,940				
		6.	Nakhon Sawan (W)	10	24,720					(42)	(30,480)			6.	Nong Pho	11	8,840				
		7.	Nakhon Sawan (E)	8	17,590			5. Chumsaeng		1.	Chumsaeng			1*	14,210	7.	Nong Mhoe	5	3,390		
		8.	Ban Phra Luang	6	2,550					2.	Tubkrit			15	15,440	8.	Sroy Thong	7	4,470		
		9.	Ban Muang	8	4,790					3.	Phikun			10	4,570	9.	Lat Tiprot	5	3,280		
		10.	Ban Maklua	10	8,360					4.	Kheychai			16	7,810			(94)	(108,950)		
		11.	Ban Kaeng	11	6,880					5.	Tha Mai			10	8,730	9. Tha Tako		1.	Tha Tako	5	9,640
		12.	Phra Non	10	10,260					6.	Bang Khien			14	5,320			2.	Phanom Rok	8	6,670
		13.	Wat Sai	15	8,130					7.	Nong Krachao			12	7,250			3.	Hua Thanon	8	8,950
		14.	Nong Krot	12	14,480					8.	Pun Lan			8	4,480			4.	Sai Lumpong	12	9,630
		15.	Nong Kra Don	16	15,120					9.	Khok Moh			8	4,410			5.	Wang Mahakorn	10	6,930
		16.	Nong Pling	6	8,720					10.	Phai Sing			10	4,090			6.	Don Kha	8	11,500
		(151)	(198,110)	11.	Kha Mong	8	4,400			7.	Tam Nop	5	4,980								
						(112)	(79,710)	8.	Wang Yai	8	3,270										
2. Lat Yao		1.	Lat Yao	18	26,850	6. Krok Phra		1.	Krok Phra	8	6,780	9.	Phanom Saet	8	5,390						
		2.	Huai Nam Hom	9	17,970			2.	Yang Tan	8	3,560	10.	Nong Luang	6	5,560						
		3.	Wang Mha	15	6,890			3.	Bang Ma Vho	5	3,960			(78)	(72,520)						
		4.	Wang Muang	10	3,810			4.	Bang Pramung	8	5,290	10. Phaisali		1.	Khok Dua	11	12,260				
		5.	Sroy Lakorn	9	3,710			5.	Na Klang	6	2,800			2.	Samrong Chai	11	12,700				
		6.	Marb Ghae	6	3,670			6.	Sala Daeng	5	2,660			3.	Wang Nam Lat	11	16,310				
		7.	Nong Yao	9	4,870			7.	Noen Khow	7	2,900			4.	Ta Kraw	6	11,790				
		8.	Nong Nom Whoe	9	6,910			8.	Noen Sala	8	2,850			5.	Pho Prasat	10	3,620				
		9.	Ban Rai	12	12,110			9.	Hat Sung	6	2,360			6.	Wang Khoi	6	4,170				
		10.	Nong Khi Laek	10	7,270					(61)	(33,170)					(55)	(60,840)				
		11.	Mae Lae	7	15,560			7. Phayuha Khiri		1.	Phayuha			8	10,700	11. Nong Bua		1.	Nong Bua	12	10,540
		12.	Mae Wong	13	16,030					2.	Noen Makok			11	6,330			2.	Nong Klub	17	17,210
		(127)	(125,640)	3.	Nikhom Khao Bo Kaew	10	7,220			3.	Than Thahan			14	16,330						
3. Banphot Phisai		1.	Tha Ngiu	6	8,550	4.	Muang Huk			10	2,470	4.	Huai Ruam	11	4,660						
		2.	Bang Ta Ngay	10	13,590	5.	Yang Khao			8	4,450	5.	Huai Tua Tai	7	2,380						
		3.	Hoo Kwang	4	4,550	6.	Yaan Matree			18	8,280	6.	Huai Tua Nua	9	4,630						
		4.	Ang Thong	4	3,480	7.	Khao Thong			11	9,090	7.	Huai Yai	6	2,900						
		5.	Ban Daen	8	7,430	8.	Tha Nam Oey			8	3,510			(76)	(58,650)						
		6.	Bang Kaew	6	6,910	9.	Nam Song			10	7,130	12. Tak Fa		1.	Tak Fa			12	8,390		
		7.	Ta Kheet	9	9,030	10.	Khao Gala			10	8,220			2.	Lam Phayom			10	5,440		
		8.	Ta Sung	6	5,570					(104)	(67,410)			3.	Suk Samran			11	6,820		
		9.	Dan Chang	8	5,720									4.	Nong Phikun			10	3,560		
		10.	Nong Krot	10	9,870					5.	Phu Nok Yoong			10	3,500						
		11.	Nong Ta Ngu	11	10,190					6.	Udom Tanya			12	8,390						
		(82)	(84,890)							(65)	(36,090)										
								(12)	(112)	(1,047)	(956,460)										

Source : Directory of Local Government; Local Government Administration, Administration Department, Ministry of Interior, 1979.

Remarks: Number of population is rounded.

\* Number of Tambon in Municipal Area.





## Appendix 2-1 POPULATION BY TAMBON IN THE NORTHERN REGION (Continued)

## PHITSANULOK (Continued)

## UTTARADIT

PHITSANULOK (Continued)					UTTARADIT												
Amphoe		Tambon		No. of		Amphoe		Tambon		No. of		Amphoe		Tambon		No. of	
Index No.	Name	Index No.	Name	Mu Ban	Popu- lation	Index No.	Name	Index No.	Name	Mu Ban	Popu- lation	Index No.	Name	Index No.	Name	Mu Ban	Popu- lation
5.	Nakhon Thai	1.	Nakhon Thai	18	11,530	1.	Muang Uttaradit	1.	Tha It	1*	30,240	6.	Tron	1.	Wang Daeng	10	14,300
		2.	Nong Katao	15	8,120			2.	Tha Sao	8	5,200			2.	Ban Kaeng	8	7,800
		3.	Ban Yaeng	13	7,200			3.	Ban Kho	8	6,210			3.	Hat Song Kwae	5	3,980
		4.	Noen Perm	12	5,650			4.	Pa Sao	6	4,910			4.	Nam Ang	7	6,750
		5.	Na Bua	19	7,430			5.	Khung Tapao	6	7,320			5.	Pa Khai	14	14,690
		6.	Bo Pho	10	4,940			6.	Wang Kapi	9	11,240			6.	Phag Khuang	8	6,990
		7.	Nakhon Chum	8	2,420			7.	Hat Kroat	6	11,040			7.**	Nam Phi	5	4,370
		8.	Nam Kum	7	1,680			8.	Nam Pit	6	6,890			8.	Bo Thong	-	-
				(102)	(48,970)			9.	Ngiu Ngam	11	9,550					(57)	(58,890)
								10.	Ban Dan Nakham	9	9,600						
								11.	Ban Dan	8	5,730						
6.	Wang Thong	1.	Wang Thong	16	20,140			12.	Pha Juke	12	13,090						
		2.	Pun Chali	8	9,730			13.	Wang Din	7	4,740						
		3.	Mae Raka	12	8,470			14.	Saen Toe	9	4,990						
		4.	Ban Klang	9	10,970			15.	Hat Ngiu	11	10,110						
		5.	Wang Phikun	12	9,100			16.	Ruan Jit	2	1,430						
		6.	Kaeng Sopa	8	10,410					(119)	(142,300)						
		7.	Tha Muen Ram	11	9,780			2.	Fak Tha	5	4,840						
		8.	Wang Nok Aen	7	9,040			2.	Song Korn	5	3,050						
		9.	Nong Phra	9	8,740			3.	Ban Seao	8	7,100						
		10.	Chai Nam	5	5,680					(18)	(14,990)						
				(97)	(102,070)			3.	Nam Pat	6	7,640						
								1.	Saen To	7	6,730						
								2.	Ban Fai	6	5,130						
7.	Bang Krathum	1.	Bang Krathum	8	6,130			3.	Den Laek	6	4,940						
		2.	Ban Rai	10	5,990			4.	Nam Khrai	7	3,300						
		3.	Khoak Salut	10	4,290			5.	Nam Phai	7	3,300						
		4.	Sanam Khli	6	3,630					(32)	(27,730)						
		5.	Tha Tan	7	6,280			4.	Tha Pla	8	8,460						
		6.	Phai Lom	11	3,820			2.	Hot La	8	4,970						
		7.	Nakhom Pa Mohk	13	7,110			3.	Pha Loed	12	6,740						
		8.	Moen Khum	11	11,320			4.	Charin	10	7,280						
		9.	Wat Ta Yom	8	7,240			5.	Nam Muan	9	6,770						
				(84)	(55,810)			6.	Tha Fak	5	2,630						
								7.	Nong Phaya	5	n.a.						
										(57)	(36,850)						
8.	Bang Rakam	1.	Bang Rakam	19	32,990			5.	Laplae	1*	4,140						
		2.	Pluk Raet	9	8,720			2.	Mae Pool	7	9,480						
		3.	Phun Sao	15	8,430			3.	Na Nok Kok	4	2,300						
		4.	Wang Itok	7	5,470			4.	Fai Luang	7	9,450						
		5.	Bungkok	15	14,090			5.	Chai Jumpol	6	8,400						
		6.	Nongkhula	10	10,920			6.	Phai Lom	6	7,780						
		7.	Chumsaeng Songkhram	15	13,880			7.	Thung Yung	14	15,140						
				(90)	(94,500)					(45)	(56,680)						
9.	Noen Maprang	1.	Chom Phu	5	7,950												
		2.	Bang Mung	13	18,910												
		3.	Sai Yoey	8	15,460												
		4.	Wang Prong	9	21,270												
				(35)	(63,590)												
(9)		(78)		(732)	(689,480)												

\*\* The Tambon is separated from Tambon 4, 5 &amp; 6

7.	Phichai	1.	Nai Muang	7	8,400
		2.	Ban Dara	5	6,520
		3.	Rai Oey	8	5,850
		4.	Tha Sak	6	7,810
		5.	Kho Rum	7	8,490
		6.	Ban Mho	5	5,890
		7.	Tha Ma Suang	6	4,770
		8.	Ban Khone	6	5,260
		9.	Phaya Man	6	5,590
		10.	Na Inn	4	3,680
		11.	Na Yang	7	6,880
				(67)	(69,110)
8.	Ban Khok	1.	Muang Jet Ton	6	3,430
		2.	Ban Khok	5	4,660
				(11)	(8,090)
(8)		(59)		(406)	(414,630)

## Appendix 2-1 POPULATION BY TAMBON IN THE NORTHERN REGION (Continued)

PHRAE						LAMPANG													
Amphoe		Tambon		No. of		Amphoe		Tambon		No. of		Amphoe		Tambon		No. of			
Index No.	Name	Index No.	Name	Mu Ban	Population	Index No.	Name	Index No.	Name	Mu Ban	Population	Index No.	Name	Index No.	Name	Mu Ban	Population		
1.	Muang Phrae	1.	Nai Wiang	1*	19,620	5.	Long	1.	Huai Ooe	14	14,120	1.	Muang Lampang	1.	Wiang Nua	1*	10,620		
		2.	Na Chak	9	7,860			2.	Ban Pin	11	8,850			2.	Hua Wiang	1*	10,610		
		3.	Nam Cham	2	1,680			3.	Ta Pha Mhok	5	3,490			3.	Suan Dok	1*	7,140		
		4.	Pa Daeng	14	11,370			4.	Wiang Ta	6	6,160			4.	Sop Tui	1	15,160		
		5.	Thung Mong	6	8,730			5.	Pak Kang	7	4,090			5.	Phra Bat	8	11,510		
		6.	Mhung Mho	7	8,480			6.	Hua Thung	11	9,300			6.	Chom Phu	13	22,440		
		7.	Wang Tong	5	3,300			7.	Thung Laeng	8	6,610			7.	Kloey Phae	5	9,040		
		8.	Mae Lai	4	4,470					(62)	(52,620)			8.	Pong Saen Thong	11	13,690		
		9.	Huai Ma	6	6,460									9.	Ban Lang	13	11,350		
		10.	Pa Mad	8	10,580	6.	Sung Men	1.	Sung Men	6	8,160			10.	Ban Sa Det	6	7,160		
		11.	Ban Tin	5	6,430			2.	Nam Cham	8	8,260			11.	Phichai	10	13,130		
		12.	Suan Khuan	7	5,360			3.	Hua Fai	7	13,060			12.	Thung Fai	21	18,150		
		13.	Wang Hong	4	2,990			4.	Don Moon	9	10,900			13.	Ban Ioem	9	8,310		
		14.	Mae Kham Mi	5	6,470			5.	Ban Lao	5	4,950			14.	Ban Pao	7	6,210		
		15.	Thung Khaw	4	4,450			6.	Ban Khwang	3	3,430			15.	Ban Ka	6	4,210		
		16.	Tha Kham	3	4,200			7.	Ban Pong	3	4,910			16.	Bo Haew	7	8,780		
				(90)	(112,430)			8.	Ban Kart	4	3,710					(120)	(177,500)		
2.	Song	1.	Ban Nun	7	14,130			9.	Rong Kart	7	7,810			2.	Wang Nua	1.	Thung Hua	10	7,930
		2.	Ban Klang	10	9,630			10.	Sop Sai	4	3,660					2.	Wang Nua	10	18,860
		3.	Huai Mhai	6	8,680			11.	Wiang Thong	8	10,470					3.	Wang Tai	9	4,520
		4.	Tao Poon	5	7,460					(64)	(79,320)					4.	Rong Khao	10	11,610
		5.	Nam Rat	3	3,920											(39)	(42,930)		
		6.	Wang Luang	4	5,150			7.	Wang Chin	7	9,840			3.	Chae Hom	1.	Chae Hom	13	16,800
		7.	Hua Muang	8	6,190					9	6,190					2.	Ban Sa	5	5,160
		8.	Sa Iap	8	4,880			3.	Mae Pake	12	9,200					3.	Pong Don	6	5,370
		9.	Daen Chumpol	3	3,400			4.	Na Poon	7	5,140					4.	Mae Suke	5	6,830
				(54)	(63,420)			5.	Mae Pung	10	7,680					5.	Ban Kho	6	7,630
										(45)	(38,050)					6.	Chae Coen	11	10,480
																7.	Muang Pan	5	5,380
3.	Rong Kwang	1.	Rong Khwang	7	8,990					(401)	(434,650)					8.	Muang Mai	2	1,710
		2.	Nong Muang Khai	4	5,190											9.	Thung Khaow	8	8,000
		3.	Mai Kham Mi	6	6,230											10.	Thung Phung	6	3,610
		4.	Rong Khem	4	4,750												(67)	(70,970)	
		5.	Nam Lao	5	5,690														
		6.	Ban Wiang	7	6,060														
		7.	Thung Si	5	3,190														
		8.	Mai Yang Tan	4	5,130														
		9.	Mai Yang Hoe	7	6,140														
		10.	Phai Tone	11	5,330														
				(60)	(56,710)														
4.	Den Chai	1.	Den Chai	10	16,640									4.	Ngao	1.	Luang Nua	5	4,660
		2.	Mae Chua	11	10,490											2.	Luang Tai	6	5,730
		3.**	Sai Yoy	5	4,980											3.	Ban Pong	6	3,840
		4.	Huai Rai	-	-											4.	Ban Rong	6	2,880
				(26)	(32,100)											5.	Pong Tao	6	3,780
																6.	Na Gae	5	5,700
																7.	Ban Oen	5	3,520
																8.	Ban Hae	4	5,900
																9.	Ban Huat	4	2,900
																10.	Mae Teep	4	5,890
																	(51)	(44,780)	

\*\* The Tambon is separated from Tambon 1, 2 &amp; 3

## Appendix 2-1 POPULATION BY TAMBON IN THE NORTHERN REGION (Continued)

## LAMPANG (Continued)

## NAN

Amphoe		Tambon		No. of		Amphoe		Tambon		No. of		Amphoe		Tambon		No. of				
Index	Name	Index	Name	Mu	Popu-	Index	Name	Index	Name	Mu	Popu-	Index	Name	Index	Name	Mu	Popu-			
No.		No.		Ban	lation	No.		No.		Ban	lation	No.		No.		Ban	lation			
5.	Hang Chat	1.	Hang Chat	9	9,510	11.	Soem Ngam	1.	Thung Ngam	6	7,240	1.	Muang Nan	1.	Nai Wiang	1*	22,020			
		2.	Nong Lom	8	4,170			2.	Serm Kwa	8	6,700			2.	Bo	5	2,520			
		3.	Muang Yao	10	6,060			3.	Serm Sai	15	14,770			3.	Pha Sing	4	2,300			
		4.	Pong Yang Kok	13	8,820					(29)	(28,710)			4.	Chai Sathan	9	4,670			
		5.	Wiang Tan	8	6,630	12.	Mae Mo	1.	Ban Dong	12	14,470			5.	Thoem Tong	15	6,790			
		6.	Mae San	7	4,320			2.	Na Sak	6	3,610			6.	Rueng	6	2,970			
		7.	Woe Kaew	6	4,420			3.	Chang Nua	5	4,520			7.	Na Saew	4	2,490			
				(61)	(43,920)					(23)	(22,600)			8.	Dou Tai	11	6,390			
6.	Ko Kha	1.	Lampang Luang	8	10,480	(12)				(620)	(655,890)			9.	Kong Kwai	6	5,250			
		2.	Na Kaew	14	14,780									10.	Fai Kaew	15	7,760			
		3.	Lai Hin	12	9,800									11.	Muang Tout	5	3,670			
		4.	Wang Phrao	6	6,420									12.	Tha Nao	7	3,080			
		5.	Sala	7	8,140									13.	Na Pung	5	3,160			
		6.	Ko Kha	12	11,550									14.	Muang Chang	7	5,690			
				(59)	(61,160)									15.	Dou Pong	6	7,320			
7.	Mae Tha	1.	Mae Tha	6	9,430									16.	Pa Laew Luang	6	3,270			
		2.	Na Krau	6	10,060									17.	Nam Kaen	11	4,620			
		3.	Pha Tun	8	7,580									18.	Suak	8	5,580			
		4.	Ban Kiew	5	4,490											(131)	(99,560)			
		5.	Ban Bomb	10	7,540									2.	Thung Chang	1.	Phon	11	2,920	
		6.	Nam Cho	7	9,050										2.	Ngob	9	3,790		
		7.	Don Phai	13	8,380										3.	Lae	11	3,500		
		8.	Hua Sua	9	7,060										4.	Thung Chang	10	3,240		
		9.	Sop Paat	4	2,670											(41)	(13,440)			
				(68)	(66,250)										3.	Chiang Klang	1.	Chiang Klang	15	8,990
8.	Sop Prap	1.	Som Prap	8	9,890										2.	Bua	10	5,500		
		2.	Samai	6	6,960										3.	Chiang Khan	14	6,020		
		3.	Mae Kwua	5	4,420										4.	Phra That	7	3,280		
		4.	Na Yang	8	4,380										5.	Na Rai Luang	7	2,440		
				(27)	(25,650)										6.	Chon Daen	8	1,740		
															7.	Yot	5	1,620		
																(66)	(29,590)			
9.	Thoen	1.	Lom Paet	9	17,660										4.	Pua	1.	Pua	13	12,000
		2.	Mae Wa	4	5,920											2.	Haeg	15	11,130	
		3.	Mae Pa	5	3,910											3.	Sathan	17	11,470	
		4.	Mae Mok	8	4,020											4.	Sila Laeng	22	8,860	
		5.	Wiang Mok	8	6,610											5.	Sila Phet	6	5,340	
		6.	Na Pong	8	5,690											6.	Oen	6	3,890	
		7.	Mae Thoot	6	5,870											7.	Bo Klua Nua	8	3,770	
		8.	Thoen Buri	8	6,640											8.	Bo Klua Tai	8	3,980	
				(56)	(56,320)												(95)	(60,440)		
10.	Mae Phrik	1.	Mae Phrik	9	8,120															
		2.	Pha Pang	4	1,800															
		3.	Mae Pu	7	5,180															
				(20)	(15,100)															

## Appendix 2-1 POPULATION BY TAMBON IN THE NORTHERN REGION (Continued)

NAN (Continued)					PHAYAO												
Amphoe		Tambon		No. of		Amphoe		Tambon		No. of		Amphoe		Tambon		No. of	
Index	Name	Index	Name	Mu	Popu-	Index	Name	Index	Name	Mu	Popu-	Index	Name	Index	Name	Mu	Popu-
No.		No.		Ban	lation	No.		No.		Ban	lation	No.		No.		Ban	lation
5.	Tha Wang Pha	1.	Rim	10	8,460	1.	Muang Phayao	1.	Wiang	1*	16,580	6.	Dok Kham Tai	1.	Dok Kham Tai	13	14,500
		2.	Pa Kha	7	4,590			2.	Mae Tum	1*	7,330			2.	Dok Sichum	11	7,240
		3.	Pha Tou	16	8,870			3.	Dong Jan	21	19,340			3.	Ban Tham	7	4,270
		4.	Yom	16	8,310			4.	Mae Na Rua	18	14,230			4.	Ban Pin	13	13,280
		5.	Tan Chum	10	5,570			5.	Ban Tun	18	9,940			5.	Huai Lan	20	26,280
		6.	Si Phum	8	5,190			6.	Ban Tump	18	10,820			6.	San Khong	6	2,210
				(67)	(41,000)			7.	Ban Tomp	17	12,690					(70)	(67,780)
								8.	Ban Poem	12	7,580						
6.	Mae Charim	1.	Pong	8	3,990			9.	Huai Kaew	9	7,720	7.	Mae Chai	1.	Mae Chai	16	12,900
		2.	Nong Daeng	17	3,820			10.	Mae Ka	8	8,830			2.	Sri Thoei	10	6,670
		3.	Mho Muang	14	5,490			11.	Ban Mai	7	5,050			3.	Mae Suk	7	6,300
				(29)	(13,300)			12.	Cham Pa Whai	6	7,530			4.	Pa Phak	13	10,530
										(136)	(127,630)					(46)	(36,400)
7.	Sa	1.	Klang Wiang	11	10,950	2.	Chiang Kham	1.	Yaun	12	14,440	(7)			(46)	(486)	(447,330)
		2.	Kheng	4	3,250			2.	Thung Kloei	10	6,110						
		3.	Lai Nan	6	3,260			3.	Sob Bong	9	5,950						
		4.	Tan Chum	10	7,370			4.	Chiang Raeng	10	5,630						
		5.	Na Lueng	7	3,570			5.	Phu Sang	13	8,840						
		6.	San	7	6,001			6.	Nam Van	13	14,920						
		7.	Nam Muap	6	3,370			7.	Wiang	12	10,230						
		8.	Nan Pua	7	5,730			8.	Fai Khwang	8	7,820						
		9.	Yab Hua Na	6	2,640			9.	Chedi Kham	10	8,490						
		10.	Pong Sanuk	6	3,450			10.	Rom Yen	12	7,850						
		11.	Aei Na Lai	11	7,520			11.	Chiang Ban	7	6,230						
				(81)	(57,100)			12.	Mae Lao	7	4,500						
										(123)	(101,010)						
8.	Na Noi	1.	Na Noi	13	7,680	3.	Pong	1.	Pong	16	11,790						
		2.	Chiang Khong	6	1,780			2.	Kuan	11	8,420						
		3.	Si Sakate	10	6,540			3.	Oil	10	6,050						
		4.	Sathan	8	5,760			4.	Him	13	8,460						
		5.	San Tha	14	8,810			5.	Pha Chang Noi	5	1,370						
				(51)	(30,560)					(55)	(36,080)						
9.	Ban Luang	1.	Ban Pha	7	3,860	4.	Chiang Muan	1.	Chiang Muan	7	5,880						
		2.	Pha Khaluang	9	3,750			2.	Ban Mang	6	4,310						
		3.	Suat	6	2,800			3.	Sa	5	4,440						
				(22)	(10,400)					(18)	(14,630)						
10.	Na Muen	1.	Na Thanung	9	5,010	5.	Chun	1.	Huai Khao Kam	11	17,540						
		2.	Bo Kaew	8	5,210			2.	Chun	11	17,490						
		3.	Muang Lee	11	5,280			3.	Lo	11	22,890						
				(28)	(15,510)			4.	Hong Hin	5	5,870						
(10)		(68)		(611)	(370,900)					(38)	(63,800)						

## Appendix 2-1 POPULATION BY TAMBON IN THE NORTHERN REGION (Continued)

## CHIANG RAI

Amphoe		Tambon		No. of	
Index No.	Name	Index No.	Name	Mu Ban	Population
1.	Muang Chiang Rai	1.	Wiang	1*	39,290
		2.	Rob Wiang	21	13,670
		3.	Ban Dou	14	13,330
		4.	Nang Lae	15	15,910
		5.	Mae Khao Tom	11	14,250
		6.	Mae Yao	11	10,230
		7.	Sam Sai	14	11,760
		8.	Bua Sali	25	12,260
		9.	Dong Ma Da	23	14,050
		10.	Pa Kho Dam	11	7,270
		11.	Mae Gorn	19	10,570
		12.	Huai Chom Phu	6	1,950
		13.	Huai Sak	20	25,950
		(191)	(190,480)		
2.	Mae Sai	1.	Mae Sai	20	27,890
		2.	Huai Krai	15	11,490
		3.	Khao Chang	16	11,380
		4.	Pong Pha	12	11,830
		(63)	(62,590)		
3.	Chiang Saen	1.	Wiang	12	13,970
		2.	Pa Sak	20	20,450
		3.	Ban Saew	13	11,540
		(45)	(45,960)		
4.	Chiang Khong	1.	Wiang	9	11,540
		2.	Sa Tan	14	14,220
		3.	Krung	7	8,660
		4.	Boon Rueng	7	6,950
		5.	Huai Saw	6	6,360
		6.	Muang Yay	9	4,490
		7.	Po	9	4,490
		(61)	(56,700)		
5.	Mae Chan	1.	Mae Chan	10	8,760
		2.	Chan Cha Wha	23	17,820
		3.	Mae Kham	26	17,900
		4.	Pa Sang	24	15,010
		5.	San Sai	15	9,190
		6.	Tha Khao Pluak	8	5,110
		7.	Pong Noi	16	18,340
		8.	Pa Toeng	19	9,140
		(141)	(101,280)		
6.	Thoeng	1.	Wiang	14	17,020
		2.	Ngiu	12	8,100
		3.	Plong	13	7,610
		4.	Mae Loy	11	10,990
		5.	Chiang Khian	7	3,590
		6.	Ta	10	11,680

## CHIANG MAI

Amphoe		Tambon		No. of			
Index No.	Name	Index No.	Name	Mu Ban	Population		
7.	Pa Daet	1.	Pa Tan	8	7,600		
		2.	Yang Hom	10	10,550		
		3.	Mae Pao	9	13,800		
		4.	Tub Tao	8	6,770		
		5.	Mai Ya	6	9,390		
		6.	Haow	15	10,690		
		7.	Mae Tam	6	8,200		
				(129)	(125,970)		
		8.	Phan	1.	Pa Daet	9	11,030
				2.	Pa Ngae	9	7,400
				3.	San Ma Kha	4	6,350
				(22)	(24,770)		
		9.	Mae Suai	1.	Muang Phan	17	24,550
2.	Mae Yen			14	13,710		
3.	San Klang			10	10,640		
4.	Sai Khao			15	15,130		
5.	Muang Kham			10	9,020		
6.	Pa Hung			13	8,030		
7.	Charoen Muang			10	7,640		
8.	Hua Hom			9	6,450		
9.	Doi Ngam			12	8,440		
10.	San Ma Khet			10	12,780		
11.	Mae Ooe			11	7,200		
		(131)	(123,590)				
10.	Wiang Pa Pao	1.	Mae Suai	19	7,520		
		2.	Pa Daet	10	6,470		
		3.	Mae Prik	10	7,090		
		4.	Sri Toei	15	10,930		
		5.	Tha Koe	10	9,000		
				(64)	(41,000)		
		11.	Wiang Chai	1.	San Sali	5	6,000
2.	Wiang			7	9,830		
3.	Ban Pong			5	4,540		
4.	Pa Ngiu			9	10,150		
5.	Hua Fai			10	10,220		
6.	Mae Chedi			10	12,020		
7.	Mae Chedi Mai			8	7,200		
		(54)	(59,960)				
12.	Wiang Chai	1.	Thung Gho	24	24,540		
		2.	Wiang Chai	14	18,940		
		3.	Pha Ngam	14	16,290		
		4.**	Wiang Nua	7	6,850		
		5.	Pa Sang	-	-		
		(59)	(66,620)				
** The Tambon is seperated from Tambon 1							
(11)		(79)		(960)			

Amphoe		Tambon		No. of	
Index No.	Name	Index No.	Name	Mu Ban	Population
1.	Muang Chiang Mai	1.	Si Phum	1*	14,160
		2.	Phra Sing	1*	11,600
		3.	Hai Ya	1*	16,320
		4.	Chang Moi	1*	13,500
		5.	Chang Klan	1*	20,230
		6.	Wat Kaet	1*	29,560
		7.	Chang Phuek	5	17,440
		8.	Suthep	10	8,700
		9.	Mae Hia	5	4,340
		10.	Pa Daet	8	6,580
		11.	Nong Hoi	5	3,240
		12.	Tha Sala	5	6,120
		13.	Nong Pa Klung	5	4,960
		14.	Fha Ham	5	4,480
		15.	Pa Tan	5	3,900
		16.	San Phisua	8	5,100
		(67)	(170,240)		
2.	Mae Ai	1.	Mae Ai	21	15,320
		2.	Mae Sao	9	8,390
		3.	San Ton Mheu	10	11,770
		4.	Mae Na Wang	7	5,410
		(47)	(40,890)		
3.	Fang	1.	Wiang	11	16,300
		2.	Pong Tam	16	17,240
		3.	Mon Pin	14	10,770
		4.	Mae Ngon	11	15,530
		5.	Mae Soon	13	18,120
		6.	San Sai	10	11,880
		7.	Si Dong Yen	10	10,520
		(85)	(100,350)		
4.	Chiang Dao	1.	Chiang Dao	12	13,840
		2.	Mae Na	14	9,670
		3.	Muang Ngai	17	11,290
		4.	Muang Na	6	3,170
		5.	Muang Khong	5	3,190
		6.	Muang Hae	6	5,400
		7.	Piang Luang	5	3,320
		(65)	(49,880)		

## Appendix 2-1 POPULATION BY TAMBON IN THE NORTHERN REGION (Continued)

## CHIANG MAI (Continued)

Amphoe		Tambon		No. of		Amphoe		Tambon		No. of		Amphoe		Tambon		No. of			
Index	Name	Index	Name	Mu	Popu-	Index	Name	Index	Name	Mu	Popu-	Index	Name	Index	Name	Mu	Popu-		
No.		No.		Ban	lation	No.		No.		Ban	lation	No.		No.		Ban	lation		
5.	Mae Taeng	1.	San Mahapon	8	6,270	9.	San Sai	1.	San Sai Luang	6	6,150	12.	Saraphi	1.	Yang Noeng	7	7,880		
		2.	Mae Taeng	7	3,250			2.	San Sai Noi	5	4,620			2.	Saraphi	8	6,530		
		3.	Khee Laek	9	7,320			3.	San Phra Naet	4	3,370			3.	Chomphu	8	5,410		
		4.	Cho Lae	5	5,650			4.	San Na Meng	7	3,580			4.	Chai Sathan	7	3,760		
		5.	Mae Ho Phra	8	3,960			5.	San Pa Pas	4	2,400			5.	Khuo Mung	10	4,710		
		6.	Sop Pueng	11	4,940			6.	Nong Yaeng	8	3,440			6.	Nong Fak	7	4,510		
		7.	Ban Pao	7	3,110			7.	Nong Jhom	8	6,860			7.	Nong Pheng	8	8,360		
		8.	San Pa Yang	5	3,410			8.	Nong Han	7	9,700			8.	Tha Kwang	7	2,430		
		9.	Pa Pae	11	4,310			9.	Mae Fak	9	9,420			9.	Don Kaew	7	2,980		
		10.	Muang Kai	4	1,330			10.	Mae Fak Mae	5	6,550			10.	Tha Wang Tan	12	6,710		
		11.	Ban Chang	4	1,470			11.	Muang Len	4	2,370			11.	San Sai	11	5,260		
		12.	Chut Chang	5	1,900			12.	Pa Phai	7	8,500			12.	Pa Bong	6	2,990		
		13.	Intakhin	16	10,160					(74)	(66,950)					(98)	(61,510)		
				(100)	(57,090)														
6.	Phrao	1.	Wiang	6	3,670	10.	Doi Saket	1.	Chueng Doi	10	9,080	13.	Hang Dong	1.	Hang Dong	15	9,040		
		2.	Thung Luang	6	2,060			2.	San Poo Loei	11	6,280			2.	Nong Ghaew	8	4,570		
		3.	Pa Thum	10	5,270			3.	Luang Nua	7	6,400			3.	Han Kaew	7	4,890		
		4.	Pa Nhai	9	4,370			4.	Pa Pong	5	2,910			4.	Nong Tong	10	9,790		
		5.	San Sai	12	5,510			5.	Sanga Ban	5	2,150			5.	Khun Khong	8	4,220		
		6.	Ban Pong	8	4,120			6.	Pa Lan	5	1,850			6.	Sop Mae Kham	5	2,290		
		7.	Nam Phrae	7	3,430			7.	Talot Kwan	5	1,680			7.	Ban Whaen	10	6,590		
		8.	Khuen Phak	6	3,260			8.	Samran Rat	6	3,010			8.	San Phak Whan	5	4,090		
		9.	Mae Van	9	3,740			9.	Mae Khue	6	3,830			9.	Nong Kwai	8	5,120		
		10.	Mae Pung	8	4,670			10.	Talat Yai	5	3,930			10.	Ban Pong	7	3,510		
		11.	Loang Khot	8	4,420			11.	Mae Hoi Ngoen	4	3,680					(83)	(54,110)		
				(89)	(44,530)			12.	Mae Pong	6	5,080								
								13.	Pa Miang	10	3,910			14.	San Pa	1.	Yu Wha	12	12,030
										(85)	(53,780)			Tong	2.	San Klang	12	9,050	
														3.	Tha Wang Phrao	6	3,450		
7.	Samoeng	1.	Samoeng Tai	8	4,310	11.	San	1.	San Kamphaeng	14	9,170			4.	Makham Luang	14	12,620		
		2.	Samoeng Nua	6	3,080		Kamphaeng	2.	Sai Moon	7	4,420			5.	Mae Gha	11	7,750		
		3.	Mae Sap	7	3,310			3.	Rong Wua Paeng	10	5,010			6.	Ban Mae	14	7,390		
		4.	Bo Kaew	6	4,020			4.	Buak Khang	11	7,180			7.	Ban Klang	10	9,550		
		5.	Yaeng Moen	6	2,700			5.	Chae Chang	9	6,210			8.	Thung Satok	12	6,400		
				(33)	(17,420)			6.	On Tai	10	4,470			9.	Thung Phe	13	8,650		
								7.	On Nua	14	9,530			10.	Thung Toem	9	7,520		
								8.	Ban Sahakorn	7	2,180			11.	Ban Rat	10	10,930		
8.	Mae Rim	1.	Rim Tai	5	9,380			9.	Huai Kaew	7	3,480			12.	Mae Win	12	6,030		
		2.	Rim Nua	4	2,780			10.	Mae Poo Kha	7	5,070					(135)	(101,370)		
		3.	San Pong	6	8,920			11.	Huai Sai	7	6,150			15.	Chom	1.	Yang Kram	12	7,630
		4.	Khee Laek	7	6,840			12.	Ton Pao	9	7,080			Thong	2.	Song Khwae	15	16,670	
		5.	Saluang	7	4,110			13.	San Klang	6	3,830				3.	Ban Luang	13	14,540	
		6.	Huai Sai	4	2,660			14.	Mae Tha	6	4,020				4.	Khuang Pas	8	9,640	
		7.	Mae Ram	7	4,010			15.	Tha Nua	5	1,760				5.	Sop Tia	10	11,810	
		8.	Pong Yaeng	6	4,180					(129)	(79,560)				6.	Ban Pae	17	13,750	
		9.	Mae Sa	4	4,490										7.	Doi Kaew	6	n.a.	
		10.	Don Kaew	5	5,750												(81)	(74,040)	
		11.	Mhuang Kaew	6	4,370														
				(61)	(57,490)														

## Appendix 2-1 POPULATION BY TAMBON IN THE NORTHERN REGION (Continued)

## CHIANG MAI (Continued)

## MAE HONG SON

## LAMPHUN

Amphoe		Tambon		No. of	Popu- lation	Amphoe		Tambon		No. of	Popu- lation	Amphoe		Tambon		No. of	Popu- lation	
Index No.	Name	Index No.	Name	Mu Ban		Index No.	Name	Index No.	Name	Mu Ban		Index No.	Name	Index No.	Name	Mu Ban		Index No.
16.	Mae Chaem	1.	Chang Kheng	12	8,640	1.	Muang	1.	Chong Kham	1*	5,160	1.	Muang Lamphun	1.	Nai Muang	1*	12,840	
		2.	Tha Pha	12	6,860		Mae Hong Son	2.	Muai Pong	7	4,550			2.	Mhuang Nga	10	11,860	
		3.	Ban Thap	16	4,150			3.	Pha Bong	9	7,330			3.	Umong	11	15,410	
		4.	Mae Soek	8	5,350			4.	Pang Mhu	8	5,000			4.	Nong Chang Khen	6	4,120	
		5.	Mae Na Jorn	5	9,970			5.	Mhok Cham Pae	4	2,050			5.	Pra Tou Pa	9	6,040	
		6.	Ban Chan	7	n.a.			6.	Huai Pha	6	2,130			6.	Rim Ping	9	7,200	
				(60)	(34,970)			7.	Pang Ma Pha	7	2,550			7.	Ton Thong	7	7,130	
										(42)	(28,770)			8.	Ban Pan	12	10,280	
17.	Hot	1.	Hang Dong	8	7,670	2.	Pai	1.	Wiang Tai	6	2,120			9.	Mhuang Jee	8	8,920	
		2.	Hot	5	3,120			2.	Wiang Nua	9	2,070			10.	Pa Sak	15	10,010	
		3.	Ban Tan	6	4,490			3.	Mae Na Teng	9	2,930			11.	Wiang Yong	7	5,080	
		4.	Bo Luang	10	7,390			4.	Mae Hi	5	2,410			12.	Ban Klang	14	13,400	
		5.	Bo Sali	7	4,070			5.	Thung Yao	10	2,860			13.	Ma Khua Chae	11	12,390	
				(36)	(26,740)			6.	Muang Pang	7	1,860			14.	Ban Thi	9	8,230	
								7.	Pong Sao	6	740			15.	Huai Yab	6	7,870	
										(52)	(14,990)					(135)	(140,770)	
18.	Omkoi	1.	Om Koi	13	7,390	3.	Khun Yuam	1.	Khun Yuam	4	3,770		2.	Mae Tha	1.	Tha Pla Duk	9	6,980
		2.	Yang Piang	15	5,860			2.	Mae Ngao	6	2,000				2.	Tha Sop Sao	9	6,580
		3.	Mae Toen	17	7,140			3.	Muang Pon	12	4,350				3.	Tha Kat	13	10,030
				(45)	(20,390)			4.	Mae Yuam Noi	12	3,190				4.	Tha Khum Ngoen	12	7,460
										(34)	(13,320)					(43)	(33,050)	
19.	Doi Tao	1.	Doi Tao	14	7,250	4.	Mae La Noi	1.	Mae La Noi	14	6,460		3.	Pa Sang	1.	Pak Bong	4	4,070
		2.	Tha Dua	11	5,390			2.	Mae La Luong	15	5,090				2.	Pa Sang	5	7,000
		3.	Mued Ga	5	2,300			3.	Tha Pha Pom	9	3,790				3.	Mae Raeng	7	7,380
		4.	Ban Aen	3	3,020			4.	Mae Tho	13	2,740				4.	Muang Noi	5	4,550
		5.	Na Kho Rua	6	3,000					(51)	(18,080)				5.	Ban Roen	6	4,370
				(39)	(20,950)										6.	Ma Kok	7	6,220
(19)	(174)			(1,412)	(1,132,260)										7.	Tha Thum	5	7,100
															8.	Nam Dip	8	8,370
															9.	Wang Phang	10	12,450
															10.	Nong Long	5	5,610
															11.	Nakhon Chedi	6	5,410
																(68)	(72,530)	
															4.	Ban Hong	13	14,650
															2.	Pa Plou	8	5,740
															3.	Lao Yao	7	7,890
															4.	Si Tia	5	7,930
															5.	Nong Pla Sawai	5	3,220
																(38)	(39,440)	
															5.	Li	19	16,870
															2.	Mae Tuen	14	14,010
															3.	Na Sai	8	7,640
															4.	Dong Kham	5	2,360
															5.	Kho	4	3,330
																(50)	(44,220)	

## Appendix 2-1 POPULATION BY TAMBON IN THE NORTHERN REGION (Continued)

## LAMPHUN (Continued)

## TAK

Amphoe		Tambon		No. of		Amphoe		Tambon		No. of		Amphoe		Tambon		No. of			
Index	Name	Index	Name	Mu	Popu-	Index	Name	Index	Name	Mu	Popu-	Index	Name	Index	Name	Mu	Popu-		
No.		No.		Ban	lation	No.		No.		Ban	lation	No.		No.		Ban	lation		
6.	Thung Hua Chang	1.	Thung Hua Chang	6	4,520	1.	Muang Tak	1.	Ra Hae	1*	6,720	7.	Umphang	1.	Umphang	7	3,870		
		2.	Ban Pong	8	2,700			2.	Nong Luang	1*	7,290			2.	Nong Luang	4	720		
		3.	Takian Pom	10	5,240			3.	Chiang Ngoen	1*	2,310			3.	Mogro	7	1,740		
				(24)	(12,460)			4.	Hua Daet	1	3,310			4.	Mae Chan	10	2,190		
(6)	(43)			(358)	(342,470)			5.	Nong Bua Nua	6	3,800			5.	Mae Lamung	9	1,580		
								6.	Mai Ngam	8	5,490					(37)	(10,090)		
								7.	Pong Daeng	6	4,410			8.	Phop Phra	1.	Phop Phra	10	4,670
								8.	Nam Ruem	17	12,650					2.	Chong Khab	5	2,100
								9.	Wang Hin	9	6,160					3.	Khiri Rat	4	1,850
								10.	Chiang Thong	12	9,070							(19)	(8,620)
								11.	Mae Tho	10	6,650			(8)	(49)			(387)	(264,080)
								12.	Pa Mamuang	5	3,550								
								13.	Nong Bua Tai	4	4,190								
										(81)	(75,600)								
								2.	Tha Song Yang	1.	Tha Song Yang	17	4,540						
										2.	Mae Tan	16	6,170						
										3.	Mae Song	13	1,390						
										4.	Mae Lha	8	3,010						
												(54)	(15,110)						
								3.	Mae Ramat	1.	Mae Ramat	8	7,250						
										2.	Mae Charao	12	12,760						
										3.	Khanae Choe	11	3,780						
										4.	Mae Tuen	11	2,900						
										5.	Sam Muen	4	1,600						
												(46)	(28,290)						
								4.	Sam Ngao	1.	Sam Ngao	5	8,370						
										2.	Wang Mhun	11	6,470						
										3.	Yokrabat	7	5,790						
										4.	Yan Ri	5	2,550						
										5.	Ban Na	5	1,370						
												(33)	(24,540)						
								5.	Ban Tak	1.	Tak Oak	11	8,390						
										2.	Samo Khon	7	2,900						
										3.	Mae Salit	11	6,550						
										4.	Tak Tok	10	5,680						
										5.	Khao Taphao	8	5,880						
										6.	Thung Krachao	8	5,100						
										7.	Thong Fa	7	3,230						
												(61)	(37,740)						
								6.	Mae Sot	1.	Mae Sot	1*	17,720						
										2.	Mae Khu	14	11,170						
										3.	Pha Woh	12	7,200						
										4.	Mae Taow	9	9,780						
										5.	Mae Kasa	8	6,400						
										6.	Tha Sailuat	6	6,440						
										7.	Mae Pa	6	5,380						
												(56)	(64,090)						



## Appendix 2-1 POPULATION BY TAMBON IN THE NORTHERN REGION (Continued)

## SUKHOTHAI

Amphoe		Tambon		No. of	
Index	No.	Index	Name	Mu Ban	Popu- lation
1. Muang Sukhothai	1.	1.	Thani	1*	20,690
		2.	Ban Suan	10	17,440
		3.	Muang Kao	11	20,650
		4.	Pak Kwae	7	6,540
		5.	Yang Sai	8	7,640
		6.	Ban Kluai	7	13,910
		7.	Ban Lum	5	6,560
		8.	Tan Tia	4	4,460
		9.	Pak Phra	4	3,550
			(57)	(101,430)	
2. Si Satchanalai	1.	1.	Hat Soeo	4	6,980
		2.	Pa Ngiu	7	7,550
		3.	Mae Sam	7	5,850
		4.	Mae Sin	6	7,440
		5.	Ban Toek	6	8,900
		6.	Nong Ooe	7	5,610
		7.	Tha Chai	6	8,460
		8.	Si Satchanalai	6	6,390
		9.	Dong Khou	5	4,980
		10.	Ban Kaeng	6	14,370
		11.	Sarajit	6	n.a.
			(66)	(76,530)	
3. Thung Saliam	1.	1.	Ban Mai Chaimongkon	11	10,090
		2.	Thai Chanasoek	7	7,290
		3.	Thung Saliam	10	10,220
		4.	Klong Dong	11	9,850
			(39)	(37,440)	
4. Sawankhalok	1.	1.	Muang Sawankhalok	1*	10,390
		2.	Nai Muang	9	10,720
		3.	Klong Krachong	5	5,160
		4.	Wang Pin Pat	4	2,540
		5.	Wang Mai Khon	5	3,630
		6.	Yan Yao	11	8,500
		7.	Na Thung	5	5,020
		8.	Klong Yang	10	9,500
		9.	Muang Bang Yom	4	3,410
		10.	Tha Thong	7	3,720
		11.	Pak Nam	7	6,660
		12.	Pa Khum Kho	10	8,610
		13.	Muang Bang Khlung	5	4,730
		14.	Nong Klab	5	5,030
			(88)	(87,610)	

## KAMPHAENG PHET

Amphoe		Tambon		No. of	
Index	No.	Index	Name	Mu Ban	Popu- lation
5. Si Samrong	1.	1.	Klong Tan	8	7,160
		2.	Wang Lock	6	5,820
		3.	Sam Roen	10	6,840
		4.	Ban Na	6	2,250
		5.	Wang Thong	8	3,530
		6.	Na Khun Krai	10	6,940
		7.	Kho Ta Liang	10	6,130
		8.	Wat Kho	6	4,250
		9.	Ban Rai	8	5,990
		10.	Tub Pheng	8	7,150
		11.	Ban San	8	4,320
		12.	Wang Yai	8	3,390
			(96)	(63,760)	
6. Kong Krailat	1.	1.	Kong	10	5,240
		2.	Ban Krang	4	3,900
		3.	Krai Nok	7	4,260
		4.	Krai Klong	6	4,110
		5.	Krai Nai	6	6,200
		6.	Dong Doei	8	6,110
		7.	Pa Fak	7	6,390
		8.	Kok Raet	11	9,110
		9.	Tha Chanuen	6	7,980
		10.**	Nong Toom	4	3,930
		11.	Mai Sukkhasem	-	-
			(69)	(57,230)	
		** The Tambon is separated from Tambon 8			
7. Khiri Mat	1.	1.	Tanot	13	11,400
		2.	Thung Luang	13	8,590
		3.	Ban Pom	11	7,950
		4.	Sam Pong	16	9,890
		5.**	Si Khirimat	9	3,890
		6.	Nong Chik	-	-
			(62)	(41,720)	
		** The Tambon is separated from Tambon 4			
8. Ban Dan Lan Hoi	1.	1.	Lan Hoi	6	4,330
		2.	Ban Dan	5	5,190
		3.	Wang Takraw	8	4,660
		4.	Wang Nam Khao	6	4,510
		5.	Taling Chan	7	6,010
			(32)	(24,690)	
9. Si Nakhon	1.	1.	Si Nakhon	7	18,120
		2.	Nakhon Dert	4	10,060
		3.	Nam Khum	4	n.a.
		4.	Klong Maplap	8	n.a.
			(23)	(28,180)	
(9)		(76)		(532)	(518,590)

Amphoe		Tambon		No. of	
Index	No.	Index	Name	Mu Ban	Popu- lation
1. Muang Kamphaeng Phet	1.	1.	Nai Muang	1*	18,360
		2.	Trai Troung	13	18,010
		3.	Ang Thong	12	22,760
		4.	Na Bo Kham	11	15,710
		5.	Nakhon Chum	8	18,080
		6.	Song Tham	4	8,960
		7.	Lan Dok Mai	4	4,010
		8.	Lan Dok Mai Tok	4	5,630
		9.	Kosamphi	9	11,030
		10.	Nong Pling	9	14,150
		11.	Khon Thi	17	23,990
		12.**	Nikom Sang	7	13,780
		13.	Thep Nakhon	-	-
			(99)	(174,450)	
		** The Tambon is separated from Tambon 10, 11 & 12			
2. Phran Kratai	1.	1.	Phran Kratai	15	18,760
		2.	Nong Hua Wua	13	7,880
		3.	Tha Mai	10	6,480
		4.	Wang Kuang	9	4,950
		5.	Wang Tabaek	7	4,950
		6.	Khao Khirit	10	3,990
		7.	Khui Ban Ong	13	8,280
			(77)	(55,300)	
3. Khlung Khlung	1.	1.	Klong Khlung	11	15,860
		2.	Tha Makhua	6	9,760
		3.	Thung Sai	8	14,600
		4.	Tha Phutsa	10	12,850
		5.	Mae Lat	6	4,810
		6.	Wang Yang	5	7,640
		7.	Wang Khaem	13	17,200
		8.	Hua Thanon	8	5,573
		9.**	Wang Sai	18	16,860
		10.	Pho Thong	-	-
			(85)	(105,140)	
		** The Tambon is separated from Tambon 9			
4. Khanu Woralaksaburi	1.	1.	Wang Chaoen	15	9,900
		2.	Lahan	11	8,970
		3.	Yang Sung	6	6,743
		4.	Pa Phutsa	9	8,630
		5.	Saen To	14	9,640
		6.	Salokbat	6	10,850
		7.	Bo Tham	15	17,960
		8.	Don Taeng	12	13,830
		9.	Wang Chaplou	10	9,420
		10.	Khong Phai	11	8,540
			(109)	(104,470)	

## Appendix 2-1 POPULATION BY TAMBON IN THE NORTHERN REGION (Continued)

## KAMPHAENG PHET (Continued)

## UTHAI THANI

KAMPHAENG PHET (Continued)					UTHAI THANI														
Amphoe		Tambon		No. of		Amphoe		Tambon		No. of		Amphoe		Tambon		No. of			
Index	Name	Index	Name	Mu	Popu- lation	Index	Name	Index	Name	Mu	Popu- lation	Index	Name	Index	Name	Mu	Popu- lation		
No.	No.	No.	No.	Ban		No.	No.	No.	No.	Ban		No.	No.	No.	No.	Ban			
5.	Sai Ngam	1.	Sai Ngam	18	17,220	1.	Muang Uthai Thani	1.	Uthai Mai	1*	16,620	5.	Nong Chang	1.	Nong Chang	7	4,530		
		2.	Nong Kia	21	19,930			2.	Nam Soem	6	3,670			2.	Nong Yang	10	5,120		
				(39)	(37,150)			3.	Sakae Krung	8	3,480			3.	Nong Nang Muan	9	3,170		
6.	Klong Lan	1.	Khlong Lan	11	15,770			4.	Don Kwang	7	3,660			4.	Nong Srong	5	2,450		
		2.**	Pong Nam Ron	7	7,860			5.	Hat Thanong	6	2,030			5.	Ban Kao	9	1,520		
		3.	Khlong Lan Pattana	-	-			6.	Kho Thepho	6	2,310			6.	Uthai Kao	10	2,600		
				(18)	(23,630)			7.	Tha Sung	8	4,290			7.	Thung Pho	17	11,840		
								8.	Nong Ghae	6	1,750			8.	Thung Pong	11	2,270		
								9.	Noen Laek	6	1,260			9.	Khao Bang Krak	5	6,770		
								10.	Nong Tao	6	1,630					(83)	(43,260)		
								11.	Nong Phai Ban	5	2,280								
								12.	Nong Pung Kha	6	1,450			6.	Ban Rai	1.	Ban Rai	5	6,740
								13.	Thung Yai	5	910			2.	Thap Luang	11	15,040		
								14.	Noen Chaeng	8	2,480			3.	Huai Haeng	7	5,860		
										(84)	(47,830)			4.	Khok Kwai	6	4,610		
														5.	Wang Hin	8	11,400		
7.	Lan Krabu	1.	Lankrabue	15	11,430									6.	Huai Kot	11	12,380		
		2.	Chong Lom	10	9,360									7.	Kaen Makroot	4	500		
		3.	Nong Luang	8	4,840											(52)	(59,530)		
				(33)	(25,620)														
(7)		(48)		(460)	(525,760)														
						2.	Sawang Arom	1.	Sawang Arom	8	3,710								
								2.	Nong Luang	10	4,420								
								3.	Piuang Song Nang	10	5,870								
								4.	Phai Khaeo	10	6,050								
										(38)	(20,050)								
						3.	Thap Than	1.	Thap Than	8	3,180			7.	Lan Sak	1.	Lan Sak	8	8,550
								2.	Thung Na Thai	7	1,560					2.	Pradouyuen	12	7,050
								3.	Khas Khe Fhoi	6	1,330					3.	Pa Ooe	7	11,130
								4.	Nong Yha Plong	6	1,590							(27)	(26,720)
								5.	Khok Mho	4	1,600								
								6.	Nong Yay Da	8	3,190								
								7.	Nong Klang Dong	10	3,100								
								8.	Nong Krathum	13	5,820								
								9.	Nong Sa	7	2,050								
								10.	Taluk Dou	11	8,110								
										(80)	(31,520)			(7)	(56)	(417)	(245,230)		
						4.	Nong Khayang	1.	Nong Khayang	8	2,930								
								2.	Nong Phai	9	2,350								
								3.	Don Kloi	6	1,270								
								4.	Huai Rob	3	630								
								5.	Thung Phung	7	1,450								
								6.	Tha Pho	4	2,060								
								7.	Mhok Thaew	3	310								
								8.	Lum Khaow	7	2,390								
								9.	Dong Kwang	6	2,940								
										(53)	(16,320)								

Appendix 2-1 POPULATION BY TAMBON IN THE NORTHERN REGION (Continued)

## PHETCHABUN

Amphoe		Tambon		No. of		Amphoe		Tambon		No. of		
Index	Name	Index	Name	Mu	Popu-	Index	Name	Index	Name	Mu	Popu-	
No.		No.		Ban	lation	No.		No.		Ban	lation	
1. Muang Phetchabun	1. Nai Muang	1.	Nai Muang	1*	19,610	4. Nong Phai	1. Khong Toon	1.	Khong Toon	14	19,510	
	2. Tabou	2.	Tabou	8	5,290		2. Na Chaliang	2.	Na Chaliang	10	24,260	
	3. Ban Toke	3.	Ban Toke	11	12,870		3. Ban Pot	3.	Ban Pot	12	14,790	
	4. Sadiang	4.	Sadiang	8	13,880		4. Tha Daeng	4.	Tha Daeng	14	16,750	
	5. Pa Las	5.	Pa Las	8	6,180		5. Phetlakorn	5.	Phetlakorn	7	11,230	
	6. Na Ngua	6.	Na Ngua	9	11,320		6. Bo Thai	6.	Bo Thai	8	9,540	
	7. Tha Pon	7.	Tha Pon	11	9,810		7. Huai Pong	7.	Huai Pong	6	7,880	
	8. Dong Moon Laek	8.	Dong Moon Laek	7	5,490		(71)	(103,960)				
	9. Ban Khok	9.	Ban Khok	10	10,110		5. Wichian Buri	1. Tha Rong	1.	Tha Rong	12	18,150
	10. Chon Phrai	10.	Chon Phrai	6	7,790			2. Sa Pradou	2.	Sa Pradou	8	5,350
	11. Na Pa	11.	Na Pa	8	9,880			3. Sam Yaek	3.	Sam Yaek	9	5,340
	12. Na Yom	12.	Na Yom	8	7,660			4. Khok Prong	4.	Khok Prong	12	9,280
	13. Wang Chom Phu	13.	Wang Chom Phu	8	8,880			5. Nam Ron	5.	Nam Ron	8	7,610
	14. Nam Ron	14.	Nam Ron	4	4,360			6. Bo Krung	6.	Bo Krung	10	8,910
	15. Huai Sakhae	15.	Huai Sakhae	11	7,410			7. Phu Toey	7.	Phu Toey	12	15,240
	16. Huai Yai	16.	Huai Yai	6	6,010			8. Phu Kham	8.	Phu Kham	10	5,210
(124)	(146,570)	9. Phou Nam Yot	9.	Phou Nam Yot	13	3,610						
2. Lom Kao	1. Lom Kao	1.	Lom Kao	13	11,150	10. Sub Somboon		10.	Sub Somboon	10	3,630	
	2. Na Sum	2.	Na Sum	8	5,780	(104)	(86,320)					
	3. Hin How	3.	Hin How	13	7,090	6. Chon Daen	1. Chon Daen	1.	Chon Daen	16	22,240	
	4. Ban Noen	4.	Ban Noen	7	3,210		2. Dong Khui	2.	Dong Khui	16	20,330	
	5. Sila	5.	Sila	9	7,630		3. Wang Pong	3.	Wang Pong	12	17,400	
	6. Na Saeng	6.	Na Saeng	7	3,490		4. Tai Dong	4.	Tai Dong	13	14,220	
	7. Wang Ban	7.	Wang Ban	13	9,290		5. Tha Kham	5.	Tha Kham	15	23,600	
	8. Na Kho	8.	Na Kho	6	2,980	(72)	(97,800)					
	9. Tat Kloi	9.	Tat Kloi	6	3,200	7. Si Thep	1. Si Thep	1.	Si Thep	15	15,970	
(82)	(53,830)			2. Sa Krout	2.		Sa Krout	14	12,380			
3. Lom Sak	1. Lom Sak	1.	Lom Sak	1*	14,440		3. Klong Krachang	3.	Klong Krachang	13	9,200	
	2. Wat Pa	2.	Wat Pa	5	6,390		4. Na Saun	4.	Na Saun	8	6,820	
	3. Tan Diew	3.	Tan Diew	13	6,200		5. Khok Sauat	5.	Khok Sauat	11	5,940	
	4. Fai Na Saeng	4.	Fai Na Saeng	6	2,730	(61)	(50,300)					
	5. Nong Sawang	5.	Nong Sawang	4	1,300	8. Bung Sam Phan	1. Subsamo Thot	1.	Subsamo Thot	15	17,450	
	6. Nam Hia	6.	Nam Hia	5	1,650		2. Submai Daeng	2.	Submai Daeng	17	23,290	
	7. Sak Long	7.	Sak Long	9	7,170		3. Nong Chaeng	3.	Nong Chaeng	8	8,020	
	8. Tha Ibun	8.	Tha Ibun	9	7,470		4. Kunju	4.	Kunju	10	10,600	
	9. Ban Sok	9.	Ban Sok	8	7,550	(50)	(59,360)					
	10. Ban Tiew	10.	Ban Tiew	9	8,950	9. Nam Nao	1. Nam Now	1.	Nam Now	11	9,280	
	11. Huai Rai	11.	Huai Rai	8	9,920		2. Lak Dan	2.	Lak Dan	6	2,200	
	12. Nam Kho	12.	Nam Kho	10	9,740	(17)	(11,480)					
	13. Pak Chong	13.	Pak Chong	9	6,720	(9)	(78)	(755)	(754,540)			
	14. Nam Chun	14.	Nam Chun	11	7,980	<u>TOTAL</u>						
	15. Nong Kwai	15.	Nong Kwai	11	6,450	153	1,214	10,431	9,322,450			
	16. Lan Ba	16.	Lan Ba	11	6,560							
	17. Bung Khla	17.	Bung Khla	10	7,980							
	18. Bung Nam Tao	18.	Bung Nam Tao	9	5,370							
	19. Ban Khlong	19.	Ban Khlong	19	10,450							
20. Camp Son	20.	Camp Son	7	9,900								
(174)	(144,920)											

Appendix 2-2 TRANSITION OF MAIN CROPS PRODUCTION IN THE NORTHERN REGION  
-- PLANTED AREA, PRODUCTION & AVERAGE YIELD (1973 - 1978)

1. Paddy (Major Rice Crops)

	Planted Area (1,000 rai)						Production (1,000 tons)						Yield per rai (kg)					
	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79
Whole Country	50,232	47,821	53,244	50,859	53,465	58,410	13,886	12,447	14,092	13,674	12,335	15,206	276	260	265	269	231	260
Northern Regions	11,316	10,181	11,648	10,546	11,660	12,638	3,899	3,780	4,125	3,973	3,550	4,772	345	371	354	377	304	378
Zone 6	3,007	2,684	3,441	2,855	3,179	3,754	935	934	1,148	856	642	1,195	311	348	334	300	202	318
01 Nakhon Sawan	1,967	1,780	1,702	1,584	1,662	1,781	544	600	407	397	297	502	277	337	239	251	178	282
16 Uthai Thani	432	388	628	506	682	729	124	106	229	132	73	162	287	273	364	260	107	222
17 Phetchabun	608	516	1,111	765	835	1,244	267	228	513	327	272	531	439	442	461	427	326	427
Zone 8	3,996	3,426	3,985	3,542	3,568	3,810	1,197	1,107	1,151	1,285	835	1,332	300	323	289	363	234	350
02 Phichit	1,695	1,183	1,512	1,759	1,631	1,502	470	332	473	645	407	560	277	281	313	367	250	373
03 Phitsanulok	1,283	1,231	1,449	923	967	1,204	382	452	332	344	260	467	298	367	229	373	269	388
13 Tak	381	449	138	148	197	205	188	141	56	58	67	57	493	314	405	395	340	279
15 Kamphaeng Phet	637	563	887	713	773	900	157	182	290	238	100	247	246	223	327	334	130	275
Zone 9	1,975	1,835	2,084	1,663	2,219	2,305	765	713	825	647	793	927	387	389	396	389	357	402
04 Uttaradit	427	348	489	322	444	480	169	124	195	134	181	196	396	356	399	415	407	408
05 Phrae	276	264	187	192	332	262	122	124	106	90	164	142	442	470	564	467	492	540
06 Lampang	384	305	362	317	543	400	178	138	180	120	168	170	464	452	498	379	309	425
07 Nan	259	212	241	223	242	278	99	108	124	93	108	120	382	509	513	415	448	430
14 Sukhothai	629	706	805	609	658	885	197	219	221	211	172	300	313	310	274	346	262	339
Zone 10	2,338	2,236	2,138	2,485	2,694	2,769	1,002	1,026	1,001	1,185	1,281	1,317	429	459	468	477	475	476
09 Chiang Rai	1,421	1,392	999	1,565	1,723	1,000	630	626	501	782	804	469	443	450	501	500	467	469
10 Chiang Mai	680	614	761	665	658	796	294	310	373	297	330	412	432	505	491	448	502	518
11 Mae Hong Hon	80	60	86	99	114	85	22	31	27	43	59	44	275	517	317	434	518	520
12 Lamphun	157	170	293	157	199	217	56	59	99	62	87	94	357	347	339	398	437	434
08 Phayao	-	-	-	-	-	671	-	-	-	-	-	298	-	-	-	-	-	444

Source: Agricultural Statistics of Thailand 1977/78 & 1978/79.

Office of Agricultural Economics,  
 Ministry of Agriculture & Cooperatives.

## Appendix 2-2 TRANSITION OF MAIN CROPS PRODUCTION IN THE NORTHERN REGION

- PLANTED AREA, PRODUCTION &amp; AVERAGE YIELD (1973-1978) (Continued)

## 2. Maize

	Planted Area (1,000 rai)						Production (1,000 tons)						Yield per rai (kg)					
	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79
Whole Country	7,172	7,749	8,200	8,029	7,534	8,661	2,337	2,500	2,863	2,675	1,677	2,791	326	323	349	333	223	322
Northern Regions	3,503	3,624	4,032	3,502	3,757	4,795	1,154	1,207	1,441	1,212	917	1,633	329	333	357	346	244	341
Zone 6	2,080	2,440	2,855	2,446	2,535	3,305	788	884	1,039	892	668	1,255	379	362	364	365	263	380
01 Nakhon Sawan	1,080	1,000	848	1,016	757	1,154	308	320	264	315	153	477	285	320	311	310	202	413
16 Uthai Thani	200	220	339	269	350	543	80	44	90	65	56	128	400	200	265	213	161	235
17 Phetchabun	800	1,220	1,669	1,161	1,428	1,608	400	520	686	512	458	651	500	426	411	441	321	405
Zone 8	638	730	609	497	676	836	197	185	208	148	148	224	309	253	341	297	219	268
02 Phichit	138	150	131	132	123	135	50	40	49	37	33	39	362	267	374	278	270	291
03 Phitsanulok	350	430	378	217	331	325	105	100	125	71	73	92	300	233	330	326	222	282
13 Tak	-	50	45	84	98	130	-	15	16	21	28	34	-	300	360	249	287	264
15 Kamphaeng Phet	150	100	56	64	125	246	42	30	18	19	14	59	280	300	325	300	109	238
Zone 9	722	374	414	371	387	411	145	106	132	106	59	98	201	283	318	287	152	239
04 Uttaradit	120	100	134	121	108	137	36	30	44	41	9	29	300	300	333	342	86	211
05 Phrae	72	70	83	77	74	45	22	25	30	18	16	11	306	357	365	239	216	247
06 Lampang	30	44	24	9	20	19	9	13	6	5	4	5	300	295	256	495	181	278
07 Nan	50	50	74	59	115	123	18	20	24	18	17	34	360	400	317	309	145	281
14 Sukhothai	450	110	99	105	69	88	60	18	27	24	13	19	133	164	275	229	192	214
Zone 10	63	80	153	188	159	243	24	32	62	66	42	55	381	400	403	351	264	228
09 Chiang Rai	63	80	106	159	143	196	24	32	48	56	37	44	381	400	449	352	256	222
10 Chiang Mai	-	-	47	22	14	16	-	-	14	7	5	3	-	-	298	337	338	214
11 Mae Hong Hon	-	-	4	-	-	-	-	-	1	-	-	-	-	-	300	-	-	-
12 Lamphun	-	-	3	2	-	-	-	-	1	0.5	-	-	-	-	472	275	-	-
08 Phayao	-	-	-	-	-	31	-	-	-	-	-	8	-	-	-	-	-	273

Appendix 2-2 TRANSITION OF MAIN CROPS PRODUCTION IN THE NORTHERN REGION  
 - PLANTED AREA, PRODUCTION & AVERAGE YIELD (1973 - 1978) (Continued)

## 3. Mungbean

	Planted Area (1,000 rai)						Production (1,000 tons)						Yield per rai (kg)					
	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79
Whole Country	1,596	1,293	1,022	1,392	2,720	2,638	209	188	121	125	207	259	131	145	118	90	76	98
Northern Regions	1,105	866	738	1,173	2,030	2,019	153	126	91	109	153	202	138	146	123	93	76	100
Zone 6	366	331	302	539	806	986	50	51	35	49	64	101	137	154	116	90	79	103
01 Nakhon Sawan	216	152	119	206	262	288	32.3	22.6	16.5	18.3	21.8	37.1	149	149	139	89	83	129
16 Uthai Thani	3	1	3	11	15	17	0.4	0.2	0.6	1.0	1.0	2.0	150	178	171	90	68	119
17 Phetchabun	147	178	180	322	529	682	17.4	28.0	17.9	29.2	41.3	62.1	118	158	99	91	78	91
Zone 8	449	283	219	385	605	722	60	42	28	36	42	71	133	147	129	95	69	97
02 Phichit	87	77	24	105	107	135	15.2	13.4	2.9	7.7	9.8	14.3	175	173	121	73	92	106
03 Phitsanulok	199	126	108	170	283	366	21.5	14.4	13.4	17.8	23.5	40.2	108	114	124	105	83	110
13 Tak	8	5	7	5	13	11	1.3	0.8	1.0	0.4	0.8	1.0	167	155	157	88	58	91
15 Kamphaeng Phet	156	75	80	105	202	210	21.9	13.1	11.0	10.5	7.7	15.6	141	176	137	100	38	74
Zone 9	268	236	195	240	589	285	39	30	25	23	45	26	148	128	126	97	77	92
04 Uttaradit	72	31	37	57	71	84	11.9	4.0	4.9	5.8	5.7	7.7	166	132	132	101	80	91
05 Phrae	7	12	-	13	15	14	1.0	1.7	-	1.1	0.9	1.4	140	134	-	85	57	95
06 Lampang	6	4	-	-	20	3	0.8	0.8	-	-	1.0	0.3	133	196	-	-	55	99
07 Nan	1	2	0.4	3	85	27	0.1	0.4	0.02	0.3	6.0	3.0	90	189	61	92	70	112
14 Sukhothai	181	186	157	166	397	156	25.6	23.2	19.7	16.0	31.5	13.9	142	124	125	97	79	89
Zone 10	22	16	22	9	30	26	3	4	3	0.5	3	3	153	229	136	51	84	120
09 Chiang Rai	3	1	1	2	2.5	6	0.4	0.2	0.1	0.1	0.3	0.5	160	158	141	49	104	89
10 Chiang Mai	2	0.6	2	2	2.4	5	0.5	0.2	0.3	0.1	0.2	0.5	187	274	134	49	101	101
11 Mae Hong Hon	-	1	-	0.3	-	-	-	0.2	-	0.03	-	-	-	192	-	97	-	-
12 Lamphun	17	13	19	5	23	16	2.5	3.2	2.6	0.3	1.9	2.2	147	236	136	50	83	137
08 Phayao	-	-	-	-	2	-	-	-	-	-	0.1	-	-	-	-	-	49	-

Appendix 2-2 TRANSITION OF MAIN CROPS PRODUCTION IN THE NORTHERN REGION  
 - PLANTED AREA, PRODUCTION & AVERAGE YIELD (1973 - 1978) (Continued)

4. Soybeans

	Planted Area (1,000 rai)						Production (1,000 tons)						Yield per rai (kg)					
	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79
Whole Country	766	823	738	635	958	1,010	104	110	114	114	96	159	136	134	154	179	94	157
Northern Regions	669	687	674	558	796	837	90	95	104	102	78	133	135	139	155	182	98	159
Zone 6	145	119	55	120	246	200	27	20	9	17	26	34	182	168	164	141	105	172
01 Nakhon Sawan	80	22	25	92	58	6	15.7	2.7	4.3	12.3	7.4	0.9	197	122	174	134	128	161
16 Uthai Thani	0.7	1	1	3	-	1	0.1	0.1	0.1	0.4	-	0.2	174	133	115	120	-	147
17 Phetchabun	64	96	29	25	188	193	10.9	17.3	4.5	4.2	18.4	33.1	169	180	157	168	98	172
Zone 8	41	53	36	37	107	73	5	7	5	5	15	11	127	130	132	130	138	155
02 Phichit	2	4	-	-	-	-	0.3	0.4	-	-	-	-	133	115	-	-	-	-
03 Phitsanulok	8	16	16	5	7	21	1.0	2.3	2.2	0.8	0.8	2.5	134	139	134	158	116	120
13 Tak	17	13	7	30	28	36	2.5	2.0	1.1	3.9	3.3	6.4	145	157	160	128	117	177
15 Kamphaeng Phet	14	20	13	2	73	16	1.4	2.2	1.5	0.1	10.8	2.5	99	108	115	80	149	152
Zone 9	331	342	420	319	295	389	44	50	67	62	16	54	133	146	161	193	56	140
04 Uttaradit	7	24	25	43	37	39	1.2	2.8	4.0	11.3	3.6	6.5	176	120	163	263	96	166
05 Phrae	14	11	7	22	20	48	2.2	1.1	0.8	3.7	2.0	8.1	156	100	115	172	101	168
06 Lampang	8	8	2	1	8	6	0.7	0.8	0.3	0.3	1.0	0.7	96	104	112	250	123	120
07 Nan	-	2	-	6	1	1	-	0.04	-	0.8	0.1	0.1	-	86	-	135	81	126
14 Sukhothai	302	298	386	247	228	295	40.0	45.0	62.3	45.4	9.7	38.9	132	151	162	184	43	132
Zone 10	152	173	164	83	148	176	14	19	23	19	21	33	95	107	142	224	141	189
09 Chiang Rai	9	8	7	2	12	9	1.1	0.8	1.1	0.2	2.0	1.4	115	98	143	114	162	150
10 Chiang Mai	142	152	143	64	119	155	13.2	16.1	20.1	14.5	15.5	29.7	93	106	141	227	131	192
11 Mae Hong Hon	-	10	11	12	16	5	-	1.3	1.8	3.4	3.1	1.1	-	129	166	287	198	208
12 Lamphun	1	3	3	5	1	4	0.1	0.4	0.3	0.3	0.2	0.8	105	129	118	75	137	211
08 Phayao	-	-	-	-	0.2	3	-	-	-	-	0.1	0.3	-	-	-	-	366	115

Appendix 2-2 TRANSITION OF MAIN CROPS PRODUCTION IN THE NORTHERN REGION- PLANTED AREA, PRODUCTION & AVERAGE YIELD (1973 - 1978) (Continued)5. Groundnuts

	Planted Area (1,000 rai)						Production (1,000 tons)						Yield per rai (kg)					
	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79
	Whole Country	774	814	736	761	641	660	147	161	142	152	106	128	189	198	193	199	165
Northern Regions	374	369	329	374	416	360	70	79	68	79	68	73	186	213	206	211	164	203
Zone 6	96	66	57	105	43	36	22	19	17	17	7	5	234	288	288	165	164	145
01 Nakhon Sawan	60	34	31	76	9	20	14.9	11.1	9.8	11.0	1.3	2.9	249	327	321	146	144	147
16 Uthai Thani	3	2	3	3	5	5	0.5	0.2	0.6	1.2	0.5	0.4	174	148	172	370	107	86
17 Phetchabun	33	30	24	26	29	11	7.1	7.7	6.1	5.0	5.2	1.8	211	252	261	196	193	168
Zone 8	33	34	33	28	17	20	5	6	6	8	3	3	166	189	179	285	186	172
02 Phichit	1	1	5	9	3	0.7	0.2	0.2	0.8	3.9	1.3	0.2	137	229	151	428	424	290
03 Phitsanulok	14	14	13	13	0.1	4	2.1	3.1	2.7	3.0	0.01	0.8	158	218	214	225	87	171
13 Tak	7	9	8	4	5	8	1.6	1.6	1.4	0.7	0.9	1.5	219	187	183	178	174	180
15 Kamphaeng Phet	10	10	7	2	8	6	1.4	1.5	1.0	0.5	0.8	1.0	142	146	135	239	101	150
Zone 9	150	169	141	152	215	147	24	32	25	32	28	26	157	189	178	208	128	175
04 Uttaradit	14	17	17	18	14	17	2.1	2.6	2.7	2.7	1.7	2.9	152	160	159	147	115	173
05 Phrae	44	45	34	30	35	25	6.0	6.8	5.2	7.0	6.3	4.8	136	153	151	235	180	196
06 Lampang	37	39	49	68	65	43	8.7	10.1	10.5	15.9	10.7	7.3	237	255	216	235	166	171
07 Nan	26	41	31	32	84	52	3.1	8.5	5.1	5.5	8.4	9.0	121	205	165	174	100	173
14 Sukhothai	30	27	11	5	17	10	3.8	3.9	1.8	0.5	0.5	1.5	126	145	161	103	30	147
Zone 10	95	100	97	89	141	158	18	21	20	22	30	39	192	214	206	248	215	247
09 Chiang Rai	27	28	45	33	33	49	4.6	5.1	8.6	8.0	5.1	12.2	173	179	192	244	154	249
10 Chiang Mai	51	56	32	32	52	61	10.7	13.3	5.5	6.3	12.9	15.5	210	238	175	196	250	254
11 Mae Hong Hon	4	4	4	7	15	16	0.8	0.8	0.7	2.1	4.1	3.9	174	176	173	306	267	352
12 Lamphun	13	12	17	17	21	14	2.2	2.3	5.2	5.7	3.6	3.5	164	197	312	329	177	252
08 Phayao	-	-	-	-	21	19	-	-	-	-	4.7	3.9	-	-	-	-	222	208



Appendix 2-2 TRANSITION OF MAIN CROPS PRODUCTION IN THE NORTHERN REGION  
 - PLANTED AREA, PRODUCTION & AVERAGE YIELD (1973 - 1978) (Continued)

## 6. Sugar Cane

	Planted Area (1,000 rai)						Production (1,000 tons)						Yield per rai (kg)					
	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79
Whole Country	1,616	1,935	2,443	3,119	3,541	3,190	13,339	14,592	19,910	26,094	18,941	20,560	8,253	7,540	8,148	8,367	5,349	6,445
Northern Regions	144	225	243	439	462	392	1,216	1,604	1,619	3,575	2,355	2,102	8,456	7,128	6,649	8,146	5,099	5,365
Zone 6	38	40	43	133	121	86	328	300	327	1,235	546	474	8,677	7,500	7,550	9,308	4,508	5,540
01 Nakhon Sawan	38	40	37	100	59	56	328	300	288	941	266	339	8,677	7,500	7,865	9,379	4,472	6,100
16 Uthai Thani	-	-	-	27	60	30	-	-	-	261	269	135	-	-	-	9,553	4,492	4,500
17 Phetchabun	-	-	7	5	2	-	-	-	39	33	11	-	-	-	5,828	6,558	6,342	-
Zone 8	66	113	117	164	174	138	659	900	803	1,496	877	754	9,958	8,000	6,860	9,143	5,032	5,477
02 Phichit	0.5	-	-	-	1	2	5	-	-	-	6	7	10,000	-	-	-	4,713	4,700
03 Phitsanulok	-	-	-	5	3	3	-	-	-	27	16	12	-	-	-	5,467	5,498	4,700
13 Tak	1	-	-	0.3	-	-	11	-	-	2	-	-	10,000	-	-	6,526	-	-
15 Kamphaeng Phet	65	113	117	158	170	133	644	900	804	1,467	854	735	9,957	8,000	6,860	9,264	5,026	5,550
Zone 9	38	71	81	136	167	168	218	392	478	810	932	874	5,782	5,559	5,893	5,956	5,598	5,185
04 Uttaradit	19	53	53	45	126	123	95	260	315	292	692	635	5,000	4,906	5,915	6,531	5,487	5,181
05 Phrae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06 Lampang	14	18	17	52	40	46	92	132	82	303	240	238	6,390	7,535	4,752	5,832	5,944	5,200
07 Nan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14 Sukhothai	4	-	10	39	-	-	31	-	80	215	-	-	7,235	-	7,687	5,467	-	-
Zone 10	2	2	2	7	-	-	10	12	10	34	-	-	5,000	6,000	5,343	5,199	-	-
09 Chiang Rai	-	-	-	7	-	-	-	-	-	34	-	-	-	-	-	5,199	-	-
10 Chiang Mai	2	2	2	-	-	-	10	12	10	-	-	-	5,000	6,000	5,343	-	-	-
11 Mae Hong Hon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Lamphun	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08 Phayao	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Appendix 2-2 TRANSITION OF MAIN CROPS PRODUCTION IN THE NORTHERN REGION  
 - PLANTED AREA, PRODUCTION & AVERAGE YIELD (1973 - 1978) (Continued)

## 7. Cassava Root

	Planted Area (1,000 rai)						Production (1,000 tons)						Yield per rai (kg)					
	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79
Whole Country	2,725	3,000	3,715	4,373	6,000	6,313	5,668	6,240	8,100	10,138	12,372	15,048	2,080	2,080	2,180	2,318	2,062	2,384
Northern Regions	157	92	129	105	186	127	355	224	330	272	446	335	2,268	2,428	2,559	2,594	2,399	2,649
Zone 6	61	24	29	4	51	62	126	54	64	13	131	170	2,058	2,219	2,198	3,374	2,555	2,740
01 Nakhon Sawan	30	14	17	4	20	28	53	29	38	13	27	66	1,732	2,115	2,213	3,374	1,320	2,365
16 Uthai Thani	7	2	4	-	31	34	21	6	10	-	104	103	3,032	2,561	1,548	-	3,376	3,054
17 Phetchabun	24	8	8	-	-	0.3	52	18	16	-	-	0.7	2,196	2,297	1,989	-	-	2,588
Zone 8	80	52	79	96	89	64	204	146	228	249	173	165	2,571	2,847	2,898	2,597	1,943	2,565
02 Phichit	0.4	2	-	-	-	-	0.5	2.5	-	-	-	-	1,297	1,537	-	-	-	-
03 Phitsanulok	11	12	15	22	16	19	28	48	62	46	10	32	2,545	4,009	4,194	2,060	624	1,673
13 Tak	0.5	0.5	0.6	-	-	1	0.2	0.2	0.2	-	-	1.5	418	318	333	-	-	1,322
15 Kamphaeng Phet	68	37	63	74	73	44	176	95	166	203	163	131	2,598	2,560	2,617	2,762	2,237	2,981
Zone 9	8	8	11	5	13	0.2	12	9	23	11	40	0.3	1,463	1,191	2,042	-	3,031	1,347
04 Uttaradit	0.7	0.7	2	5	12	-	0.7	1.4	7.2	10.6	38.0	-	1,050	2,343	3,605	1,963	3,091	-
05 Phrae	1	1	3	-	-	-	1.1	0.8	8.1	-	-	-	954	817	2,396	-	-	-
06 Lampang	3	5	5	-	1	-	5.9	4.3	6.9	-	2.3	-	1,714	884	1,269	-	2,307	-
07 Nan	2	0.5	0.2	-	-	0.2	2.4	0.9	0.3	-	-	0.3	1,558	1,725	1,669	1,963	-	1,347
14 Sukhothai	2	0.7	0.1	-	-	-	2.3	1.8	0.1	-	-	-	1,384	2,394	1,308	-	-	-
Zone 10	7	9	10	-	32	-	12	15	15	-	101	-	1,654	1,686	1,524	-	3,161	-
09 Chiang Rai	5	5	7	-	32	-	8.3	10.6	10.7	-	101.2	-	1,696	2,124	1,569	-	3,161	-
10 Chiang Mai	2	3	2	-	-	-	3.0	3.1	2.7	-	-	-	1,594	1,014	1,348	-	-	-
11 Mae Hong Hon	0.1	0.3	0.3	-	-	-	0.1	0.3	0.4	-	-	-	685	1,079	1,131	-	-	-
12 Lamphun	0.3	0.8	0.8	-	-	-	0.6	1.4	1.5	-	-	-	1,733	1,707	1,743	-	-	-
08 Phayao	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

## Appendix 2-2 TRANSITION OF MAIN CROPS PRODUCTION IN THE NORTHERN REGION

- PLANTED AREA, PRODUCTION &amp; AVERAGE YIELD (1973 - 1978) (Continued)

## 8. Cotton

	Planted Area (1,000 rai)						Production (1,000 tons)						Yield per rai (kg)					
	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79	1973/74	74/75	75/76	76/77	77/78	78/79
Whole Country	181	323	188	154	528	429	28	56	29	27	91	74	157	175	153	174	172	174
Northern Regions	86	205	77	66	214	158	13	35	11	9	35	26	149	171	139	136	164	165
Zone 6	30	62	21	42	125	109	4	13	3	6	24	19	121	203	146	142	192	173
01 Nakhon Sawan	3	3	2	1	2	4	0.7	0.6	0.4	0.3	0.4	0.9	220	210	239	205	200	219
16 Uthai Thani	1	3	7	6	35	40	0.1	0.8	0.8	0.6	6.0	5.9	106	249	128	114	170	145
17 Phetchabun	26	56	12	35	88	65	2.8	11.3	1.8	5.1	17.5	12.1	109	201	143	144	200	185
Zone 8	4	9	1	-	9	3	0.6	2	0.1	-	2	0.6	136	175	119	-	188	214
02 Phichit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03 Phitsanulok	2	3	1	-	4	-	0.1	0.3	0.1	-	0.6	-	91	99	119	-	154	-
13 Tak	2	2	-	-	2	-	0.3	0.2	-	-	0.4	-	136	113	-	-	200	-
15 Kamphaeng Phet	0.6	4	-	-	3	3	0.1	1.1	-	-	0.7	0.6	243	261	-	-	225	214
Zone 9	50	132	53	24	78	44	8	21	7	3	9	6	168	155	137	126	118	141
04 Uttaradit	2	2	2	0.2	0.7	1	0.2	0.2	0.1	0.01	0.1	0.2	82	93	96	50	201	117
05 Phrae	3	7	3	6	7	4	0.4	1.1	0.4	0.8	1.3	0.6	134	148	113	139	173	136
06 Lampang	7	6	7	0.7	0.8	2	0.8	0.5	0.6	0.04	0.1	0.5	114	81	93	55	195	200
07 Nan	6	7	5	1	30	9	0.9	0.9	0.6	0.2	3.1	1.0	145	118	116	128	103	120
14 Sukhothai	32	110	36	16	39	27	6.2	17.9	5.5	2.0	4.6	3.9	194	164	153	125	116	144
Zone 10	2	2	2	0.2	2	2	0.2	0.2	0.2	0.02	0.3	0.4	123	117	100	120	172	177
09 Chiang Rai	2	2	2	-	0.5	-	0.2	0.2	0.2	-	0.1	-	114	117	100	-	151	-
10 Chiang Mai	-	-	0.3	0.2	0.2	-	-	-	0.03	0.02	0.04	-	-	-	101	120	201	-
11 Mae Hong Hon	0.4	-	-	-	0.2	-	0.1	-	-	-	0.04	-	162	-	-	-	151	-
12 Lamphun	-	-	-	-	0.1	0.4	-	-	-	-	0.01	0.04	-	-	-	-	127	100
08 Phayao	-	-	-	-	0.5	1.6	-	-	-	-	0.1	0.3	-	-	-	-	200	195

## Appendix 2-3 CROP PRODUCTION OF AMPHOE IN THE NORTHERN REGION

Unit : ton  
( ) : Percentage

Amphoe	Top Three of Crop Production						Other Crops	Total
	No. 1	No. 2	No. 3					
0100 M. NAKHON SAWAN	Sugar Cane	106,600 (51.8)	Rice	52,710 (25.6)	Veg. & Fruits	22,018 (10.7)	24,516 (11.9)	205,844
0102 IAT YAO	Rice	115,187 (72.8)	Cassava	24,000 (15.2)	Sugar Cane	15,135 (9.6)	3,820 (2.4)	158,142
0103 BANPHOT PHISAI	Rice	67,600 (63.8)	Sugar Cane	22,500 (21.2)	Veg. & Fruits	6,213 (5.9)	9,616 (9.1)	105,929
0104 KAO LIEO	Sugar Cane	148,000 (80.7)	Rice	30,075 (16.4)	-----	-----	5,285 (2.9)	183,360
0105 CHUMSAENG	Rice	73,911 (89.6)	Veg. & Fruits	6,884 (8.3)	-----	-----	1,654 (2.1)	82,449
0106 KROK PHRA	Rice	29,641 (48.7)	Sugar Cane	15,680 (25.8)	Veg. & Fruits	6,907 (11.3)	8,610 (14.2)	60,838
0107 PHAYUHA KHIRI	Rice	43,292 (48.9)	Maize	25,082 (28.3)	Beans	11,743 (13.3)	8,468 (9.5)	88,585
0108 TAKHLI	Maize	113,007 (32.7)	Rice	67,930 (19.7)	Veg. & Fruits	64,587 (18.7)	100,021 (28.9)	345,545
0109 THA TAKO	Rice	112,783 (91.6)	-----	-----	-----	-----	10,342 (8.4)	123,125
0110 PHAISALI	Rice	59,009 (47.8)	Maize	34,480 (28.0)	Beans	10,730 (8.7)	19,143 (15.5)	123,362
0111 NONG BUA	Rice	85,992 (73.4)	Maize	27,560 (23.5)	-----	-----	3,611 (3.1)	117,163
0112 TAK FA	Maize	42,075 (54.5)	Rice	9,497 (12.3)	Beans	8,991 (11.7)	16,575 (21.5)	77,138
0201 M. PHICHIT	Rice	151,014 (77.7)	Maize	21,528 (11.1)	Beans	8,704 (4.5)	13,114 (6.7)	194,360
0202 SAM NGAM	Rice	77,667 (93.1)	Maize	2,612 (3.1)	Beans	1,338 (1.6)	812 (2.2)	83,429
0203 TAPHAN HIN	Rice	129,561 (90.3)	Maize	13,199 (9.2)	-----	-----	744 (0.5)	143,504
0204 BANG MUN NAK	Rice	111,264 (95.1)	Veg. & Fruits	2,700 (2.3)	-----	-----	3,023 (2.6)	116,987
0205 PHO THALE	Rice	125,675 (83.8)	Maize	8,610 (5.7)	Beans	6,395 (4.3)	9,370 (6.2)	150,050
0206 PHO PRATHAP CHANG	Rice	43,716 (72.6)	Maize	13,600 (22.6)	Beans	2,283 (0.4)	576 (4.4)	60,175
0207 WANG SAI PHUN	Rice	38,817 (91.4)	Veg. & Fruits	1,700 (4.0)	Maize	1,384 (3.3)	555 (1.3)	42,456
0301 M. PHITSANULOK	Rice	77,775 (83.0)	Veg. & Fruits	5,305 (5.7)	Sugar Cane	4,800 (5.1)	5,868 (6.2)	93,748
0302 PHROM PHIRAM	Rice	89,643 (76.6)	Maize	18,176 (15.5)	Beans	7,038 (6.0)	2,144 (1.9)	117,001
0303 WAT BOT	Rice	18,096 (53.0)	Maize	10,264 (30.1)	Beans	6,734 (12.4)	978 (4.5)	34,116
0304 CHAT TRAKAN	Maize	16,091 (50.0)	Rice	8,245 (25.6)	Sugar Cane	4,800 (14.9)	2,983 (9.5)	32,119
0305 NAKHON THAI	Maize	62,867 (55.9)	Cassava	27,200 (24.2)	Rice	13,026 (11.6)	9,432 (8.3)	112,525
0306 WANG THONG	Cassava	81,600 (50.6)	Rice	53,657 (33.2)	Maize	16,459 (10.2)	9,668 (6.0)	161,384
0307 BANG KRATHUM	Rice	48,329 (91.8)	-----	-----	-----	-----	4,314 (8.2)	52,643
0308 BANG RAKAM	Rice	74,331 (69.7)	Maize	18,947 (17.8)	Beans	9,986 (9.4)	3,384 (3.1)	106,648
0309 NOEN MAPRANG	Rice	29,223 (77.0)	Maize	6,072 (16.0)	-----	-----	2,643 (7.0)	37,938
0401 M. UTTARADIT	Sugar Cane	159,695 (74.8)	Rice	46,599 (21.8)	-----	-----	7,312 (3.4)	213,606
0402 FAK THA	Rice	4,096 (49.7)	Maize	2,613 (31.7)	-----	-----	1,534 (18.6)	8,243
0403 NAM PAT	Rice	7,143 (31.5)	Sugar Cane	4,215 (18.6)	Maize	4,033 (17.8)	7,288 (32.1)	22,679
0404 THA PLA	Sugar Cane	26,175 (55.4)	Rice	10,744 (22.7)	Maize	5,652 (12.0)	4,668 (9.9)	47,239
0405 LAPLAE	Rice	25,933 (87.8)	Sugar Cane	2,500 (8.5)	-----	-----	1,120 (3.7)	29,553
0406 TRON	Sugar Cane	160,000 (76.7)	Rice	31,557 (15.1)	-----	-----	16,984 (8.2)	208,541
0407 PHICHAI	Rice	51,330 (49.1)	Sugar Cane	28,400 (27.1)	Beans	13,441 (12.8)	11,443 (11.0)	104,614
0408 BAN KHOK	Rice	1,830 (50.8)	Maize	1,600 (44.4)	-----	-----	175 (4.8)	3,605
0501 M. PHRAE	Rice	39,441 (49.8)	Tobacco	24,600 (31.1)	Beans	10,033 (12.7)	5,153 (6.4)	79,227
0502 SONG	Rice	40,310 (61.6)	Tobacco	10,500 (16.0)	Maize	6,895 (10.5)	7,776 (11.9)	65,481
0503 RONG KWANG	Rice	25,201 (68.9)	Tobacco	6,020 (16.5)	Beans	2,776 (7.6)	2,559 (7.0)	36,556
0504 DEN CHAI	Rice	11,690 (35.8)	Maize	7,525 (23.0)	Tobacco	7,500 (22.9)	5,973 (18.3)	32,688
0505 LONG	Rice	33,669 (52.0)	Maize	26,460 (40.9)	-----	-----	4,564 (7.1)	64,693
0506 SUNG MEN	Rice	26,791 (61.7)	Tobacco	11,730 (27.0)	-----	-----	4,879 (11.3)	43,400
0507 WANG CHIN	Rice	18,422 (72.4)	Maize	4,379 (17.2)	-----	-----	2,661 (10.4)	25,462
0601 M. LAMPANG	Veg. & Fruits	86,467 (37.8)	Rice	59,300 (26.0)	Tobacco	51,610 (22.6)	31,081 (13.6)	228,458
0602 WANG NUA	Rice	17,566 (43.1)	Tobacco	10,800 (26.5)	Veg. & Fruits	8,589 (21.1)	3,811 (9.3)	40,766
0603 CHAE HOM	Rice	14,864 (45.1)	Tobacco	14,473 (43.9)	-----	-----	3,643 (11.0)	32,980
0604 NGAO	Rice	15,167 (58.9)	Tobacco	4,508 (17.5)	Veg. & Fruits	3,630 (14.1)	2,465 (9.5)	25,770
0605 HANG CHAT	Sugar Cane	39,900 (60.3)	Rice	21,283 (32.1)	-----	-----	5,017 (7.6)	66,200
0606 KO KHA	Sugar Cane	47,686 (70.9)	Rice	15,222 (22.6)	-----	-----	4,356 (6.5)	67,264
0607 MAE THA	Sugar Cane	28,150 (42.0)	Rice	25,193 (36.0)	Veg. & Fruits	10,348 (15.4)	6,301 (6.6)	69,992

## Appendix 2-3 CROP PRODUCTION OF AMPHOE IN THE NORTHERN REGION (Continued)

Unit : ton  
( ) : Percentage

Amphoe	Top Three of Crop Production						Other Crops	Total
	No. 1		No. 2		No. 3			
0608 SOP PRAP	Sugar Cane	57,648 (80.6)	Rice	11,239 (15.7)			2,621 (3.7)	71,508
0609 THOEN	Rice	19,369 (66.3)	Sugar Cane	3,000 (10.3)	Cassava	2,322 (8.0)	4,512 (15.4)	29,203
0610 MAE PHRIK	Rice	4,000 (59.5)	Maize	1,672 (24.9)			1,051 (15.6)	6,723
0611 SOEM NGAM	Rice	8,901 (65.0)	Beans	1,450 (10.6)	Tobacco	1,195 (8.7)	2,162 (15.7)	13,708
0612 MAE MO	Rice	3,278 (64.6)	Beans	433 (8.5)			1,366 (26.9)	5,077
0701 M. NAN	Rice	41,420 (51.8)	Tobacco	15,900 (19.9)	Maize	10,470 (13.1)	12,173 (15.2)	79,963
0702 THUNG CHANG	Rice	8,764 (41.5)	Tobacco	4,818 (22.8)	Cotton	3,220 (15.2)	4,320 (20.5)	21,122
0703 CHIANG KLANG	Tobacco	14,590 (44.0)	Rice	13,037 (39.3)	Maize	3,098 (9.3)	2,427 (7.4)	33,152
0704 PUA	Rice	20,595 (40.0)	Tobacco	12,096 (23.5)	Beans	8,933 (17.3)	9,897 (19.2)	51,521
0705 THA WANG PHA	Rice	19,641 (44.0)	Tobacco	18,702 (41.9)			6,260 (14.1)	44,603
0706 MAE CHARIM	Rice	3,048 (53.7)	Maize	1,282 (22.6)			1,348 (23.7)	5,678
0707 SA	Tobacco	41,773 (47.1)	Rice	24,248 (27.3)	Maize	15,070 (17.0)	7,662 (0.6)	88,753
0708 NA NOI	Rice	10,937 (45.0)	Tobacco	6,974 (28.7)	Maize	2,576 (10.6)	3,813 (15.7)	24,300
0709 BAN LUANG	Rice	4,096 (48.5)	Maize	1,282 (15.2)	Tobacco	901 (10.7)	2,166 (25.6)	8,445
0710 NA MUEN	Rice	3,359 (80.2)					829 (19.8)	4,188
0801 M. PHAYAO	Rice	68,135 (79.4)	Veg. & Fruits	11,082 (12.9)			6,561 (7.7)	85,778
0802 CHIANG KHAM	Rice	38,780 (54.6)	Tobacco	13,400 (18.9)	Sugar Cane	8,400 (11.8)	10,431 (14.7)	71,011
0803 PONG	Tobacco	21,330 (52.4)	Rice	15,617 (38.4)			3,754 (9.2)	40,671
0804 CHIANG MUAN	Tobacco	9,168 (42.6)	Rice	7,414 (34.4)	Veg. & Fruits	3,583 (16.6)	1,366 (6.4)	21,531
0805 CHUN	Rice	50,613 (93.8)					3,327 (6.2)	53,940
0806 DOK KHAM TAI	Rice	40,497 (76.8)	Maize	4,454 (8.4)	Beans	4,032 (7.6)	3,763 (7.2)	52,746
0807 MAE CHAI	Rice	30,099 (74.8)	Veg. & Fruits	7,702 (19.1)			2,454 (6.1)	40,255
0901 M. CHIANG RAI	Rice	102,685 (65.9)	Tobacco	21,854 (14.0)	Maize	11,745 (7.5)	19,474 (12.6)	155,758
0902 MAE SAI	Rice	26,998 (47.6)	Veg. & Fruits	17,679 (31.2)	Tobacco	6,254 (11.0)	5,739 (10.2)	56,670
0903 CHIANG SAEN	Rice	25,712 (53.8)	Tobacco	12,775 (26.7)	Cassava	5,300 (11.1)	3,988 (8.4)	47,775
0904 CHIANG KHONG	Rice	71,363 (69.8)	Veg. & Fruits	18,750 (18.3)			12,085 (11.9)	102,198
0905 MAE CHAN	Rice	82,811 (76.2)	Maize	6,288 (5.8)	Tobacco	5,140 (4.7)	14,463 (13.3)	108,702
0906 THOENG	Rice	87,910 (65.7)	Maize	25,998 (19.4)	Tobacco	9,723 (7.3)	10,152 (7.6)	133,783
0907 PA DAET	Rice	42,602 (86.4)	Tobacco	1,500 (3.0)			5,221 (10.6)	49,323
0908 PHAN	Rice	113,770 (49.5)	Veg. & Fruits	88,469 (38.5)	Tobacco	17,300 (7.5)	10,148 (4.5)	229,687
0909 MAE SUAI	Rice	17,110 (47.0)	Veg. & Fruits	6,054 (16.6)	Cassava	3,374 (9.3)	9,891 (27.1)	36,429
0910 WIANG PA PAO	Rice	37,308 (53.6)	Tobacco	16,300 (23.4)	Veg. & Fruits	12,780 (18.4)	3,197 (4.6)	69,585
0911 WIANG CHAI	Rice	57,259 (74.9)	Veg. & Fruits	6,087 (8.0)	Tobacco	5,067 (6.6)	8,055 (10.5)	76,468
1001 M. CHIANG MAI	Veg. & Fruits	23,880 (59.7)	Rice	14,850 (37.1)			1,250 (3.2)	39,980
1002 MAE AI	Rice	35,300 (60.4)	Veg. & Fruits	8,991 (15.4)	Tobacco	8,540 (14.6)	5,640 (9.6)	58,471
1003 FANG	Veg. & Fruits	66,359 (40.7)	Tobacco	55,140 (33.9)	Rice	39,303 (24.1)	2,056 (1.3)	162,858
1004 CHIANG DAO	Veg. & Fruits	21,010 (46.4)	Rice	16,510 (36.5)	Tobacco	5,152 (11.4)	2,613 (5.7)	45,285
1005 MAE TAENG	Tobacco	25,502 (37.1)	Veg. & Fruits	21,310 (31.0)	Rice	17,380 (25.3)	4,536 (6.6)	68,728
1006 PHRAO	Tobacco	23,990 (35.9)	Rice	23,608 (35.3)	Beans	8,812 (13.2)	10,482 (15.6)	66,892
1007 SAMOENG	Rice	6,037 (59.1)	Veg. & Fruits	3,990 (39.1)			180 (1.8)	10,207
1008 MAE RIM	Rice	21,964 (60.0)	Tobacco	7,956 (21.8)	Beans	3,117 (8.5)	4,474 (9.7)	36,511
1009 SAN SAI	Rice	31,246 (53.3)	Tobacco	12,168 (20.7)	Veg. & Fruits	7,106 (12.1)	8,155 (13.9)	58,675
1010 DOI SAKET	Rice	32,291 (51.2)	Veg. & Fruits	18,174 (28.8)	Tobacco	10,998 (17.4)	1,602 (2.6)	63,065
1011 SAN KAMPHAENG	Rice	84,500 (72.7)	Veg. & Fruits	19,324 (16.6)	Tobacco	11,430 (9.8)	1,011 (0.9)	116,265
1012 SARAPHI	Rice	23,836 (49.8)	Veg. & Fruits	21,725 (45.4)			2,305 (4.8)	47,866
1013 HANG DONG	Rice	27,155 (59.6)	Veg. & Fruits	14,784 (32.4)			3,652 (8.0)	45,591
1014 SAN PA TONG	Rice	34,709 (39.7)	Veg. & Fruits	40,320 (46.1)	Beans	6,980 (8.0)	5,400 (4.9)	87,409
1015 CHOM THONG	Rice	37,700 (44.0)	Veg. & Fruits	31,292 (36.5)	Beans	4,203 (4.9)	12,560 (14.6)	85,755
1016 MAE CHAEM	Rice	6,400 (59.4)	Maize	2,630 (24.4)	Beans	1,077 (10.0)	670 (6.2)	10,777

## Appendix 2-3 CROP PRODUCTION OF AMPHOE IN THE NORTHERN REGION (Continued)

Unit : ton  
( ) : Percentage

Amphoe	Top Three of Crop Production						Other Crops	Total
	No. 1	No. 2	No. 3					
1017 HOT	Rice	5,340 (39.7)	Veg. & Fruits	5,157 (38.3)	Beans	2,513 (18.7)	450 (3.3)	13,460
1018 OMKOI	Rice	7,480 (90.6)					780 (9.4)	8,260
1019 DOI TAO	Beans	8,167 (36.0)	Rice	7,222 (31.8)	Veg. & Fruits	6,288 (27.7)	1,014 (4.5)	22,691
1101 M. MAE HONG SON	Rice	7,849 (58.4)	Veg. & Fruits	2,996 (22.3)	Beans	1,481 (11.0)	1,108 (8.3)	13,434
1102 PAI	Rice	5,634 (45.2)	Veg. & Fruits	4,029 (32.4)	Maize	772 (6.2)	2,019 (16.2)	12,454
1103 KHUN YUAM	Rice	4,869 (75.4)	Veg. & Fruits	848 (13.1)			734 (11.5)	6,451
1104 MAE LA NOI	Rice	12,117 (45.7)	Veg. & Fruits	4,338 (16.4)	Tobacco	4,105 (15.5)	5,968 (22.4)	26,528
1105 MAE SARIANG	Rice	44,877 (59.9)	Veg. & Fruits	14,572 (19.4)	Beans	6,181 (8.2)	9,308 (12.5)	74,938
1201 M. LAMPHUN	Rice	59,175 (57.4)	Veg. & Fruits	32,205 (31.2)	Sugar Cane	8,700 (8.4)	3,098 (3.0)	103,178
1202 MAE THA	Rice	16,309 (46.1)	Tobacco	8,958 (25.3)	Veg. & Fruits	8,635 (24.4)	1,478 (4.2)	35,380
1203 PA SANG	Veg. & Fruits	53,143 (59.6)	Rice	32,080 (36.0)			3,894 (4.4)	89,117
1204 BAN HONG	Veg. & Fruits	73,812 (76.4)	Rice	12,098 (12.5)	Tobacco	10,080 (10.4)	634 (0.7)	96,624
1205 LI	Rice	6,403 (43.6)	Veg. & Fruits	4,668 (31.8)	Beans	2,482 (16.9)	1,134 (7.7)	14,687
1206 THUNG HUA CHANG	Rice	3,783 (59.6)	Veg. & Fruits	1,473 (23.2)			1,086 (17.2)	6,342
1301 M. TAK	Veg. & Fruits	34,872 (51.8)	Rice	12,529 (18.6)	Sugar Cane	11,200 (16.6)	8,757 (13.0)	67,358
1302 THA SONG YANG	Veg. & Fruits	9,020 (47.1)	Rice	7,180 (37.5)			2,961 (15.4)	19,161
1303 MAE RAMAT	Rice	9,030 (36.2)	Veg. & Fruits	7,835 (31.4)	Maize	4,068 (16.3)	4,006 (16.1)	24,939
1304 SAM NGAO	Rice	15,330 (50.9)	Veg. & Fruits	6,969 (23.2)	Maize	4,010 (13.3)	3,788 (12.6)	30,097
1305 BAN TAK	Rice	21,678 (51.2)	Maize	9,097 (21.5)	Veg. & Fruits	7,427 (17.6)	4,110 (9.7)	42,312
1306 MAE SOT	Rice	37,840 (63.9)	Maize	12,586 (21.3)	Veg. & Fruits	5,161 (8.7)	3,625 (14.8)	59,212
1307 UMPHANG	Veg. & Fruits	3,601 (52.0)	Rice	2,598 (37.5)			722 (10.5)	6,912
1308 PHOP PHRA	Maize	12,600 (37.7)	Veg. & Fruits	11,595 (34.7)	Rice	6,391 (19.1)	2,834 (8.5)	33,420
1401 M. SUKHOTHAI	Rice	52,851 (90.1)					5,809 (9.9)	58,660
1402 SI SATCHANALAI	Rice	55,313 (39.6)	Sugar Cane	43,666 (31.3)	Beans	36,011 (25.8)	4,714 (3.3)	139,704
1403 THUNG SALIAM	Veg. & Fruits	30,350 (53.4)	Beans	11,460 (20.1)	Cotton	8,000 (14.1)	7,070 (12.4)	56,880
1404 SWANKHALOK	Rice	51,822 (48.2)	Sugar Cane	26,982 (25.1)	Beans	22,252 (20.7)	6,570 (6.0)	107,626
1405 SI SAMRONG	Sugar Cane	28,313 (36.3)	Beans	23,348 (29.9)	Rice	20,324 (26.0)	6,089 (7.8)	78,074
1406 KONG KRAILAT	Rice	59,167 (89.4)					6,984 (10.6)	66,151
1407 KHIRI MAT	Rice	17,520 (50.1)	Sugar Cane	8,531 (24.4)	Beans	7,035 (20.1)	1,883 (5.4)	34,977
1408 BAN DAN LAN HOI	Rice	13,700 (55.1)	Sugar Cane	5,506 (22.2)	Beans	4,542 (18.3)	1,108 (4.4)	24,856
1409 SI NAKHON	Rice	11,417 (60.6)	Sugar Cane	3,652 (19.4)	Beans	3,012 (16.0)	746 (4.0)	18,827
1501 M. KAMPHAENG PHET	Sugar Cane	418,800 (54.3)	Rice	117,238 (15.2)	Cassava	44,125 (5.7)	191,674 (24.8)	771,837
1502 PHRAN KRATAI	Sugar Cane	65,280 (43.1)	Rice	53,336 (35.2)	Beans	6,556 (4.3)	26,165 (17.4)	151,337
1503 KHLONG KHLUNG	Sugar Cane	243,756 (44.0)	Rice	193,940 (35.0)	Maize	13,934 (2.5)	102,280 (18.5)	553,910
1504 KHANU WORALAKSABURI	Sugar Cane	228,000 (50.4)	Rice	95,242 (21.1)	Maize	14,771 (3.3)	114,295 (25.2)	452,308
1505 SAI NGAM	Sugar Cane	120,000 (52.6)	Rice	56,054 (24.5)	Maize	10,476 (4.6)	41,707 (18.3)	228,237
1506 KLONG LAN	Maize	19,716 (25.3)	Sugar Cane	19,020 (24.4)	Rice	15,536 (19.9)	23,617 (30.4)	77,889
1507 LAN KRABU	Sugar Cane	81,312 (47.5)	Rice	48,455 (28.3)	Maize	8,195 (4.8)	33,151 (19.4)	171,113
1601 M. UTHAI THANI	Rice	29,261 (91.2)					2,824 (8.8)	32,085
1602 SAWANG AROM	Rice	47,382 (67.3)	Sugar Cane	13,400 (19.0)			9,640 (13.7)	70,422
1603 THAP THAN	Rice	55,002 (91.7)					4,978 (8.3)	59,980
1604 NONG KHAYANG	Rice	36,919 (96.2)					1,458 (3.8)	38,377
1605 NONG CHANG	Rice	56,364 (62.0)	Sugar Cane	25,600 (28.2)			8,915 (9.8)	90,879
1606 BAN RAI	Cassava	165,900 (51.0)	Maize	61,350 (18.9)	Sugar Cane	36,320 (11.2)	61,893 (18.9)	325,463
1607 LAN SAK	Maize	35,373 (35.9)	Rice	28,801 (29.2)	Sugar Cane	23,900 (24.2)	10,577 (10.7)	98,651
1701 M. PHETCHABUN	Rice	54,759 (40.2)	Maize	53,661 (39.4)	Veg. & Fruits	20,906 (15.4)	6,779 (5.0)	136,105
1702 LOM KAO	Maize	55,975 (72.6)	Rice	12,694 (16.5)			8,451 (11.0)	77,120
1703 LOM SAK	Rice	68,362 (40.6)	Maize	43,735 (25.9)	Tobacco	27,083 (16.1)	29,364 (17.4)	168,544
1704 NONG PHAI	Maize	132,567 (67.0)	Rice	37,602 (19.0)	Veg. & Fruits	12,748 (6.4)	14,951 (7.6)	197,868

## Appendix 2-3 CROP PRODUCTION OF AMPHOE IN THE NORTHERN REGION (Continued)

Unit : ton  
( ) : Percentage

Amphoe	Top Three of Crop Production			Other Crops	Total
	No. 1	No. 2	No. 3		
1705 WICHIAN BURI	Maize 119,967 (54.6)	Rice 39,751 (18.1)	Beans 33,691 (15.3)	26,495 (12.0)	219,904
1706 CHON DAEN	Rice 60,861 (66.9)	Maize 22,119 (24.3)	—	7,990 (8.8)	90,970
1707 SI THEP	Maize 26,475 (40.6)	Rice 21,060 (32.3)	Beans 9,740 (14.9)	7,959 (12.2)	65,234
1708 BUNG SAM PHAN	Maize 104,421 (65.5)	Rice 47,335 (29.7)	—	7,582 (4.8)	159,338
1709 NAM NAO	Rice 14,366 (89.1)	—	—	1,755 (10.9)	16,121

Note : Date : 1978/79

Rice : paddy (unhusked rice)

Tobacco: tobacco leaves (wet)

Beans : mungbeans, soybeans and other beans

## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION

## NAKHON SAWAN

Route No.	Route		Length (Km)			Remarks <sup>1/</sup>	Route No.	Route		Length (Km)			Remarks <sup>1/</sup>
	Origin	Destination	Paved	Un-Paved	Total			Origin	Destination	Paved	Un-Paved	Total	
(DOH Road)													
1-1	B.C. Chainat	B.C. Chainat	46.19		46.19		3006	J.R. 1	A. Ta Khli	0.17		0.17	
1-2	B.C. Uthai Thani	B.C. Kamphaeng Phet	79.40		79.40		3008	J.R. 1	Meon Makok	4.74		4.74	
1-3	Bypass (Phayuha Khiri)		4.30		4.30		3013	A. Lat Yao	B.C. Uthai Thani		20.42	20.42	**
1-4	Bypass (9 Km from Nakhon Sawan)		2.65		2.65		3196	J.R. 1	B.C. Lop Buri		35.00	35.00	
1-5	Bypass (6 Km from Nakhon Sawan)		1.24		1.24		3212	B. Nong Pho	B.C. Chainat		10.00	10.00	
1-6	Bypass (4 Km from Nakhon Sawan)		3.60		3.60		3220	J.R. 3319	B.C. Uthai Thani		5.94	5.94	
1-7	Bypass (Nakhon Sawan)		1.90		1.90		3311	J.R. 1	B. Khao Thong	3.00*	2.61*	5.61	
	J.R. 1	B.C. Phichit	(69.94)		(69.94)	Under Construction	3319	A. Khok Phra	B.C. Uthai Thani		14.00	14.00	**
333	J.R. 1	B.C. Uthai Thani	6.00		6.00		3327	Moan Makok	R. 3004		26.72	26.72	
1072	J.R. 1	B. Khao Chon Kan	35.50*	30.47*	65.97		3328	J.R. 3327	B. Hua Ngiew		5.06	5.06	
1073	J.R. 1	B.C. Phichit	11.89	22.70	34.59		3329	J.R. 1	J.R. 1145		38.80	38.80	
1118	Nakhon Sawan	B.C. Phichit	5.00*	44.33*	49.33	**	3330	J.R. 1	B. Nong Phai		27.52	27.52	PWD Rd. (B. Nong Phai-A. Phai Sali)
1119-1	A. Chumsaeng	A. Nong Bua		32.00	32.00	**	3331	J.R. 1	B. Phikun		9.86	9.86	
1119-2	A. Nong Bua	A. Tha Tako	9.87	29.73	39.60		3332	J.R. 3331	R. 1145		7.88	7.88	
1139	B.C. Uthai Thani	B.C. Kamphaeng Phet		40.00*	40.00		9035	J.R. 1	A. Lat Yao		22.50	22.50	**
1142	Nakhon Sawan	B.C. Kamphaeng Phet (40.72)			(40.72)	Under Construction	9124	B. Phanom Rok	B. Khok Khwai Yai		15.76	15.76	**
1145	A. Tha Tako	J.R. 1		27.90	27.90				Sub-Total	415.50	578.63	994.13	
1182	J.R. 1	R. 1073	10.00*	24.12*	34.12	**	(ARD Road) <sup>2/</sup>						
1197	J.R. 3013	B. Taling Sung		25.00	25.00	**	27	Railway Sta.	B. Khao Phanom Rok		27.00*	27.00	A. Chumsaeng, Tha Tako Under Const. 1980/81
1198	A. Lat Yao	Wang Pa Yai		25.00	25.00				Sub-Total	-	27.00	27.00	
3001	Khai Tahan	Nakhon Sawan Sta.	6.29		6.29		(PWD Road)						
3002	Nakhon Sawan	Tha Ta Kui	4.20		4.20		1	Takhli - Chong Khae - Jan Saen			13.00	13.00	A. Takhli
3003	J.R. 1	Chao Phraya Rv.		1.29	1.29		2	Phai Sali - Nong Phai - B. Takhlo			20.83	20.83	A. Phaisali
3004-1	Nakhon Sawan Sta.	A. Tha Tako	41.35		41.35		3	Lat Yao	Nong Sang		15.00	15.00	A. Lat Yao
3004-2	Tha Tako	A. Phaisali	10.00*	10.01*	20.01		4	Kra Don Phrong	Nong Tha Bian		14.90	14.90	A. Lat Yao
3004-3	A. Phaisali	B.C. Phetchabun	3.00*	24.01*	27.01	**			Sub-Total	-	63.73	63.73	
3005	Tha Ta Kui	A. Kork Pha	14.55		14.55				Total	415.50	669.36	1084.86	

Note: <sup>1/</sup> \*\* means Routes being upgraded or proposed for upgrading

<sup>2/</sup> ARD Standard Road only. ARD Village Access Type I and Type II are not included.

Figures with \* mark are estimated length.

Abbreviations: B.C.; Changwat Boundary, J.; Junction, A.; Amphoe, B; Ban



## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION (Continued)

## PHICHIT

Route No.	Route		Length (Km)			Remarks <u>1/</u>	Route No.	Route		Length (Km)			Remarks <u>1/</u>
	Origin	Destination	Paved	Un-Paved	Total			Origin	Destination	Paved	Un-Paved	Total	
(DOH Road)													
11-1	B.C. Nakhon Sawan	B. Khao Sai Inter.	(21.76)		(21.76)	Under Construction	4	Wang Sam Rong	Thap Pru	6.40		6.40	
11-2	B. Khao Sai Inter.	B.C. Phitsanulok	45.14		45.14		5	Thap Pru	Wat Khwang	6.50		6.50	A. Pho Thale
111	J.R. 11	Nan Rv. Br.	16.53		16.53		6	Tha Bua	Wat Khwang	14.00		14.00	A. Pho Thale
113	B.C. Phetchabun	A. Taphan Hin	24.01		24.01		7	Hua Don	Yang Sam Ton	9.00		9.00	A. Muang
115	B.C. Kamphaeng Phet	Nan Rv. Br.	37.85		37.85				Sub-total	-	67.66	67.66	
1062	J.R. 111	Phichit R.S.	1.50		1.50				Total	301.70	183.29	484.99	
1067	Nan Rv.	Yom Rv.	16.34		16.34								
1068	J.R. 115	B. Wang Chik	15.73		15.73								
1069	A. Bang Mun Nak	B.C. Phetchabun		38.86	38.86	**							
1070	A. Taphan Hin	Km 1+253	1.25		1.25								
1071	A. Taphan Hin	Km 1+690		1.69	1.69								
1073	B.C. Nakhon Sawan	A. Pho Thale		24.75	24.75								
1115	J.R. 11	B.C. Phitsanulok		11.78	11.78	**							
1118	Phichit	B.C. Nakhon Sawan	54.83		54.83	**							
1142	B.C. Nakhon Sawan	B.C. Phitsanulok	(60.76)		(60.76)	Under Construction							
1191	J.R. 11	B.C. Phetchabun		7.45	7.45								
1221	J.R. 111	R. 1114	6.00	4.00*	10.00								
9045	J.R. 1068	Pho Prathap Chang		7.00	7.00								
9208	J.R. 1118	A. Pho Prathap Chang		14.00	14.00								
		Sub-Total	301.70	109.53	411.23								
(ARD Road)													
13	B. Wang Kadoh	B. Wang Samrong		6.10*	6.10	A. Muang, Taphan Hin							
		Sub-Total	-	6.10	6.10								
(PWD) Road													
1	Taphan Hin	Bang Mun Nak		10.10	10.10	A. Taphan Hin							
2	Wang Chik	Pho Prathap Chang		10.58	10.58	A. Pho Prathap Chang							
3	Taphan Hin	Wang Sam Rong		11.08	11.08	A. Taphan Hin							

## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION (Continued)

## PHITSANULOK

Route No.	Route		Length (Km)			Remarks <sup>1/</sup>	Route No.	Route		Length (Km)			Remarks <sup>1/</sup>
	Origin	Destination	Paved	Un-Paved	Total			Origin	Destination	Paved	Un-Paved	Total	
(DOH Road)							(ARD Road)						
11-1	B.C. Phichit	J.R. 12	34.90		34.90		1	B. Tin Tok	B. Na Muang	9.00	9.00	A. Nakhon Thai	
11-2	A. Wat Bot	B.C. Uttaradit	(28.00)		(28.00)	Under Construction	2	B. Sam Lu	B. Kaeng Lat	10.00	10.00	A. Nakhon Thai	
12	B.C. Sukhothai	B.C. Phetchabun	114.47		114.47		3	B. Dong Phuang	B. Chomphu	32.00	32.00	A. Wang Thong	
1057	B.C. Sukhothai	A. Phrom Phiram		17.32	17.32	**	4	B. Sam Rang	Noen Maprang	13.00	13.00	A. Wang Thong	
1058	J.R. 1063	R. 1065	2.18		2.18		14	B. Nong Tom	B. Pa Daeng	15.90	15.90	A. Phrom Phiram	
1059	J.R. 1060	Civil Avi. Sta.	1.66		1.66		18	B. Teng Nam	B. Krabang	15.90	15.90	A. Muang, Wat Bot	
1060	Phitsanulok	R. 1061	1.00		1.00		19	B. Wat Tarn	B. Phai Kho Nam	15.00*	15.00	A. Muang	
1061	Phitsanulok	R. 12	3.00		3.00		21	B. Sai Yoi	B. Mung	18.00*	18.00	A. Wang Thong	
1063	Phitsanulok	A. Bang Krathum	5.00*	30.03*	35.03	**						Under Construction	
1064	Phitsanulok	B. Bung Phra	6.14		6.14								
1065	J.R. 12	B.C. Kamphaeng Phet	18.08	30.86	48.94	**							
1086	Phitsanulok	A. Wat Bot	26.78		26.78								
1104	Phitsanulok	B.C. Uttaradit		27.00*	27.00	**							
1114	J.R. 11	A. Bang Krathum		19.00	19.00								
1115	B.C. Phichit	B. Mung		11.28	11.28								
1121	J.R. 12	A. Wat Bot	2.00*	19.24*	21.24								
1142	B.C. Phichit	R. 1065	(25.06)		(25.06)	Under Construction							
									Sub-total	-	128.80	128.80	
									Total	391.52	401.95	793.27	
1143	A. Nakhon Thai	B.C. Uttaradit	55.00*	14.00*	69.00								
1161	J.R. 12	Phitsanulok Rad.Sta.	2.31		2.31								
1220	J.R. 1221	B. Na Kham		15.00*	15.00								
1221	B.C. Phichit	R. 1114		3.83*	3.83								
2013-1	J.R. 12	B.C. Loei	65.74		65.74								
2013-2	Bypass (A. Nakhon Thai)			9.80	9.80								
9034	A. Bang Ra Kam	Prak Raet		8.00	8.00								
9112	A. Chat Tra Kan	B. Bo Phak		21.00	21.00								
9113	A. Nakhon Thai	B. Tin Tok		19.30	19.30								
9117	J.R. 1065	B.C. Sukhothai		27.49	27.49	**							
		Sub-Total	391.32	273.15	664.47								

## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION (Continued)

## UTTARADIT

Route No.	Route		Length (Km)			Remarks <sup>1/</sup>	Route No.	Route		Length (Km)			Remarks <sup>1/</sup>
	Origin	Destination	Paved	Un-Paved	Total			Origin	Destination	Paved	Un-Paved	Total	
(DOH Road)													
11	B.C. Phitsanulok	B.C. Phrae	(85.29)		(85.29)	Under Construction	1244	B. Nam Pae	B. Nam Auang	10.85		10.85	
102	Uttaradit	B.C. Sukhothai	19.78		19.78		9054	A. Si Nakhon	B. Dara	10.30		10.30	
1022	B.C. Phrae	Nan River		64.82	64.82		9107	B. Pang Hai	B. Muang Ched Ton	13.00		13.00	
1040	Uttaradit	B. Wang Ka Phi	8.35		8.35				Sub-Total	319.20	676.89	996.09	
1041	J.R. 102	Uttaradit	10.24		10.24		(ARD Road)						
1043	A. Laplae	Khao Nam Tok	11.40		11.40		1	Nam Man	Nam Li	15.20		15.20	A. Tha Pla
1045-1	Uttaradit	J.R. 1045-2	2.61		2.61		6A	B. Lao	B. Kaeng	10.40		10.40	A. Tron
1045-2	Uttaradit	Sirikit Dam	56.80		56.80		7	Phichai - Na Yang - Phichai		48.15		48.15	A. Phichai
1046	J.R. 102	B. Phai Lom	2.70		2.70		8	B. Pa Khanun	B. Huai Chalong	28.70		28.70	A. Muang, Tha Pla**
1047-1	B. Pa Khanun	B. Huai Hut		62.45	62.45	**	10	Ban Phae	Na Yang	20.90		20.90	A. Tron, Phichai**
1047-2	B. Huai Hut	A. Fak Tha	59.73		59.73		11	Laem Khun	Khlong Kuai	22.00		22.00	A. Tron, Phichai
1047-3	A. Fak Tha	B. Rai		69.62	69.62		13	B. Dan	Pang Ton Pueng	14.25		14.25	A. Muang
1047-4	B. Rai	KM 15.00		15.00	15.00		14	Hua Dong - B. Dan - Tang Luang		20.12		20.12	A. Muang, Laplae
1047-5	B. Rai	B. Huai Mun		2.00	2.00		16	Tau Hi Nua	Wang Phat Rung	15.20		15.20	A. Phichai
1083	B.C. Nan	J.R. 1123		23.20	23.20		18	Wang Som Mo	Wang Phat Rung	20.65		20.65	A. Phichai
1104	B. Wang Ka Phi	A. Phichai	4.60	42.40*	47.00	**	19	Tang Luang	Khun Fong	15.20		15.20	A. Muang
1105	J.R. 1045-2	B.C. Phrae		27.80	27.80		25	Huai Chalong	Pak Pat	17.78		17.78	A. Tha Pla, Nam Pat
1106	B. Wang Sisup	B. Pa Luat	20.00*	7.04*	27.04		26	DOH R. 1045	Nam Man	11.20*		11.20	A. Muang, Tha Pla
1123	J.R. 1047-3	B. Bobia		31.80	31.80		27	Hat Kruat	Rai Huai Phi	15.25		15.25	A. Muang, Tron
1143	B.C. Phitsanulok	B. Na Pa Kai		23.16*	23.16		28	Wang Daeng	Rai Huai Phi	13.27		13.27	A. Tron
1146	B. Pak Pot	J.R. 1047	10.50		10.50		29	B. Mo	Khlong Ka Phua	7.67		7.67	A. Phichai
1163	J.R. 1045-2	A. Tha Pla	14.20		14.20		30	Phai Lom	Dong Sa Kaeo	5.00		5.00	A. Laplae
1166	J.R. 1104	B. Dara		18.40	18.40		31	Huai Chalong	Huai Pla Duk	11.05		11.05	A. Muang, Tron
1176	B. Suan	J.R. 1047-2		12.39	12.39				Sub-Total	-	311.99	311.99	
1180	B.C. Sukhothai	B. Plai Rang		10.54	10.54	**			Total	319.20	988.88	1308.08	
1196	J.R. 1104	J.R. 102		26.00	26.00	**							
1204	B. Pa Khanun	A. Phichai	4.50	44.70	49.20								
1212	B. Huai Dua	B. Fia		23.50	23.50								
1213	B. Pa Khanun	B. Wang Khon	8.50	5.50	14.00								
1214	J.R. 1204	J.R. 1047		50.60	50.60	**							
1224	A. Phichai	B.C. Sukhothai		10.00*	10.00								
1238	B. Wang Pha Chan	B. Phia		15.00	15.00								
1239	A. Nam Pat	B. Bang Daeng		46.12	46.12								

## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION (Continued)

PHRAE						LAMPANG							
Route No.	Route		Length (Km)			Remarks <sup>1/</sup>	Route No.	Route		Length (Km)			Remarks <sup>1/</sup>
	Origin	Destination	Paved	Un-Paved	Total			Origin	Destination	Paved	Un-Paved	Total	
11-1	B.C. Uttaradit	A. Den Chai	(15.00)		(15.00)	Under Construction	1-1	B.C. Tak	B.C. Phayao	238.13		238.13	
11-2	A. Den Chai	B. C. Lampang	(40.00)*		(40.00)	Under Construction	1-2	Bypass (A. Thoen) (1)		4.95		4.95	
101-1	B.C. Sukhothai	B.C. Nan	116.02		116.02		1-3	Bypass (A. Thoen) (2)		2.18		2.18	
101-2	J.R. 101	Den Chai Sta.	6.82		6.82		1-4	Bypass (A. Ko Kha) (1)		17.55		17.55	
101-3	Bypass (Phrae)		9.53		9.53		1-5	Bypass (A. Ko Kha) (2)		2.11		2.11	
103	J.R. 101	B.C. Lampang	41.35		41.35		1-6	Bypass (Lampang)		3.90		3.90	
1022	Phrae Inter.	B.C. Uttaradit	8.60	25.40	34.00		1-7	Chatchai Road		0.68		0.68	
1023	Phrae	A. Wang Chin	9.05	65.57	74.62	**	1-8	Bypass (A. Ngao)		2.53		2.53	
1024	J.R. 1101	B. Pu Toek Luang	2.00	28.30	30.30		1-9	Bypass (10 km from Ngao)		0.70		0.70	
1027	B. Pin R. Sta.	B. Pin J.	1.00		1.00		11-1	B.C. Phrae	Lampang	(33.30)*		(33.30)	Under Construction
1100	J.R. 1023	B.C. Lampang		6.05	6.05		11-2	Lampang	B.C. Lamphun	37.30		37.30	
1101	J.R. 101	J.R. 1022	10.75		10.75		103	B.C. Phrae	R. 1	23.00		23.00	
1105	B.C. Uttaradit	R. 101		18.90	18.90		106	J.R. 1	B.C. Lamphun	32.00		32.00	
1120	J.R. 1154	B.C. Phayao	15.80	22.70	38.50	**	1034	J.R. 1	R. 11	14.68	1.00	15.68	
1124	A. Wang Chin	B.C. Lampang	3.28	31.17	34.45		1035-1	Lampang	R. 1019	50.88	68.95	119.83	**
1125	J.R. 1177	A. Wang Chin	3.35	29.13	32.48		1035-2	Bypass (A. Chae Hom)		2.00*	3.58	5.58	**
1134	J.R. 101	B. Rong Khem	8.89	13.53	22.42		1035-3	J.R. 1035	A. Wang Nua		0.61	0.61	
1154	J.R. 103	B.C. Lampang	14.46	13.70	28.16		1036	J.R. 1	Mae Tha Sta.	9.35	7.65	17.00	**
1203	Yom River	A. Song		44.00	44.00		1037	J.R. 1	R. 1036	16.68		16.68	
1216	J.R. 101	B.C. Nan		14.60	14.60		1038	Lampang	Air Port	0.92		0.92	
1217	J.R. 1216	R. 1218	5.00*	40.00*	45.00	**	1039	Lampang	R. 11	15.47		15.47	
1218	J.R. 1134	Phra That Puchae		4.00	4.00		1048	B.C. Sukhothai	R. 1		49.60*	49.60	
		Sub Total	310.90	357.05	667.95		1100	B.C. Phrae	R. 1036	1.4	24.55	25.95	
(ARD Road)							1102	J.R. 1	A. Thoen	10.00*	17.74*	27.74	**
1	B. Wang Boe	B. Wang Liang		11.00	11.00	A. Wang Chin	1124	B.C. Phrae	A. Thoen		18.05	18.05	
3	B. Thung Laeng	B. Tha Dua		8.50	8.50	A. Rong Kwang	1154	B.C. Phrae	R. 1		31.97	31.97	
8	B. Thin	B. Nam Cham		9.00*	9.00	A. Muang	1157	J.R. 1039	H. Huai Peng	4.40	21.60	26.00	**
9	B. Mae Yang Kat	DOH R. 1203		22.90	22.90	A. Song, Rong Kwang	9030	J.R. 1102	B. Ko Thung		45.00	45.00	
11	B. Nam Rin	B. Pong		15.00*	15.00	A. Long			Sub-Total	524.11	290.30	814.41	
15	DOH R. 1203	DOH R. 103		11.93	11.93	A. Song							
		Sub-Total	-	78.33	78.33								
		Total	310.90	435.38	746.28								

## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION (Continued)

## LAMPANG (Continued)

Route No.	Route		Length (Km)			Remarks <sup>1/</sup>
	Origin	Destination	Paved	Un-Paved	Total	
(ARD Road)						
1	B. Na Koeio	B. Nong	6.00	27.50	33.50	A. Ko Kha, Soem Ngam
1A	B. Na Bon	B. Thung Phai		11.51	11.51	A. Soem Ngam
1B	B. Don Kaew	B. Laoyao		10.79	10.79	A. Soem Ngam
2	B. Wang Nue	B. Mae Kut		16.65	16.65	A. Wang Nua
4	B. Tha Khow	San Ma Ki		20.30	20.30	Under Construction
7	B. Ko Kha	B. Na Pong Hou		18.61	18.61	A. Ko Kha
8	B. Thung Keulen	B. Thung Luang		24.61	24.61	A. Hang Chat
15	B. Mae Kud	Nam Tok Wang		6.63	6.63	A. Wang Nua
25	B. Huai Rai	B. Hok		12.00	12.00	A. Muang, Hang Chat
26	B. Hok	B. Thung Kham		22.00	22.00	A. Ko Kha, Hang Chat
27	B. Pang Phae Tai	B. Huai		8.12	8.12	A. Hang Chat
28	B. Hua Sua	Mae Mor Station		31.00	31.00	A. Mae Tha
29	B. San Kamphaeng	B. Thung Phai		21.00	21.00	A. Hang Chat, Soem Ngam
30	B. Thung Kham	Doi Mon Kai Jae		14.00	14.00	A. Ko Kha
31	B. Lao	B. Nakhon Luang		17.00	17.00	A. Ko Kha, Mae Tha
32	B. Nakhon Luang	B. Hua Sua		27.00	27.00	A. Mae Tha
34	B. Na Phai	B. Nong Hoi		19.00	19.00	A. Soem Ngam
38	B. Sop Tham	B. Nam Long		11.00	11.00	A. Sop Prap
						Under Construction
		Sub-Total	6.00	318.72	324.72	
		Total	530.11	609.02	1139.13	

## NAN

Route No.	Route		Length (Km)			Remarks <sup>1/</sup>
	Origin	Destination	Paved	Un-Paved	Total	
(DOH Road)						
101	B.C. Phrae	Nan	55.16		55.16	
1025	J.R. 101	Phra That Khao Noi	2.20		2.20	
1026	J.R. 101	A. Na Noi	35.00		35.00	
1080-1	Nan	Chiang Ngoen	104.00	40.00	144.00	
1080-2	B. Pha Khwang	A. Tha Wang Pha	3.00*	12.00*	15.00	
1080-3	B. Pong Sanuk	B. Sied		11.00	11.00	
1081	A. Pua	J.R. 1080	50.00	80.00	130.00	
1082	A. Tha Wang Pha	B. Na Nun		3.50	3.50	
1083	J.R. 1026	B.C. Uttaradit		45.00	45.00	
1091	Nan	B.C. Phayao	60.00		60.00	
1097	J.R. 1080	J.R. 1148	10.00*	13.00*	23.00	
1131	J.R. 1080	Chiang Hon		18.00	18.00	
1137	J.R. 1080	Chiang Lom		20.00	20.00	
1138	J.R. 1081	Namtan Border		30.00	30.00	
1148	J.R. 1080	B.C. Phayao	32.00	13.50	45.50	
1153	J.R. 1080	J.R. 1080	14.50		14.50	
1162	J.R. 1026	B. Nam Muap	10.00*	16.34*	26.34	
1168	Nan	B. Nam Pun	64.65		64.65	
1169	J.R. 1168	R. 1081	41.00		41.00	
1170	J.R. 1080	R. 1081	10.00*	4.00*	14.00	
1172	J.R. 1091	B. Pi Nua		6.50	6.50	
1216	B.C. Phrae	A. Na Noi		12.40	12.40	
1225	J.R. 1169	R. 1168	27.00		27.00	
9061	Na Noi	Na Muen		20.00	20.00	
		Sub-Total	518.51	345.24	863.75	

## (ARD Road)

5	Na Noi	Na Tan	25.00	25.00		A. Na Noi
8	A. Muang	Wang Muang	7.60	27.40	35.00	A. Muang, Sa
9	B. Mo Thien	B. Na Pau	34.00	34.00		A. Muang, Sa
11	Hang Wau	Phu Thieng	9.58	9.58		A. Sa
12	B. Mo Muang	DOH R. 1168	25.00*	25.00		A. Sa, Mae Charim

## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION (Continued)

NAN (Continued)						PHAYAO							
Route No.	Route		Length (Km)			Remarks 1/	Route No.	Route		Length (Km)			Remarks 1/
	Origin	Destination	Paved	Un-Paved	Total			Origin	Destination	Paved	Un-Paved	Total	
15	B. Huai Li	Thang Luang		17.43	17.43	A. Sa	1-1	B.C. Lampang	B.C. Chiang Rai	56.34		56.34	
16A	Nong Ha	Nam Hin		16.85	16.85	A. Na Noi	1-2	Bypass (5 km from Huai Mae Pol)		0.45		0.45	
16B	B. Rai	Na Noi		6.40	6.40	A. Na Noi	1-3	Bypass (Phayao)		5.95		5.95	
20	Fang Hin	B. Luang		54.00	54.00	A. Sa (Under Construction)	1-4	Bypass (A. Mae Chai) (1)		3.25		3.25	
							1-5	Bypass (A. Mae Chai) (2)		0.38		0.38	
26	B. Lai Nan	B. Na Lueng		20.85	20.85	A. Sa	1021	J.R. 1	B.C. Chiang Rai	87.40		87.40	
							1091-1	J.R. 1021	B.C. Nan	77.82		77.82	
36	B. Fang	B. Huai Li		11.25	11.25	A. Mueng	1091-2	Bypass (B. Pong)		6.91		6.91	
37	B. Nong Tau	B. Kot		14.00	14.00	A. Mueng	1092	J.R. 1091	R. 1148		33.35	33.35	
38	B. Do Tai	B. Tapi		14.88	14.88	A. Mueng	1093	J.R. 1021	B. Thung Kluai		8.30	8.30	
39	No. 8	B. Huai Kom		17.50	17.50	A. Sa, Mae Charim Under Construction	1120	B.C. Phrae	A. Chiang Muan		6.95	6.95	**
							1126	B.C. Chiang Rai	B. Huai Ngiu	3.38	14.90	18.28	**
		Sub-Total	7.60	294.14	301.74		1127	A. Wang Nua	R. 1193		34.00	34.00	
		Total	526.11	639.38	1165.49		1148	A. Chiang Kham	B.C. Nan	56.70		56.70	
							1160	J.R. 1148	B. Nam Lao		5.37	5.37	
							1179	J.R. 1148	R. 1092		30.66	30.66	
							1186	J.R. 1021	R. 1179	6.56		6.56	
							1188	J.R. 1091	B. Nam Puk	10.00	14.50	24.50	
							1193	B. Mae Tam	A. Mae Chai	10.00*	22.60*	32.60	**
							1202	J.R. 1	B.C. Chiang Rai		23.30	23.30	**
							1210	A. Chiang Kham	B. Thung Kluai	10.00*	4.49*	14.49	
							1228	J.R. 1188	B. Pha Tang		6.00	6.00	
							9055	B. Tha Rua	Nam Tok Cham Pa Thong		16.00	16.00	
							9056	A.R.D. Road	Chiang Muan		24.00	24.00	**
								Sub-Total		335.14	244.42	579.56	
								(ARD Road)					
							2	DOH R. 1093	B. Moeng Chup		18.63	18.63	A. Chieng Kham
							7	B. Bua Sathan	B. Sichomchaeng		30.98	30.98	** A. Chun
							19	A. Dok Khum Tai	B. Kheu ,		16.00	16.00	** A. Dok Khum, Tai
								Sub-Total		-	65.61	65.61	
								Total		335.14	310.03	645.17	

## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION (Continued)

## CHIANG RAI

Route No.	Route		Length (Km)			Remarks <u>1/</u>	Route No.	Route		Length (Km)			Remarks <u>1/</u>
	Origin	Destination	Paved	Un-Paved	Total			Origin	Destination	Paved	Un-Paved	Total	
(DOH Road)							1234	J.R. 1130	Doi Mae Salong		30.00	30.00	
1-1	B.C. Phayao	Chiang Rai	57.63		57.63		9059	A. Phan	B. Pang Ko Sai		17.00	17.00	
1-2	Bypass (60 Km from Chiang Rai)		3.58		3.58		Sub Total			576.09	545.34	1121.41	
1-3	San Sai Road		1.20		1.20		(ARD Road)						
1-4	Bypass (Chiang Rai)		3.93		3.93		5	A. Mae Sai	B. Pang Mo Puang		32.20	32.20	A. Mae Sai
109	J.R. 1	B. Chao Khao Mu Soe	27.50	22.51	50.01		11	B. Sam Ton Mun	B. Mae Tam Noi		43.58	43.58	A. Thoeng
110	Phokhun Mengrai	Mae Sai Br.	61.84		61.84		16	B. Nai Wiang	Mae Na		21.00	21.00	A. Chiang Saen Under Construction
1016	J.R. 110	A. Chiang Saen	31.69		31.69		27	B. Huai Sak	B. Don		15.58	15.58	A. Muang
1017	J.R. 1	B. Den Ha	2.30		2.30		32	B. Pa Yang	B. Thung Kliang		15.00	15.00	A. Mae Sai
1019	A. Mae Suai	B.C. Chiang Mai	75.16		75.16		34	B. Samphankit Farm	B. Nong Bua Daeng		21.00	21.00	A. Muang Under Construction
1020	J.R. 1	A. Chiang Khong	139.50		139.50		38	B. Hong He	B. Farm		21.00	21.00	A. Muang
1021	B.C. Phayao	A. Thoeng	12.69		12.69		39	B. Tong Khao	B. Nong Sao		16.21	16.21	A. Thoeng
1098	J.R. 1016	J.R. 1174		56.00	56.00	**	Sub-Total			-	185.57	185.57	
1126	J.R. 1	B.C. Phayao		11.73	11.73	**	Total			576.09	730.89	1306.98	
1128	J.R. 1020	R. 1126	9.17		9.17								
1129	A. Chiang Khong	A. Chiang Saen	5.00*	48.10*	53.10								
1130	J.R. 110	B. Huai Hin Fon	10.00*	20.00*	30.00								
1149	J.R. 110	Pratat Doi Thung	13.00*	4.43*	17.43								
1150	B.C. Chiang Mai	R. 1019		33.36*	33.36								
1151	J.R. 110	Nam Tok Pong Prabat	4.00*	4.00*	8.00								
1152	J.R. 1020	B. San Salik		40.34	40.34	**							
1155	J.R. 1020	J.R. 1020	76.30	21.70	98.00								
1173	J.R. 1152	R. 1098	15.00*	35.00*	50.00	**							
1174	J.R. 1020	J.R. 1020	3.20*	44.40*	47.60								
1181	J.R. 1190	J. 1126	5.00*	9.37*	14.37								
1190	J.R. 1020	J.R. 1126	12.00*	11.18*	23.18								
1202	B.C. Phayao	R. 1126		22.20	22.20	**							
1207	J.R. 110	B. Huai Khom		13.40	13.40								
1208	J.R. 1	Nam Tok Khun Korn		20.00	20.00	**							
1209	J.R. 110	B. Tha Khao Pluak		31.00	31.00	**							
1211	B. Den Ha	R. 109		30.80	30.80	**							
1222	J.R. 1021	R. 1155		6.20	6.20								
1232	Khun Mengrai M.	R. 1173		12.60	12.60								
1233	J.R. 1	R. 1173	6.40		6.40								

## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION (Continued)

## CHIANG MAI

Route No.	Route		Length (Km)			Remarks	Route No.	Route		Length (Km)			Remarks
	Origin	Destination	Paved	Un-Paved	Total			Origin	Destination	Paved	Un-Paved	Total	
(DOH Road)							1150-1	J.R. 107	B.C. Chiang Rai	50.28*	50.28	**	
11	B.C. Lamphun	Chiang Mai	18.63		18.63		1150-2	J.R. 1150-1	A. Phrao	1.07	1.07		
106	J. to Lim Ping	Chiang Mai	14.70		14.70		1178	J.R. 107	B. Na Wai	24.10	24.10	**	
107	C. Chiang Mai	A. Fang	149.13		149.13		1185	J.R. 1004	R. 1005	1.30	1.30		
108	C. Chiang Mai	B.C. M.H. Son	158.60		158.60		1189	B.C. Lamphun	R. 11	3.64	3.64		
109	J.R. 107	B.C. Chiang Rai	4.34	30.66*	35.00		1192	J.R. 1009	R. 1088	10.00*	10.66*	20.66	
1001	J.R. 1007	A. Phrao	50.00*	50.76*	100.76	**	1229	B. Mai	R. 9241	11.00	11.00		
1003	J.R. 107	A. Mae Taeng Kao	0.60		0.60		1230	B. Mai	B. Khuan Mae Tha	4.00	4.00		
1004	Chiang Mai	Doi Pui	16.33		16.33		9047	J.R. 107	R. 1001	7.00	7.00	**	
1005	Chiang Mai	B. Muang Ha	5.00*	23.05*	28.05		9050	B. Mai	Huai Kaeo	39.50	39.50		
1006	Chiang Mai	B.C. Lamphun	12.01		12.01		9241	A. Sankamphaeng	On Luai	18.00	18.00		
1007	J.R. 1001	A. Doi Saket	13.55		13.55		9242	Tha Ton	B. Huai Hin Fon	45.00	45.00		
1008	Nong Hoi J.	B. Ko Klang	4.35		4.35				Sub-Total	678.93	754.27	1433.20	
1009-1	J.R. 108	Doi Inthanon	46.70		46.70		(ARD Road)						
1009-2	J.R. 108	R. 1009-1	1.40		1.40		2	A. Sa Moeng	DOH R. 1095	35.00*	35.00	A. Sa Moeng	
1009-3	J.R. 1009-1	Nam Tok Mae Klang	1.76		1.76		3	B. Muang Ngan	B. Piang Luang	30.00	30.00	A. Chiang Dao	
1010	B. Song Khwae	B. Wiang Nong Rong	4.88		4.88							Under Construction	
1011	J.R. 1012	A. Hot Kao	0.35		0.35		17	B. Mae Jai Tai	B. Huai Phak Phai	30.00	30.00	A. Fang	
1012	A. Hot	B. Wang Lung	14.90		14.90		20	B. Han Ngum	B. Ton Saan	35.00	35.00	A. Fang	
1013	J.R. 108	B. Mae Win	8.33	20.00	28.33								
1014	A. Doi Saket	R. 1006	13.95		13.95		32	B. Nong Hoi	B. Pong Din	10.25	10.25	A. Doi Saket	
1015	A. San Pa Tong	B.C. Lamphun	8.52		8.52		33	B. Phayat	B. Pa Muet	11.31	11.31	A. San Sai	
1019	B.C. Chiang Rai	A. Doi Saket	43.00		43.00		34	B. Mae Ka	B. Nong Hoi	11.85	11.85	A. San Kamphaeng	
1047	A. San Kamphaeng	B.C. Lamphun		6.69	6.69		35	A. San Kamphaeng	B. Mae Pra Phai	9.45	9.45	A. San Kamphaeng	
1088	J.R. 108	B. Mae Sa	10.00*	89.00*	99.00		39	B. Che Chang	B. Rong Kong Khao	8.70	8.70	A. San Kamphaeng	
1089	A. Fang	B. Tha Ton	23.57		23.57		63	A. Mae La Noi	A. Moe Chaem	60.00*	60.00	A. Mae Chaem	
1095	J.R. 107	B.C. M.H. Son	10.00*	56.00*	66.00							Under Construction	
1096-1	J.R. 107	R. 108	6.20	68.40	74.60	**			Sub-Total	-	241.56	241.56	
1096-2	J.R. 1096-1	Nam Tok Mae Sa	0.80		0.80				Total	678.93	995.83	1674.76	
1099	J.R. 108	B.C. Tak	10.00*	136.00*	146.00								
1103-1	B.C. Lamphun	R. 1012	5.00*	52.78*	57.78	**							
1103-2	J.R. 1103	Tha Nam	3.59		3.59								
1141	J.R. 11	Chiang Mai	7.44		7.44								
1147	B.C. Lamphun	A. San Kamphaeng		6.68	6.68								



## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION (Continued)

## MAE HONG SON

Route No.	Route		Length (Km)			Remarks
	Origin	Destination	Paved	Un-Paved	Total	
(DOH Road)						
108	B.C. Chiang Mai	Nam Pai Br.	192.00		192.00	
1085	B.C. Tak	A. Mae Sariang		63.00	63.00	
1095	Nam Pai Br.	C. Chiang Mai	10.84	134.31	145.15	**
1194	A. Mae Sariang	B. Mae Sam Laep		52.00	52.00	
1226	J.R. 1095	A. Mae La Na		6.00	6.00	
		<u>Sub-Total</u>	<u>202.84</u>	<u>255.31</u>	<u>458.15</u>	
(ARD Road)						
11	B. Kung Mai Sak	B. Huai Khaw		12.79	12.79	A. Muang
12	B. Kung Mai Sak	B. Nai Sai		16.88	16.88	A. Muang
25	DOH R. 108	DOH R. 1095		8.00*	8.00	A. Muang, Under Construction
		<u>Sub-Total</u>	<u>-</u>	<u>37.67</u>	<u>37.67</u>	
		<u>Total</u>	<u>202.84</u>	<u>292.98</u>	<u>495.82</u>	

## LAMPHUN

Route No.	Route		Length (Km)			Remarks
	Origin	Destination	Paved	Un-Paved	Total	
(DOH Road)						
11	B.C. Lampang	B.C. Chiang Mai	43.73		43.73	
106	B.C. Lampang	B.C. Chiang Mai	128.45		128.45	
114	J.R. 11	Lamphun	5.20		5.20	
116	Bypass (Lamphun)		10.00*	5.00*	15.00	
1010	B. Wiang Nong Rong	B. Muang Ton	14.76		14.76	
1015	J.R. 106	B.C. Chiang Rai	5.00		5.00	
1029	C. Lamphun	R. 114	3.20		3.20	
1030	J.R. 106	B. Rim Ping	12.52		12.52	
1031	B. Phae	B. Wiang Nong Rong	3.00*	15.30*	18.30	
1032	J.R. 106	R. 1156	5.33		5.33	
1033	B. Tha Chak	A. Mae Tha	25.00*	8.56*	33.56	**
1087	J.R. 106	B. Ko Thung	2.00*	34.30*	36.30	
1103	J.R. 106	B.C. Chiang Mai		10.00*	10.00	**
1133	J.R. 106	Wat Prapat Takpha	1.12		1.12	
1135	J.R. 11	Mae Tha R. Sta.	0.20		0.20	
1136	J.R. 11	R. 106	2.04		2.04	
1147	J.R. 11	A. San Kamphaeng	15.00*	10.00*	25.00	
1156	J.R. 106	R. 1010	25.32		25.32	
1184	J.R. 106	B. Mae Lop		89.00	89.00	
1189	J.R. 11	R. 1147		7.00*	7.00	
1219	J.R. 106	R. 1184	1.10	16.60	17.70	
1227	J.R. 106	R. 106		20.50	20.50	
1231	J.R. 106	R. 1033	2.58		2.58	
1235	J.R. 1184	B. Mae Bon		12.23	12.23	
		<u>Sub-Total</u>	<u>305.55</u>	<u>228.49</u>	<u>534.04</u>	
(ARD Road)						
1	DOH R. 11	B. Nong Kwak		5.00*	5.00	A. Muang
3.	DOH R. 11	B.C. Chiang Mai		20.00*	20.00	A. Mae Tha A.R.D. Center
		<u>Sub-Total</u>	<u>-</u>	<u>25.00</u>	<u>25.00</u>	
(PWD Road)						
1	Mae Pok	Thung Hua Chang		7.50	7.50	A. Li
2	Mae Pok	Mae Sam		6.00	6.00	A. Li
		<u>Sub-Total</u>	<u>-</u>	<u>13.50</u>	<u>13.50</u>	
		<u>Total</u>	<u>305.55</u>	<u>266.99</u>	<u>572.54</u>	

## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION (Continued)

## TAK

Route No.	Route		Length (Km)			Remarks	Route No.	Route		Length (Km)			Remarks
	Origin	Destination	Paved	Un-Paved	Total			Origin	Destination	Paved	Un-Paved	Total	
	(DOH Road)						5	B. Mae La Mao	B. Pang Sau Thanon Asia	10.33	10.33	A. Mae Sot	
1-1	B.C. Kamphaeng Phet	B.C. Lampang	90.54		90.54		6	Sanan Bin Khuan	B. Mae Ra Wan	20.60	20.60	A. Sam Ngao	
1-2	Bypass (B. Wang Chao)		2.34		2.34		8	DOH R. 1	A. Sam Ngao	14.00*	14.00	A. Sam Ngao	
1-3	J.R. 1	R. 105	3.34		3.34							Under Construction	
1-4	Bypass (10 Km from Tak)		5.40		5.40		16	B. Mae Kud Sam Tha	Mae Ramat	3.96	3.96	A. Mae Ramat	
1-5	Bypass (A. Ban Tak)		5.76		5.76		17	B. Mae Phosa	B. Huai Bong	4.50	4.50	A. Mae Sot	
12	J.R. 1	B.C. Sukhothai	24.20		24.20		18	B. Mae Tao	B. Mae Ku Mai	15.38	15.38	A. Mae Sot	
104	B. Wang Chao	R. 1	26.02		26.02		19	B. Mae Kon Keu	B. Chong Khaep	24.39	24.39	A. Mae Sot	
105-1	J.R. 1	A. Mae Sot	85.26		85.26			Sub-Total	-	122.91	122.91		
105-2	A. Mae Sot	Air Port J.	1.20		1.20			Total	445.06	574.43	1019.49		
1050	J.R. 1	Mae Nam Ping	0.65		0.65								
1085	A. Mae Sot	B.C. M.H. Son	65.00*	101.00*	166.00								
1090	A. Mae Sot	A. Um Pang	82.00	68.00	150.00								
1099	B.C. Chiang Mai	A. Tha Son Yang		32.00*	32.00								
1107	J.R. 1	Yuttahutthi Chedi	20.00*	11.64*	31.64								
1108	B. Na Bot	R. 105	8.00*	10.72*	18.72								
1110	J.R. 1	B. Wang Chao	15.00*	10.97*	25.97								
1111	J.R. 12	B. Pong Daeng		17.36	17.36								
1132	B.C. Kamphaeng Phet	R. 12		4.21	4.21								
1140	J.R. 105	B. Mae Lamao	5.77		5.77								
1159	J.R. 1	B. Tak Sin	4.58		4.58								
1167	J.R. 1090	Burma Border		22.00	22.00								
1175	J.R. 1085	R. 1107		86.00	86.00								
1206	B. Bo O	B. Wa Lae		26.50	26.50								
1215	J.R. 1085	B. Tha Wang Pha		6.65	6.65								
1223	J.R. 1	J. To Phumiphon Dam		18.00	18.00								
9031	J.R. 1107	R. 1175		13.00	13.00								
9032	J.R. 1107	B. Tha Pui		23.47	23.47								
		Sub-Total	445.06	451.52	896.58								
	(ARD Road)												
1	Mae Pa	Pak Huai Mae Pa		7.05	7.05	A. Mae Sot							
2	B. Chong Khaep	So O		7.60	7.60	A. Mae Sot							
3	B. Thung	B. Tin That		15.10	15.10	A. Mae Ramat							

## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION (Continued)

## SUKHOTHAI

Route No.	Route		Length (Km)			Remarks 1/	Route No.	Route		Length (Km)			Remarks 1/
	Origin	Destination	Paved	Un-Paved	Total			Origin	Destination	Paved	Un-Paved	Total	
(DOH Road)							(PWD Road)						
12	B.C. Tak	B.C. Phitsanulok	89.02		89.02		1	Ban Kong	Tha Cha Nuan	24.70		24.70	A. Kong Krailat
101-1	B.C. Kamphaeng Phet	J.R. 12	38.52		38.52		2	Nong Bua	Khiri Mat	8.99		8.99	A. Kong Krailat
101-2	Bypass (Sukhothai)		4.51		4.51								/Khiri Mat
101-3	Khlong Yang	J.R. 12		2.91	2.91		3	Wang Mai Khon	Pak Khwae	35.51		35.51	A. Si Samrong
101-4	Sukhothai	B.C. Phrae	110.54		110.54		4	Nong Or	Sarajit	7.73		7.73	A. Si Satcha-
1048	J.R. 101	B.C. Lampang	18.00*	24.40*	42.40								narai
1053	J.R. 12	B. Lum	4.00		4.00		5	Muang Kao	Huai Yuak	24.45		24.45	
1054	J.R. 12	B. Tan Tia	2.80		2.80								
1055-1	J.R. 12	B. Kong Krailat	2.95		2.95								
1055-2	J.R. 1055-1	Yom River	2.23		2.23								
1056	J.R. 101	R. 1113	10.00*	12.00*	22.00	**							
1057	J.R. 12	B.C. Phitsanulok	3.00	7.00	10.00	**							
1113	J.R. 12	B. Chaliang		53.80	53.80								
1158	J.R. 101	B. Kaeng Luang	0.96		0.96								
1177	J.R. 101	B.C. Phrae		35.59	35.59								
1180-1	J.R. 101	B.C. Uttaradit	8.00*	12.00*	20.00	**							
1180-2	J.R. 1180	A. Si Nakhon	3.00*	8.33*	11.33	**							
1187	J.R. 101	Mae Nam Yom	0.57		0.57								
1195	Wat Ko	A. M. Sukhothai		24.00	24.00	**							
1200	Bypass (Sawankhalok)			5.00	5.00								
1201	A. Sawankhalok	A. Si Satchanalai	10.00		10.00	**							
1224	B.C. Uttaradit	A. Sawankhalok		15.68*	15.68								
9117	B.C. Phitsanulok	Kong Krailat		10.00*	10.00	**							
		Sub-Total	308.10	210.71	518.81								
(ARD Road)													
27	DOH R. 101	B. Khlong Dua		20.00*	20.00								A. Ban Dan Lan Hoi Under Construction
		Sub-Total	-	20.00	20.00								

## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION (Continued)

## KAMPHAENG PHET

Route No.	Route		Length (Km)			Remarks <sup>1/</sup>	Route No.	Route		Length (Km)			Remarks <sup>1/</sup>
	Origin	Destination	Paved	Un-Paved	Total			Origin	Destination	Paved	Un-Paved	Total	
(DOH Road)							4	Tha Mai Daeng	Tha Khui	22.88	22.88	A. Muang	
1-1	B.C. Nakhon Sawan	B.C. Tak	106.80		106.80		5	Khlong Wilai	Tha Khuen	40.00	40.00	A. Khlong Khlung	
1-2	Bypass (B. Wang Chao)		5.80		5.80		6	B. Bo Tham	Ko Kaew	36.00	36.00	A. Khanuworalaksa Buri	
101	C. Kamphaeng Phet	B.C. Sukhothai	41.65		41.65		Sub-Total			-	176.02	176.02	
115	C. Kamphaeng Phet	B.C. Phichit	53.00		53.00		Total			313.52	643.91	957.43	
1065	J.R. 101	B.C. Sukhothai		32.76	32.76	**							
1074	J.R. 1	A. Khanu W. Buri	9.34		9.34	**							
1075	J.R. 1	A. Khlong Khlung	1.82		1.82								
1076	J.R. 1	B. Tha Phutsa	0.43		0.43								
1078-1	J.R. 1	B. Hua Yang	4.20		4.20								
1078-2	K. Phet Bridge	R. 1078	0.80		0.80								
1079	C. Kamphaeng Phet	B. Nong Pin	5.68		5.68								
1084	C. Kamphaeng Phet	B. Pa Phutsa	8.00*	62.00*	70.00	**							
1109	J.R. 1	B. Loto	10.00*	35.00*	45.00								
1112	J.R. 1	B. Botham	6.00		6.00								
1116	J.R. 1	J.R. 1110	5.00*	45.00*	50.00								
1117	J.R. 1	B.C. Tak	55.00	45.00	100.00								
1132	J.R. 101	B.C. Sukhothai		37.00	37.00	**							
1139	B. Khlong Lan	R. 1110		65.00	65.00								
9118	Khong Wilai	Pang Sip Rai		37.00	37.00	**							
9122	B. Thum	Khao Chon Kan		24.00	24.00	**							
9211	A. Khanuworalaksa Buri	R. 1073		32.00*	32.00	**							
		Sub-Total	313.52	414.76	728.28								
(ARD Road)													
12	B. Tha Ra Hae	Pong Nam Rou		18.63	18.63	A. Khlong Lan							
13	B. Mai Thanon Khong	b. Tham Nop Tha Khun		26.00	26.00	A. Muang, K. Khlung							
20	B. Nong Sa Dao	B. Wang Sai		8.50	8.50	A. Khlong Khlung							
		Sub-Total	-	53.13	53.13								
(PWD Road)													
1	Lan Krabu	Lan Ta Bua		17.88	17.88	A. Phran Kratai							
2	B. Nathang	Lan Ta Bua		37.00	37.00	A. Phran Kratai							
3	B. Don	Nong Don		22.26	22.26	A. Sai Ngam							

## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION (Continued)

UTHAI THANI						PHETCHABUN							
Route No.	Route		Length (Km)			Remarks <sup>1/</sup>	Route No.	Route		Length (Km)			Remarks <sup>1/</sup>
	Origin	Destination	Paved	Un-Paved	Total			Origin	Destination	Paved	Un-Paved	Total	
(DOH Road)						(DOH Road)							
333	B.C. Nakhon Sawan	Uthai Thani	9.63*		9.63		12	B.C. Phitsanulok	B.C. Khon Kaen	107.67		107.67	
1090	A. Um Phang	A. Nong Chang		150.00*	150.00		21-1	B.C. Lop Buri	J. to R. 203	175.93		175.93	
3007	J.R. 3265	Tha Nam		0.92	0.92		21-2	Bypass (B. Khao Tha Koei)			14.38	14.38	
3011	Uthai Thani	A. Ban Rai	20.48	57.98	78.46	**	21-3	Bypass (B. Wang Chomphu)			0.88	0.88	
3012	A. Nong Chang	A. Thap Than		10.14	10.14	**	113	B.C. Phichit	J. Wang Chom Phu	56.50		56.50	
3013	A. Thap Than	A. Lat Yao		16.00	16.00	**	203	J. to Lom Sak	B.C. Loei	39.13		39.13	
3183	C. Uthai Thani	B.C. Chai Nat	12.00*		12.00		1069	B. Wang Ngiu	B. Dong Khui		14.15	14.15	**
3220	J.R. 333	B.C. Nakhon Sawan		12.00*	12.00		1191	B.C. Phichit	B. Wang Hin		15.61	15.61	
3221	J.R. 3220	A. Thap Than		15.90	15.90		1205	B. Wang Pong	B. Wang Kradat		7.37	7.37	
3230	B. Thap Bung	Ban Rai		16.00	16.00		2001	J.R. 21	B. Tham Phra		4.00	4.00	
3265	Uthai Thani	Chao Phraya Ry.	12.25		12.25		2004	J.R. 2010	J.R. 203	2.29		2.29	
3282	J.R. 3011	B. Khok Khwai		26.00	26.00	**	2005	J.R. 203	B. Wang Ban	6.20		6.20	
3319	A. Thap Than	B.C. Nakhon Sawan		9.00*	9.00	**	2006	J.R. 21	B. Pa Daeng	7.76		7.76	
		Sub-Total	54.36	313.94	368.30		2007	J.R. 21	B. Na Yom	4.00		4.00	
							2008	J.R. 21	B. Nam Ko	7.65		7.65	
(ARD Road)						(ARD Road)							
10	B. Muang Karung	B. Nong Bom Kluai		6.10	6.10	A. Ban Rai	2010	J.R. 203	B. Tui	8.10		8.10	
11	B. Nong Bom Kluai	B.C. Suphan Buri		20.00*	20.00	A. Ban Rai	2011	J.R. 203	R. 203	11.94		11.94	
						Under	2012	J.R. 21	A. Wichian Buri	7.20		7.20	
						Construction	2016	B. Sila	B.C. Loei		22.00	22.00	
		Sub-Total	-	26.10	26.10		2181	J.R. 12	R. 2010		5.86	5.86	
							2184	Wang Phikun	B. Sap Bon		38.10	38.10	**
(PWD Road)						(PWD Road)							
1	Thap Than	Ta Luk Du		13.55	13.55	A. Thap Than	2196	J.R. 12	R. 2258	10.00	15.20	34.20	
2	Thaluk Du	Tha Cha Ow		5.00	5.00	A. Thap Than	2209	J.R. 12	R. 2010	6.19		6.19	
3	Nong Kradi - Khok Mo	- Khao Dao Duang		34.50	34.50	A. Sawang Arom	2211	J.R. 2012	R. 21		38.26	38.26	**
4	Sawang Arom	Bung Khok Chang		15.05	15.05	A. Thap Than	2215	J.R. 21	R. 12		35.00	35.00	**
5	Nong Chang	Tha Cha Ow		14.20	14.20	A. Nong Chang	2216	J.R. 12	R. 203		100.00	100.00	
6	Haad Thanong	Tha Sung		17.00	17.00	A. Muang	2219	J.R. 21	B. Nong Ma Kha		15.65	15.65	
7	Thung Sali	Thong Lang		27.84	27.84	A. Ban Rai	2244	J.R. 21	R. 2211		14.50	14.50	
		Sub-Total	-	127.14	127.14		2245	J.R. 2244	B. Khok Sakae Lat		4.69	4.69	
		Total	54.36	467.18	521.54		2258	J.R. 21	B. Nong Mae Na	13.00	23.00	36.00	
							2271	B. Pak Nam	B. Chaliang Lao		10.83	10.83	
							2275	B.C. Lop Buri	B. Nasanun		30.35	30.35	**
							2278	J.R. 21	B. Huai Lan		11.61	11.61	
							2286	B. Huai Yai	B. Nam Ron		21.00	21.00	

## Appendix 2-4 LENGTH OF ROUTE BY CHANGWAT IN THE NORTHERN REGION (Continued)

## PHETCHABUN (Continued)

Route No.	Route		Length (Km)			Remarks <sup>1/</sup>
	Origin	Destination	Paved	Un-Paved	Total	
9032	Phetchabun	ARD		40.00*	40.00	**
9036	B. Pa, Daeng	Sa Do Phong		17.00	17.00	
		Sub-Total	472.56	499.44	972.00	
(ARD Road)						
4	B. Chang Tarut	B. Ton Wa		33.00	33.00	A. Muang
5A	Chang Wang	Non Thong		10.77	10.77	A. Lom Sak
5B	B. Tuew Tha	B. Tha I Bun		13.68	13.68	A. Lom Sak
6A	Ngiew	Klong Luang Muang Thai		4.83	4.83	A. Lom Sak
6B	Dong Khwang	Kaeng Siew		36.47	36.47	A. Lom Sak
7A	Rahun	Petlakorn		16.00	16.00	A. Bung Sam Phan**
7B	Nong Lai	Petlakorn		33.75	33.75	A. Nong Phai**
8A	Nong Daeng	Wichian Buri		25.30	25.30	A. Wichian Buri**
8B	Wichian Buri	Nam Ron		18.00	18.00	A. Wichian Buri
9A	Chon Daen	Wang Pong		19.00	19.00	A. Chon Daen
9B	Wang Pong	Wang Hin		7.50	7.50	A. Chon Daen
9C	Chon Daen	Sap Phutsa		24.42	24.42	A. Chon Daen
10A	B. Phu Toei	Sap Noi		24.00	24.00	A. Wichian Buri
10B	Khok Sango	Sap Noi		25.00	25.00	A. Wichian Buri
11	Na Chaliew	Sap Phutsa		17.28	17.28	A. Nong Phai
12	B. Lom Kao	B. Tha I Bun		11.32	11.32	A. Lom Sak
16	B. Sak Long	B. Wang Mon		12.60	12.60	A. Lom Sak
17	DOH R. 203	B. Wang Rong		10.00*	10.00	A. Lom Sak
18	B. Don Mun Lek	B. Chang Wang		24.75	24.75	A. Muang
24	B. Lat Khae	B. Sap Mai Daeng		36.70	36.70	A. Chon Daen
26	DOH R. 21	B.C. Chaiyaphum		20.00*	20.00	A. Nong Phai
						Under Construction
28	DOH R. 21	B. Mai Phet Khon		10.00**	10.00	A. Nong Phai
		Sub-Total	-	434.37	434.37	Under Construction
		Total	472.56	934.81	1406.37	

Appendix 3-1 INDICATORS AND DATA FOR ESTIMATION OF AREA POTENTIAL

Criteria	Indicator	Data Source	Method of Estimation
Future Land Potential	Area of Unused Cultivable Lands	<ol style="list-style-type: none"> <li>1) Department of Land Development (DLD), Ministry of Agriculture and Cooperatives (MAC), <u>Land Capability Map, 1:250,000, 1980</u></li> <li>2) DLD, MAC, <u>Statistics on Land Utilization by Changwat, 1974-76</u></li> <li>3) Changwat Agricultural Offices, <u>Agricultural Data</u> (to be compiled by the team), 1977/78 - 1978/79</li> </ol>	<ol style="list-style-type: none"> <li>1) Measure, on the <u>Land Capability Map</u>, the cultivable area defined as the total area less the areas with soils not generally suited for cultivated crops.</li> <li>2) Compute cultivated area by breaking down the Changwat total cultivated area available in <u>Statistics on Land Utilization by Changwat</u> into Amphoe data in proportion to the planted area of Amphoe available in <u>Agricultural Data</u></li> <li>3) Deduct the cultivated area from the cultivable area to get the area of unused cultivable lands.</li> </ol>
	Area of Land Planned to be Irrigated	<ol style="list-style-type: none"> <li>1) Statistics/Program Report Unit, Scrutiny and Improvement Branch, Program Coordination and Budget Division, Royal Irrigation Department (RID), <u>Table Showing Water Resource Development in Thailand Completed to the End of 1978, 1979</u></li> <li>2) Office of District Engineer, RID, <u>List Ongoing Projects, 1978</u></li> </ol>	<ol style="list-style-type: none"> <li>1) Aggregate the areas made irrigable by the RID's ongoing irrigation projects to be completed by 1978 or later.</li> </ol>
Performance of Major Productive Sectors	Number of Farm Households	<ol style="list-style-type: none"> <li>1) Division of Agricultural Economics, Office of the Under Secretary of State, MAC, <u>Economically Active Population between 15-64 years of Age in Agriculture and Non-Agriculture, 1975-78</u></li> </ol>	
	Area of Farming Lands	<ol style="list-style-type: none"> <li>1) <u>DLD, MAC, Statistics on Land Utilization by Changwat, 1974-76</u></li> <li>2) Changwat Agricultural Offices, <u>Agricultural Data</u> (to be compiled by the Team), 1977/78 - 1978/79</li> </ol>	<ol style="list-style-type: none"> <li>1) See item 2) Method of Estimation, Indicator: Area of Unused Cultivable Lands</li> </ol>

Appendix 3-1 INDICATORS AND DATA FOR ESTIMATION OF AREA POTENTIAL

Criteria	Indicator	Data Source	Method of Estimation
Performance of Major Productive Sectors	Value of Crop Production	1) Division of Agricultural Economics, Office of the Under-Secretary of State, MAC, <u>Agricultural Statistics of Thailand, Crop Year 1977/78</u>	1) Compute quantity of production by breaking down the Changwat total quantity of production available in <u>Agricultural Statistics of Thailand</u> into Amphoe data in proportion to the quantity of production by Amphoe obtained from <u>Agricultural Data</u> . 2) Multiply the quantity of production by farmgate prices by Changwat obtained from <u>Farmgate Prices by Changwat</u> , to get value of crop production.
		2) Changwat Agricultural Offices, <u>Agricultural Data</u> (to be compiled by the Team), 1977/78 - 1978/79	
		3) Division of Agricultural Economics, MAC, <u>Farmgate Prices by Changwat, 1979</u>	
	Value of Livestock Production	1) Livestock Department, MAC, <u>Statistics of Livestock Raising in the Northern Region, 1976</u> 2) Division of Agricultural Economics, MAC, <u>Farmgate Prices, 1978</u>	1) Multiply livestock production in each Amphoe available in <u>Statistics of Livestock Raising in The Northern Region</u> by average farmgate prices in whole Thailand obtained from <u>Farmgate Prices</u> , to get value of livestock production.
	Value of Mining Production	1) Department of Mineral Resources, <u>Mineral Statistics of Thailand, 1974-78</u> 2) Department of Mineral Resources, <u>Thai Miner's Directory</u>	1) Estimate Changwat total value of mining production by aggregating The Changwat production of respective minerals weighted by national average of production value per unit, using <u>Mineral Statistics of Thailand</u> . 2) Breakdown The Changwat total value of production into Amphoe data in proportion to area of mine lots of Amphoe available in <u>Thai Miner's Directory</u> .
Levels of Urban Activities/Services	Urban Population	1) Division of Local Government Administration, Department of Local Administration (DOLA), Ministry of Interior, <u>Local Government Directory, 1979</u>	1) Urban Population is defined as a population of the central Tambon in the Amphoe.
	Number of Physicians and District Health Officers	1) National Statistical Office (NSO), <u>Changwat Databook</u> (Primary source: Department of Medical and Health Services, Ministry of Public Health, 1978)	



Appendix 3-1 INDICATORS AND DATA FOR ESTIMATION OF AREA POTENTIAL

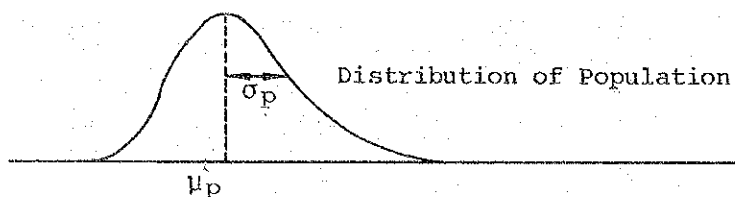
Criteria	Indicator	Data Source	Method of Estimation
Level of Urban Activities/ Services	Number of Teachers in Secondary Schools	1) NSO, <u>Changwat Databook</u> (Primary source: Educational Planning Division, Ministry of Education, 1977)	1) Add teachers of Government Schools and them of Private Schools in Secondary level.
	Amount of Electricity Consumption	1) NSO, <u>Changwat Databook</u> (Primary source: Provincial Electricity Authority, 1977)	
	Number of Postal Matters	1) NSO, <u>Changwat Databook</u> (Primary source: Communication Authority of Thailand, 1977)	
	Non-agricultural Labor Force	1) Division of Agricultural Economics, MAC, <u>Economically Active Population between 15-64 years of Age in Agriculture and Non-agriculture, 1978</u> 2) NSO, Population in <u>Changwat Databook</u> , 1978	1) Compute non-agricultural labor force by breaking down the Changwat total labor force available in <u>Data on Economically Active Population</u> into Amphoe data in proportion to non-agricultural population by Amphoe estimated based on population, average persons per household and number of farm household.
	Handling Freight Volume	1) Land Transport Department, <u>Land Transport Survey, 1975-77</u> 2) Harbour Department, <u>Inland Waterways Cargo Traffic Survey, 1976</u> 3) State Railway of Thailand, <u>Major Commodity Flows to and from Bangkok area, 1975</u> 4) The Study Team, <u>Agricultural Commodity Flow Maps</u>	1) For agricultural freight, estimate at each assembly place based on the flow by crop available in <u>Agricultural Commodity Flow Map</u> 2) For non-agricultural freight, aggregate handling freight volume to and from Bangkok at port, railway station and major assembly places into Amphoe data

Appendix 3-1 INDICATORS AND DATA FOR ESTIMATION OF AREA POTENTIAL

Criteria	Indicator	Data Source	Method of Estimation
Population Factor	Population Size	1) NSO, <u>Changwat Databook</u> (Primary source: DOLA, 1978)	
	Population Increase	1) NSO, <u>Changwat Databook</u> (Primary source: DOLA, 1972, 1978)	1) Compute change in population between 1972 and 1978.
	Population Density	1) NSO, Population in <u>Changwat Databook</u> , 1978 2) Army Survey Department, Ministry of Defence, <u>Topography Map</u> , 1:250,000	1) Measure the area of Amphoe on the Topography Map, and compute the density by dividing population data in 1978 by sq. km of Amphoe.

Appendix 3-2 METHOD OF STATISTICAL TRANSFORMATION FOR ESTIMATING AGGREGATED AREA POTENTIALS

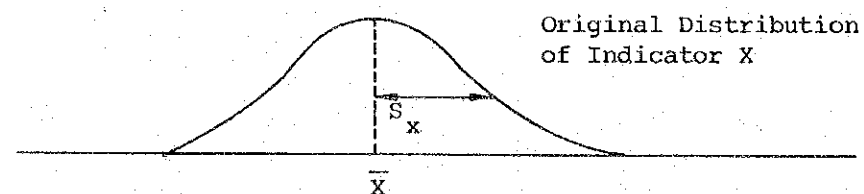
Base Indicator : Population



$\mu_p$  : Mean of population distribution

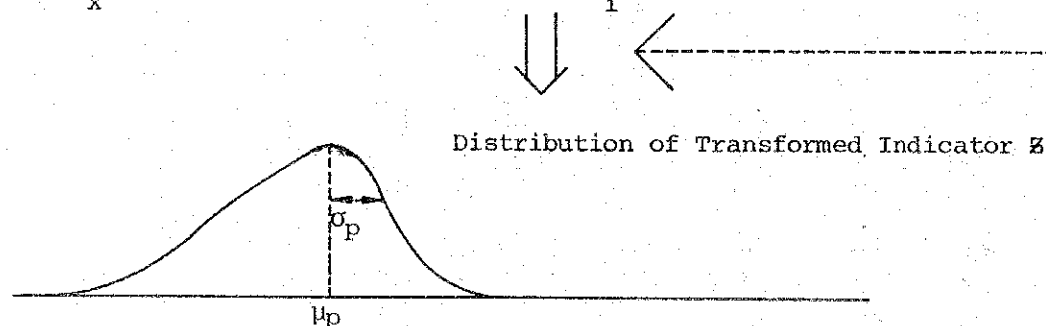
$\sigma_p$  : Standard deviation of population distribution

Statistical Transformation of Indicators ; Respective indicators for area potentials are all transformed into population, the base indicator.



$\bar{X}$  : Mean of data  $X_i$  ( $i=1, \dots, n$ )

$S_x$  : Standard deviation of data  $X_i$



$$\bar{X} = \frac{1}{n} \sum_{i=1}^n X_i$$

$$S_x = \sqrt{\frac{1}{n} \sum_{i=1}^n (X_i - \bar{X})^2}$$

Characteristics of Transformed Data  $Z_i$

$$\bar{Z} = \frac{1}{n} \sum_{i=1}^n Z_i = \frac{1}{n} \left\{ \sum_{i=1}^n \mu_p + \sum_{i=1}^n \sigma_p \frac{(X_i - \bar{X})}{S_x} \right\} = \frac{1}{n} (n \cdot \mu_p)$$

$$= \mu_p$$

$$S_Z = \sqrt{\frac{1}{n} \sum_{i=1}^n (Z_i - \bar{Z})^2} = \sqrt{\frac{1}{n} \sum_{i=1}^n \left[ \mu_p + \sigma_p \frac{(X_i - \bar{X})}{S_x} - \mu_p \right]^2}$$

$$= \sqrt{\frac{1}{n} \sigma_p^2 \sum_{i=1}^n \left[ \frac{(X_i - \bar{X})}{S_x} \right]^2} = \sqrt{\frac{1}{n} \sigma_p^2 \cdot n} = \sigma_p$$

All data are thus expressed in terms of population size. The transformation is similar to normalization but, unlike the case with normalized data,  $\mu_p$  does not take minus value. Aggregated area potentials are, therefore, expressed in positive term all the time.

Formula for Transformation

$$Z_i = \mu_p + \sigma_p \cdot \frac{(X_i - \bar{X})}{S_x}$$

where,

- $Z_i$  : Transformed data of  $X_i$
- $\mu_p$  : Population mean
- $\sigma_p$  : Standard deviation of population distribution
- $X_i$  : Original data series of indicator
- $\bar{X}$  : Mean of data  $X_i$
- $S_x$  : Standard deviation of data  $X_i$

## Appendix 3-3 INDICATORS AND BASIC DATA: WHOLE COUNTRY BY CHANGWAT

Criteria	Future Land Potential		Performance of Major Productive Sectors			Level of Urban Activities/Services		Population Factor	
	Area of Unused Lands	Area of Planned Lands to be Irrigated	Area of Farming Lands	Value of Crop Production	Value of Mining Production	Urban Population	Value Added from Urban Service Sector	Population Size 1978	Population Increase 1972-78
Indicators	(10 <sup>3</sup> rai)	(10 <sup>3</sup> rai)	(10 <sup>3</sup> rai)	(M฿)	(M฿)	(person)	(M฿)	(person)	(person)
101 NAKHON SAWAN	1539	205	3312	1814	14	651	877	956	197
102 PHICHIT	841	1146	1913	1425	28	425	362	546	106
103 PHITSANULOK	1828	539	2063	1295	9	706	691	689	197
104 UTTARADIT	630	8	1112	663	4	176	337	419	96
105 PHRAE	292	3	680	791	38	183	389	435	69
106 LAMPANG	1683	124	789	877	70	420	822	656	73
107 NAN	280	33	763	730	1	200	266	371	60
108 PHAYAO	1358	12	974	1045	1	222	265	447	76
109 CHIANG RAI	2027	119	1454	1819	55	136	528	899	153
110 CHIANG MAI	1809	499	1250	2002	113	934	2099	1132	106
111 MAE HONG SON	257	10	419	179	30	45	94	125	21
112 LAMPHUN	1182	50	549	766	96	116	299	342	31
113 TAK	2056	19	675	379	58	329	347	244	27
114 SUKHOTHAI	1494	198	1632	1418	5	266	339	519	117
115 KAMPHAENG PHET	2382	586	1719	1031	4	139	278	525	185
116 UTHAI THANI	342	340	1576	624	9	176	197	245	67
117 PHETCHABUN	388	41	3893	2313	6	293	393	755	230
202 CHAI NAT	548	76	1036	994	0	168	296	323	61
203 NANTHABURI	0	0	398	565	0	351	389	360	91
204 PATHUM THANI	165	0	968	810	0	56	213	306	72
205 AYUTTHAYA	91	198	1480	1349	21	582	716	610	108
206 LOP BURI	352	25	2684	1020	32	486	936	579	115
207 SAMUT PRAKAN	0	0	515	610	11	540	771	433	104
208 SARABURI	0	34	1779	938	576	426	722	456	103
209 SING BURI	0	0	777	607	25	111	199	201	36
210 ANG THONG	0	170	731	608	17	183	215	254	37
211 CHANTHABURI	803	0	724	387	15	373	745	307	91
212 CHACHENGSAO	973	367	1539	1341	0	337	393	471	116
213 CHON BURI	587	41	1303	2300	36	761	2076	693	151
214 TRAT	637	45	434	198	9	84	440	131	37
215 NAKHON NAYOK	114	62	910	541	5	95	215	197	34
216 PRACHIN BURI	1897	487	1997	1134	12	368	416	589	165
217 RAYONG	524	66	1129	1168	21	208	632	354	103
218 KANCHANABURI	2926	1149	1550	2619	341	180	1504	476	147
219 NAKHON PATHOM	436	430	818	1323	0	378	971	542	123
220 PRACHUAP KHIRI KHAN	1000	37	656	892	164	338	353	362	113
221 PHETCHABURI	578	187	785	665	79	461	964	356	66
222 RATCHABURI	765	179	1223	1790	166	668	972	617	134
223 SAMUT SONGKHRAM	0	192	343	186	19	244	194	194	31
224 SAMUT SAKHON	0	0	491	340	35	498	354	253	53
225 SUPHAN BURI	511	638	2169	2968	17	323	780	697	135
301 KALASIN	2018	552	2037	1114	13	177	556	726	155
302 KHON KAEN	3544	255	2604	1852	17	452	1183	1290	241
303 CHAIYAPHUM	3200	60	2128	1285	14	161	290	828	196
304 NAKHON PHANOM	2258	36	1590	900	29	210	419	725	160
305 NAKHON RATCHASIMA	5630	131	4870	2717	62	984	1468	2104	610
306 BURI RAM	4335	53	2204	1544	14	190	453	1057	267
307 MAHA SARAKHAM	1363	232	2219	1013	13	259	448	735	122
308 ROI ET	2473	18	2355	1186	14	227	458	1050	265
309 LOEI	1334	23	1205	356	5	117	247	425	100
310 SI SA KET	2318	56	2408	1072	9	157	382	1031	235
311 SAKON NAKHON	862	391	1927	1013	13	227	395	747	149
312 SURIN	2512	128	2644	928	8	280	448	977	222
313 NONG KHAI	242	14	1501	699	7	247	331	633	189
314 UDON THANI	3624	0	3716	1635	40	701	1023	1388	275
315 UDON RATCHATHANI	6373	252	3749	1566	28	889	1055	1561	404
316 YASOTHON	1439	11	1092	710	5	162	235	443	115
401 KRABI	1270	0	456	267	28	971	159	203	54
402 CHUMPHON	1413	18	486	285	42	178	387	319	84
403 TRANG	1642	0	530	699	32	367	620	407	80
404 NAKHON SI THAMMARAT	2912	640	1452	1815	528	821	1161	1213	284
405 NARATHIWAT	969	767	507	1062	4	401	439	421	94
406 PATTANI	480	299	514	551	2	345	418	427	97
407 PHANGNGA	841	0	370	214	710	149	263	169	34
408 PHATTHALUNG	887	48	874	718	2	150	377	397	92
409 PHUKET	0	6	333	160	338	385	506	126	26
410 YALA	624	242	400	430	52	560	516	257	58
411 RANONG	126	0	345	65	231	600	206	81	22
412 SONGKHLA	1812	66	789	1573	115	1174	1784	802	180
413 SATUN	295	0	417	221	0	105	140	159	42
414 SURAT THANI	5064	115	702	790	193	496	620	570	133

## Appendix 3-4 INDICATORS AND BASIC DATA: AMPHOE

Amphoe	Future Land Potential		Performance of Major Productive Sectors				Level of Urban Activities/Services					Population Factor					
	Area of Unused Cultiva- ble Lands	Area of Planned to be Irrigated	Number of Farm House- holds	Area of Farming Lands	Value of Crop Produc- tion	Value of Livestock Produc- tion	Value of Mining Produc- tion	Urban Popula- tion	Number of Physi- cians and District Health Officers	Number of Teachers in Secon- dary Schools	Amount of Electri- city Con- sumption	Number of Postal Matters	Non-agri- cultural Labor Force	Handling Freight Volume	Popula- tion Size 1978	Popula- tion Increase 1972-78	Popula- tion Density 1978
	(10 <sup>3</sup> rai)	(10 <sup>3</sup> rai)	(unit)	(10 <sup>3</sup> rai)	(M฿)	(M฿)	(M฿)	(person)	(person)	(person)	(MWh/y.)	(10 <sup>3</sup> unit)	(person)	(10 <sup>3</sup> t/y.)	(person)	(person)	(person/km <sup>2</sup> )
0101 M. NAKHON SAWAN	125	15	13735	269	328	65	0	55741	30	1073	42678	1706	77081	1005	198450	29224	266
0102 LAT YAO	450	0	16003	400	303	78	0	26845	0	95	1520	85	16316	46	126022	33787	53
0103 BANPHOT PHISAI	0	52	10070	286	225	71	0	8553	0	69	643	59	12651	8	84970	18153	120
0104 KAO LIEO	0	3	4217	122	131	25	0	4728	1	32	901	37	2772	0	30583	1192	120
0105 CHUMSAENG	63	0	10314	251	202	60	0	14267	0	128	2772	140	16009	29	79774	8881	142
0106 KROK PHRA	53	0	4131	138	120	25	0	6782	1	33	613	33	4725	0	33174	2425	104
0107 PHAYUHA KHIRI	100	0	8778	279	219	76	0	10704	1	129	3194	82	11794	278	67479	2440	94
0108 TAKHLI	3	0	15736	410	674	110	2	47760	0	313	12697	489	28759	5	108355	-7304	160
0109 THA TAKO	127	42	9585	374	297	96	0	9643	0	67	1189	59	7006	129	72145	4705	81
0110 PHAISALI	143	20	9334	304	336	79	0	12256	1	89	379	35	5550	21	61235	16659	59
0111 NONG BUA	48	21	10788	372	266	76	8	10536	1	25	603	67	5337	0	58893	6299	82
0112 TAK FA	51	0	6259	217	193	51	0	8390	0	59	983	54	3507	0	36115	-5755	64
0201 M. PHICHIT	0	209	15201	459	432	90	0	17075	7	263	7721	311	19343	141	141937	17497	184
0202 SAM NGAM	278	39	7282	193	188	80	0	10912	0	33	371	45	5549	0	36112	12008	84
0203 TAPHAN HIN	147	95	11152	419	317	89	0	15679	0	222	2037	258	20417	153	125517	15862	139
0204 BANG MUN NAK	71	70	8237	329	264	71	39	11144	0	97	2152	240	12373	25	82778	67	129
0205 PHO THALE	187	90	9963	354	355	117	0	7665	0	45	301	43	4755	0	67605	-2935	78
0206 PHO PRATHAP CHANG	42	49	4845	174	134	43	0	4694	1	17	0	0	3074	0	36800	2094	107
0207 WANG SAI PHUN	0	3	2228	105	97	20	0	0	1	6	38	0	4313	0	31649	3906	126
0301 M. PHITSANULOK	236	164	17256	209	198	106	0	73175	31	790	36417	2032	75681	303	198864	17096	260
0302 PHROM PHIRAM	17	0	8961	326	252	76	0	13645	0	72	704	55	13709	0	81570	2417	88
0303 WAT BOT	350	57	5792	149	73	38	0	11590	0	23	191	25	4272	0	32799	5404	38
0304 CHAT TRAKAN	251	5	2500	71	48	42	0	5526	1	2	80	19	913	0	19862	8192	13
0305 NAKHON THAI	278	8	7525	266	157	91	0	11533	0	29	327	45	3388	0	49133	12287	20
0306 WANG THONG	412	53	14538	256	183	81	0	20140	0	19	943	75	13319	141	102260	20222	55
0307 BANG KRATHUM	0	106	5387	146	114	54	0	6130	0	33	446	48	10702	0	55873	3566	160
0308 BANG RAKAM	211	28	9932	407	229	83	0	32994	0	24	816	55	13871	30	95287	35064	96
0309 NOEN MAPRANG	257	0	5854	146	81	33	0	0	0	4	0	65	8345	0	64070	12670	62
0401 M. UTTARADIT	145	0	13416	164	183	94	6	30272	23	514	16350	821	27256	740	142402	32030	185
0402 FAK THA	22	4	2001	53	21	36	0	4835	0	14	64	11	916	0	15036	1651	21
0403 NAM PAT	190	0	3850	63	50	53	0	7637	0	16	138	35	2418	0	27791	3432	16
0404 THA PLA	0	0	4423	86	64	21	1	8460	1	20	69	28	4662	0	36956	3157	22
0405 LAPLAE	72	2	5974	67	64	42	0	4164	1	37	656	65	6638	0	56516	6526	126
0406 TRON	210	0	7825	209	175	82	0	14300	1	47	583	52	3856	1	59089	6872	66
0407 PHICHAI	165	6	8738	244	214	53	0	8397	0	38	1119	80	6047	31	69506	9169	94
0408 BAN KHOK	0	0	1154	19	7	21	0	0	0	0	0	0	496	0	8138	1274	9
0501 M. PHRAE	54	8	11439	151	199	94	0	19515	15	373	9508	629	23527	81	112677	4496	129
0502 SONG	225	1	7812	133	151	51	128	9626	0	32	1001	72	7522	0	64042	13419	39
0503 RONG KWANG	54	4	7668	121	93	54	0	8990	1	72	1208	51	6672	0	56805	7298	68
0504 DEN CHAI	0	0	3527	52	72	17	0	16636	0	65	1334	110	5312	126	32133	1611	54
0505 LONG	185	6	7115	78	140	55	0	14122	0	31	449	61	3917	0	52967	8108	41
0506 SUNG MEN	1	1	9348	90	109	38	0	8158	0	76	3072	81	12447	0	79485	3632	208
0507 WANG CHIN	98	2	5793	61	63	52	16	9840	1	13	47	20	1824	0	38125	3250	41
0601 M. LAMPANG	321	35	1453	204	463	101	1	43717	29	854	33018	1372	46254	456	178346	11294	129
0602 WANG NUA	141	0	6058	62	129	61	3	18864	0	13	131	27	2639	0	43058	5834	40
0603 CHAE HOM	244	29	10046	100	92	65	18	16803	0	35	210	95	6037	0	71132	5933	34
0604 NGAO	222	0	5009	67	77	66	7	4656	0	53	496	82	5289	23	44869	902	30
0605 HANG CHAT	33	2	5629	135	73	57	1	9506	0	36	1528	54	6848	0	44008	3680	67
0606 KO KHA	162	7	8325	93	59	73	0	11547	0	62	3177	88	7185	178	60949	4779	118
0607 MAE THA	31	5	8690	115	126	103	3	9432	1	32	706	27	4478	0	63312	2098	70
0608 SOP PRAP	85	4	3823	48	49	50	5	9887	0	17	104	22	1577	0	25722	1382	63
0609 THOEN	317	1	7056	127	56	80	0	17657	0	49	1333	116	5914	0	54527	2552	31
0610 MAE PHRIK	188	3	2377	31	15	35	0	8117	1	32	102	20	920	0	15017	341	35
0611 SOEM NGAM	188	13	3322	36	32	49	20	7239	1	24	48	0	3402	0	28857	1961	37
0612 MAE MO	242	0	2888	16	14	20	17	0	0	8	4	0	1608	0	22731	1449	23



## Appendix 3-4 INDICATORS AND BASIC DATA: AMPHOE

Amphoe	Future Land Potential		Performance of Major Productive Sectors					Level of Urban Activities/Services					Population Factor				
	Area of Unused Cultivable Lands	Area of Planned Lands to be Irrigated	Number of Farm Households	Area of Farming Lands	Value of Crop Production	Value of Livestock Production	Value of Mining Production	Urban Population	Number of Physicians and District Health Officers	Number of Teachers in Secondary Schools	Amount of Electricity Consumption	Number of Postal Matters	Non-agricultural Labor Force	Handling Freight Volume	Population Size 1978	Population Increase 1972-78	Population Density 1978
	(10 <sup>3</sup> rai)	(10 <sup>3</sup> rai)	(unit)	(10 <sup>3</sup> rai)	(M฿)	(M฿)	(M฿)	(person)	(person)	(person)	(MWh/y.)	(10 <sup>3</sup> unit)	(person)	(10 <sup>3</sup> t/y.)	(person)	(person)	(person/km <sup>2</sup> )
1301 M. TAK	581	2	8545	78	230	134	4	19435	11	298	9802	460	21356	120	76549	12872	38
1302 THA SONG YANG	0	0	2445	33	89	25	59	6166	1	5	55	0	824	0	15384	731	8
1303 MAE RAMAT	110	2	4058	62	84	22	0	7250	0	13	216	16	2124	0	28321	6378	16
1304 SAM NGAO	362	0	2599	74	92	35	0	8365	0	18	209	30	5463	0	24695	3193	12
1305 BAN TAK	513	2	3491	59	228	75	12	8392	0	26	14	41	6702	0	37904	1892	31
1306 MAE SOT	4	1	7896	165	227	71	13	17531	1	110	3597	195	11744	70	64468	10015	42
1307 UMPHANG	569	0	1385	11	26	12	24	3867	1	7	42	0	1357	0	10131	1533	2
1308 PHOP PHRA	177	0	1226	59	124	11	0	0	0	0	22	0	1641	0	9010	1401	10
1401 M. SUKHOETHAI	0	0	10599	259	120	80	0	20002	14	163	6456	362	22398	152	101960	8954	232
1402 SI SATCHANALAI	33	1	9910	389	308	61	3	6392	0	61	954	90	7558	0	77417	10360	38
1403 THUNG SALIAM	50	0	5473	220	169	21	4	10215	1	49	382	51	3445	14	37643	6104	71
1404 SWANKHALOK	0	70	10463	314	223	36	0	10437	1	132	2237	239	15036	169	88002	12087	200
1405 SI SAMRONG	0	4	8454	290	163	31	0	7157	1	97	3684	135	8968	0	63899	6471	174
1406 KONG KRAILAT	76	0	7089	183	136	54	0	3902	0	25	381	49	4214	0	57556	5488	139
1407 KHIRI MAT	154	0	5183	147	54	40	0	11403	0	16	355	43	4116	29	42154	2499	69
1408 BAN DAN LAN HOI	791	0	2887	75	52	37	0	4329	1	8	164	19	2679	0	24390	3134	16
1409 SI NAKHON	3	3	3936	130	39	14	0	18124	0	25	337	0	2767	0	28340	3891	131
1501 M. KAMPHAENG PHET	423	88	23947	546	623	93	0	18362	9	228	7805	326	42200	1127	175540	46344	104
1502 PHRAN KRATAI	489	18	6861	187	189	60	0	18764	1	34	741	46	11095	19	55384	17460	48
1503 KHLONG KHLUNG	268	115	12370	587	605	51	0	15860	0	95	939	57	26639	300	106379	12566	54
1504 KHANU WORALAKSABURI	298	70	12651	501	425	68	0	9639	1	121	1821	49	24202	431	105053	23013	82
1505 SAI NGAM	119	90	5144	206	198	18	0	17216	0	5	0	0	9041	0	37610	9920	72
1506 KLONG LAN	191	35	2827	159	136	10	0	0	0	0	0	0	6022	0	24048	6345	15
1507 LAN KRABU	60	2	3494	184	182	30	0	0	0	0	68	0	5200	0	25959	8186	66
1601 M. UTHAI THANI	75	0	4194	77	84	33	0	16452	10	186	4485	219	13919	196	46995	2343	193
1602 SAWANG AROM	54	0	3057	148	140	24	0	3706	1	13	191	15	1790	3	20151	4603	56
1603 THAP THAN	52	0	4582	154	145	43	0	3175	0	38	313	30	3966	0	31881	64	92
1604 NONG KHAYANG	10	35	2386	98	98	29	0	2926	1	17	126	14	2318	0	16303	-3854	95
1605 NONG CHANG	31	44	5735	166	161	40	0	4525	0	74	748	67	6719	11	43624	939	131
1606 BAN RAI	521	2	8849	395	435	28	25	6736	1	15	70	23	3546	221	59855	26954	15
1607 LAN SAK	107	0	5092	245	161	14	2	0	0	0	19	0	1630	0	27517	12395	23
1701 M. PHETCHABUN	270	12	17468	506	327	184	0	19740	10	218	4657	552	33694	184	147599	22555	60
1702 LOM KAO	112	15	4856	212	147	53	0	11154	0	88	636	65	8493	0	53949	8113	45
1703 LOM SAK	35	16	14112	446	398	141	0	14223	0	140	3717	725	31934	21	144888	25802	122
1704 NONG PHAI	3	0	18802	519	375	67	0	19506	0	103	2158	97	16364	142	103943	19272	92
1705 WICHIAN BURI	0	5	15737	880	516	64	0	18149	0	136	958	107	8836	245	86350	17427	51
1706 CHON DAEN	120	2	10175	283	205	95	0	22242	0	49	1130	85	14346	6	95923	36246	49
1707 SI THEP	173	0	6833	255	172	40	0	12377	1	59	453	43	5153	28	50351	3232	60
1708 BUNG SAM PHAN	1	3	9523	369	286	32	0	17451	1	76	210	60	9345	24	59359	11004	84
1709 NAM NAO	123	0	744	30	40	8	0	0	0	0	0	0	1811	0	11503	1733	13

## Appendix 3-5 POTENTIALS IN TERMS OF POPULATION SIZE: WHOLE COUNTRY BY CHANGWAT

Amphoe	Criteria		Performance of Major Productive Sectors			Level of Urban Activities/Services		Population Factor	
	Future Land Potential		Area of	Value of	Value of	Urban	Value	Popula-	Popula-
	Area of Unused Cultiva- ble Lands	Area of Planned to be Irrigated	Area of Farming Lands	Crop Produc- tion	Mining Produc- tion	Popula- tion	Added from Urban Service Sector	tion Size 1978	tion Increase 1972-78
(10 <sup>3</sup> rai)	(10 <sup>3</sup> rai)	(10 <sup>3</sup> rai)	(M฿)	(M฿)	(person)	(M฿)	(person)	(person)	
101 NAKHON SAWAN	622	606	1309	1020	423	993	827	956	841
102 PHICHIT	432	1991	774	797	462	660	382	546	486
103 PHITSANULOK	701	1098	831	722	409	1074	666	689	841
104 UTTARADIT	375	316	468	358	395	293	360	419	447
105 PHRAE	283	309	302	432	490	303	405	435	342
106 LAMPANG	662	467	344	481	578	652	779	656	358
107 NAN	279	353	334	397	387	328	299	371	307
108 PHAYAO	573	322	415	578	387	360	298	447	369
109 CHIANG RAI	755	480	598	1023	537	234	525	899	669
110 CHIANG MAI	696	1039	520	1128	698	1410	1883	1132	486
111 MAE HONG SON	273	319	203	80	467	100	150	125	155
112 LAMPHUN	525	378	252	418	651	204	327	342	194
113 TAK	763	332	301	195	545	518	369	244	178
114 SUKHOTHAI	610	596	666	792	398	425	362	519	529
115 KAMPHAENG PHET	852	1167	700	570	395	238	309	525	794
116 UTHAI THANI	296	805	645	336	409	293	239	245	334
117 PHETCHABUN	309	365	1531	1307	401	465	408	755	969
202 CHAI NAT	352	416	439	549	384	281	325	323	311
203 NONTABURI	203	304	195	302	384	550	405	360	428
204 PATHUM THANI	248	304	413	443	384	116	253	308	354
205 AYUTTHAYA	228	596	608	753	442	891	688	610	494
206 LOP BURI	299	341	1069	564	473	749	878	579	521
207 SAMUT PRAKAN	203	304	239	328	415	829	735	433	478
208 SARABURI	203	355	743	517	1984	661	693	456	475
209 SING BURI	203	304	340	326	453	197	241	201	213
210 ANG THONG	203	555	322	327	431	303	255	254	217
211 CHANTHABURI	422	304	319	200	426	583	713	307	428
212 CHACHOENGSAO	468	844	631	748	384	530	408	471	525
213 CHON BURI	363	365	541	1300	484	1155	1853	693	661
214 TRAT	377	371	208	91	409	157	449	131	217
215 NAKHON NAYOK	234	396	390	288	398	173	255	197	206
216 PRACHIN BURI	720	1021	806	641	417	576	428	589	716
217 RAYONG	346	402	474	649	442	340	615	354	475
218 KANCHANABURI	1001	1995	635	1483	1331	298	1368	476	646
219 NAKHON PATHOM	322	937	355	738	384	590	908	542	552
220 PRACHUAP KHIRI KHAN	476	359	293	490	840	531	374	362	513
221 PHETCHABURI	360	580	343	360	603	713	902	356	330
222 RATCHABURI	411	568	510	1006	845	1018	909	617	595
223 SAMUT SONGKHRAM	203	587	174	84	437	393	236	194	194
224 SAMUT SAKHON	203	304	230	173	481	767	375	253	280
225 SUPHAN BURI	342	1243	872	1684	431	509	743	697	599
301 KALASIN	753	1117	821	618	420	294	549	726	677
302 KHON KAEN	1169	680	1038	1042	431	699	1091	1290	1012
303 CHAIYAPHUM	1075	393	856	716	423	270	319	828	837
304 NAKHON PHANOM	818	357	650	495	465	343	431	725	697
305 NAKHON RATCHASIMA	1738	497	1905	1539	556	1483	1337	2104	2450
306 BURI RAM	1385	382	885	865	423	313	460	1067	1113
307 MAHA SARAKHAM	574	646	891	560	420	415	456	735	549
308 ROE ET	877	331	943	659	423	368	465	1050	1106
309 LOEI	567	338	503	182	398	206	282	425	463
310 SI SA KET	835	387	963	594	409	265	399	1031	989
311 SAKON NAKHON	438	880	779	560	420	368	410	747	654
312 SURIN	888	493	1054	511	406	446	456	977	938
313 NONG KHAI	269	325	616	379	403	397	355	633	810
314 UDON THANI	1191	304	1463	917	495	1066	953	1388	1145
315 UBON RATCHATHANI	1940	675	1476	878	462	1343	980	1561	1647
316 YASOTHON	595	321	460	385	398	272	272	443	521
401 KRABI	549	304	217	131	462	1464	206	203	284
402 CHUMPHON	588	331	228	141	501	296	403	319	400
403 TRANG	651	304	245	379	473	574	605	407	385
404 NAKHON SI THAMMARAT	997	1246	598	1021	1851	1243	1072	1213	1180
405 NARATHIWAT	467	1433	236	588	395	624	448	421	439
406 PATTANI	334	744	239	294	390	542	430	427	451
407 PHANGNGA	432	304	184	100	2396	253	296	169	206
408 PHATTHALUNG	445	375	377	390	390	254	395	397	432
409 PHUKET	203	313	170	69	1323	601	506	126	175
410 YALA	373	661	195	225	528	858	515	257	289
411 RANONG	237	304	174	15	1026	917	247	81	159
412 SONGKHLA	697	402	344	882	703	1763	1610	802	774
413 SATUN	283	304	202	104	384	188	190	159	237
414 SURAT THANI	1583	474	311	431	920	764	605	570	591









Appendix 3-7 INDICATORS USED FOR ESTIMATING AREA  
POTENTIALS AT AMPHOE AND CHANGWAT LEVEL

Description	Amphoe Level	Changwat Level
Future Land Potential	● Area of Unused Cultivable Lands	● Area of Unused Cultivable Lands
	● Area of Land Planned to be Irrigated	● Area of Land Planned to be Irrigated
Performance of Major Productive Sectors	● Number of Farm Households	
	● Area of Farming Lands	● Area of Farming Lands
	● Value of Crop Production	● Value Added in Crop Production
	● Value of Livestock Production	
	● Value of Mining Production	● Value Added in Mining Production
Levels of Urban Activities/Services	● Urban Population	● Urban Population
	● Number of Physicians and Distinct Health Officers	● Value Added from Urban Service Sectors, viz., transportation and communications; banking, insurance and real estate; public administration and defense; and services.
	● Number of Teachers in Secondary Schools	
	● Amount of Electricity Consumption	
	● Number of Postal Matters	
	● Non-agricultural Labour Force	
	● Handling Freight Volume	
Population Factor	● Population Size	● Population Size
	● Population Increase	● Population Increase
	● Population Density	

## Appendix 5-1 ACCESSIBILITY CALCULATION SHEET

No.	Node Pair				Description	Existing Road					Ideal Road		
	Amphoe A		Amphoe B			Link No.					Length by Surface Type		Length (km)
	Code No.	Name	Code No.	Name		1	2	3	4	5	Surface Type	Length (km)	
1.	0102	Lat Yao	0106	Krok Phra	Road No.	1072	1	3001	3005	3005	P.R.	53.6	36.0
					Surface Type	P.R.	P.R.	P.R.	P.R.	L.R.	L.R.	4.5	
					Road Length (km)	22.5	16.9	4.2	10.0	4.5	E.R.		
											Total	58.1	
2.	0102	Lat Yao	1307	Umphang	Road No.	3013	1197	1139	1117	1117	P.R.	33.0	104.5
					Surface Type	P.R.	P.R.	L.R.	P.R.	E.R.	L.R.	52.0	
					Road Length (km)	3.0	25.0	52.0	5.0	84.4	E.R.	84.4	
											Total	169.4	
3.	0102	Lat Yao	1504	Khanuwora Laksa Buri	Road No.	9035	1	1074			P.R.	26.4	35.0
					Surface Type	L.R.	P.R.	P.R.			L.R.	22.5	
					Road Length (km)	22.5	17.1	9.3			E.R.		
											Total	48.9	
4.	0102	Lat Yao	1607	Lan Sak	Road No.	1139	1197	3013			P.R.	28.0	41.0
					Surface Type	L.R.	P.R.	P.R.			L.R.	29.0	
					Road Length (km)	29.0	25.0	3.0			E.R.		
											Total	57.0	
5.	0103	Banphot Phisai	0105	Chumsaeng	Road No.	1182	1118	1			P.R.	73.3	35.0
					Surface Type	P.R.	P.R.	P.R.			L.R.		
					Road Length (km)	34.1	38.3	0.9			E.R.		
											Total	73.3	
6.	0103	Banphot Phisai	0205	Pho Thale	Road No.	1073					P.R.		34.5
					Surface Type	E.R.					L.R.		
					Road Length (km)	47.5					E.R.	47.5	
											Total	47.5	
7.	0103	Ban Phot Phisai	1504	Khanuwora Laksa Buri	Road No.	1073	1	1074			P.R.	38.3	19.0
					Surface Type	P.R.	P.R.	P.R.			L.R.		
					Road Length (km)	11.9	17.1	9.3			E.R.		
											Total	38.3	
8.	0105	Chumsaeng	0109	Tha Tako	Road No.	3004	3004	11	2184	1119	P.R.	67.0	35.0
					Surface Type	P.R.	L.R.	P.R.	P.R.	P.R.	L.R.	5.0	
					Road Length (km)	5.0	5.0	27.0	3.0	32.0	E.R.		
											Total	72.0	
9.	0105	Chumsaeng	0205	Pho Thale	Road No.	1118	1118	1067			P.R.	23.3	22.0
					Surface Type	E.R.	P.R.	P.R.			L.R.		
					Road Length (km)	12.0	7.0	16.3			E.R.	12.0	
											Total	35.3	
10.	0106	Krok Phra	0107	Phayuha Khiri	Road No.	3319	3220	333	1		P.R.	21.6	14.0
					Surface Type	P.R.	L.R.	P.R.	P.R.		L.R.	18.0	
					Road Length (km)	4.0	18.0	15.6	2.0		E.R.		
											Total	39.6	

Note: 1/ Surface Type P.R. : Paved Road  
L.R. : Laterite Road  
E.R. : Earth Road



Appendix 5-2 ACCESSIBILITY AND INTER-NODAL GRAVITY: INTER-ADJACENT AMPHOE LINKAGE (2)

Table with columns SEQ, LINK NAME, 1/1, 1/2, 1/3, 1/4, 1/5, 1/6, 1/7, 1/8. Contains accessibility and gravity data for various amphoe linkages.

- 1/1 TE: Travel time on existing roads (hour)
1/2 TI: Travel time on ideal road (hour)
1/3 R = TE / TI
1/4 S = TE - TI
1/5 OP: Total potential of origin Amphoe
1/6 DP: Total potential of destination Amphoe
1/7 Distance in a straight line between origin and destination (km)
1/8 Gravity = OP x DP / DIJ^2 / 1000

Those underlined are proposed road links.

Criteria: R >= 1.5, S >= 0.3

Gravity Average Value: 4,000

Appendix 5-4 ACCESSIBILITY AND INTER-NODAL GRAVITY: INTRA-CHANGWAT LINKAGE

Table with columns SEQ, LINK NAME, 1/1, 1/2, 1/3, 1/4, 1/5, 1/6, 1/7, 1/8. Contains accessibility and gravity data for intra-changwat linkages.

Those underlined are proposed road links.

Criteria: R >= 1.5, S >= 0.3

Gravity Average Value: 5,000

Appendix 5-3 ACCESSIBILITY AND INTER-NODAL GRAVITY: INTER-CHANGWAT LINKAGE

Table with columns SEQ, LINK NAME, 1/1, 1/2, 1/3, 1/4, 1/5, 1/6, 1/7, 1/8. Contains accessibility and gravity data for inter-changwat linkages.

Those underlined are proposed road links.

Criteria: R >= 1.5, S >= 0.3

Gravity Average Value: 2,000

Appendix 5-5 COMMODITY FLOW VOLUME OF MAIN AGRICULTURAL PRODUCTS

(1,000 ton)

Node Pair (Amphoe Code No.)		Commodity Flow of Main Agricultural Products							
Destination	Origin	Rice	Maize	Beans	Sugar Cane	Cassava	Tobacco Leaves	Total	
0101	0102	30	6	21	15	6		78	
	0103	12	5	2	23			42	
	0104	7		1	128			136	
	0106	14	1		16			31	
	0107		5	10				15	
	0108				28			28	
	0109	12	2					14	
	0110	5	10	2				17	
	0111	5	5					10	
	0112				3			3	
	0205	65		5				70	
	1503				10			10	
	1504		15	6	30			51	
	1602				13	15		28	
	1603				1			1	
	1605				36			36	
	1606				26			26	
1607				24	25		49		
0102	1602					5		5	
0105	0111	4	10					14	
0107	0101		5					5	
	0102	69						69	
	0103	24						24	
	0104	15						15	
	0109	20						20	
	0110	9						9	
	0111	14						14	
	1504		12	2				14	
	1602					5		5	
1607					10		10		
0108	0109	60		2				62	
	0110	28		5		5		38	
	0111	50		7				57	
	0112	2						2	
	0204	50						50	
	1504					3		3	
0109	0110	5						5	
	0111	10						10	
	0112	60						60	
0110	0112	28					28		

(1,000 ton)

Node Pair (Amphoe Code No.)		Commodity Flow of Main Agricultural Products							
Destination	Origin	Rice	Maize	Beans	Sugar Cane	Cassava	Tobacco Leaves	Total	
0112	0108		10					10	
	0109		2					2	
	0110		15	3				18	
	0111		15					15	
	0203		2					2	
	1607		5					5	
0201	0202	61	2		1			64	
	0206	34	2					36	
	0207	15						15	
	0307	5	2					7	
	0309	7						7	
	1505	15	2					17	
0203	0201		10					10	
	0204	38	1					39	
	0205		5	2				7	
	0206		32	1				33	
	0207	25	10					35	
	0301		10					10	
	0306		69	1				70	
	0308	19	12					31	
	0309	6	5	1				12	
	1706	5	8	1				14	
0204	0205		3	1			4		
0301	0302	58	9	4		1		72	
	0303	7	10	2		2		21	
	0304	1						1	
	0306	24		1		27		52	
	0307	30						30	
	0308	30	15	5				50	
	0407		7	19				26	
	0304	0306	1					1	
0305	0306	3					3		
0306	0303		6					6	
	0304		14					14	
	0305		58	1		27		86	
0308	0306					30	30		



Appendix 5-5 COMMODITY FLOW VOLUME OF MAIN AGRICULTURAL PRODUCTS (Continued)

(1,000 ton)

Node Pair (Amphoe Code No.)		Commodity Flow of Main Agricultural Products						
Destination	Origin	Rice	Maize	Beans	Sugar Cane	Cassava	Tobacco Leaves	Total
0401	0301				5			5
	0304				5			5
	0305				4			4
	0306				4			4
	0308				2			2
	0404	1	5	3	26			35
	0405	2	5		3			10
	0406	16	5	5	150			176
	0408	1						1
	0402		2					2
	0403		3	1	4			8
	0407				29			29
	0408		1					1
	1301				13			13
	1401				2			2
	1402				44			44
	1403				27			27
	1404				27			27
	1405				28			28
	1406				3			3
	1408				6			6
	1409				4			4
	1502				50			50
	1507				56			56
0501	0401						1	1
	0502	24	6				2	32
	0503	10	1	1			1	13
	0504	3					1	4
	0505		5					5
	0506						2	2
	0701						3	3
	0707						2	2
	0803		3					3
	0804		1					1
0502	0804	3						3
0504	0505	21	18					39
	0506	7		2				9
	0507	6						6
0601	0602	5	1		1		1	8
	0603				1		2	3
	0604	4	1				1	6
	0605	10						10
	0606						1	1
	0607	9	1					10
	0611	2						2
	0612	2	1					3

(1,000 ton)

Node Pair (Amphoe Code No.)		Commodity Flow of Main Agricultural Products						
Destination	Origin	Rice	Maize	Beans	Sugar Cane	Cassava	Tobacco Leaves	Total
0602	0603	2						2
0606	0605				40			40
	0607				28			28
	0608				58			58
	0609				3			3
	0611				1			1
	1202				2			2
0608	0609	5						5
0701	0702	6	2				1	9
	0703	5	2				2	9
	0704	6					2	8
	0705	10	2				3	15
	0706		1					1
	0707	2						2
	0709	1	1				1	3
0704	0705						2	2
0707	0501	10						10
	0708	2	2				1	5
0708	0710	4						4
0801	0802	14	2					16
	0803	7						7
	0805	35					1	36
	0806	23	4					27
	0807	21	1					22
	0906	56	24					80
	0907	36	1					37
	0908	36						36
	0909		1					1
0901	0902	11	2				1	14
	0903	14	1				1	16
	0904	56	4				1	61
	0905	57	6				1	64
	0906						1	1
	0908						2	2
	0909	7						7
	0911	40					1	41

## Appendix 5-5 COMMODITY FLOW VOLUME OF MAIN AGRICULTURAL PRODUCTS (Continued)

(1,000 ton)

Node Pair (Amphoe Code No.)		Commodity Flow of Main Agricultural Products						
Destination	Origin	Rice	Maize	Beans	Sugar Cane	Cassava	Tobacco Leaves	Total
1001	0501						5	5
	0601						4	4
	0701						6	6
	0707						5	5
	0801						4	4
	0910	22						22
	1002	24	4	1				29
	1003	14	1				2	17
	1004	5	1				1	7
	1005	3	1				3	7
	1006	13		4			5	22
	1007	2						2
	1008	8		1				9
	1009	14		4			1	19
	1010	18					1	19
	1011	66					1	67
	1012	9		1				10
	1013	13						13
	1014	10						10
	1015	17		1				18
	1017	40	1					41
	1101						2	2
	1102	2	1					3
	1104						1	1
	1105	40	2				1	43
	1202						1	1
	1203						1	1
	1204						1	1
	1206						1	1
1012	1006				8			8
	1017				1			1
	1019				1			1
1015	1016	3						3
1016	1017			1				1
1017	1018	2						2
	1019			2				2
	1105	40						40
1101	1105	1						1
1103	1105	1						1
1104	1105	7						7

(1,000 ton)

Node Pair (Amphoe Code No.)		Commodity Flow of Main Agricultural Products						
Destination	Origin	Rice	Maize	Beans	Sugar Cane	Cassava	Tobacco Leaves	Total
1105	1101						1	1
	1104		1				1	2
1301	0609	6	2					8
	0610		2					2
	1304	10	4					14
	1305	13	8					21
	1306	31	30					61
1302	1306	3						3
1303	1306	2						2
1306	1302		2					2
	1303		4					4
	1308	4	12					16
1307	1607	1						1
1401	0302	10						10
	0407	18						18
	1403		1					1
	1404		5					5
	1405	2	2	10				14
	1406	44		1				45
	1407	2		2				4
	1408	7		3				10
1404	0507	3	4					7
	1402	35	5	25				65
	1403	17	2					19
	1405	2	1	5				8
	1409	9		2				11
1501	1301		3		11			14
	1407	2	1	2				5
	1502	25	1	4	15			45
	1503				110			110
	1504				70	44		114
	1505	20	7		120			147
	1506	12	3		26			41
	1507	41	7	1	25			74
1503	1407	2						2
	1501		5		130			135
	1502	13						13
	1504	77			118			195

Appendix 5-5 COMMODITY FLOW VOLUME OF MAIN AGRICULTURAL PRODUCTS (Continued)

(1,000 ton)

Node Pair (Amphoe Code No.)		Commodity Flow of Main Agricultural Products						Total
Destination	Origin	Rice	Maize	Beans	Sugar Cane	Cassava	Tobacco Leaves	
1504	0102					4		4
	0107					7		7
	1501					34		34
	1503		13	3		10		26
	1506		15	2		8		25
1601	0106	7	1					8
	1602	41	4					45
	1603	46	2					48
	1604	32						32
	1605	44	6					50
	1606	16	55					71
	1607	21	31					52
1701	1702		50	1				51
	1703	32	40	3			4	79
	1709	11	1					12
1704	1705				1			1
	1706	12	13		1			26
	1708				2			2
1705	1708		90					90

Rice : paddy (unhusked rice)

Tobacco: tobacco leaves (wet)

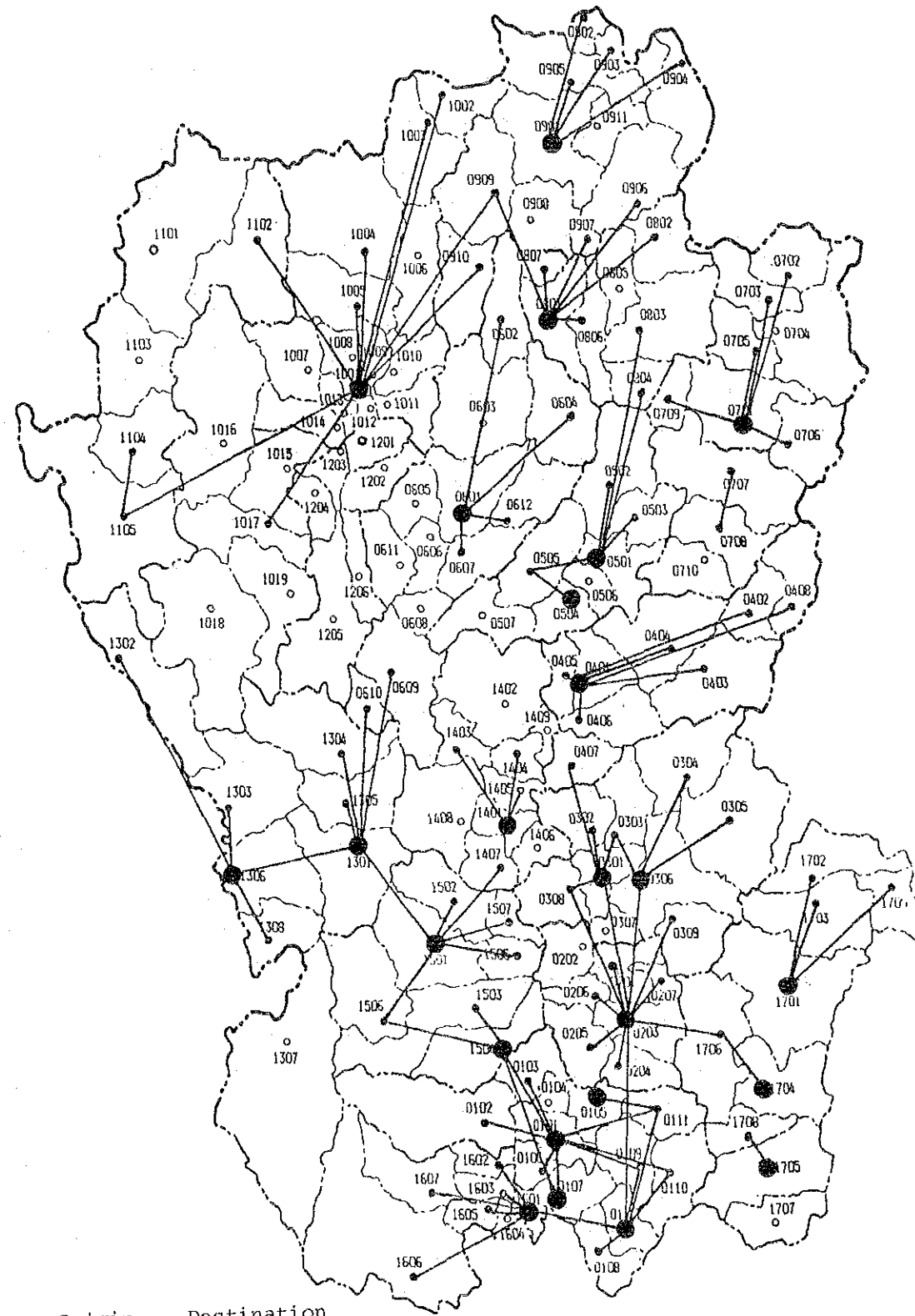
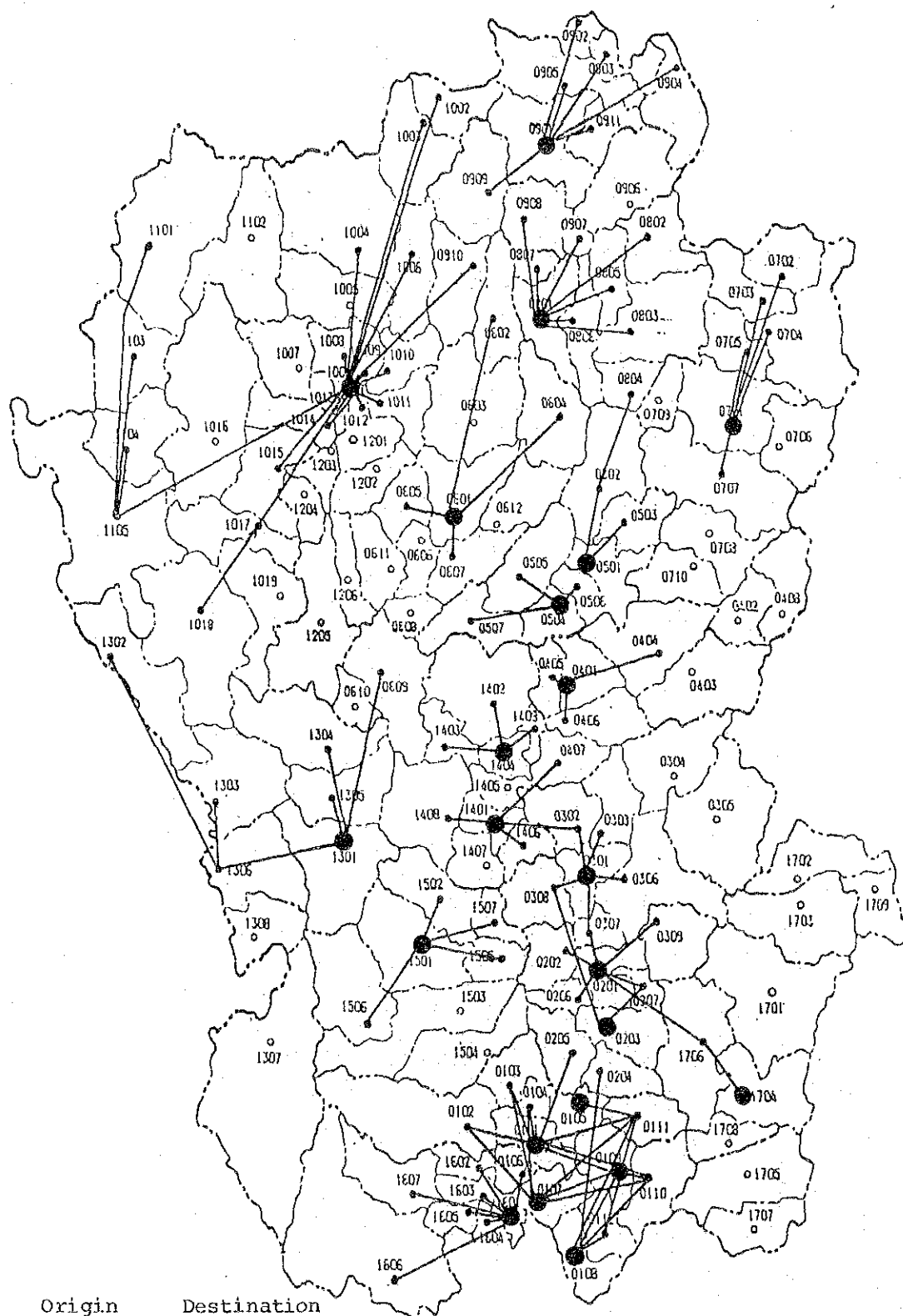
Beans : mungbeans, soybeans and other beans

Appendix 5-6 COMMODITY FLOW OF MAIN AGRICULTURAL PRODUCT

- 0101 M. NAKHON SIKHON
- 0102 LAT YAO
- 0103 BANPHUW PHISAI
- 0104 KAO LIEA
- 0105 CHUASRENG
- 0106 KROK PHRA
- 0107 PHAYIHA KHITRI
- 0108 TAKHLI
- 0109 THA TAKO
- 0110 PHAISALI
- 0111 NONG BUR
- 0112 TAK FA
- 0201 M. PHICHIT
- 0202 SAN NGAM
- 0203 YAPHAN YIN
- 0204 BANG MUN NAK
- 0205 PHO THALE
- 0206 PHO PRATHAP CHANG
- 0207 WANG SAI PHUN
- 0301 M. PHITSANULOK
- 0302 PHRAN PHITRAN
- 0303 WAT BOT
- 0304 CHAT TRAKAN
- 0305 NAKHON THAI
- 0306 WANG THONG
- 0307 BANG KRATHUM
- 0308 BANG RAKAM
- 0309 NIEN NAPPANG
- 0401 M. UTTARADIT
- 0402 FAK THA
- 0403 NAM PAT
- 0404 THA PLA
- 0405 LAPLAE
- 0406 TRON
- 0407 PHICHAI
- 0408 BAN YONG
- 0501 M. PHRAE
- 0502 SANG
- 0503 RANG KHANG
- 0504 DEN CHAI
- 0505 LONG
- 0506 SUNG MEN
- 0507 WANG CHIN
- 0601 M. LAMPANG
- 0602 WANG NUA
- 0603 CHAE HOM
- 0604 NONG
- 0605 HANG CHAT
- 0606 KA KHA
- 0607 MAE THA
- 0608 SOP PRAP
- 0609 THOEN
- 0610 MAE PHRIK
- 0611 SOEM NGAM
- 0612 MAE HO
- 0701 M. NAN
- 0702 THUNG CHANG
- 0703 CHIANG KLANG
- 0704 PUA
- 0705 THA WANG PHA
- 0706 MAE CHARIN
- 0707 SA
- 0708 NA HOI
- 0709 BAN LUANG
- 0710 NA MUEN
- 0801 M. PHAYAO
- 0802 CHIANG KHAM
- 0803 PONG
- 0804 CHIANG MUAN
- 0805 CHUN
- 0806 DOK KHAN TAI
- 0807 MAE CHAI
- 0901 M. CHIANG RAI
- 0902 MAE SAI
- 0903 CHIANG SAEN
- 0904 CHIANG KHONG
- 0905 MAE CHAN
- 0906 THOENG
- 0907 PA DAET
- 0908 PHAN
- 0909 MAE SUAI
- 0910 WIANG PA PAO
- 0911 WIANG CHAI
- 1001 M. CHIANG MAI
- 1002 MAE AI
- 1003 FANG
- 1004 CHIANG DAO
- 1005 MAE YAENG
- 1006 PHRAG
- 1007 SAMOENG
- 1008 MAE RIM
- 1009 SAN SAI
- 1010 DOI SAKET
- 1011 SAN KAMPAWANG
- 1012 SARAPHI
- 1013 HANG DONG
- 1014 SAN PA TONG
- 1015 CHOM THONG
- 1016 MAE CHAIEN
- 1017 MAT
- 1018 OMKOT
- 1019 DOI TAO
- 1101 M. MAE HONG SON
- 1102 PAI
- 1103 KHUN YUAM
- 1104 MAE LA HOI
- 1105 MAE SARANG
- 1201 M. LAMPHUN
- 1202 MAE THA
- 1203 PA SANG
- 1204 BAN HONG
- 1205 LI
- 1206 THUNG HUR CHANG
- 1301 M. TAK
- 1302 THA SONG YANG
- 1303 MAE RANAT
- 1304 SAN MSAN
- 1305 BAN TAK
- 1306 MAE SOT
- 1307 UMPHANG
- 1308 PHOP PHRA
- 1401 M. SUKHOTHAI
- 1402 SI SATHUKALAI
- 1403 THUNG SULLIAM
- 1404 SWANHAKLAK
- 1405 SI SAMRONG
- 1406 KONG KRATLAT
- 1407 KHITRI MAT
- 1408 BAN BAN LAN HOI
- 1409 SI NAKHON
- 1501 M. KAMPANGSAK
- 1502 PHRAN KRATAI
- 1503 KHONG KALUNG
- 1504 KHANU WORALAKSABURI
- 1505 SAI NGAM
- 1506 KLONG LON
- 1507 LAN KARAI
- 1601 M. UTHAI THANI
- 1602 SAWANG AREK
- 1603 THAP THAN
- 1604 HANG KHAYANG
- 1605 HANG CHANG
- 1606 BAN RAI
- 1607 LAN SAK
- 1701 M. PHETCHABUN
- 1702 LAM KAO
- 1703 LAM SAK
- 1704 NONG PHAI
- 1705 WICHIAN BURI
- 1706 CHAN DAEN
- 1707 SI THEP
- 1708 BUNG SAM PHAN
- 1709 NAM HOI

RICE

MAIZE

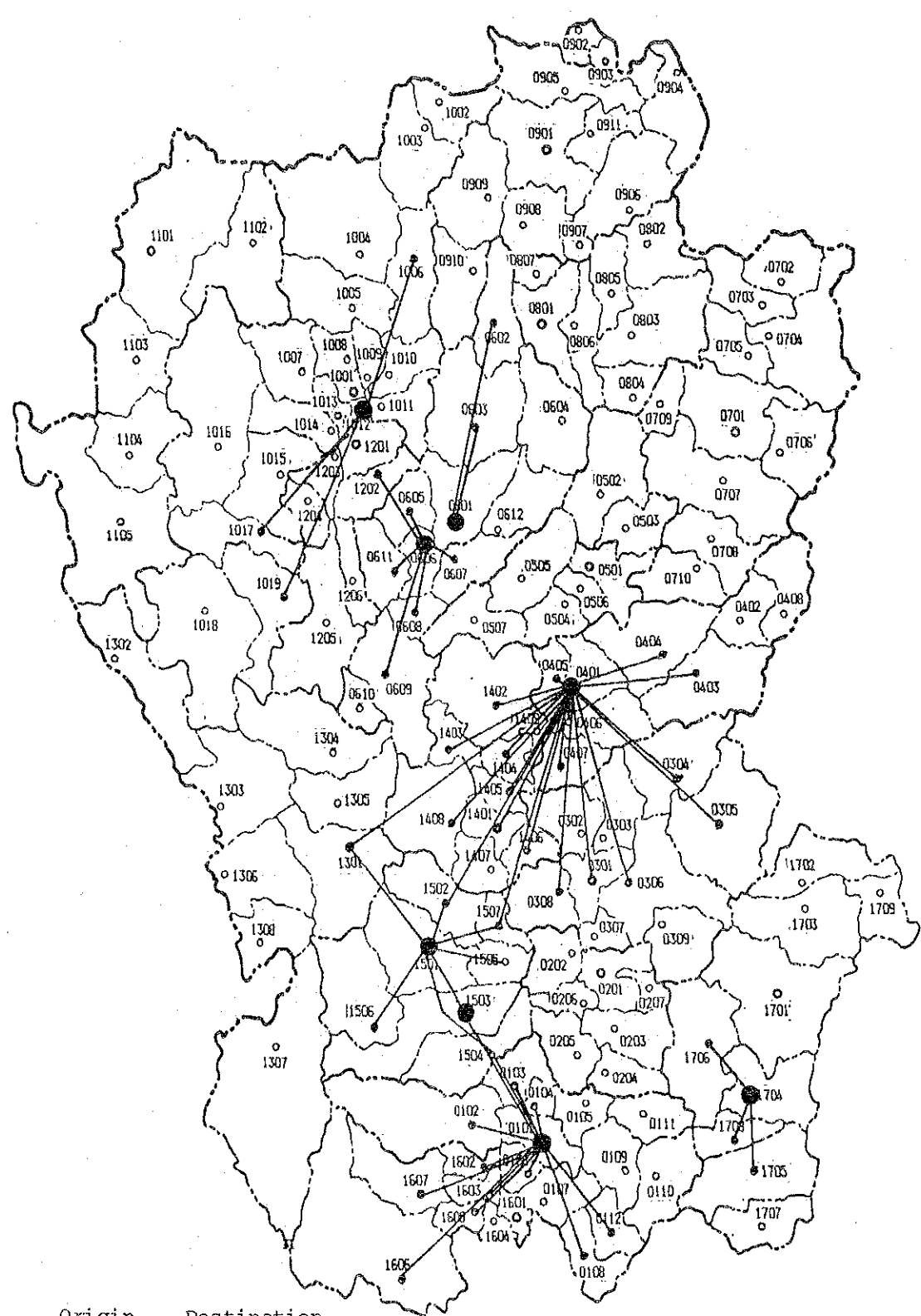
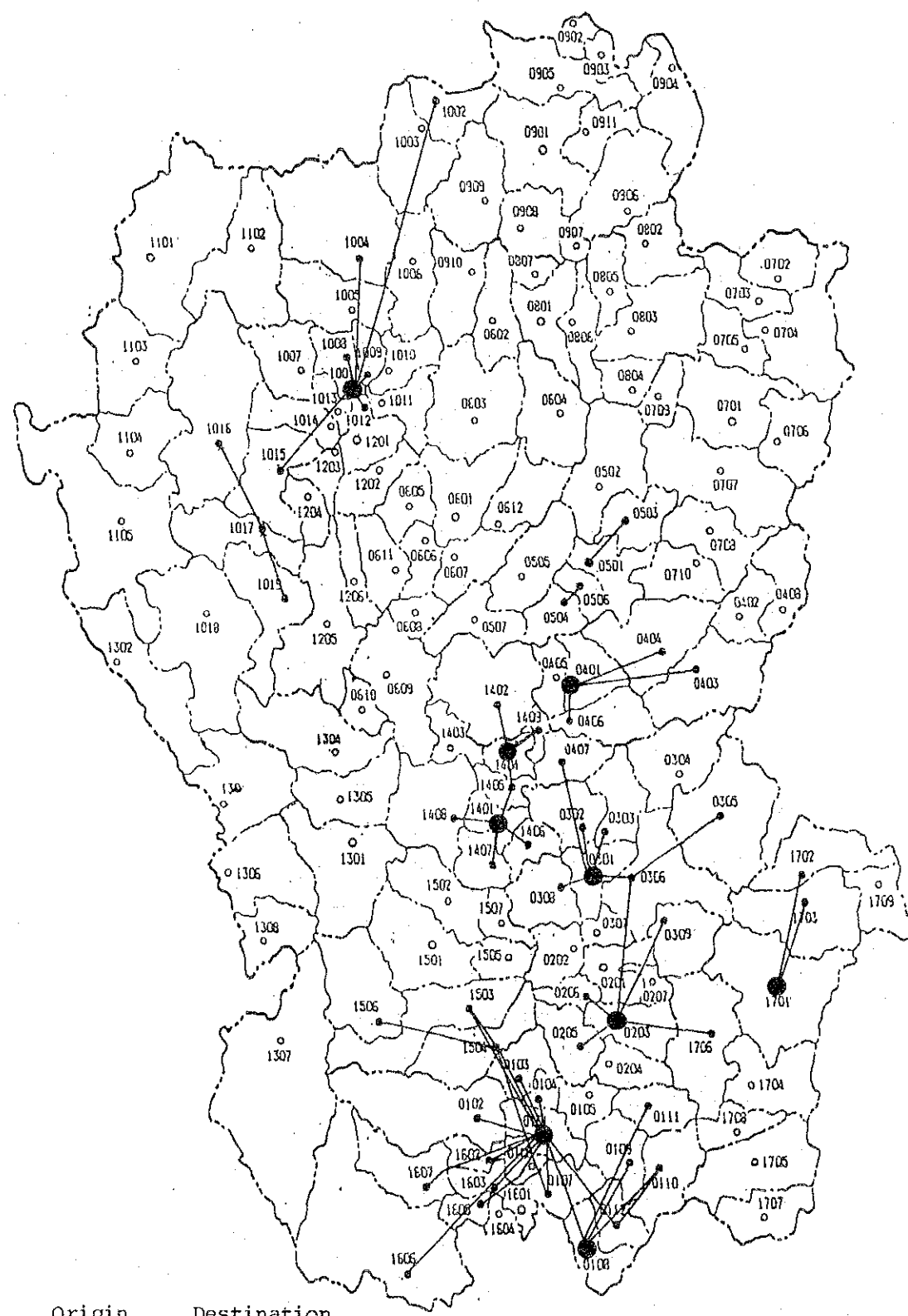


Appendix 5-6 COMMODITY FLOW OF MAIN AGRICULTURAL PRODUCT

- 0101 M. NAKHON SAWAN
- 0102 LAT YAO
- 0103 BANPHET PHISAI
- 0104 KAO LIEO
- 0105 CHUMSAENG
- 0106 KROK PHRA
- 0107 PRAYURA KHIRI
- 0108 TAKHLI
- 0109 THA TAKO
- 0110 PHAISALI
- 0111 NONG BUA
- 0112 TAK FA
- 0201 M. PHICHIT
- 0202 SAM NGAM
- 0203 TAPHAN HIN
- 0204 BANG MUN NAK
- 0205 PHO THALE
- 0206 PHO PRATHAP CHONG
- 0207 WANG SAI PHUM
- 0301 M. PHITSANULOK
- 0302 PHROM PHIRAN
- 0303 WAT BOT
- 0304 CHAT TRAKON
- 0305 NAKHON THAI
- 0306 WANG THONG
- 0307 BANG KRATHUM
- 0308 BANG KAKAM
- 0309 MOEN HAPRANG
- 0401 M. UTTARADIT
- 0402 FAK THA
- 0403 NAM PAT
- 0404 THA PLA
- 0405 LAPLAE
- 0406 TREN
- 0407 PHICHAI
- 0408 BAN KHOK
- 0501 M. PHRAE
- 0502 SONG
- 0503 RONG KWANG
- 0504 DEN CHAI
- 0505 LONG
- 0506 SONG MEN
- 0507 WANG CHIN
- 0601 M. LAMPANG
- 0602 WANG NUA
- 0603 CHAE HOY
- 0604 NGAO
- 0605 WANG CHAT
- 0606 KO KHA
- 0607 MAE THA
- 0608 SOP PRAP
- 0609 THOEN
- 0610 MAE PHRUK
- 0611 SOEM NGOM
- 0612 MAE MO
- 0701 M. NAKHON
- 0702 THUNG CHANG
- 0703 CHIANG KLANG
- 0704 PUA
- 0705 THA WANG PHA
- 0706 MAE CHARIN
- 0707 SA
- 0708 NA NOI
- 0709 BAN LUANG
- 0710 NA MUEN
- 0801 M. PHAYAO
- 0802 CHIANG KHAM
- 0803 PANG
- 0804 CHIANG MUAN
- 0805 CHUN
- 0806 DOK KHAM TAI
- 0807 MAE CHAI
- 0901 M. CHIANG RAI
- 0902 MAE SAI
- 0903 CHIANG SAEN
- 0904 CHIANG KHONG
- 0905 MAE CHAN
- 0906 THOENG
- 0907 PA DAET
- 0908 PHAN
- 0909 MAE SURI
- 0910 WIANG PA PAO
- 0911 WIANG CHAI
- 1001 M. CHIANG MAI
- 1002 MAE AI
- 1003 FANG
- 1004 CHIANG DAM
- 1005 MAE TAENG
- 1006 PHARO
- 1007 SAMOENG
- 1008 MAE RIM
- 1009 SAN SAI
- 1010 DOI SAKET
- 1011 SAN KAMPHENG
- 1012 SARAPHI
- 1013 HANG DONG
- 1014 SAN PA TONG
- 1015 CHAM THENG
- 1016 MAE CHAEM
- 1017 HOT
- 1018 OMKOT
- 1019 DOI TAO
- 1101 M. MAE HONG SON
- 1102 PAI
- 1103 WUDH YUW
- 1104 MAE LA NOI
- 1105 MAE SARITANG
- 1201 M. LAMPHUN
- 1202 MAE THA
- 1203 PA SANG
- 1204 BAN HONG
- 1205 LI
- 1206 THUNG HUI CHANG
- 1301 M. TAK
- 1302 THA SONG YANG
- 1303 MAE RAMAT
- 1304 SAH NGAO
- 1305 BAN TAK
- 1306 MAE SOT
- 1307 UNPHANG
- 1308 PHOP PHRA
- 1401 M. SUKHOTHAI
- 1402 SI SATCHANALAI
- 1403 THUNG SALIHA
- 1404 SWANNAHUK
- 1405 SI SAMRANG
- 1406 KONG KRALLAT
- 1407 KHIRI MAT
- 1408 BAN DAN LAN HOI
- 1409 SI NAKHON
- 1501 M. KAMPHENG PHET
- 1502 PHRAN KRATAI
- 1503 KHLONG KHULING
- 1504 KHANU WOBALAKSABURI
- 1505 SAI NGAM
- 1506 KLONG LAW
- 1507 LAN KRAEU
- 1601 M. UTHAI THANI
- 1602 SAHANG ARON
- 1603 THAP THANI
- 1604 NONG KHAYANG
- 1605 NONG CHANG
- 1606 BAN BAI
- 1607 LAN SAK
- 1701 M. PHETCHABUN
- 1702 LAM KAO
- 1703 LAM SAK
- 1704 NONG PHAI
- 1705 WICHIAN BURI
- 1706 CHEN OEN
- 1707 SI THEP
- 1708 BUNG SAM PHAN
- 1709 NAM NAO

BEANS

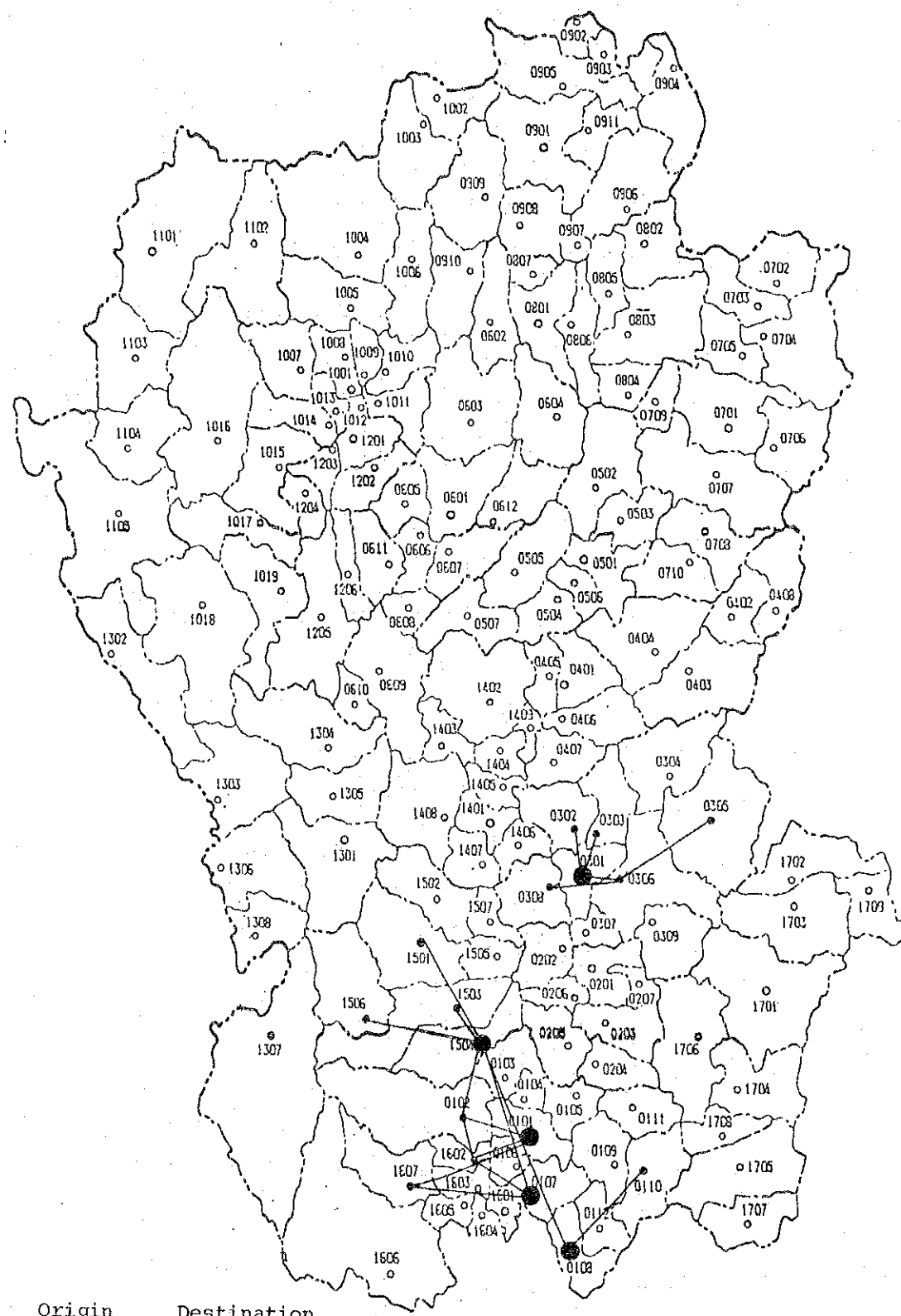
SUGAR CANE



Appendix 5-6 COMMODITY FLOW OF MAIN AGRICULTURAL PRODUCT

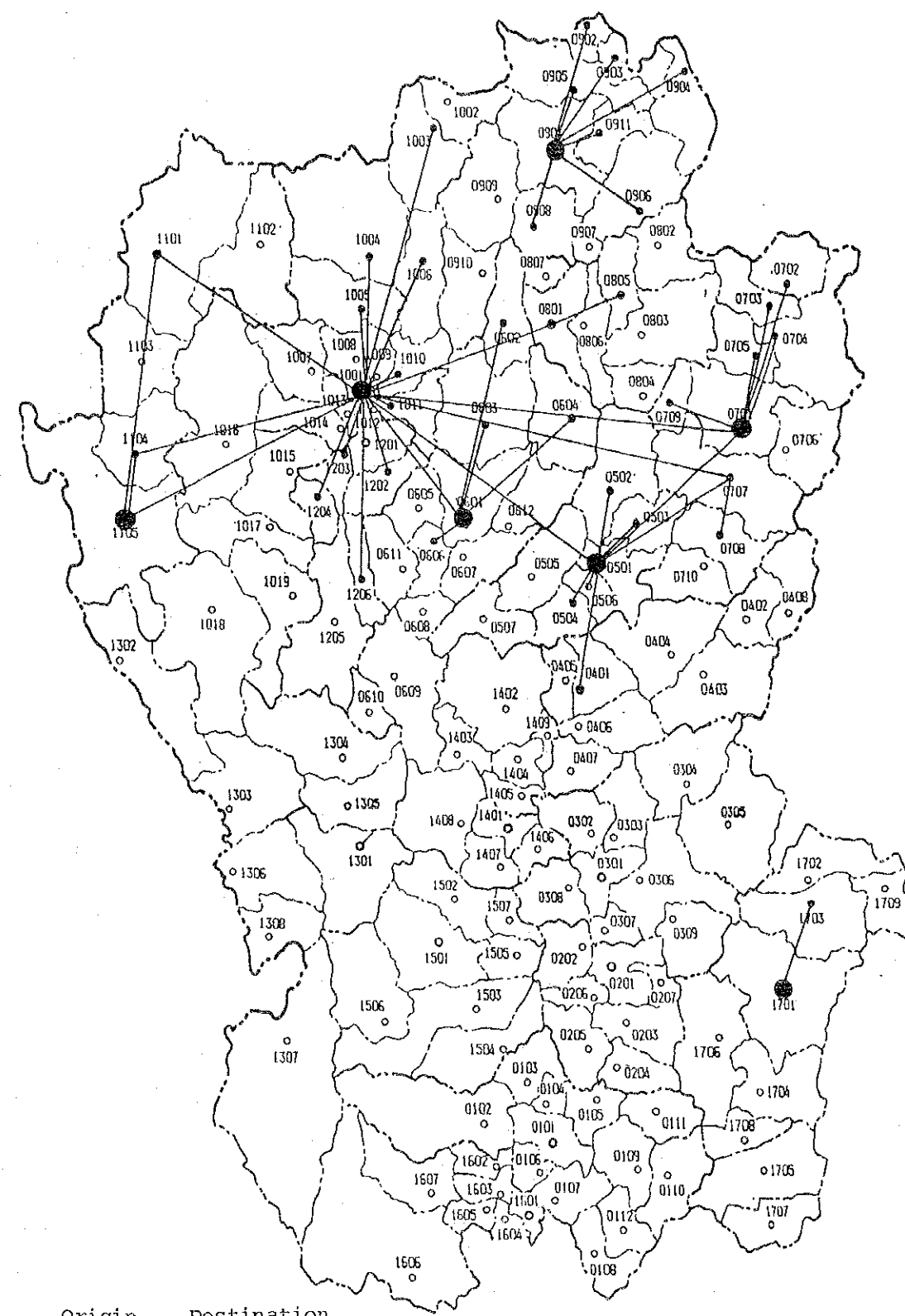
- 0101 M. NAKHON SAWAN
- 0102 LAT YAO
- 0103 BANPHUAT PHAISAI
- 0104 KAO LIEO
- 0105 CHUMSAENG
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- 0107 PHAYULHA KHIRI
- 0108 THAKHAI
- 0109 THA TAKO
- 0110 PHAISALI
- 0111 NONG BUA
- 0112 TAK PA
- 0201 M. PHICHIT
- 0202 SAM NGAM
- 0203 TAPHAN HIN
- 0204 BANG MUN NAK
- 0205 PHO THALE
- 0206 PHO PRATHAP CHANG
- 0207 WANG SAI PHUN
- 0301 M. PHITSANULOK
- 0302 PHROM PHITRAN
- 0303 WAT BOT
- 0304 CHAT TIRAKAN
- 0305 NAKHON THAI
- 0306 WANG THONG
- 0307 BANG KRATHUM
- 0308 BANG RAKAM
- 0309 NORN HAPRANG
- 0401 M. UTTARADIT
- 0402 FAK THA
- 0403 NAM PAT
- 0404 THA PLA
- 0405 LAPLAE
- 0406 TRON
- 0407 PHICHAI
- 0408 BAN KHOK
- 0501 M. PHRAE
- 0502 SONG
- 0503 RONG KWANG
- 0504 DEN CHAI
- 0505 LENG
- 0506 SUNG MEN
- 0507 WANG CHIN
- 0601 M. LAMPANG
- 0602 WANG NUA
- 0603 CHAE HOY
- 0604 NGAS
- 0605 HANG CHAT
- 0606 KO KHA
- 0607 MAE THA
- 0608 SOP FRAP
- 0609 THOEN
- 0610 MAE PHRUK
- 0611 SOEM NGAM
- 0612 MAE NO
- 0701 M. NAN
- 0702 THUNG CHANG
- 0703 CHIANG KLANG
- 0704 PUA
- 0705 THA WANG PHA
- 0706 MAE CHARIM
- 0707 SA
- 0708 NA NOI
- 0709 BAN LUANG
- 0710 NA MUEN
- 0801 M. PHAYAO
- 0802 CHIANG KHAM
- 0803 PONG
- 0804 CHIANG MUAN
- 0805 CHUAN
- 0806 DEK KHAN TAI
- 0807 MAE CHAI
- 0901 M. CHIANG RAI
- 0902 MAE SAI
- 0903 CHIANG SAEN
- 0904 CHIANG KHONG
- 0905 MAE CHAN
- 0906 THOENG
- 0907 PA DIET
- 0908 PHAN
- 0909 MAE SUAI
- 0910 WIANG PA PAO
- 0911 WIANG CHAI
- 1001 M. CHIANG MAI
- 1002 MAE AI
- 1003 FANG
- 1004 CHIANG DAB
- 1005 MAE TRENG
- 1006 PHRAB
- 1007 SAMBENG
- 1008 MAE RIM
- 1009 SAN SAI
- 1010 DAI SAKET
- 1011 SAN KAMPAENG
- 1012 SARAPHI
- 1013 HANG DONG
- 1014 SAN PA TONG
- 1015 CHOM THONG
- 1016 MAE CHAEM
- 1017 HOT
- 1018 BAKBI
- 1019 DAI TAB
- 1101 M. MAE HONG SON
- 1102 PAI
- 1103 KHUN YUAM
- 1104 MAE LA NOI
- 1105 MAE SARILANG
- 1201 M. LAMPHUN
- 1202 MAE THA
- 1203 PA SANG
- 1204 BAN HONG
- 1205 LI
- 1206 THUNG HUA CHANG
- 1301 M. TAK
- 1302 THA SONG YANG
- 1303 MAE RAKHAT
- 1304 SAN NGAO
- 1305 BAN TAK
- 1306 MAE SOT
- 1307 UMPHANG
- 1308 PHOP PHRAY
- 1401 M. SURABHATHAI
- 1402 SI BATHANALAI
- 1403 THUNG SALAM
- 1404 SHANWALOK
- 1405 SI SANRONG
- 1406 KONG KHAULAT
- 1407 KHIRI MAT
- 1408 BAN BAN LAN HOI
- 1409 SI NAKHON
- 1501 M. KAMPHENG PHET
- 1502 PHROM KRATAI
- 1503 KALANG KHLUNG
- 1504 KHANU MORALAKSABURI
- 1505 SAI NGAM
- 1506 KLANG LAN
- 1507 LAN KRABU
- 1601 M. UTHAI THANI
- 1602 SARANG ARON
- 1603 THAP THAN
- 1604 NONG KHAYANG
- 1605 NONG CHANG
- 1606 BAN RAI
- 1607 LAN SAK
- 1701 M. PHETCHABUN
- 1702 LOM KAO
- 1703 LOM SAK
- 1704 NONG PHAI
- 1705 WICHIAN BURI
- 1706 CHON OREN
- 1707 SI THEP
- 1708 BUNG SAM PHAN
- 1709 NAM NAO

CASSAVA



Origin      Destination

TOBACCO



Origin      Destination

SEQ	LINK NAME	TE	TI	R	S	A
D. 1	0101 M. NAKHON SAWAN - 0112 TAK FA	1.1	0.7	1.55	0.4	3
2	0101 M. NAKHON SAWAN - 0205 PHO THALE	1.5	0.6	2.62	0.9	70
3	0101 M. NAKHON SAWAN - 1504 KHANU WORALA	0.9	0.6	1.42		51
4	0101 M. NAKHON SAWAN - 1602 SAWANG AROM	0.7	0.4	1.61		28
5	0101 M. NAKHON SAWAN - 1607 LAN SAK	1.2	0.9	1.44	0.4	49
6	0108 TAKHLI - 0109 THA TAKO	0.9	0.5	1.72	0.4	62
7	0108 TAKHLI - 0110 PHAISALI	0.8	0.6	1.40		38
8	0109 THA TAKO - 0112 TAK FA	0.6	0.4	1.67		60
9	0203 TAPHAN HIN - 0206 PHO PRATHAP CHA	0.9	0.2	4.73	0.7	33
10	0203 TAPHAN HIN - 0207 WANG SAI PHUN	0.9	0.3	2.71	0.6	35
11	0203 TAPHAN HIN - 0309 NGEN MAPRANG	0.8	0.6	1.41		12
12	0301 M. PHITSANULOK - 0302 PHROM PHIRAM	1.0	0.3	3.25	0.7	72
13	0301 M. PHITSANULOK - 0303 WAT BOT	0.3	0.2	1.41		21
14	0301 M. PHITSANULOK - 0304 CHAT TRAKAN	1.7	0.8	2.21	0.9	1
15	0301 M. PHITSANULOK - 0401 M. UTTARADIT	1.8	1.1	1.61	0.7	5
16	0304 CHAT TRAKAN - 0306 WANG THONG	1.4	0.7	2.17	0.8	1
17	0304 CHAT TRAKAN - 0401 M. UTTARADIT	1.8	0.9	1.84	0.7	5
18	0305 NAKHON THAI - 0306 WANG THONG	1.0	0.7	1.45	0.3	86
19	0305 NAKHON THAI - 0401 M. UTTARADIT	2.2	1.3	1.79	1.0	4
20	0308 BANG RAKAM - 0401 M. UTTARADIT	1.7	1.2	1.39	0.5	2
21	0401 M. UTTARADIT - 0402 FAK THA	1.6	1.1	1.41	0.5	2
22	0401 M. UTTARADIT - 0403 NAM PAT	1.1	0.8	1.32		8
23	0401 M. UTTARADIT - 0404 THA PLA	0.6	0.5	1.28		35
24	0401 M. UTTARADIT - 0406 TRON	0.5	0.2	2.10		176
25	0401 M. UTTARADIT - 0408 BAN KHOK	2.4	1.4	1.75	1.0	1
26	0401 M. UTTARADIT - 1401 M. SUKHATHAI	1.3	1.0	1.29		2
27	0401 M. UTTARADIT - 1403 THUNG SALIAM	1.4	0.9	1.66	0.6	27
28	0401 M. UTTARADIT - 1404 SWANKHALOK	0.8	0.6	1.40		27
29	0401 M. UTTARADIT - 1405 SI SAMRONG	1.0	0.7	1.44	0.3	28
30	0401 M. UTTARADIT - 1408 BAN DAN LAN HOI	1.5	1.1	1.42	0.4	6
31	0504 DEN CHAI - 0505 LONG	0.8	0.3	2.46	0.5	39
32	0504 DEN CHAI - 0507 WANG CHIN	0.8	0.6	1.32		6
33	0601 M. LAMPANG - 0607 MAE THA	0.3	0.3	1.33		10
34	0601 M. LAMPANG - 0612 MAE MO	1.0	0.4	2.52	0.6	2
35	0606 KO KHA - 0607 MAE THA	0.3	0.2	1.86		28
36	0606 KO KHA - 0611 SOEM NGAM	0.4	0.2	2.14		1
37	0701 M. NAN - 0703 CHIANG KLANG	1.0	0.7	1.32		9
38	0701 M. NAN - 0706 MAE CHARIM	0.5	0.3	1.74		1
39	0801 M. PHAYAO - 0802 CHIANG KHAM	1.0	0.7	1.34		16
40	0801 M. PHAYAO - 0803 PONG	1.0	0.5	1.90	0.5	7
41	0801 M. PHAYAO - 0805 CHUN	0.6	0.4	1.49		36
42	0801 M. PHAYAO - 0906 THOENG	1.1	0.8	1.38	0.3	80
43	0801 M. PHAYAO - 0907 PA DAET	0.6	0.5	1.25		37
44	0901 M. CHIANG RAI - 0904 CHIANG KHONG	1.7	0.9	1.93	0.8	61
45	0910 WIANG PA PAO - 1001 M. CHIANG MAI	1.3	1.0	1.26		22
46	1001 M. CHIANG MAI - 1006 PHRAO	1.2	0.8	1.40	0.3	22
47	1001 M. CHIANG MAI - 1102 PAI	1.8	1.1	1.69	0.7	3
48	1001 M. CHIANG MAI - 1104 MAE LA NOI	2.7	1.5	1.77	1.2	1
49	1001 M. CHIANG MAI - 1105 MAE SARIANG	2.3	1.6	1.38	0.6	43
50	1015 CHOM THONG - 1016 MAE CHAEM	1.1	0.4	2.76	0.7	3
51	1016 MAE CHAEM - 1017 HOT	0.9	0.6	1.63	0.3	1
52	1301 M. TAK - 1304 SAM NGAO	0.9	0.6	1.50		14
53	1302 THA SONG YANG - 1306 MAE SOT	2.5	0.9	2.93	1.6	3
54	1307 UMPHANG - 1607 LAN SAK	5.3	1.2	4.38	4.1	1
55	1501 M. KAMPHAENG PHET - 1504 KHANU WORA	1.0	0.7	1.36		114
56	1501 M. KAMPHAENG PHET - 1507 LAN KRABU	0.7	0.5	1.57		74
57	1503 KHLONG KHLUNG - 1504 KHANU WORALAKS	0.5	0.3	1.88		195
58	1601 M. UTHAI THANI - 1602 SAWANG AROM	0.5	0.3	1.68		45
59	1601 M. UTHAI THANI - 1603 THAP THAN	0.4	0.2	1.78		48
60	1701 M. PHETCHABUN - 1709 NAM NAO	2.0	0.9	2.29	1.1	12
61	1704 NONG PHAI - 1706 CHON DAEN	0.8	0.4	2.05	0.4	27

- /1 TE: Traveling time on existing roads (hour)
- /2 TI: Traveling time on ideal roads (hour)
- /3 R = TE/TI
- /4 S = TE - TI (hour)
- /5 A.: Agricultural freight volume (1,000 ton/year)

Those underlined are proposed road links.

Criteria:  $R \geq 1.5$ ,  $S \geq 0.3$

Agricultural Freight Volume  $\geq$  Average Volume: 19,000 ton/year.

## Appendix 5-8 AMPHOE TO ARTERY HIGHWAY LINKAGE

## (1) Requirement of Linking by Paved Road

Link No.	Amphoe			Condition of Existing Road					Improvement Plan	Remarks
	Code	Name	Potential	Route No.	Destination	Length(km)	Width(m)	Surface		
E.1	0406	Tron	59,000	1214	Route 11	12.50	n.a.	laterite	Paving # 1214 (L = 12.5 km)	For shortest connection with # 11, which provides easy access to the other areas, # 1214 should be paved on the section between Tron and # 11.
E.2	0408	Ban Khok	4,000	1047	Fak Tha	35.0	n.a.	laterite	Paving # 1047 (L = 35.0 km)	Only a laterite section in a direction to Fak Tha of # 1047 should be paved urgently.
E.3	0710	Na Muen	7,000	9061	Na Noi	19.0	4.0	earth	Improving and Paving # 9061 (L = 20.0 km)	# 9061 is only one road to communicate with other areas.
E.4	1206	Tha Hua Chang	13,000	1219	Route 106	17.0	n.a.	laterite	Paving # 1219 (L = 16.5 km)	Route 1219 can connect with # 106 at a shorter distance than # 1184.
E.5	1307	Umphang	46,000	1117	Route 1 (via Ban Khlong Lan)	89.44	n.a.	paved (55.0 km) track (34.44 km)	New construction of the track section of # 1117 (L = 34.4 km)	There is no qualified road connecting with other areas.
Sub-total 118.4 Km (5 links)										

## (2) Requirement of Better Connection

Link No.	Amphoe			Linked Road			Problems	Improvement Plan
	Code	Name	Potential	Route No.	Destination	Surface		
E.6	0103	Banpot Pisai	89,000	1182 (right bank)	Nakhon Sawan	paved	1) #1073 provides no permanent bridge crossing the Ping River but only ferry services, making the connection between areas on the left bank and # 1 difficult.  2) The existing rural road directly connecting the left bank areas with K. Woralaksaburi is in poor condition. Since a permanent bridge over Ping River exists at K. Woralaksaburi, improvement of the said rural road makes accessibility easy for connection with the upper part of the Region via Route 1.	Grading-up the existing rural road connecting left bank side of B. Pisai and K. Woralaksaburi (L = 22.0 km) (B. Pisai-A. Kao Liew 15.6 KM)
				1073 (left bank)	# 1 & 1142	paved		
				Rural Road (left bank)	K. Woralaksaburi	earth		
E.7	0407	Phichai	61,000	1140	Phitsanulok & Uttaradit	paved	1) Viewing that agricultural products collected at Phichai are mainly shipped out in direction to Sawankalok (#101) through ARD road and # 1180, the ARD road should be paved and re-routed partially so that shortest approach to # 1180 and Si Samrong be available.	1) Paving and partial re-alignment of ARD road (L = 13.2 km)
				ARD & 1180	Route 101	paved		
E.8				None	Route 11		2) By constructing a new road to Na Yang (# 9053), effective utilization of # 11 can be expected.	2) Improvement of ARD road from Phichai to Na Yang (L = 18.4 km)
Sub-total								62.9 KM
								53.6 km (3 links)



Appendix 5-9 LATERAL - TYPE LINKAGELATERAL-TYPE-LINKAGE TO BE ANALYSED

Link No.	Location	Present Condition of Proposed Route					Reason of Selection	Improvement Plan
		Route No.	Origin	Destination	Length	Surface		
F.1	09 Chiang Rai 10 Chiang Mai	1150	Phrao	Wang Pa Pao (Route 1019)	53.4	Laterite	Section between Phrao and Route 107 in Route 1150 is planned to be paved. So if remained section is paved, lateral road would be completed.	Paving Route 1150 (L = 53.4 km)
F.2	12 Lamphun	1184	B. Puang	A. Li (Route 106)	18.5	Laterite	Since Route 1235 and ARD are going to be paved, improving and paved a part of Route 1184 enables short connection between Route 106 and Route 1.	Improving and paving a part of # 1184 (L = 18.5 km)
F.3	05 Phrae 06 Lampang	1124	Route 1 (Don Chai)	Wang Chin (Route 1023 and 1125)	52.0	Laterite	Improving and paving Route 1125 connecting Wang Chin with Route 101 have already proposed in the study of E.17 Lateral road between Route 1 and Route 101 would be completed	Improving and paving Route 1123 (L = 52.0 km)
								Sub-total (3 links) 123.9 Km

## Appendix 5-10

## DOH UNPAVED ROAD

Link No.	Changwat		Present Condition of Road				Potential Along Road					
	Code No.	Name	Route No.	Origin	Destination	Length (KM) (1)	Surface Type	Population		Cultivable & Cultivated Area		
								Person (2) (2)	(1) (Pers/Km)	Area (3) (3)	(1) (Km <sup>2</sup> /Km)	
G1	17	Phetchabun	2245	R. 2224	B. Khok Sakae Lat	4.7	Laterite	1,500	310	20.1	6.0	
G2	17	Phetchabun	2244	R. 21	R. 2219 (Si Thep Noi)	14.5	Laterite	4,800	330	75.0	5.2	
G3	01	Nakhon Sawan	3330	A. Tak Fa	A. Phai Sali	27.5	Laterite	13,200	480	181.2	6.6	
G4	01	Nakhon Sawan	3332	B. Nong Phiklun	R. 1145	7.9	Laterite	1,900	240	18.8	2.4	
G5	01	Nakhon Sawan	3331	R. 1	B. Nong Phiklun	9.9	Laterite	1,500	150	50.0	5.1	
G6	01	Nakhon Sawan	1145	R.1(Nikhom Tak Fa)	A. Tha Tako	28.7	Laterite	14,900	520	162.5	5.7	
G7	01	Nakhon Sawan	1119	A. Nong Bua	R. 9124	29.6 (10.0)	Laterite (Paved)	24,100	810	250.0	8.4	
G8	01	Nakhon Sawan	1198	A. Lat Yao	Wang Pa Yai	25.0	Track	6,400	260	150.0	6.0	
G9	16	Uthai Thani	1090	A. Um Phang	A. Nong Chang	147.0	Track	32,600	220	675.0	4.6	
G10	13	Tak	1117	B. Khlong Lan	A. Um Phang	65.0 (24.4)	Laterite (Paved)	8,200	120	0	0	
G11	13	Tak	1167	R. 1090	Burmese Border	22.0	Laterite	1,000	50	118.8	5.4	
G12	13	Tak	1090	B. So-O	A. Um Phang	70.0 (50.0)	Laterite (Paved)	2,700	40	43.8	0.6	
G13	15	Kamphaeng Phet	1139	B. Khlong Lan	Kao Khan Na	65.0	Track	8,600	130	412.5	6.3	
G14	15	Kamphaeng Phet	1109	R. 1(B.Wang Chao)	B. Loto	35.5 (9.5)	Laterite (Paved)	7,500	210	75.0	2.1	
G15	15	Kamphaeng Phet	1116	R.1(B.Nakhom Chum)	R. 1110 (B. Denkha)	50.0	Laterite	11,900	240	218.8	4.4	
G16	13	Tak	1110	R.1(B. Prakhang)	B. Wang Chao	6.0 (20.0)	Laterite (Paved)	300	50	31.3	5.2	
G17	13	Tak	1108	B. Na Bot	B. Khai Phrachao Tak	11.0 (7.7)	Laterite (Paved)	700	60	50.0	4.5	
G18	02	Phichit	9045	R. 1068(B. Tha Khoi)	A. Pho Prathap Chan	7.0	Laterite	5,200	740	40.6	5.8	
G19	02	Phichit	9034	A. Bang Ra Kam	B. Prak Reat	8.0	Laterite	12,900	1,610	62.5	7.8	
G20	02	Phichit										
	17	Phetchabun	1191	R.11(B.Nong Khanat)	B. Wang Hin	23.1	Laterite	23,800	1,030	303.0	13.1	

Note: 1/Link No. with circle are of selected routes for further analysis.

## Appendix 5-10 DOH UNPAVED ROAD (Continued)

Link No.	Changwat		Present Condition of Road				Potential Along Road				
	Code	Name	Route	Origin	Destination	Length (KM) (1)	Surface Type	Population		Cultivable & Cultivated Area	
	No.		No.					Person (2)	(2) (1) (Pers/Km)	Area (3)	(3) (1) (Km <sup>2</sup> /Km)
G21	17	Phetchabun	1205	B. Wang Pong	B. Wang Kradat	7.4	Laterite	12,400	1,670	62.5	8.4
G22	17	Phetchabun	2286	B. Huai Yai	B. Nam Ron	21.0	Laterite	8,000	380	31.3	1.5
G23	17	Phetchabun	9036	B. Pa Daeng	B. Sa Do Phong	25.0	Track	6,100	240	31.3	1.3
G24	17	Phetchabun	2258	B. Na Ngu	B. Nong Mae Na	23.0	Laterite	4,800	210	181.3	7.9
						(13.0)	Paved				
G25	17	Phetchabun	2196	B. Khao Kho	B. Sa Do Phong	15.2	Laterite	2,600	170	106.3	7.0
G26	17	Phetchabun	2278	R. 21	B. Huai Lan	11.6	Laterite	3,800	330	50.0	4.3
G27	17	Phetchabun	2001	R. 21	B. Tham Phra	4.0	Laterite	1,200	300	6.3	1.6
G28	17	Phetchabun	2181	R. 12	R. 2010 (A. Lom Sak)	5.9	Laterite	3,000	510	9.4	1.6
G29	03	Phitsanulok	1220	R. 1121 (A. Wat Bot)	B. Na Kham	15.0	Laterite	14,800	990	256.3	17.1
G30	04	Uttaradit	9053	B. Na Yang	B. Saen Khan	27.2	Laterite	6,300	230	75.0	2.8
			9244								
G31	04	Uttaradit	1204	B. Pa Khanum	A. Phichai	49.2	Laterite	31,700	640	106.3	2.2
G32	04	Uttaradit	9054	A. Si Nakhon	B. Dara	10.3	Laterite	2,800	270	68.8	6.7
G33	04	Uttaradit	1166	R. 1104 (B. Wang Prong)	B. Dara	18.4	Laterite	9,800	530	43.8	2.4
G34	04	Uttaradit	1143	R. 1214 (B. Bo Thong)	B. Na Pa Khai	9.1	Laterite	6,700	740	34.4	3.8
G35	04	Uttaradit	9243	B. Wang Khon	B. Huai Chalong	33.8	Track	6,300	190	62.5	1.8
G36	04	Uttaradit	1238	B. Huai Maeng	B. Phia	15.0	Laterite	1,900	130	18.8	1.3
G37	04	Uttaradit	1212	B. Huai Dua	B. Phia	23.5	Laterite	1,300	50	43.8	1.9
G38	04	Uttaradit	1239	B. Nam Pat	B. Huai Mun	46.0	Laterite	3,600	80	18.8	0.4
G39	04	Uttaradit	1176	R. 1047 (B. Tha Pho)	A. Nam Pat	13.6	Laterite	1,500	110	56.3	4.1
G40	04	Uttaradit	1047	A. Fak Tha	B. Na Sak	77.1	Laterite	11,100	150	56.3	0.7
						(36.0)	(Paved)				
G41	04	Uttaradit	1020	C. Phrae	KM 70+00	62.0	Laterite	5,900	100	0	0
						(8.0)	(Paved)				
G42	05	Phrae	1024	B. Suan Khuan	B. Pu Tock Luang	28.0	Laterite	4,100	150	25.0	0.9
						(2.3)	(Paved)				
G43	05	Phrae	1134	R. 101	B. Rong Khem	6.0	Laterite	3,240	540	31.3	5.2
						(16.4)					
G44	05	Phrae	1217	R. 1216	R. 1134 (B. Wiang)	54.0	Laterite	4,600	90	18.8	0.3
			1218	(B. Wang Pung)							

## Appendix 5-10

## DOH UNPAVED ROAD (Continued)

Link No.	Changwat		Present Condition of Road					Potential Along Road			
	Code	Name	Route	Origin	Destination	Length (KM)	Surface	Population		Cultivable & Cultivated Area	
	No.		No.			(1)	Type	Person (2)	(1) (Pers/Km)	Area (3)	(1) (Km <sup>2</sup> /Km)
G45	05	Phrae	1216	R. 101 (A. Rong Kwang)	A. Na Noi	27.0	Laterite	12,000	300	50.0	1.9
G46	05	Phrae	9061	A. Na Noi	Sirikit Reservoir	43.0	Laterite	14,400	330	87.5	2.0
G47	05	Phrae	1083	B. Nong Ha	R. 1123 (B. Pang Hai)	68.2	Laterite	5,300	80	12.5	0.2
G48	05	Phrae	9107	B. Pang Hai	B. Muang Ched Ton	13.0	Laterite	500	40	9.4	0.7
G49	05	Phrae	1123	B. Huai Noika	B. Bobia	31.8	Laterite	1,200	40	9.4	0.3
G50	14	Sukhothai	1113	R. 12 (B. Muang Kao)	B. Chaliang	30.0	Laterite	24,800	510	481.3	9.9
						(18.5)	(Paved)				
G51	13	Tak	1111	R. 12	B. Pong Daeng	17.4	Laterite	5,700	330	387.5	22.3
G52	13	Tak	1215	R. 1085 (B. Huai Mong)	B. Tha Wang Pha	6.7	Laterite	1,500	220	43.8	6.5
G53	13	Tak	1175	Chedi Yuttha Hatthi	R. 1085	86.0	Laterite	9,300	110	106.3	1.2
G54	13	Tak	9032	R. 1107	B. Tha Pui	23.5	Laterite	10,800	300	143.8	6.1
G55	13	Tak	1223	R. 1 (B. Dong Lon)	To Phumi Phon Dam	18.0	Laterite	1,700	90	87.5	4.9
G56	14	Sukhothai	1048	A. Thung Saliang	R. 1 (A. Thoen)	52.7	Laterite	21,700	400	362.5	6.9
	06	Lampang				(2.0)	(Paved)				
G57	14	Sukhothai	1177	R. 101	R. 101 (B. Pa Lailung)	35.6	Laterite	4,800	130	118.8	3.3
G58	05	Phrae	1125	R. 1177 (B. Na Plakang)	A. Wang Chin	32.5	Laterite	7,900	240	93.8	2.9
G59	06	Lampang	1124	A. Wang Chin	A. Thoen	52.5	Laterite	16,600	320	187.5	3.6
G60	12	Lamphun	9030	R. 1102 (A. Mae Phrik)	B. Ko Thung	45.0	Laterite	10,000	220	212.5	4.7
G61	12	Lamphun	1227	R. 106 (B. Muang Sam Pi)	R. 106 (B. Huai Ya Sai)	20.5	Laterite	3,900	190	43.8	2.1
G62	12	Lamphun	1087	R. 106	B. Ko Thung	36.3	Laterite	5,000	140	218.8	6.0
G63	10	Chiang Mai	1099	KM 71+00	A. Tha Song Yang	107.0	Laterite	14,800	140	193.8	1.8
G64	10	Chiang Mai	1099	R. 108 (B. Bo Luang)	KM 71+00	71.0	Laterite	10,800	150	475.0	6.7
G65	11	Mae Hong Son	1085	A. Tha Song Yang	A. Mae Sariang	135.0	Laterite	20,600	150	337.5	2.5
	13	Tak									
G66	11	Mae Hong Son	1194	A. Mae Sariang	B. Mae Sam Laep	52.0	Track	6,300	120	31.3	0.6
G67	10	Chiang Mai	1012	A. Hot	B. Wang Lung	11.0	Laterite	3,400	310	31.3	2.8
						(3.9)	(Paved)				
G68	12	Lamphun	1219	R. 106 (B. Mae Thoei)	R. 1184 (A. Thung Hua Chang)	17.0	Laterite	2,100	120	68.8	4.0
G69	12	Lamphun	1184	R. 106 (A. Li)	R. 106 (B. Mae Ao)	89.0	Laterite	16,200	180	293.8	3.3

## Appendix 5-10

## DOH UNPAVED ROAD (Continued)

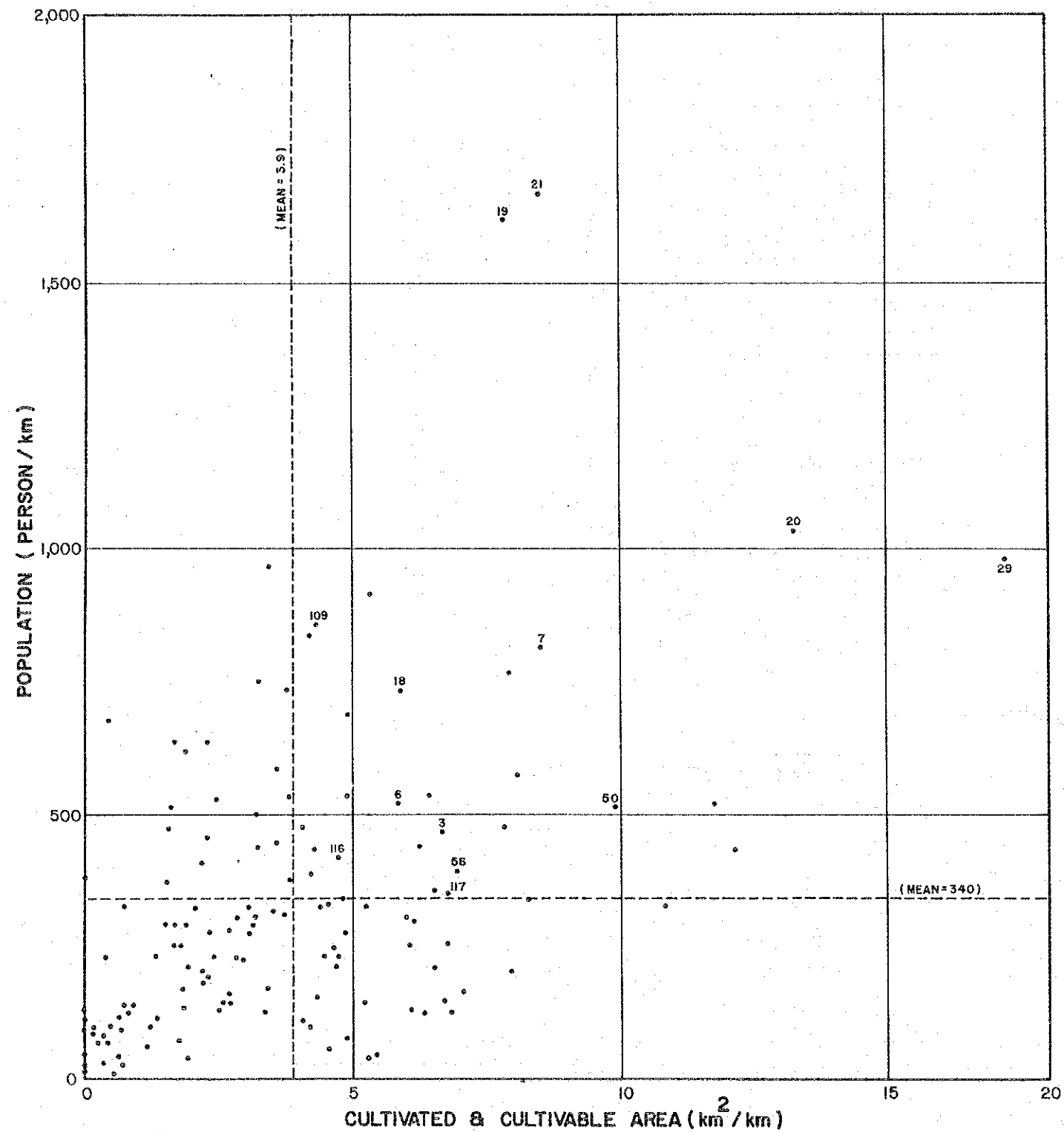
Link No.	Changwat		Present Condition of Road					Potential Along Road			
	Code	Name	Route	Origin	Destination	Length (KM) (1)	Surface Type	Population		Cultivable & Cultivated Area	
	No.		No.					Person (2)	(1) (Pers/Km)	Area (3)	(1) (Km <sup>2</sup> /Km)
G70	06	Lampang	1100	R. 1023	B. Mae Tha	32.1	Laterite	8,200	260	50.0	1.6
	05	Phrae									
G71	10	Chiang Mai	9050	B. Mai	B. Huai Kaeo	39.5	Laterite	8,000	200	87.5	2.2
G72	10	Chiang Mai	1013	R. 108	B. Mae Win	28.3	Laterite	17,500	620	50.0	1.8
G73	10	Chiang Mai	1192	R. 1009	A. Mae Chaen	20.7	Earth	2,000	100	12.5	0.6
G74	10	Chiang Mai	1088	R. 108 (B. Op Luang)	B. Mae Sa	99.0	Laterite	23,100	240	43.8	0.4
G75	11	Mae Hong Son	1095	A. Pai	C. Mae Hong Son	103.4	Laterite	14,300	140	81.3	0.8
G76	11	Mae Hong Son	1226	R. 1095	B. Mae La Na	6.0	Laterite	400	70	6.3	1.1
G77	05	Phrae	1154	Huai Mae Sai	A. Ngao	44.1	Laterite	7,100	160	112.5	2.6
	06	Lampang									
G78	07	Nan	1162	R. 1026 (A. Sa)	B. Nam Muap	13.0 (13.0)	Laterite (Paved)	5,100	390	0	0
G79	08	Phayao	9056	A. Dok Kham Tai	Chiang Muan	40.0 (20.0)	Laterite (Paved)	27,200	680	15.6	0.4
G80	08	Phayao	1170	R. 1080	R. 1081 (B. Don Mun)	14.0	Laterite	6,400	460	31.3	2.2
G81	07	Nan	1082	A. Tha Wang Pha	B. Na Nun	3.5	Laterite	1,100	330	37.5	10.7
G82	07	Nan	1080	B. Pong Sanuk	B. Sieo	11.0	Laterite	4,000	360	18.8	1.7
G83	07	Nan	1138	R. 1081	Namtan Bordet	30.0	Laterite	1,500	50	0	0
G84	07	Nan	1081	B. Nam Yao	B. Huai Kon	103.0	Laterite	9,400	100	18.8	0.2
G85	07	Nan	1097	A. Chiang Klang	B. Bon So Phit	23.0	Laterite	3,000	130	56.3	2.4
G86	07	Nan	1131	A. Thung Chang	B. Chiang Hon Border	18.0	Laterite	1,500	80	31.3	1.7
G87	07	Nan	1153	R. 1080 (B. Pon)	R. 1080 (B. Sop Pun)	14.5	Laterite	400	30	0	0
G88	07	Nan	1137	B. Pon	B. Chiang Lom Border	20.0	Laterite	500	25	9.4	0.5
G89	07	Nan	1080	B. Pon	B. Chiang Ngaen Border	40.0	Laterite	900	20	0	0
G90	08	Phayao	1228	R. 1188 (B. Na Om)	B. Pha Tung	6.0	Laterite	2,500	420	12.5	2.1
G91	08	Phayao	1188	R. 1091 (B. Pong)	B. Nam Puk	24.5	Laterite	6,300	260	112.5	4.6
G92	08	Phayao	1092	R. 1091 (A. Fong)	R. 1148 (B. Chiang Kham)	33.4	Laterite	11,100	330	100.0	3.0
G93	08	Phayao	1179	R. 1148	R. 1092 (B. Non Ngoen)	30.7	Laterite	10,200	330	131.3	4.3
G94	08	Phayao	1160	R. 1148 (B. Hae)	B. Nam Lao	5.4	Laterite	700	130	0	0
G95	08	Phayao	9058	A. Chun	B. Nam Oon	16.0	Laterite	9,400	590	56.3	3.5

## Appendix 5-10

## DOH UNPAVED ROAD (Continued)

Link No.	Changwat		Present Condition of Road					Potential Along Road			
	Code	Name	Route No.	Origin	Destination	Length (KM) (1)	Surface Type	Population		Cultivable & Cultivated Area	
								Person (2)	(1) (Pers/Km)	Area (3)	(1) (Km <sup>2</sup> /Km)
G96	08	Phayao	1126	B. Pa Daet	R. 1021 (B. Huai Ngiu)	33.4	Laterite	9,400	280	100.0	3.0
G97	08	Phayao	1210	A. Chiang Khom	B. Thung Kluai	14.5	Laterite	14,000	970	50.0	3.4
G98	08	Phayao	1093	R. 1021 (B. Sop Bong)	B. Thung Kluai	8.3	Laterite	2,600	310	25.0	3.0
G99	08	Phayao	9101	B. Thung Kluai	B. Muang Chum	9.9	Track	1,600	160	25.0	2.5
G100	08	Phayao	1222	R. 1021 (B. Ngow)	R. 1155	6.2	Laterite	2,700	440	21.9	3.5
G101	08	Phayao	9055	R. 1 (B. Tha Rua)	Nam Tok Cham Pa Thong	16.0	Laterite	5,100	320	56.3	3.5
G102	09	Chiang Rai	1128	R. 1020	R. 1126 (B. Pa Ngae)	4.5	Laterite	700	160	18.8	4.2
						(4.7)	(Paved)				
G103	09	Chiang Rai	1181	R. 1190	R. 1126 (B. Mai Nai)	14.4	Laterite	4,200	290	31.3	2.2
G104	09	Chiang Rai	1190	R. 1020 (B. Chambon)	R. 1126 (B. Muang Nga)	23.2	Laterite	6,300	270	112.5	4.8
G105	09	Chiang Rai	1150	A. Phrao	R. 1019 (A. Wiang Papao)	53.4	Laterite	24,900	300	81.3	1.5
G106	09	Chiang Rai	109	A. Mae Saruai	R. 107	72.8	Laterite	16,300	220	137.5	1.9
G107	08	Chiang Rai	1208	R. 1 (B. Rong Kun)	Nam Tok Khun Korn	20.0	Laterite	12,700	640	31.3	1.6
G108	08	Chiang Rai	1232	R. 110	R. 1173 (Wiang Chai)	12.6	Laterite	6,000	480	18.8	1.5
G109	08	Chiang Rai	1207	R. 110	B. Huai Khom	13.3	Laterite	11,400	860	56.3	4.2
G110	08	Chiang Rai	1151	R. 110 (B. Du)	Nam Tok Pong Prabat	4.0	Laterite	3,000	750	12.5	3.1
						(4.0)	(Paved)				
G111	10	Chiang Mai	9242	Tha Ton	B. Huai Hin Fon	45.0	Track	15,300	340	31.3	0.7
	09	Chiang Rai									
G112	09	Chiang Rai	9247	R. 1130 (A. Mae Chan)	B. Huai Hin Fon	17.0	Laterite	4,900	290	43.8	2.6
G113	09	Chiang Rai	1234	R. 1130	B. Ho Mae Salong	30.0	Laterite	3,300	110	3.1	0.1
G114	09	Chiang Rai	1130	R. 110 (B. Pa Sang)	B. Huai Hin Fon	30.0	Track	9,300	310	93.8	3.1
G115	09	Chiang Rai	1155	R. 1020 (B. Pang That)	R. 1020 (B. Lung)	37.0	Laterite	4,200	110	18.8	0.5
						(61.0)	(Paved)				
G116	09	Chiang Rai	1098	B. Kiu Phrao	B. Kaen	54.6	Laterite	22,700	420	256.3	4.7
G117	09	Chiang Rai	1174	R. 1020 (B. Thung Ngiu)	R. 1020 (B. Chum Phu)	47.6	Laterite	17,200	360	318.8	6.7
G118	09	Chiang Rai	1129	A. Chiang Khong	A. Chiang Saen	53.1	Laterite	26,700	500	162.5	3.1

Appendix 5-11 POTENTIALS ALONG DOH UNPAVED ROAD



Appendix 6-2-1 ROAD INVENTORY

Appendix 6-2-1 (1, 2)	1.	B. Sam Yaek Samrong Chai (J. Route 1)	-	A. Phai Sali (J. Route 3004)
" (3)	2.	B. Hua Thanon Nua (J. Route 3004)	-	B. Tak Fa (J. Route 1)
" (4, 5)	3.	B. Sam Yaek (J. Route 1)	-	B. Hua Thanon Nua (J. Route 3004)
" (6, 7)	4.	A. Nong Bua	-	B. Phanom Rok
" (8)	5.	A. Kao Lieo	-	B. Klong Yang
" (9, 10)		A. Sam Yaek Keiy Chai	-	B. Keiy Chai Nua
" (11, 12)	6.	A. Khanuworalaksa Buri (J. Route 1074)	-	B. Map Yang (J. Route 1142)
" (13)	7.	A. Chon Daen (J. Route 113)	-	A. Nong Phai (J. Route 21)
" (14, 15)	8.	B. Thung Sai	-	B. Kho Plono
" (16)	9.	B. Thung Ma Ha Chai (J. Route 115)	-	B. Tha Makhua (J. Route 1084) - Ping River
" (17)	10,11.	B. Tha Khoi (J. Route 1068)	-	A. Pho Prathap Chang - A. Taphan Hin (J. Route 1118)
" (18)	12.	B. Wang Chik (Route 1068)	-	B. Pa Daeng (J. Route 1142)
" (19)	13.	A. Wang Sai Phum (J. Route 11)	-	B. Nong Phayom (J. Route 113)
" (20)	14.	B. Nong Khanak (J. Route 11)	-	B. Wang Pong
" (21)	15.	B. Wang Tham (Route 1221)	-	B. Tha Makhum (J. Route 1114)
" (22)	16.	B. Wang Phikun (J. Route 115)	-	A. Lan Krabu (J. Route 1065)
" (23)	17.	A. Bang Rakam (J. Route 1065)	-	B. Nong Bua (J. Route 1142)
" (24)	18.	A. Khiri Mat (J. Route 101)	-	B. Nong Tum (J. Route 9117)
" (25)	19.	A. Phrom Phiram	-	B. Nong Makhong (J. Route 11)
" (26)	20.	A. Wat Bot	-	B. Na Kham
" (27)	21.	B. Na Isang (J. Route 11)	-	A. Phichai
" (28, 29)	22.	A. Phichai	-	A. Si Nakhon
" (30, 31)	23.	B. Muang Kao (J. Route 12)	-	B. Muang Kao (J. Route 1201)
" (32, 33)	24.	A. Thung Saliam (Route 1048)	-	B. Don Chai (J. Route 1)
" (34)	25.	A. Wang Chin	-	B. Don Chai (J. Route 1)
" (35)	26.	A. Li (J. Route 106)	-	B. Puang (Route 1235)
" (36)	27.	B. Mae Thoei (J. Route 106)	-	A. Thung Hua Chang (J. Route 1184)
" (37)	28.	A. Na Noi (Route 1026)	-	A. Na Muen
" (38, 39)	29.	B. Rong Sua Ten (J. Route 110)	-	B. Huai Khom
" (40, 41)	30.	B. Thung Ngiu (J. Route 1020)	-	B. Chomphu (J. Route 1020)
	31.	B. Kiu Phrao (J. Route 1016)	-	B. Kaen Tai (J. Route 1174)

ABBREVIATIONS

BRIDGES

C - (W x L) S = W'	:	Concrete Bridge
T - (W x L)	:	Timber Bridge
		W : Carriageway Width (m)
		L : Bridge Length (m)
		S = W' : Sidewalk Width (m)
L	:	Laterite Surfaced Road
E	:	Earth Road
S.T.	:	Surface Treatment
A.C.	:	Asphaltic Concrete
V	:	Village
NOH	:	Number of Houses
R.A.	:	Right Angle



# ROAD INVENTORY

I

ROUTE 3330,  
P.W.D.

B. Sam Yaek Samrong Chai (J.Route 1) - A. Phai Sali (J. Route 3004)

C. Nakhon Sawan

L = 33.3 KM

STATION (km)		0		2.0		4.0		6.0		8.0		10.0		12.0		14.0		16.0		18.0		20.0		22.0		24.0		26.0		28.0		30.0											
NAME OF VILLAGE		B. Sam Yaek Samrong Chai				B. Phu Khamin (NOH#55)		B. Thung Katha (NOH#40)				B. Khong Sawong (NOH#80)		B. Nong Lan Si Yaek (NOH#20)				B. Ko Kha Chang (NOH#40)				B. Samrong Chai (NOH#400)				B. Nong Phai (NOH#350)																	
TERRAIN		Rolling		Mount.		Rolling		Flat		Rolling						Flat																											
LAND USE	LEFT	V		Maize & Cotton		Maize & Cotton		Maize		Bush		Maize		Bush		Paddy		V		Paddy				V		Paddy																	
	RIGHT	V		Maize & Cotton		Maize & Cotton		Maize		Maize		Bush		Paddy		Bush		Paddy		V		Paddy				V		Paddy															
CARRIAGEWAY WIDTH (m)										8.5		6.5						7.5		6.0						7.5		5.0		10.0		6.0											
ROAD FORMATION WIDTH(m)																																											
CUTTING DEPTH (m)		0.4		0.4		0.6		0.8																																			
EMBANKMENT HEIGHT (m)						0.3		1.0		1.0		1.0		1.0		0.8		0.8		0.8		0.8		0.8		1.1		1.2		1.0		0.9		1.0		1.0		1.0		0.7		0.6	
ROAD SURFACE	TYPE													L																													
	CONDITION															Good																											
ALIGNMENT	HORIZONTAL															Good																											
	VERTICAL																	Good																									
FLOODING	LENGTH (km)															No Flooding																											
	HEIGHT (m)																																										
BRIDGES								C-(7.0x18.5) S=0.7		C-(7.0x18.5) S=0.7										C-(7.0x17.5) S=0.7		C-(7.0x26.5) S=0.7								C-(7.0x14.5) S=1.15													
REMARKS				Cut								Wat Nong Yo		13.4						Samrong Chai (1. km)		Low area C-Box necessary				B. Takhro (11.2 km)		Phai Sali															

Appendix 6-2-1

# ROAD INVENTORY

1

ROUTE 3330,  
P.W.D.

B. Sam Yaek Samrong Chai - A. Phai Sali (Continued)  
C. Nakhon Sawan

STATION (km)		30.0	32.0	33.3	34.0
NAME OF VILLAGE		B. Phum Kai (NOH#25)		B. Khok Dual	
TERRAIN		Flat			
LAND USE	LEFT	Paddy	V		
	RIGHT	Paddy			
CARRIAGEWAY WIDTH (m)		6.0	6.0		
ROAD FORMATION WIDTH (m)		8.5	10.0		
CUTTING DEPTH (m)					
EMBANKMENT HEIGHT (m)		1.0	1.0	0.8	
ROAD SURFACE	TYPE	L			
	CONDITION	Good			
ALIGNMENT	HORIZONTAL	Good			
	VERTICAL	Good			
FLOODING	LENGTH (km)				
	HEIGHT (m)				
BRIDGES		C-(7.0x11.5) S=1.2			
REMARKS					

# ROAD INVENTORY

2

ROUTE 1145

B. Hua Thanon Nua (J. Route 3004) - B. Tak Fa (J. Route 1)

C. Nakhon Sawan

L = 27.9 KM

STATION (km)		0   2.0   4.0   6.0   8.0   10.0   12.0   14.6   16.0   18.0   20.0   22.0   24.0   26.0   28.0																		
NAME OF VILLAGE		B. Hua Thanon Nua (NOH#400)   B. Nong Luang   B. Khok Matham (NOH#56)   B. Kung Wattana (NOH#60)   B. Trai Khe Lee (NOH#60)   B. Phu Leab (NOH#45)   B. Tak Fa																		
TERRAIN		Flat   R   F   R   Flat   R   Flat   R   Flat																		
LAND USE	LEFT	V Paddy   M Paddy   V Maize   Cassava   Paddy   M Cotton   M C M Cotton   M C M Cotton   M Cotton   V																		
	RIGHT	V Paddy   V Maize   Bu. M Bu. Paddy   M Co. M Cotton   M C M Cotton   M Cotton   M Cotton   V																		
CARRIAGEWAY WIDTH (m)		6.0   7.0   8.0   8.0   6.0   6.0   6.5   6.0   7.0   6.0   6.0   6.0   6.0   6.0   6.0   7.0   6.0   7.0   6.0																		
ROAD FORMATION WIDTH (m)		9.0   9.0   9.0   9.0   9.0   8.0   8.0   8.0   9.0   9.0   9.0   8.0   8.0   9.0   9.0   9.0   9.0   9.0   9.0   9.0																		
CUTTING DEPTH (m)																				
EMBANKMENT HEIGHT (m)		0.8   0.5   0.8   0.8   1.0   1.0   0.8   0.8   1.0   0.5   0.5   0.5   0.5   0.6   0.6   0.6   0.6   0.6   1.0   0.6   0.8   0.6   0.6   0.5   0.5   0.5																		
ROAD SURFACE	TYPE																			
	CONDITION	L   Good   Good																		
ALIGNMENT	HORIZONTAL	Good																		
	VERTICAL	Good   F   G   F   Good   F   Good																		
FLOODING	LENGTH (km)	No Flooding																		
	HEIGHT (m)																			
BRIDGES																				
REMARKS																				

# ROAD INVENTORY

ROUTE 3329,  
ROUTE 1145

B. Sam Yaek (J.Route 1) - B. Hua Thanon Nua (J.Route 3004)  
C. Nakhon Sawan

L = 46.5 KM

3

STATION (km)		0		2.0		4.0		6.0		8.0		10.0		12.0		14.0		16.0		18.0		20.0		22.0		24.0		26.0		28.0		30.0																	
NAME OF VILLAGE		B. Sam Yaek		B. Nong Sua (NOH#100)		B. Nong Sinuan (NOH#100)				B. Nong Pang Puay (NOH#40)		B. Hua Wai (NOH#1000)						B. Nong Lat (NOH#150)		B. Bo Ban Kao (NOH#44)				B. Khae Sai (NOH#50)		B. Nong Suk Sar (NOH#125)		B. Phai Rang Mai (NOH#40)																					
TERRAIN		Flat																																															
LAND USE	LEFT	Paddy			Maize			Paddy			Mai.			Pad.			Maize			Pad.			Mai.			Paddy			Sugar Cane			Maize																	
	RIGHT	Paddy			Mai.			Pad.			Maize			Paddy			Mai.			Pad.			Cot.			Paddy			Sugar Cane			Maize																	
CARRIAGEWAY WIDTH (m)		5.0		5.0		6.0		6.0		6.0		6.0		5.5		5.5		5.5		5.5		5.5		6.0		5.5		5.5		6.0		5.5		5.5															
ROAD FORMATION WIDTH(m)		7.0		7.0		8.0		8.0		8.0		8.0		7.0		7.0		7.0		7.0		7.0		8.0		7.0		7.0		8.0		7.0		7.0															
CUTTING DEPTH (m)																																																	
EMBANKMENT HEIGHT (m)		0.6		0.8		0.8		1.0		0.8		1.0		1.0		1.2		1.2		1.0		1.0		0.8		0.5		0.5		0.6		0.6		0.6		0.8		0.8		0.6		0.6		1.0		0.8			
ROAD SURFACE	TYPE																																																
	CONDITION	Good										Fair										Good																											
ALIGNMENT	HORIZONTAL	Good																																															
	VERTICAL	Good																																															
FLOODING	LENGTH (km)											0.8										2.5										3.0										0.7							
	HEIGHT (m)											0.4										0.4										0.4										0.4							
BRIDGES												C-(7.0x15.0) S=0.7										C-(7.0x15.0) S=0.7										C-(7.0x10.5) S=0.7																	
REMARKS		Route 1 Fa Khli (2.0 KM)		Route 1 Chai Nat (22.0 KM)		B. Don Piom (4.0 KM) 3.9 KM		7.4 KM						Nong Lat 17.2KM						R.C.P. Necessary										R.C.P. Necessary																			

# ROAD INVENTORY

3

ROUTE 3329,  
ROUTE 1145

B. Sam Yaek - B. Hua Thanon Nua (Continued)  
C. Nakhon Sawan

STATION (km)		30.0												32.0												34.0												36.0												38.0												40.0												42.0												44.0												46.0												48.0											
NAME OF VILLAGE		B. Luk Sip Kao (NOH#180)												B. Phu Makha (NOH#60)												B. Nong Luang (NOH#70)												B. Hua Thanon Nua (NOH#400)																																																																																			
TERRAIN		Flat																																																																																																																							
LAND USE	LEFT	Paddy				Cas. Pad.		Cas.		Bush		Paddy				Mai.		Paddy		V																																																																																																					
	RIGHT	Paddy				Cas.		Paddy		Bush		Paddy				Paddy		V																																																																																																							
CARRIAGEWAY WIDTH (m)		7.0 5.5				7.0 5.0				7.0 5.0				8.0 6.0				7.5 5.5				9.0 6.0				9.0 8.0				9.0 8.0				9.0 7.0				9.0 6.0																																																																																			
ROAD FORMATION WIDTH (m)																																																																																																																									
CUTTING DEPTH (m)																																																																																																																									
EMBANKMENT HEIGHT (m)		0.8				0.8				1.0				1.2				0.5				0.5				0.6				1.0				1.0				0.8				0.8				1.0				1.0				0.8				0.8				0.5				0.8																																																							
ROAD SURFACE	TYPE	L																																																																																																																							
	CONDITION	Good																																																																																																																							
ALIGNMENT	HORIZONTAL	Good																																																																																																																							
	VERTICAL	Good																																																																																																																							
FLOODING	LENGTH (km)																																																																																																																								
	HEIGHT (m)																																																																																																																								
BRIDGES		C-(7.0x19.0) S=0.7																																																																																																																							
REMARKS		30.9 KM												A. Tak Fa 38.8 KM												Ta Tako (6.0 KM)																																																																																															

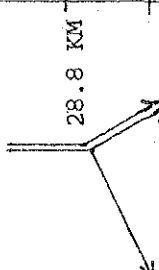
# ROAD INVENTORY

4

ROUTE 1119

A. Nong Bua - B. Phanom Rok  
C. Nakhon Sawan

L = 32.0 KM

STATION (km)		0		2.0		4.0		6.0		8.0		10.0		12.0		14.0		16.0		18.0		20.0		22.0		24.0		26.0		28.0		30.0																							
NAME OF VILLAGE		A. Nong Bua						B. Than Thabap (NOH#350)		B. Noi (NOH#90)		B. Nam Sat Klang (NOH#250)		B. Pa Re Rai (NOH#150)				B. Huai Wari Tai (NOH#80)		B. Mai (NOH#15)				B. Sei Lamphong Nua (NOH#150)		B. Sai Lamphong Klang (NOH#170)		B. Sai Lamphong Tai (NOH#200)		B. Chakuun (NOH#40)		B. Sam Yaek (NOH#30)																							
TERRAIN		Flat																																																					
LAND USE	LEFT			Paddy				V										Paddy																																					
	RIGHT			Paddy				V												Paddy																																			
CARRIAGEWAY WIDTH (m)		5.0		6.0		7.0		6.0		7.0		6.0		7.0		6.0		7.0		6.0		7.0		6.0		7.0		6.0		7.0		6.0																							
ROAD FORMATION WIDTH(m)		7.5		8.5		9.5		8.0		9.5		8.5		9.0		9.5		9.0		9.5		9.0		9.5		9.5		9.5		7.5		7.5																							
CUTTING DEPTH (m)																																																							
EMBANKMENT HEIGHT (m)		1.3		0.8		1.0		1.2		1.2		1.2		0.6		1.1		0.9		0.7		0.7		0.7		0.9		1.3		1.5		1.5		1.0		0.9		1.0		0.8		0.8		0.8		0.8		0.8		0.8		0.8		0.6	
ROAD SURFACE	TYPE																																																						
	CONDITION			L				ST				L		ST						L																																			
ALIGNMENT	HORIZONTAL	Good																																																					
	VERTICAL	Good																																																					
FLOODING	LENGTH (km)	No Flooding																																																					
	HEIGHT (m)																																																						
BRIDGES		C-(8.0 x 22.5)		C-(8.0 x 16.5)																														C-(8.0 x 17.5)																					
REMARKS																																																							

Appendix 6-2-1

# ROAD INVENTORY

4

ROUTE 1119

A. Nong Bua - B. Phanom Rok (Continued)  
C. Nakhon Sawan

STATION ( km )		30.0	32.0
NAME OF VILLAGE			B. Phanom Rok (NOH#800)
TERRAIN		Flat	
LAND USE	LEFT	Paddy	
	RIGHT	Paddy	
CARRIAGEWAY WIDTH ( m )		6.0	5.0
ROAD FORMATION WIDTH(m)		7.5	8.5
CUTTING DEPTH ( m )			
EMBANKMENT HEIGHT ( m )		0.4	0.4
ROAD SURFACE	TYPE	ST	
	CONDITION	G	
ALIGNMENT	HORIZONTAL		
	VERTICAL		
FLOODING	LENGTH ( km )		
	HEIGHT ( m )		
BRIDGES			
REMARKS			

Appendix 6-2-1

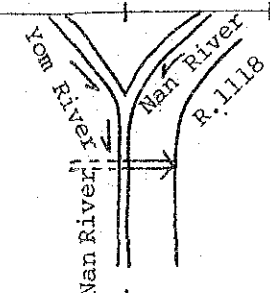
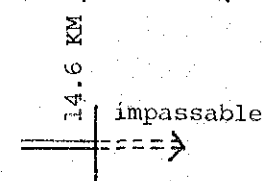
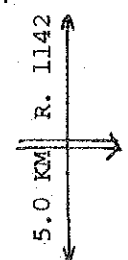
# ROAD INVENTORY

5

RURAL ROAD A. Kao Liao - B. Klong Yang  
 B. Sam Yaek Keiy Chai - B. Keiy Chai Nua  
 C. Nakhon Sawai

L = 14.6 KM  
 L = 0.8 KM

STATION (km)		0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	14.6	16.0	0	0.8	2.0
NAME OF VILLAGE		A. Kao Liao			B. Map Yang (NOH#30)	B. Yang Yai	B. Nong Tao Tai (NOH#150)	B. Yang Chet Ton (NOH#30)	B. Klong Yang (NOH#150)	impassable		Nan River	B. Keiy Chai Nua	
TERRAIN					Flat									
LAND USE	LEFT	Sugar-Cane				Paddy				V			Plantation	
	RIGHT	Sugar-Cane				Paddy				V			Plantation	
CARRIAGEWAY WIDTH (m)				7.0	5.0		5.0	3.5	5.0	3.5			8.0	3.5
ROAD FORMATION WIDTH(m)														
CUTTING DEPTH (m)														
EMBANKMENT HEIGHT (m)		0.6	0.5	0.7	0.7	0.7	0.8	0.8	0.8	0.8	1.0	0.8	0.7	0.7
ROAD SURFACE	TYPE				L			Earth & L				Nan River	F	
	CONDITION				Fair			Bad	Fair				G	
ALIGNMENT	HORIZONTAL						Good						G	
	VERTICAL						Good						G	
FLOODING	LENGTH (km)				No Flooding									
	HEIGHT (m)													
BRIDGES														
REMARKS														





# ROAD INVENTORY

6

RURAL ROAD

A. Khanuworaksa Buri - B. Map Yang ( J. Route 1074 )

C. Kamphaeng Phet C. Nakhon Sawan

L = 42.6 KM

STATION ( km )		0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0	28.0	30.0
NAME OF VILLAGE		B. Pha Phut Sa (NOH#60)			B. Talat Ta Khit (NOH#500)			B. Ta Sang (NOH#200)		B. Wat Mai (NOH#40)		B. Ta Sang Tai (NOH#80)	A. Banphot Phisai		B. Bang Ta Nua		
TERRAIN										Flat							
LAND USE	LEFT	Sugar C.	Paddy	Bean	Pad. Plan				Paddy				V		Plantation/Paddy		
	RIGHT	V Sugar C.		Plantation		Pad.			Paddy/Plantation				V		Plantation/Paddy		
CARRIAGEWAY WIDTH ( m )		5.5	5.0	4.0	3.0	4.5	3.5	3.5	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0	5.0
ROAD FORMATION WIDTH(m)		7.0	6.5	6.0	4.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0
CUTTING DEPTH ( m )																	
EMBANKMENT HEIGHT (m)		0.2	0	0	0.3	0.3	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8
ROAD SURFACE	TYPE	L		L & E						Earth							L
	CONDITION	G			Fair						Very Bad						Fair
ALIGNMENT	HORIZONTAL	G								Fair							Good
	VERTICAL									Good							
FLOODING	LENGTH (km)							No Flooding									
	HEIGHT (m)																
BRIDGES																	
REMARKS																	

V H  
C-Box (4.0x8.0)

# ROAD INVENTORY

6

RURAL ROAD

A. Khanuworaksa Buri -- B. Map Yang (Continued)

C. Kamphaeng Phet

C. Nakhon Sawan

STATION (km)		30.0	32.0	34.0	36.0	38.0	40.0	42.0	44.0	
NAME OF VILLAGE		B. Kra-buang (NOH#120)	B. Hua Dong Nua	B. Hua Dong Tai (NOH#400)		A. Kao Liao		B. Map Yang (NOH#30)		
TERRAIN		Flat								
LAND USE	LEFT	Plantation			Su. C.	Pad.	Su. C.	V Sugar C.	Paddy	
	RIGHT	Plantation			Su. C.	Pad.	Su. C.	V Sugar C.	Paddy	
CARRIAGEWAY WIDTH (m)		7.5			4.5		7.5		5.0	
ROAD FORMATION WIDTH(m)		7.5			4.5		7.0		5.0	
CUTTING DEPTH (m)										
EMBANKMENT HEIGHT (m)		0.7	0.6	0.6	0.5	0.5	0.6	0.6	0.5	0.7
ROAD SURFACE	TYPE	L								
	CONDITION	Fair								
ALIGNMENT	HORIZONTAL	Good								
	VERTICAL	Good								
FLOODING	LENGTH (km)	No Flooding								
	HEIGHT (m)									
BRIDGES										
REMARKS										

# ROAD INVENTORY

7 ARD, MDU ROAD A. Chon Daen (J. Route 113) - A. Nong Phai (J. Route 21)  
C. Phetchabun

L = 41.7 km.

STATION (km)		0.0		2.0		4.0		6.0		8.0		10.0		12.0		14.0		16.0		18.0		20.0		22.0		24.0		26.0		28.0		30.0	
NAME OF VILLAGE		Route 113						B. Khlong Huai Na (NOH# 1000) including surrounding villages		ARD ROAD (0.0 km ~ 25.0 Km)				B. Kar Huat		B. Khon Tha Khan (NOH#40)		B. Sap Charoeng (NOH#350)				J. C-B. Na Chaliang B. Sap Phutsa (NOH#350)		Starting point of MDU Road		MDU ROAD (25.0 km ~ 41.7 km)		B. Sap Phumu (NOH#200)					
TERRAIN		Rolling																															
LAND USE	LEFT																																
	RIGHT	Maize														Bush (some place)																	
CARRIAGEWAY WIDTH (m)																																	
ROAD FORMATION WIDTH (m)		5.5		3.5		7.5		4.5		7.5		4.5		7.5		4.5		6.0		3.5		7.0		5.5		4.5		2.7		5.5		3.5	
CUTTING DEPTH (m)																																	
EMBANKMENT HEIGHT (m)		0.5		0.5		0.0		1.0		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5	
ROAD SURFACE	TYPE																																
	CONDITION	Fair														L																	
ALIGN- MENT	HORIZONTAL	Fair														or Good																	
	VERTICAL	Fair														Bad, Steep gradients (more than 10%)																	
FLOODING	LENGTH (km)	No Flooding																															
	HEIGHT (m)																																
BRIDGES		T-(4.2 x 31.0)		T-(4.2 x 18.5)		T-(4.2 x 16.0)		T-(4.2 x 12.0)		T-(4.2 x 18.0)		T-(4.2 x 10.0)		T-(4.2 x 22.0)		T-(4.2 x 18.0)		T-(4.2 x 15.0)		T-(4.2 x 18.0)		T-(4.2 x 17.0)		T-(4.2 x 40.0)		T-(4.2 x 15.0)		T-(4.2 x 15.0)		T-(4.2 x 7.0)			
REMARKS																																	

# ROAD INVENTORY

7

ARD, MDU ROAD

A. Chon Daen - A. Nong Phai (Continued)  
C. Phetchabun

STATION (km)		30.0	32.0	34.0	36.0	38.0	40.0	41.7
NAME OF VILLAGE								A. Nong Phai
TERRAIN				Rolling				
LAND USE	LEFT			Maize				
	RIGHT			Maize				
CARRIAGEWAY WIDTH (m)					5.4 3.3		6.5 4.5	
ROAD FORMATION WIDTH (m)								
CUTTING DEPTH (m)					0.0		0.0	
EMBANKMENT HEIGHT (m)								
ROAD SURFACE	TYPE							
	CONDITION			Bad		Fair		
ALIGNMENT	HORIZONTAL			Fair				
	VERTICAL		Bad	Undulated alignment				
FLOODING	LENGTH (km)			No Flooding				
	HEIGHT (m)							
BRIDGES							T-(4.2 x 15.0)	
REMARKS								A bypass is to be required

# ROAD INVENTORY

8

RURAL ROAD

B.Thung Sai (J. Route 115) - B.Kho Plono  
C. Kamphaeng Phet

L = 28.9 KM

STATION (km)		0		2.0		4.0		6.0		8.0		10.0		12.0		14.0		16.0		18.0		20.0		22.0		24.0		26.0		28.0		30.0	
NAME OF VILLAGE		B. Thung Sai		B. Noi (NOH#60)		B. Sam Chop (NOH#220)		B. Chum Nak (NOH#20)		B. Chun Nak (NOH#200)		Thawon Watana (NOH#35)		B. Nong Sai		B. Wang Chaon (NOH#95)		B. Wang Chaon Yak (NOH#200)		B. Po En Mop Pol (NOH#300)		B. Non Pluang (NOH#200)		B. Thung Sanun (NOH#500)				B. Kho Plono					
TERRAIN		Flat								Flat~Rolling														Flat									
LAND USE	LEFT	Paddy				bean				Paddy		bean paddy		Paddy				Paddy				Paddy				Paddy							
	RIGHT	Paddy				bean				Cassava				Swampy				Paddy				Paddy				Paddy							
CARRIAGEWAY WIDTH (m)		3.0		3.0		3.0		3.0		2.5		3.0		2.5		2.5		2.5		3.0		2.5		3.5		3.5		3.5		6.5		3.5	
ROAD FORMATION WIDTH(m)		4.0		4.0		4.5		4.5		3.0		4.0		3.5		3.5		3.5		4.0		3.5		4.5		6.5		6.5		6.5			
CUTTING DEPTH (m)		0.5		0.5		0		0		0		0		0		0		0		0		0		0		0		0		0		0	
ROAD SURFACE	TYPE	L								Earth										L		S		L									
	CONDITION	bad								bad										Fair		f		Fair									
ALIGNMENT	HORIZONTAL	Good		bad		Fair		Fair		bad		Fair		Fair		Fair		Fair		Good		Fair		Fair		Fair		Fair		Fair			
	VERTICAL											Fair		Fair		Fair		Fair		Fair		Fair		Fair		Fair		Fair		Fair			
FLOODING	LENGTH (km)											No Flooding		No Flooding		No Flooding		No Flooding		No Flooding		No Flooding		No Flooding		No Flooding		No Flooding		No Flooding			
	HEIGHT (m)																																
BRIDGES		T - (4.0x2.0) T - (4.0x3.0) T - (2.7x6.0)		T - (4.5x6.5)										W - (4.0x39.0)		W - (3.5x14.0)		W - (3.5x14.0)		T - (4.0x6.0)		T - (2.5x7.0)		T - (4.5 x 6.0) T - (4.0 x 6.0)		T - (3.0x9.0) T - (3.0x4.0) T - (4.5x3.5)		W - (2.5x6.5)		W - (4.0x41.0)			
REMARKS		bypass necessary										13.7 KM Wat Nong Sai		17.2 KM		21.2 KM		24.3 KM S.T 200 m								28.9 KM							

# ROAD INVENTORY

9

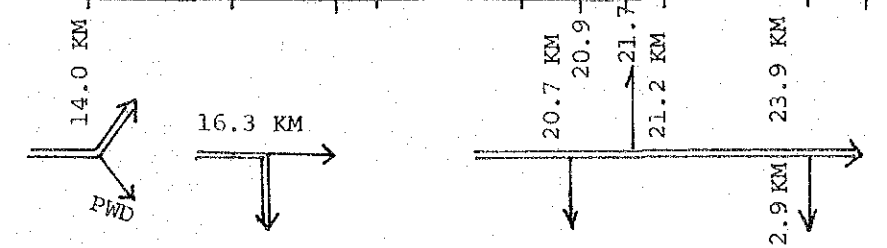
RURAL ROAD

A. Thung Ma Ha Chai (J. Route 115) - B. Tha Makhua (J. Route 1084) - Ping River

C. Kamphaeng Phet

L = 35.1 KM

STATION (km)		0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0	28.0	30.0	
NAME OF VILLAGE		B. Thung Ma Ha Chai			B. Wang Khon (NOH=300)		B. Bo Kiew (200-300) (NOH=40)	B. Si Yae (NOH=40)	B. Khlong Charoen (NOH=53)	B. Nong Dan (NOH=300)		B. Thung Sai (NOH > 800)			B. Wang Talom		B. Nong Chok (229)	B. Khlong
TERRAIN																		
LAND USE	LEFT		Sugar Cane		V		Paddy	Bush Pad.	Village	Paddy					Paddy			
	RIGHT		Sugar Cane		V		Paddy	Bush Pad.	Village	Paddy	Village				Paddy			
CARRIAGEWAY WIDTH (m)		5.0	4.0	4.0			5.0		5.5	3.5		3.8	4.5		5.5		4.5	
ROAD FORMATION WIDTH (m)		7.0	4.5	5.7			6.0		7.0	4.5		4.7	5.5		7.0		5.8	
CUTTING DEPTH (m)																		
EMBANKMENT HEIGHT (m)		0	0	0	0	0.4	0.5		0.5	0.5	0.5		1.0		0.7		0.5	
ROAD SURFACE	TYPE		L				E		L	E	L	E			L			
	CONDITION		Fair				Bad		Fair	B	F	Bad			Bad			
ALIGNMENT	HORIZONTAL		Bad		Fair	Bad				Good								
	VERTICAL								Good									
FLOODING	LENGTH (km)				F						every year							
	HEIGHT (m)				200 m						October 10-15 days							
BRIDGES											W - (4.0x10.0) Klong Pla Ra							
REMARKS				C.P. Necessary														



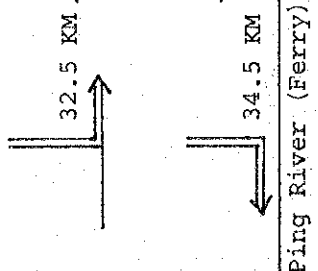
# ROAD INVENTORY

B. Thung Ma Ha Chai - B. Tha Makhua - Ping River (Continued)

C. Kamphaeng Phet

9

RURAL ROAD

STATION (km)		30.0		32.0		34.0		35.1		36.0		38.0		40.0		
NAME OF VILLAGE				B. Tha Makhua												
TERRAIN				Flat												
LAND USE	LEFT	Paddy		V	Sugar C.											
	RIGHT	Paddy		V	Sugar C.											
CARRIAGEWAY WIDTH (m)		4.5		5.5												
ROAD FORMATION WIDTH(m)		6.5		7.0												
CUTTING DEPTH (m)																
EMBANKMENT HEIGHT (m)		0.5														
ROAD SURFACE	TYPE	L	S.T.	L												
	CONDITION	Fair		dust (t=5cm)												
ALIGNMENT	HORIZONTAL															
	VERTICAL															
FLOODING	LENGTH (km)															
	HEIGHT (m)															
BRIDGES																
REMARKS																

# ROAD INVENTORY

10.11

ROUTE 9045,  
ROUTE 1207,  
P.W.D., ARD

B. Tha Khoi (J. Route 1068) - A Pho Prathap Chang - A Taphan Hin (Route 1118)  
C. Phichit

L = 28.7 km.

STATION (km)		0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0	28.0	28.7
NAME OF VILLAGE		JC-Route 1068	Route 9045 (0.0 ~ 7.4 km)			A. Pho Prathap-Chang	JC-RID-Road (7.4 km ~ 10.0 km)	Rural Road (10.0 km ~ 16.1 km)	B. Wang Kadon	Phichit-River	B. Phanom Yo (NOH#50)	B. Wang Samrong (NOH#2,000)	PWD Road (16.1 km ~ 28.7 km)			B. Yang Khli (NOH#300)	JC Route 1118
TERRAIN						Flat											
LAND USE	LEFT					Paddy					Maize			Paddy			Bu sh
	RIGHT					Paddy					Maize			Paddy			
CARRIAGEWAY WIDTH (m)																	
ROAD FORMATION WIDTH (m)			9.0-5.3		6.0-4.0						7.0-4.5			9.0-6.0			8.0 5.5
CUTTING DEPTH (m)																	
EMBANKMENT HEIGHT (m)			1.0		3.0					1.0				0.5	1.0		
ROAD SURFACE	TYPE					L								L			S.T
	CONDITION		Good			Fair			Good					Fair			Fair
ALIGNMENT	HORIZONTAL		Good		RA	RA	RA	RA	RA	RA	RA	Good		Good			
	VERTICAL							Good									
FLOODING	LENGTH (km)	2 sections, about 0.1 km each		1.0	0.02	0.02											
	HEIGHT (m)			0.5	0.5	0.5											
BRIDGES							Irrigation Canal	Irrigation Canal		Road is cut by flood				Irrigation Canal			
REMARKS			Pipe culverts are required		A new bridge (span 30 m.) is required	A new bridge (span 20 m.) is required				A new bridge (span 50 m.) is required							



# ROAD INVENTORY

B. Wang Chik (Route 1068) - B. Pa Daeng (J. Route 1142)

12

RURAL ROAD

C. Phichit

L = 15.4 KM

STATION (km)		0		2.0		4.0		6.0		8.0		10.0		12.0		14.0		15.0		15.4	
NAME OF VILLAGE		B. Wang Chik		Yom River				B. Phai Rop		(NOH=1000) including surrounding villages		B. Khlong Yang				B. Pa Daeng		(NOH=100)		Route 1142	
TERRAIN		Flat																			
LAND USE	LEFT	Village		Paddy		Village		Paddy				Paddy									
	RIGHT	Village		Paddy		Village		Paddy				Paddy									
CARRIAGEWAY WIDTH (m)		3.0		3.5		3.0		3.0		3.0		3.2		3.3		3.3		3.3		3.3	
ROAD FORMATION WIDTH(m)		3.0		5.0		5.0		5.3		5.3		4.8		5.0		5.0		5.0		5.0	
CUTTING DEPTH (m)																					
EMBANKMENT HEIGHT(m)						0.5						1.0						0.5		0.5	
ROAD SURFACE	TYPE	E		L								Earth									
	CONDITION	Bad		Fair								Bad									
ALIGNMENT	HORIZONTAL	Fair																			
	VERTICAL	Fair																			
FLOODING	LENGTH (km)			0.5										only short section		1.0					
	HEIGHT (m)			0.5										but many places		0.5					
BRIDGES		A timber bridge was flowed away by flood																			
REMARKS		No bridge A new bridge (span 100.0 m) is required		A new bridge (span 21 m) is required		A bypass should be planned												Many additional pipe culverts are required			

# ROAD INVENTORY

13

P.W.D., RURAL ROAD,  
including a small  
track road

A. Wang Sai Phum(J.Route 11) - B. Nong Phayom (J. Route 113)

C. Phichit

L = 26.0 KM

STATION (km)		0		2.0		4.0		6.0		7.1		8.0		10.0		12.0		14.0		16.0		18.0		20.0		22.0		24.0		26.0					
NAME OF VILLAGE		Route 11		PWD Road (0.0KM~7.1KM)		B. Dong Phlap (NOH=400)		B. Nong Plong (NOH=200)		B. Nong Chik Phao station		point Rural Road				B. Nong Nok Yang (NOH=120)		B. Khao Phanom Kao (NOH=130)		Small track road (7.1KM 20.0KM)		B. Pa Daeng Starting point of Rural Road (NOH=500)		Rural Road (20.0KM 26.0KM)		B. Nong Phayom Route 113									
TERRAIN		Flat																																	
LAND USE	LEFT	Paddy		Village												Paddy						Village		Paddy											
	RIGHT	Paddy		Village												Paddy						Village		Paddy											
CARRIAGEWAY WIDTH (m)		9.0		6.0				9.0		6.0		9.0		6.0		3.5		2.5				3.5		2.5		6.5		4.0		6.5		4.0			
ROAD FORMATION WIDTH(m)		9.0		6.0				9.0		6.0		9.0		6.0		3.5		2.5				3.5		2.5		6.5		4.0		6.5		4.0			
CUTTING DEPTH (m)																																			
EMBANKMENT HEIGHT (m)		1.0						1.0		0.5												0.5		0.5		0.5									
ROAD SURFACE	TYPE			L						E								L								L									
	CONDITION			Good												Bad										Fair									
ALIGNMENT	HORIZONTAL			Good				RA				RA		Bad						RA				Good											
	VERTICAL			Good										Fair										Good											
FLOODING	LENGTH (km)	No Flooding																																	
	HEIGHT (m)																																		
BRIDGES																		T - (3.5x2.0)				T - (3.5x4.0)				T - (3.5x2.0)		T - (3.5x2.0)		T - (3.5x8.5)		T - (3.5x2.0)		T - (3.5x2.0)	
REMARKS												No bridge, (span 15 m) is required												Replacing with 15 m span bridge is required		Replacing with 15 m span bridge is required.									

# ROAD INVENTORY

ROUTE 1191, RURAL ROAD  
ROUTE 1205

B. Nong Khanak (J. Route 11) - B. Wang Pong  
C. Phichit C. Phetchabun

14

L = 25.2 KM

STATION (km)		0		2.0		4.0		6.0		8.0		10.0		12.0		14.0		16.0		18.0		20.0		22.0		24.0		24.5		25.2	
NAME OF VILLAGE		B. Nong Khanak (Route 11)		B. Khilli Thep						B. Dong Long NOH=100		B. Wang Chanang NOH=300		B. Wang Kradat NOH=500						B. Wang Pong NOH=1500											
TERRAIN						Flat		Flat		Flat		Flat		Rolling		Flat		Flat		Rolling											
LAND USE	LEFT	Paddy		Village		Bush		Village		paddy		Village		Paddy		Village		Pad.		Bush		Paddy		Bush							
	RIGHT	Village		Paddy		Village		Bush		Village		paddy		Village		Paddy		Village		Pad.		Bush		Paddy		Bush					
CARRIAGEWAY WIDTH (m)				5.5		5.1		3.5		3.0		3.5								3.5						4.5		5.3			
ROAD FORMATION WIDTH(m)				8.5		8.0		4.5		4.5		5.7								4.5						6.5		8.4			
CUTTING DEPTH (m)																				0.5											
EMBANKMENT HEIGHT (m)				0.5		0.0		0.0		1.0		0.5								0.5											
ROAD TYPE		L		S.T.						L																S.T.					
SURFACE CONDITION		Bad				Bad				Fair				Fair						Bad						Fair					
ALIGNMENT	HORIZONTAL							Fair						-R.A.								Bad		Fair							
	VERTICAL									Fair																					
FLOODING	LENGTH (km)											No Flooding																			
	HEIGHT (m)																														
BRIDGES																															
REMARKS																															

Bypass should be planned at B. Wang Kradat

T - (2.5x6.5)

T - (2.5x7.0)

T - (3.5x18.0)

# ROAD INVENTORY

15

ROUTE 1221,  
A.R.D.

B. Wang Tham (Route 1221) - B. Tha Makham (J.Route 1114)  
C. Phichit C. Phitsanulok

L = 8.7 KM

STATION (km)		0	0.0	2.0	4.0	6.0	8.0	8.7
NAME OF VILLAGE		J.C. Route 1115	B. Wang Tham (NOH#300)				B. Phai Lon	B. Tha Makham (NOH#200)
TERRAIN				Flat				
LAND USE	LEFT	Paddy	Village			Paddy		
	RIGHT	Paddy	Village			Paddy		
CARRIAGEWAY WIDTH (m)		5.5	5.5	3.0	7.0	7.0	4.0	
ROAD FORMATION WIDTH(m)		8.0	8.0	6.0	9.4	9.4	6.0	
CUTTING DEPTH (m)								
EMBANKMENT HEIGHT (m)			0.5			0.5		
ROAD SURFACE	TYPE	A.C.				L		
	CONDITION	Fair				Fair ~ Bad		
ALIGNMENT	HORIZONTAL		3 R.A.			Good		
	VERTICAL					Good		
FLOODING	LENGTH (km)			No Flooding				
	HEIGHT (m)							
BRIDGES								
REMARKS			Bypass is required to avoid the village area, at B. Wang Tham and B. Tha Lo				A river exists but no bridge. A new bridge (span 30 m) should be planned.	

# ROAD INVENTORY

16

P.W.D. ROAD

B. Wang Phikun (J. Route 115) - A. Lan Krabu (J. Route 1065)

C. Kamphaeng Phet

L = 13.1 KM

STATION ( km )		0	2.0	4.0	6.0	8.0	10.0	10.7	12.0	13.1	14.0
NAME OF VILLAGE		B. Wang Phikun (R.115) (NOH#80)	B. Huai Noi (NOH#40)	B. Inthra Nuson (NOH#25)		B. Hui Manoon (NOH#20)				A. Lan Krabu	
TERRAIN				Flat				Flat			
LAND USE	LEFT	V. Paddy Tree	Paddy	Paddy (Maize)				V. Paddy			
	RIGHT	V. Paddy Sugar C.	Paddy	Paddy (Maize)				V. Paddy			
CARRIAGEWAY WIDTH ( m )		6.5		7.0		6.0		5.5		6.0	
ROAD FORMATION WIDTH (m)		9.0		11.0		8.0		8.0		8.0	
CUTTING DEPTH ( m )								1.0			
EMBANKMENT HEIGHT (m)		1.2		0.7	0.5			500 m.		0.5	
ROAD SURFACE	TYPE			L					L		
	CONDITION			Good					Fair		
ALIGNMENT	HORIZONTAL			Good					Fair		
	VERTICAL			Good							
FLOODING	LENGTH ( km )			No Flooding							
	HEIGHT ( m )										
BRIDGES			C-(7.0x20.0)(S=0.8)	C-(7.0x20.0)(S=0.8)	C-(7.0x20.0)(S=0.8)						
REMARKS		R. 115 1.1 KM To Ban		B. Huai Yai 5.7 KM				10.65 KM PWD 11.7 KM		Under Const. 13.1 KM	B. Lan Krabu

# ROAD INVENTORY

17

A. R. D.  
ROUTE 9034

A. Bang Rakam (J. Route 1065) - B. Nong Bua (J. Route 1142)

C. Phitsanulok

L = 14.9 KM

STATION (km)		0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	14.9
NAME OF VILLAGE			B. Tamo (NOH#170)		B. Lai Mu Si (NOH#70)	B. Plak Reat (NOH#1,000) J.C-Route to B. Phat Sao		B. Nong Khaem (NOH#130)		B. Nong Ta Khiao (NOH#110)
TERRAIN		Flat								
LAND USE	LEFT		Paddy		Village		Paddy			
	RIGHT		Paddy		Village		Paddy			
CARRIAGEWAY WIDTH (m)					3.0					
ROAD FORMATION WIDTH (m)		7.8			5.9					5.6
CUTTING DEPTH (m)										
EMBANKMENT HEIGHT (m)		3.0								0.5
ROAD SURFACE	TYPE		L		S.T			L		
	CONDITION		Fair		Fair			Fair		
ALIGNMENT	HORIZONTAL				Good					
	VERTICAL				Good					
FLOODING	LENGTH (km)				No Flooding					
	HEIGHT (m)									
BRIDGES										
REMARKS		A bypass should be planned at B. Plak Reat. However it is impossible in the sections, raising up is required.								

# ROAD INVENTORY

A. Khiri Mat ( J. Route 101 ) - B. Nong Tum ( J. Route 9117 )

18

A.R.D. ROAD

C. Sukhothai

L = 16.0 KM

STATION ( km )		0		2.0		4.0		6.0		8.0		10.0		12.0		14.0		16.0	
NAME OF VILLAGE		Route 101 A. Khiri Mat						B. Klong Yam				B. Lai Pa Daeng (NOH#300)		B. Nong Bua				B. Nong Tum (NOH#500)	
TERRAIN		Flat																	
LAND USE	LEFT	Vill- age				Paddy						Vill- age		Paddy		Village			
	RIGHT	Vill- age				Paddy						Vill- age		Paddy		Village			
CARRIAGEWAY WIDTH ( m )		6.8		6.0		4.1		7.0		7.2		7.1		7.0					
ROAD FORMATION WIDTH ( m )		13.3		7.0		6.4		9.0		10.8		9.3		9.0					
CUTTING DEPTH ( m )																			
EMBANKMENT HEIGHT ( m )		0.0		2.0		0.5													
ROAD SURFACE	TYPE	AC								L									
	CONDITION	Good or Fair								Good or Fair									
ALIGN- MENT	HORIZONTAL	Bad		Many R.A.				Good		R.A.									
	VERTICAL							Good											
FLOODING	LENGTH ( km )			0.5				1.0		2 sections									
	HEIGHT ( m )			0.5				0.5											
BRIDGES		C - (5.0x10.0)		T - (4.0x6.0)		T - (6.4x21.5)													
REMARKS		Bypass should be planned to avoid town area of A. Khiri Mat  Placing a lot of pipe culverts are required for flooding																	

# ROAD INVENTORY

19

COOPERATIVE ROAD

A. Phrom Phiram - B. Nong Makhong (J. Route 11)

C. Phitsanulok

L = 13.5 KM

STATION (km)		0		2.0		4.0		6.0		8.0		10.0		12.0		13.5	
NAME OF VILLAGE		A. Phrom Phiram Railway crossing				B. Tha Kham (NOH#80)						J.C. - Wat Bot				B. Nong Makhong (NOH#170)	
TERRAIN		Flat															
LAND USE	LEFT	Village	Paddy	Swamp													Paddy
	RIGHT	Village	Paddy	Swamp													Paddy
CARRIAGEWAY WIDTH (m)		4.6		5.0		5.0		8.0				8.7		8.7		5.0	
ROAD FORMATION WIDTH(m)		6.8		7.6		7.5		13.0				13.0		13.0		7.6	
CUTTING DEPTH (m)																	
EMBANKMENT HEIGHT (m)		1.0		2.5		3.0		1.0				1.0				0.5	
ROAD SURFACE	TYPE	F S L E															
	CONDITION	Fair				Good						Bad					
ALIGNMENT	HORIZONTAL	Bad 4 R.A.				Good											
	VERTICAL	Good															
FLOODING	LENGTH (km)	8 KM															
	HEIGHT (m)	1.5 KM (1980) 10 years record No Flood usually															
BRIDGES		T - (6.5x36.3)															
REMARKS		Bypass of 1.3 km is required for good connection with Route 1104				Replaced bridge should be 45.0 m for countermeasures of flood								By extension of 1.8 KM, this route can be connected with Route 11			



# ROAD INVENTORY

20

ROUTE 1220

A. Wat Bot - B. Na Kham

C. Phitsanulok

L = 15.00 KM

STATION (km)		0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	15.0	15.65
NAME OF VILLAGE		A. Wat Bot J.C.-Rli		B. Wang Namsai (NOH#10)		B. Yang (NOH#40)		B. Taken (NOH#170)		B. Nam Hak (NOH#90)	End point of DOHR B. Na Kham (NOH#300)
TERRAIN					Flat						
LAND USE	LEFT			Paddy				Maize, Bean			
	RIGHT			Paddy				Maize, Bean			
CARRIAGEWAY WIDTH (m)		4.7			7.0			6.9	4.0		
ROAD FORMATION WIDTH(m)		8.5			10.0			9.3	7.0		5.7
CUTTING DEPTH (m)											
EMBANKMENT HEIGHT (m)		2.0			0.0			0.0			0.0
ROAD SURFACE	TYPE					L					
	CONDITION			Fair		Bad at some short sections					
ALIGNMENT	HORIZONTAL				Fair						
	VERTICAL			Fair				A 8% gradient exists at 10.5 KM			
FLOODING	LENGTH (km)			Only short section but more than 10 places							
	HEIGHT (m)			0.5							
BRIDGES								T - (4.0x8.0)			T - (4.0x5.0)
REMARKS				Raising up and placing a number of pipe culverts are required in the flood section				There is no bridge, (10 m span) is required in this stream			There is no bridge. New bridge (10 m span) is required in this stream

# ROAD INVENTORY

21

ROUTE 9053, ARD ROAD

B. Na Isang (J. Route 11) - A. Phichai

C. Uttaradit

I. = 22.7 KM  
DOH ROAD 9.2 KM  
ARD ROAD 13.5 KM

STATION (km)		0		2.0		4.0		6.0		8.0		9.2		10.0		12.0		14.0		16.0		18.0		20.0		22.0		22.7			
NAME OF VILLAGE		J.C. - Route 11		B. Nong Kwang (NOH#130)		B. Na Isang (NOH#130)		(DOH)		B. Na Yang (NOH#500)		End point of Route 9053								(ARD)				B. Hua Khai (NOH#200)		Railway Station		Railway Crossing			
TERRAIN		Flat																													
LAND USE	LEFT	Pad.	Vill- age	Pad.	Vill- age	Paddy		Vill- age		Paddy		Vill- age		Paddy		Vill- age		Paddy		Vill- age		Paddy		Vill- age		Paddy		Vill- age		Paddy	
	RIGHT	Mai.	Vill- age	Pad.	Vill- age	Maize, Bean		Vill- age		Paddy		Vill- age		Paddy		Vill- age		Paddy		Vill- age		Paddy		Vill- age		Paddy		Vill- age		Paddy	
CARRIAGEWAY WIDTH (m)		4.5				5.6				5.2				5.2				5.2				5.2				5.2				5.2	
ROAD FORMATION WIDTH(m)		7.6				9.0				8.0				8.0				8.0				8.0				8.0				8.0	
CUTTING DEPTH (m)																															
EMBANKMENT HEIGHT(m)		0.5				1.0				1.0				1.0				1.0				1.0				1.0				1.0	
ROAD SURFACE	TYPE	L																													
	CONDITION	Good																													
ALIGN- MENT	HORIZONTAL	RA		RA		RA		RA		RA		RA		RA		RA		RA		RA		RA		RA		RA		RA		RA	
	VERTICAL	Good																													
FLOODING	LENGTH (km)	0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5	
	HEIGHT (m)	0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5		0.5	
BRIDGES		C - (3.5x33.0)																													
REMARKS		<p>Placing a lot of pipe culverts is required for countermeasure of flood</p> <p>Short connection with Route 11 is possible at the point of 40 KM</p> <p>Bypass is required around B. Na Yaud</p> <p>For good connection with a main road of opposite side of railway a bypass is needed</p>																													

# ROAD INVENTORY

22

A.R.D. ROAD

A. Phichai - A. Si Nakhon

C. Uttaradit C. Sukhothai

L = 15.9 KM

STATION ( km )		0		2.0		4.0		6.0		8.0		10.0		12.0		14.0		15.9	
NAME OF VILLAGE		A. Phichai		J.C. - Changwat Road		J.C. - R.1104		(ARD)				J.C. - R. 1247		(Cooper- ative road)		Railway crossing		A. Sina- korn	
TERRAIN								Flat											
LAND USE	LEFT			Paddy						Su. C.		Paddy		Village					
	RIGHT			Paddy						Beans		Paddy		Village					
CARRIAGEWAY WIDTH ( m )		10.6		6.2								9.0		6.0					
ROAD FORMATION WIDTH(m)								9.0		6.0				9.0		6.0			
CUTTING DEPTH ( m )																			
EMBANKMENT HEIGHT (m)		3.0						1.0				1.0		1.0		0.7			
ROAD SURFACE	TYPE	S.T.						L								S.T.			
	CONDITION	Fair						Good								Good			
ALIGN - MENT	HORIZONTAL			R.A.								R.A.		4R.A.					
	VERTICAL							Good											
FLOODING	LENGTH (km)							No Flooding											
	HEIGHT ( m )																		
BRIDGES		C - (8.0x204.0)		C - (7.0x38.0)															
REMARKS														Bypass from a point of 13.0 KM should be planned to avoid the town area of A. Si nakhon					

## ROAD INVENTORY

23

ROUTE 1113\*  
including rural roads,  
cooperative roads, etc.

B. Muang Kao (J. Route 12) - B. Doh Kao - Route 1048 - B. Muang Kao (J. Route 1201)

C. Sukhothai

L = 51.3 KM

STATION (km)		0		2.0		4.0		6.0		8.0		10.0		12.0		13.3		14.0		16.0		16.8		18.0		20.0		22.0		24.0		25.0		26.0		28.0		30.0	
NAME OF VILLAGE		Route 12				DOH Road (0.0 KM ~ 13.3 KM)						B. Sai yap		End point of DOH R.		Small track (13.3KM ~ 16.8KM)		B. Don Kao		Small track (16.8 ~ 25.0)		B. Wang Hit (NOH=100)				B. Mai Khon Sung (NOH=170)				Co-operative Roads(A) (25.0 KM ~ 35.0 KM)									
TERRAIN												Flat																											
LAND USE	LEFT											Paddy																											
	RIGHT											Paddy																											
CARRIAGEWAY WIDTH (m)		4.3				3.9				3.5				4.0				2.8		2.0		2.2						3.5											
ROAD FORMATION WIDTH(m)		6.0				6.8				6.3				7.3				4.8		3.0		4.3						7.5											
CUTTING DEPTH (m)										1.5				1.0				0.0		0.5		0.5						1.0											
ROAD SURFACE	TYPE	A.C.						L						E						E						L or E													
	CONDITION	Fair						Fair						Bad						Bad						Bad													
ALIGNMENT	HORIZONTAL											Good								LR																			
	VERTICAL											Good																											
FLOODING	LENGTH (km)							Many short sections more than 10 places				0.5 m.				Overflow occurred since embankment height is 0																							
	HEIGHT (m)													0.5 m.		Height is 0																							
BRIDGES				T - (3.5x7.0) T - (3.5x25.2) T - (3.5x6.0) T - (5.0x15.0) T - (5.0x8.0)				T - (2.8x13.0)				T - (2.5x3.0)		T - (4.0x3.0) T - (4.0x8.0)				C - (5.0x3.0)																					
REMARKS				Required span is 30.0 m		Required span is 23.0 m		Required span is 21.0 m In flood section, a number of pipe culverts are required				A new bridge (span 15 m) is to be needed.		The span of replaced bridge is to be 15.0 m				Proposed route is planned to pass through far from B. Mai Khon Sung. But, since there is an existing road between B. Mai Khon Sung and Route 1048, the inventory survey was carried out along the existing road.																					

\* Where there is no DOH road, inventory surveys were carried out on other agency roads.

# ROAD INVENTORY

23

ROUTE 1113

B. Muang Kao (J. Route 12) - B. Doh Kao - Route 1048 - B. Muang Kao (J. Route 1201) (Continued)

C. Sukhothai

L = 51.3 KM

STATION (km)		30.0	32.0	34.0	35.0	36.0	38.0	40.0	42.0	43.6	44.0	46.0	46.4	48.0	50.0	51.3
NAME OF VILLAGE				Route 1048	Co-operative Road (B) (35.0 KM ~ 43.6 KM)			End point of this road	Swamp	Small track (44.0 KM ~ 46.4 KM)	Rural Road (46.0 KM ~ 51.3 KM)			Route 1201	Excluding the length of Route 1048 (2.5 KM)	
TERRAIN								Flat								
LAND USE	LEFT							Paddy			Maize, Sesame, Cotton					
	RIGHT							Paddy			Maize, Sesame, Cotton					
CARRIAGEWAY WIDTH (m)				3.0			3.0				2.1	5.6	4.8			
ROAD FORMATION WIDTH (m)				7.5			7.0				3.4	9.0	7.5			
CUTTING DEPTH (m)																
EMBANKMENT HEIGHT (m)				1.0			1.0				0.0	0.0	0.0			
ROAD SURFACE	TYPE			L			L				E or L		L			
	CONDITION			Bad			Bad				Bad		Bad			
ALIGNMENT	HORIZONTAL							Good								
	VERTICAL							Good								
FLOODING	LENGTH (km)						1.0	short section, but many places								
	HEIGHT (m)						0.5									
BRIDGES				Excluding the length of Route 1048 (2.5 KM)				T - (2.5x2.0)								
REMARKS				There is no road linked directly to co-operative road (A)			Co-operative Road (B) is located at about 2.5 KM point far from the inter section between Route 1048 and Co-operative Road (A)									

# ROAD INVENTORY

24

ROUTE 1048

A. Thung Saliam (Route 1048) - B. Don Chai (J. Route 1)  
C. Sukhothai C. Lampang

L = 56.7 KM

Starting point is a end point of pavement at B. Klang Dong

STATION (km)		0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0	28.0	30.0
NAME OF VILLAGE		B. Klang Dong			B. Mae Pue (NOH#300)						B. Tao Pun					B. Saliam War (NOH#230)	
TERRAIN			Flat						Rolling								
LAND USE	LEFT		Paddy			Bush							Forest				
	RIGHT		Paddy			Bush							Forest				
CARRIAGEWAY WIDTH (m)		4.2		3.5													
ROAD FORMATION WIDTH(m)		6.0		5.0													
CUTTING DEPTH (m)																	
EMBANKMENT HEIGHT (m)				1.0													
ROAD SURFACE	TYPE	S.T.							L								
	CONDITION	Fair		Fair							Bad						
ALIGNMENT	HORIZONTAL								Fair								
	VERTICAL			Fair					A steep gradient of more than 8% exists	Bad			Undulated alignment				
FLOODING	LENGTH (km)										No Flooding						
	HEIGHT (m)																
BRIDGES			T - (4.5x24.5)	T - (4.0x4.0)			T - (4.0x2.0) T - (4.0x12.0)			T - (2.0x2.0)							T - (2.5x4.0) T - (2.5x11.2) T - (2.5x5.0)
REMARKS							The bridge should be replaced with 15 m long bridge			There is no bridge in this stream. A 30 m span bridge is needed.			There is no bridge in this stream. A 24 m span bridge is needed.				There is no bridge in this river. A 38 m span bridge is needed

# ROAD INVENTORY

24

ROUTE 1048

A. Thung Saliang (Route 1048) — B. Don Chai (J. Route 1) (Continued)

C. Sukhothai

C. Lampang

STATION (km)		30.0		32.0		34.0		36.0		38.0		40.0		42.0		44.0		46.0		48.0		50.0		52.0		54.0		56.0		56.7		58.0		60.0	
NAME OF VILLAGE		B. Tha Wiang (NOH#650)		B. Hui Rim				B. Saphan Hin (NOH#118)												B. Mae Pa Luang (NOH#120)		B. Don Chai													
TERRAIN		Flat						Rolling										Mountainous				Rolling													
LAND USE	LEFT	Paddy Village		Paddy Village		Bush dotted with forest		Bush dotted with forest						Forest		Forest				Bush		Village		Bush		Paddy									
	RIGHT	Paddy Village		Paddy Village		Bush dotted with forest		Bush dotted with forest								Forest		Forest				Bush		Village		Bush		Paddy							
CARRIAGEWAY WIDTH (m)				3.5 2.5								3.4 2.4				4.0 2.8				3.4 2.4		3.6 2.3		3.0 2.5		6.3 4.0									
ROAD FORMATION WIDTH(m)																																			
CUTTING DEPTH (m)																																			
EMBANKMENT HEIGHT (m)				0.0								0.0				0.0				0.0		0.0		0.0		0.0									
ROAD SURFACE	TYPE													L																					
	CONDITION															Bad																			
ALIGNMENT	HORIZONTAL					Fair				Bad				Very bad		many small curves (less than 100 m) exist				Bad															
	VERTICAL					Fair				Bad				Very bad		many steep gradients (more than 10%) exist				Bad															
FLOODING	LENGTH (km)	0.7																																	
	HEIGHT (m)	0.5																																	
BRIDGES		T - (2.5x3.0)		Broken T - (3.5x70.0) T - (3.5x18.5)				T - (2.0x2.0) T - (2.5x3.0)												T - (3.8x10.0)		T - (4.0x3.0)													
REMARKS		Raising up is required		Bypass is to be required				There is no bridge in this river. A 30 m span bridge is required						No bridge. 15.0m long bridge is required								New bridge (span 15.0) New bridge (span 15.0)						Bypass is to be required							

# ROAD INVENTORY

25

ROUTE 1124  
including Rural road  
at A. Wang Chin

A. Wang Chin - B. Don Chai (J. Route 1)

C. Lomphang

L = 52.5 KM

STATION (km)		0		2.0		4.0		6.0		8.0		10.0		12.0		14.0		16.0		18.0		20.0		22.0		24.0		26.0		28.0		30.0	
NAME OF VILLAGE		A. Wang Chin (Rural road)		Zero point of R.1124		B. Wang Khon (NOH#60)		B. Wang Kwang (NOH#115)		B. Kheng Pin Chi (NOH#240)		B. Mae Maet		B. Pong Tut (NOH#60)		B. Pa Sak (NOH#240)		B. Mae Kratom (NOH#330)		B. Mae Ia		B. Paetung Sharoen											
TERRAIN		Rolling						Flat						Rolling																			
LAND USE	LEFT	Village Bush		Village Bush		Bush Paddy		Village Bush		Bush Paddy		Village Bush		Bush dotted with paddy		Bush dotted with paddy		Village Bush		Village Bush		Village Bush		Village Bush		Bush dotted with maize		Bush dotted with paddy					
	RIGHT	Village Bush		Village Bush		Bush Paddy		Village Bush		Bush Paddy		Village Bush		Bush dotted with paddy		Bush dotted with paddy		Village Bush		Village Bush		Village Bush		Village Bush		Bush dotted with paddy		Bush dotted with paddy					
CARRIAGEWAY WIDTH (m)		2.6		4.0		3.0		3.0		3.0		2.6		3.6		2.8		3.0		4.0		3.1		3.1									
ROAD FORMATION WIDTH (m)		3.8		5.3		5.0		5.0		5.0		4.4		5.3		4.6		5.0		5.8		4.8											
CUTTING DEPTH (m)																																	
EMBANKMENT HEIGHT (m)		1.0		0.0		0.5				0.5		0.5		0.5		0.5		0.8				0.6											
ROAD SURFACE	TYPE	F.S.								L								S.T.		L		S.T.				L							
	CONDITION	F								Fair								Fair		Fair		Fair				Fair							
ALIGNMENT	HORIZONTAL	Bad 2 RA												Fair																			
	VERTICAL	Fair		Fair		Bad				Fair				Bad								Fair											
FLOODING	LENGTH (km)																							0.5		0.5		0.5		0.5			
	HEIGHT (m)																									0.5		0.5		0.5			
BRIDGES		T - (4.0x12.0)				T - (5.5x8.3)		B - (4.0x27.0) T - (4.0x2.5)		B - (4.5x46.0)		T - (4.0x8.0) T - (4.5x19.0)		T - (4.0x12.0) T - (4.0x3.0)		T - (4.0x3.0) T - (4.0x16.0) T - (4.0x2.0)		T - (4.0x3.0) T - (3.7x10.0) T - (4.0x8.0)		T - (4.0x3.0)		T - (4.0x8.0) T - (4.0x5.0)		T - (4.0x2.0) T - (3.4x21.5) T - (3.8x14.8)		T - (3.8x20.0) T - (3.8x4.0)		T - (3.8x19.5)		T - (4.0x4.0) T - (4.0x3.0)			
REMARKS																																	



# ROAD INVENTORY

A. Wang Chin - B. Don Chai (J. Route I) (Continued)

25

ROUTE 1124

C. Phrae

C. Lampang

L = 52.5 KM

STATION (km)		30.0		32.0		34.0		36.0		38.0		40.0		42.0		44.0		46.0		48.0		50.0		52.0		52.5	
NAME OF VILLAGE		B. Pang Nguam												B. Makwen (NOH#220)						B. Hua Tang (NOH#220)		B. Tha Pha (NOH#250)		Route 1 B. Don Chai			
TERRAIN		Rolling				Mountainous								Rolling													
LAND USE	LEFT	Bush dotted with paddy				Forest Bush								Bush				Village		Bush		Village					
	RIGHT	Bush				Forest Bush								Bush				Village		Bush		Village					
CARRIAGEWAY WIDTH (m)		3.5						3.0						2.5		3.0				2.5				3.0			
ROAD FORMATION WIDTH(m)		6.0						4.5						4.4		4.4				5.6				6.0			
CUTTING DEPTH (m)								0.0						0.5						0.5				0.0			
EMBANKMENT HEIGHT (m)		0.5						0.0						0.5						0.5				0.0			
ROAD SURFACE	TYPE													L													
	CONDITION													Fair													
ALIGNMENT	HORIZONTAL									Bad								Fair									
	VERTICAL	Fair								Bad								Fair									
FLOODING	LENGTH (km)							0.05										0.03									
	HEIGHT (m)							0.05										0.5									
BRIDGES		T - (4.0x8.0)		T - (4.0x2.0)		T - (4.0x2.0) T - (4.0x2.0)		T - (4.0x2.0)		T - (3.8x10.2)		T - (4.0x3.0) T - (4.0x8.0)		T - (4.0x2.0) T - (4.0x8.0) T - (4.0x8.0)		T - (4.0x12.0)		T - (4.0x8.0)		T - (3.8x27.3) B - (3.8x30.5)							
REMARKS										Though a river exists, there is no bridge. A new bridge (span 30 m) is to be required.						New bridge with the length of 24 m is required for countermeasure of flood.											

# ROAD INVENTORY

A. Li (J. Route 106) - B. Puang (Route 1235)

26

ROUTE 1184

C. Lamphun

L = 18.5 KM

STATION (km)		0		2.0		4.0		6.0		8.0		10.0		12.0		14.0		16.0		18.0		18.5			
NAME OF VILLAGE		Route 106 A. Li		B. Hom To (NOH#100)												B. Rong		B. Puang		J.C. R. 1235					
TERRAIN		Flat				Rolling												Flat							
LAND USE	LEFT	Village		Paddy Village		Bush, Forest												Village		Bush					
	RIGHT	Village		Paddy Village		Bush, Forest												Village		Bush					
CARRIAGEWAY WIDTH (m)		6.8		3.7		7.4		4.8		0.5		6.0		4.0		0.5		6.0		3.8		5.0		4.0	
ROAD FORMATION WIDTH (m)		6.8		3.7		7.4		4.8		0.5		6.0		4.0		0.5		6.0		3.8		5.0		4.0	
CUTTING DEPTH (m)		0.0																							
EMBANKMENT HEIGHT (m)		0.0																							
ROAD SURFACE	TYPE	S.T.		L																					
ROAD SURFACE	CONDITION	Fair				Bad																			
ALIGNMENT	HORIZONTAL					Fair								Bad				Fair							
	VERTICAL			Bad		Fair				Bad				Fair											
FLOODING	LENGTH (km)			1.0																					
	HEIGHT (m)			0.5																					
BRIDGES		T - (3.5x6.0) Conc. Pier		T - (3.5x5.0)		T - (4.0x16.0)				T - (4.0x16.0)				T - (3.0x3.5)				T - (3.5x17.0)							
REMARKS		Raising up and placing a number of pipe culverts are required in the flood section																							

# ROAD INVENTORY

27

ROUTE 1219

B. Mae Thoei (J. Route 106) - A. Thung Hua Chang (J. Route 1184)

C. Lamphun

L = 17.7 KM

STATION (km)		0		2.0		4.0		6.0		8.0		10.0		12.0		14.0		16.0		16.6		17.7	
NAME OF VILLAGE		Route 106 B. Mae Thoei		B. San Wilai																A. Thung Hua Chang			
TERRAIN		Flat								Rolling								Flat					
LAND USE	LEFT	Village								Bush, Forest								Village					
	RIGHT	Village								Bush, Forest								Village					
CARRIAGEWAY WIDTH (m)		4.5		4.8						2.7				3.2				5.0					
ROAD FORMATION WIDTH (m)		6.6		7.5						4.0				5.2				7.6					
CUTTING DEPTH (m)										0.5				1.0									
EMBANKMENT HEIGHT (m)		0.0		0.0														0.5					
ROAD SURFACE	TYPE									L								S.T.					
	CONDITION							Fair						Bad				Fair					
ALIGNMENT	HORIZONTAL	R.A.						Fair				Bad				Fair							
	VERTICAL			Fair				Bad		Fair		Bad				Fair							
FLOODING	LENGTH (km)																						
	HEIGHT (m)																						
BRIDGES		T - (4.0x5.0) T - (3.6x88.0) T - (3.8x6.0)				T - (3.5x6.4)		T - (3.3x7.0)		T - (3.9x4.3)													
REMARKS		Bypass should be planned at B. Mae Thoei																Under paving in the village, 1.1 KM long.					

# ROAD INVENTORY

28

ROUTE 9061

A. Na Noi (Route 1026) - A. Na Muen

C. Nan

I. = 20.0 KM

STATION (km)		0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
NAME OF VILLAGE		A. Na Noi (Route 1026)			B. Sala	B. Thung	B. Doi		B. Kham Ruang	B. Pa Phao		A. Na Muen
TERRAIN		Flat			Rolling		Flat	Rolling		Flat		
LAND USE	LEFT	Village Pad.	Paddy, Bush		Vill. Bush	Vill. Bush	Paddy	Village Bush	Village Paddy	Village Paddy	Village Paddy	Village
	RIGHT	Village Pad.	Bush		Vill. Bush	Vill. Bush	Paddy	Village Bush	Village Bush	Village Paddy	Village Paddy	Village
CARRIAGEWAY WIDTH (m)		5.0 4.2		0.5 5.5				5.0 4.7			5.0 4.5	6.0 4.5
ROAD FORMATION WIDTH(m)												
CUTTING DEPTH (m)												
EMBANKMENT HEIGHT (m)		0.5						0.0			1.0	0.0
ROAD SURFACE	TYPE	S.T.					L					
	CONDITION	Fair		Bad	Fair	Bad	Fair		Bad		Fair	
ALIGNMENT	HORIZONTAL	Fair										
	VERTICAL	Fair		Bad		Fair		Bad		Fair		
FLOODING	LENGTH (km)	No Flooding										
	HEIGHT (m)											
BRIDGES		T - (4.0x20.0)	C - (7.0x60.0)	C - (3.5x26.0)	C - (3.5x30.0)	C - (3.5x30.0)		C - (7.0x64.0)	T - (4.5x14.0)	T - (4.5x34.0)	T - (5.5x20.0)	
REMARKS												

# ROAD INVENTORY

29

ROUTE 1207

B. Rong Sua Ten (J. Route 110) - B. Huai Khom

C. Chiang Rai

L = 13.4 KM

STATION (km)		0	2.0	4.0	6.0	8.0	8.0	10.0	12.0	13.4
NAME OF VILLAGE		B. Rong Sua Ten Route 110				B. Pa Yang (NOH=100)	B. Sai Mun (NOH=200)	B. Mae Yao	B. Tung Luang (NOH=270)	B. Huai Khom (NOH=160)
TERRAIN		Flat		Rolling				Flat		
LAND USE	LEFT	Village		Paddy		Village	Rice		Village	
	RIGHT	Village		Paddy		Village	Bush		Village	
CARRIAGEWAY WIDTH (m)		4.2		4.2		4.5			4.5	
ROAD FORMATION WIDTH(m)		6.2		5.8		7.0			7.0	
CUTTING DEPTH (m)										
EMBANKMENT HEIGHT(m)		0.0		0.5		0.0			0.0	
ROAD SURFACE	TYPE									
	CONDITION		Bad			Fair		Bad	Fair	Bad
ALIGNMENT	HORIZONTAL					Fair				
	VERTICAL					Fair				
FLOODING	LENGTH (km)							0.2		
	HEIGHT (m)							0.5		
BRIDGES			T - (4.3x6.2)			T - (4.0x4.5)				T - (3.6x25.0)
REMARKS								Raising up and placing a number of pipe culverts are required in the flood section		

# ROAD INVENTORY

30

ROUTE 1174

B. Thung Ngiu (J. Route 1020) - B. Chomphu (J. Route 1020)  
C. Chiang Rai

L = 47.6 KM

STATION (km)		0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0 22.0 24.0 26.0 28.0 30.0															
NAME OF VILLAGE		B. Thung Ngiu (R. 1020) (NOH#400) B. Nam Ma (NOH#300) B. Khia (NOH#200) B. Wai (NOH#400) B. Kiang Nua (NOH#400) B. Kaen Tai (R. 1098) (NOH#400)															
TERRAIN		Flat															
LAND USE	LEFT	Village		Paddy		Village		Paddy		Village		Paddy		Village		Paddy	
	RIGHT	Village		Paddy		Village		Paddy		Village		Paddy		Village		Paddy	
CARRIAGEWAY WIDTH (m)		5.5		5.3		6.0		6.0		5.2		4.5		4.5		4.5	
ROAD FORMATION WIDTH(m)		7.0		7.0		7.0		7.0		7.0		6.0		5.5		5.5	
CUTTING DEPTH (m)																	
EMBANKMENT HEIGHT (m)		0.0 0.5															
ROAD SURFACE	TYPE	S.T.		L		L		L		S.T.		L		L		L	
	CONDITION	Good		Fair		Fair		Fair		Good		Fair		Fair		Fair	
ALIGNMENT	HORIZONTAL	R.A.															
	VERTICAL	Fair															
FLOODING	LENGTH (km)	No Flooding															
	HEIGHT (m)																
BRIDGES		T - (4.0x24.0)		T - (4.0x36.0)		T - (4.0x24.0)		T - (4.0x18.0) T - (4.0x12.0)		T - (4.0x18.0)		T - (4.0x18.0)					
REMARKS		Bypass should be planned at Ban Sa Than															

# ROAD INVENTORY

30

ROUTE 1174

B. Thung Ngiu (J. Route 1020) - B. Chomphu (J. Route 1020) (Continued)  
C. Chiang Rai

STATION (km)		30.0	32.0	34.0	36.0	38.0	40.0	42.0	44.0	46.0	47.6	
NAME OF VILLAGE		B. So (NOH#500)				(ARD Road)	B. Mae Tam Tai				B. Chomphu	
TERRAIN		Flat										
LAND USE	LEFT	Paddy	Village		Paddy		Village		Paddy		Village	
	RIGHT	Paddy	Village		Paddy		Village		Paddy		Village	
CARRIAGEWAY WIDTH (m)												
ROAD FORMATION WIDTH(m)					5.5	4.0		6.0	5.0		8.2	5.6
CUTTING DEPTH (m)												
EMBANKMENT HEIGHT (m)					1.0			0.5		1.0		
ROAD SURFACE	TYPE						L					
	CONDITION	Fair		Bad			Fair		Bad			
ALIGNMENT	HORIZONTAL	2R.A					Fair					
	VERTICAL						Fair					
FLOODING	LENGTH (km)			0.5	5.0							
	HEIGHT (m)											
BRIDGES		T - (4.5x18.0)	T - (4.5x13.0)			T - (4.5x6.0)			T - (4.5x7.0)	C - (7.2x10.6)		
REMARKS		Bypass is required at B. So		Raising up and placing a number of pipe culverts are required in the flood section						Concrete bridge constructed by National Security Command exists		

# ROAD INVENTORY

31

ROUTE 1098

B. Kiu Phrao(J.Route 1016) - B. Kaen Tai (J. Route 1174)

C. Chiang Rai

L = 56.0 KM

STATION (km)		0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 15.7 16.0 18.0 20.0 22.0 24.0 26.0 28.0 30.0															
NAME OF VILLAGE		B. Kiu Phrao R. 1016 B. Pa Thon (NOH#60) B. Pa Pan B. Mae Lak B. Tha Khao Pluak (Nam Mae Kok) B. Tha Kok (NOH#70) B. Pa Daeng B. Pong Noi (NOH#100)															
TERRAIN		Flat Rolling Flat Rolling Flat															
LAND USE	LEFT	Village Bush Village Paddy Paddy Village Rice Bush Village Paddy Bush Village Paddy Bush Village Bush Village Bush Village Bush Paddy Paddy															
	RIGHT	Village Bush Village Paddy Paddy Village Rice Bush Village Paddy Bush Village Paddy Bush Village Bush Village Bush Paddy Paddy															
CARRIAGEWAY WIDTH (m)		6.0 4.5 7.2 5.2 4.5 4.0 3.5 4.0 3.3 6.0 4.5 1.0 7.5 5.0															
ROAD FORMATION WIDTH(m)		6.0 4.5 7.2 5.2 4.5 4.0 3.5 4.0 3.3 6.0 4.5 1.0 7.5 5.0															
CUTTING DEPTH (m)		0.0 0.5 0.5 0.0 0.5 0.0 1.0 7.5 5.0															
EMBANKMENT HEIGHT (m)		0.0 0.5 0.5 0.0 0.5 0.0 1.0 7.5 5.0															
ROAD SURFACE	TYPE	L E L															
	CONDITION	Bad Fair Bad Bad Fair Bad Fair Bad															
ALIGNMENT	HORIZONTAL	Fair R.A. Bad R.A. Fair Fair															
	VERTICAL	Fair Fair Fair Bad Fair Bad															
FLOODING	LENGTH (km)	No Flooding															
	HEIGHT (m)																
BRIDGES		T - (3.3x8.3) T - (3.5x5.0) T - (3.3x6.5) T - (4.2x6.0) T - (4.0x6.0) T - (4.0x9.0) T - (4.0x18.0)															
REMARKS		Construction of Concrete Bridge (L=200 m) to cross Nam Mae Kok and its approach road to B. Tha Khao Pluak (L=3 km) were started in Nov. 1980, by National Security Command Bypass should be planned at B.Pong Noi															



## ROAD INVENTORY

31

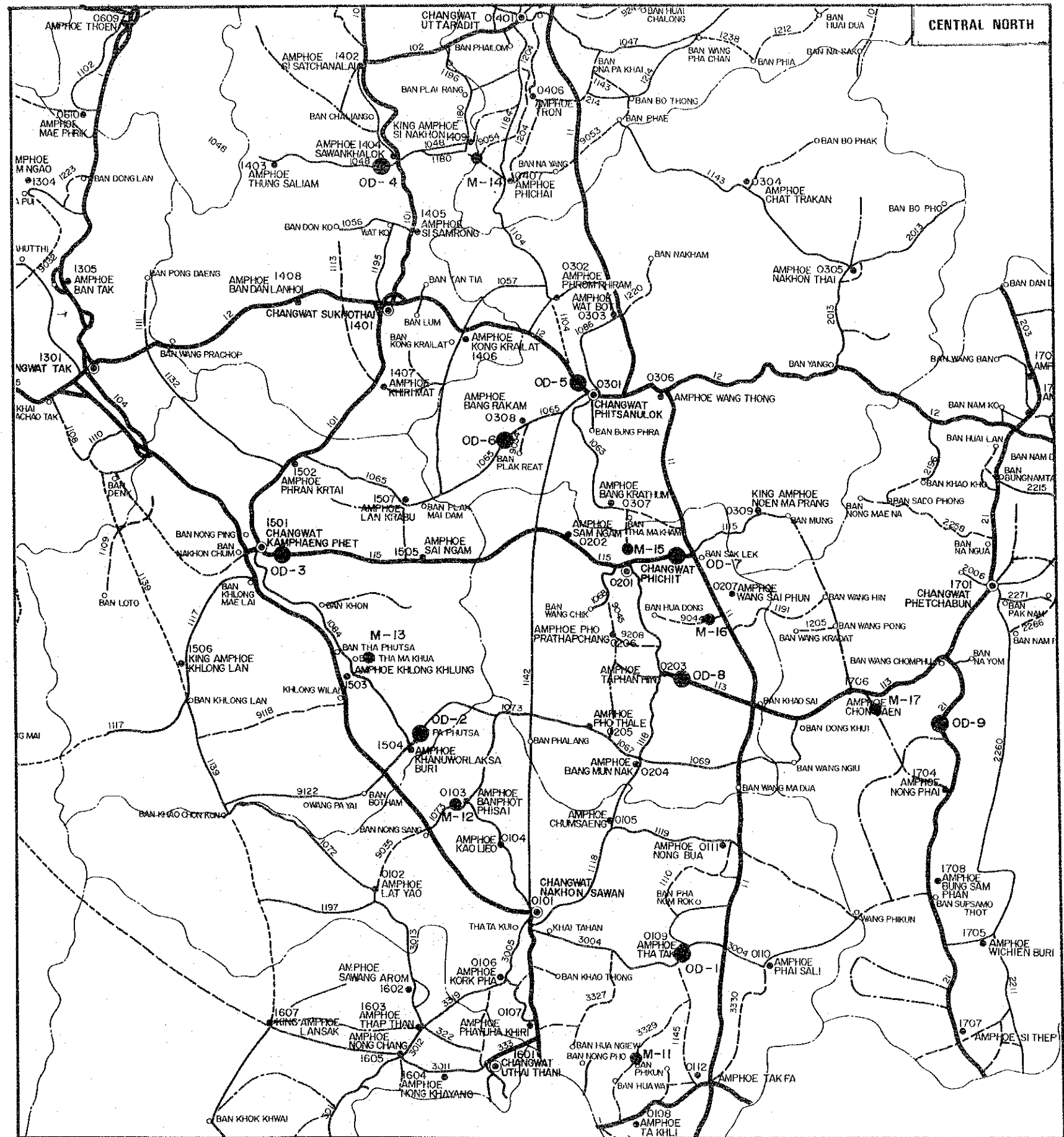
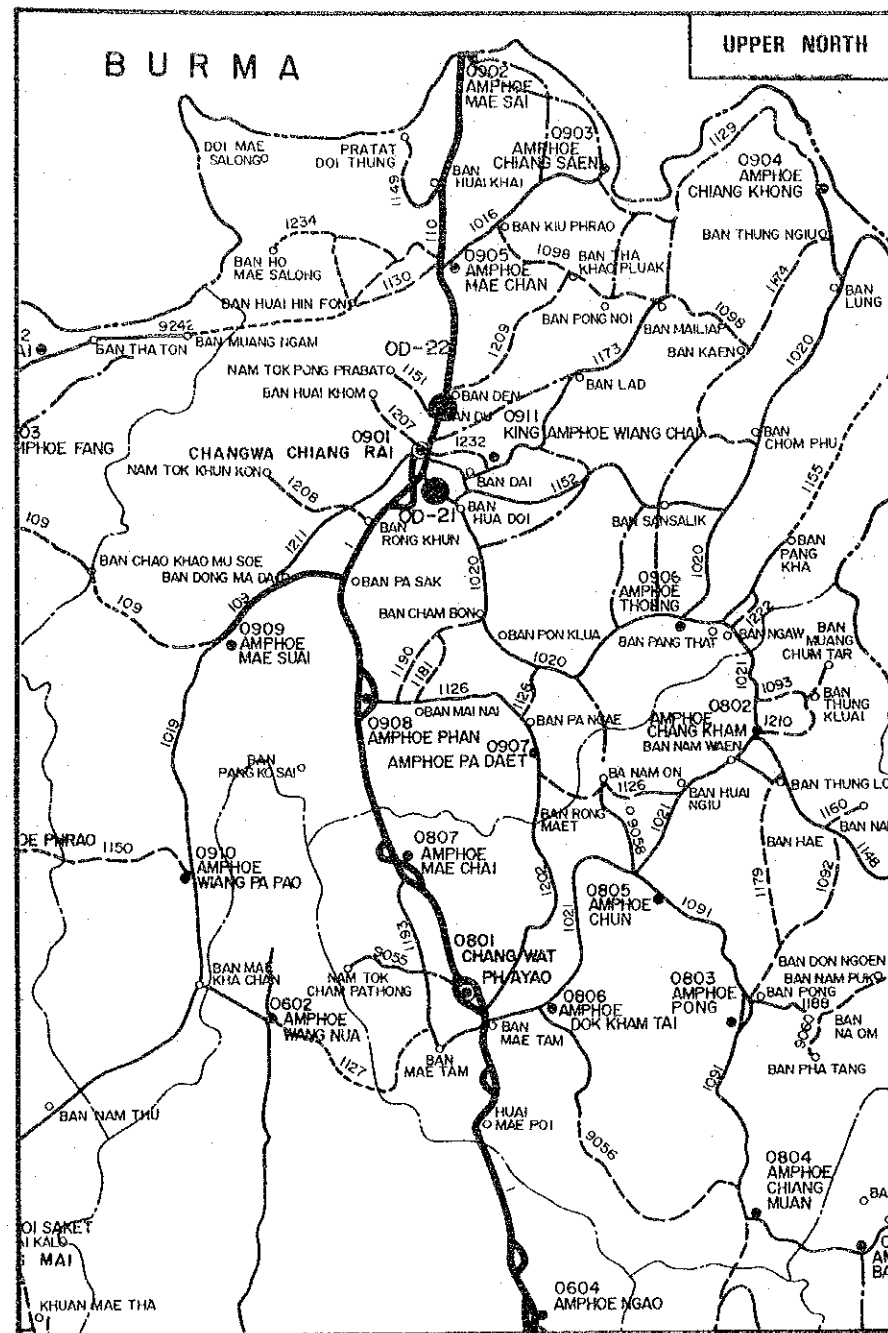
ROUTE 1098

B. Kiu Phrao (J. Route 1016) - B. Kaen Tai (J. Route 1174) (Continued)

C. Chiang Rai

STATION (km)		30.0		32.0		34.0		36.0		38.0		40.0		42.0		44.0		46.0		48.0		50.0		52.0		54.0		56.0	
NAME OF VILLAGE				B. Thung Kwang (NOH#100)						B. Mae Riap (NOH#290) (R.1173)																B. Kaen Nua		B. Kaen Tai	
TERRAIN		Flat		Rolling		Flat		Rolling		Flat		Rolling		Flat															
LAND USE	LEFT	Paddy	Vil. Rice	Bush	Paddy	Village	Paddy	Bush	Forest																				
	RIGHT	Paddy	Vil. Rice	Bush	Paddy	Village	Paddy	Bush	Forest																				
CARRIAGEWAY WIDTH (m)				3.5										6.0															
ROAD FORMATION WIDTH (m)				5.0										8.0															
CUTTING DEPTH (m)																													
EMBANKMENT HEIGHT (m)				1.0										0.0															
ROAD SURFACE	TYPE							L								E				L									
	CONDITION					Bad						Fair				Bad				Fair									
ALIGNMENT	HORIZONTAL							Fair								Bad				Fair									
	VERTICAL							Bad						Good				Bad				Fair							
FLOODING	LENGTH (km)																												
	HEIGHT (m)																												
BRIDGES		T - (3.0x6.0) T - (3.0x24.0)		T - (4.0x6.0) T - (4.0x8.0)						T - (4.0x30.0) T - (4.2x22.0)								T - (3.5x10.0) T - (3.5x10.0)		T - (3.5x12.0) T - (3.5x5.0)		T - (4.0x12.0)				T - (4.0x5.0)			
REMARKS										Construction of pavement for Laterite road is under taken about 3 km from ARD road to the east.		5 new bridges (10 m span) are required where streams exist in earth road section																	

Appendix 6-3-1 TRAFFIC SURVEY STATIONS


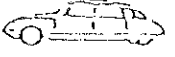

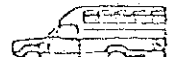
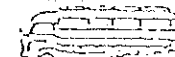
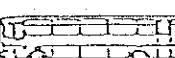

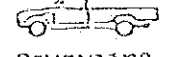
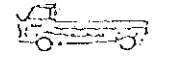
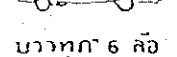
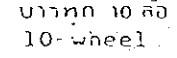
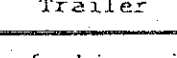


**REGEND**

- : O/D SURVEY STATION  
(ROADSIDE INTERVIEW, AUTOMATIC COUNT AND  
6 HRS. MANUAL CLASSIFIED COUNT)
- : MANUAL COUNT STATION  
(12 HRS. MANUAL CLASSIFIED COUNT)

ROAD DEVELOPMENT STUDY IN THE NORTH REGION

O/D SURVEY QUESTIONNAIRE

<p>รถยนต์ส่วนบุคคล Passenger cars</p>  <p>รถแท็กซี่ Taxi</p>  <p>รถยนต์ส่วนบุคคล Private Car</p> 	<p>รถยนต์โดยสาร Buses</p>  <p>ขนาดเล็ก Light</p>  <p>ขนาดกลาง Medium</p>  <p>ขนาดใหญ่ Heavy</p> 	<p>รถบรรทุก Trucks</p> <p>กระบะบรรทุก</p>  <p>บรรทุก 4 ล้อ 4-wheel</p>  <p>บรรทุก 6 ล้อ 6-wheel</p>  <p>บรรทุก 10 ล้อ 10-wheel</p>  <p>รถทราลเลอร์ Trailer</p> 	<p>Project Road No. _____</p> <p>Station No. _____ Direction _____</p> <p>Date _____ Time _____</p> <p>Mark _____</p> <p>Model _____</p> <p>Engine Size _____ CC. ขนาดเครื่องยนต์ H.P. แรงม้า _____</p> <p>Type of Fuel _____ ชนิดของเชื้อเพลิง Gas แก๊ส Diesel Oil น้ำมันดีเซล</p>	<p><u>PASSENGER CARS ONLY</u> สำหรับรถยนต์ส่วนบุคคลอย่างเดียว</p> <p>8) What is your trip purpose ? จุดประสงค์ในการเดินทางของท่านคืออะไร?</p> <p><input type="checkbox"/> Work ไปทำงาน <input type="checkbox"/> Home กลับบ้าน <input type="checkbox"/> Business/Official งานกิจ/ราชการ</p> <p><input type="checkbox"/> Shopping ซื้อสินค้า <input type="checkbox"/> Social/Recreational สังคม/พักผ่อน</p> <p><u>BUS ONLY</u> สำหรับรถโดยสารอย่างเดียว</p> <p>9) Passenger capacity of bus _____ passengers จำนวนผู้โดยสาร คน</p> <p><u>TRUCKS ONLY</u> สำหรับรถบรรทุกอย่างเดียว</p> <p>10) Weight of empty truck _____ Tons น้ำหนักรถเปล่า ตัน</p> <p>11) Load capacity of truck _____ Tons น้ำหนักบรรทุกทุกอย่างเต็มที่ ตัน</p> <p>12) Weight of Cargo _____ Tons น้ำหนักสินค้า ตัน</p> <p>13) Volume of cargo _____ Cu. m. ปริมาณของสินค้าบรรทุกมา ลูกบาศก์เมตร</p> <p><input type="checkbox"/> Empty รถเปล่า <input type="checkbox"/> 1/2 truck รถ <input type="checkbox"/> 1/3 truck รถ <input type="checkbox"/> 3/4 truck รถ <input type="checkbox"/> full เต็มรถ</p> <p>14) Nature of cargo (Specify) ชนิดของสินค้าที่บรรทุกมา (บอกชื่อของสินค้า)</p> <p><input type="checkbox"/> Rice ข้าว <input type="checkbox"/> Sugar Cane อ้อย <input type="checkbox"/> Seed Cotton เมล็ดฝ้าย</p> <p><input type="checkbox"/> Maize ข้าวโพด <input type="checkbox"/> Cassava มันสำปะหลัง <input type="checkbox"/> Livestock ปศุสัตว์</p> <p><input type="checkbox"/> Beans ถั่ว <input type="checkbox"/> Tobacco Leaves ใบยาสูบ <input type="checkbox"/> Forest Products ผลิตภัณฑ์ป่าไม้</p> <p><input type="checkbox"/> Other Agricultural Products ผลิตภัณฑ์ทางการเกษตรอื่น ๆ <input type="checkbox"/> Other Industrial Products ผลิตภัณฑ์ทางอุตสาหกรรมอื่น ๆ</p> <p><input type="checkbox"/> Fishery Products ผลิตภัณฑ์ทางการประมง <input type="checkbox"/> Mining Products ผลิตภัณฑ์เหมืองแร่ <input type="checkbox"/> Household Necessaries เครื่องใช้จำเป็นในบ้าน</p> <p><input type="checkbox"/> Groceries ของชำ <input type="checkbox"/> Others อื่น ๆ</p>
<p>1) Where was your origin of this trip ? ท่านเริ่มออกเดินทางมาจากไหน?</p> <p>Tambon _____ Amphoe _____ Changwat _____ ตำบล อำเภอ จังหวัด</p> <p>2) What is your final destination ? (names of town or village) จุดหมายปลายทางสุดท้ายของท่านอยู่ที่ไหน? (บอกชื่อเมืองหรือหมู่บ้าน)</p> <p>Tambon _____ Amphoe _____ Changwat _____ ตำบล อำเภอ จังหวัด</p> <p>3) Which route did you take before the present one ? เส้นทางไหนที่ท่านใช้ก่อนสายทางนี้?</p> <p>4) Which route will you take after this ? ท่านจะใช้เส้นทางไหนต่อจากทางสายนี้?</p> <p>5) Have you made any stop since you left ? ท่านแวะที่ไหนบ้างหรือเปล่าก่อนที่จะมาถึงที่นี่</p> <p>No Yes ไม่แวะ แวะ</p> <p>If "Yes" where ? _____ for what reason _____ ถ้าแวะ แวะที่ไหน? เพื่ออะไร</p> <p>6) Will you make any necessary stop before getting there ? ท่านจะแวะที่ไหนอีกบ้างหรือไม่?</p> <p>No Yes ไม่แวะ แวะ</p> <p>If "Yes" where ? _____ for what reason _____ ถ้าแวะ แวะที่ไหน? เพื่ออะไร</p> <p>7) Number of occupants in the vehicle (including driver) _____ บอกจำนวนคนโดยสารรวมทั้งคนขับ</p>				

ROAD DEVELOPMENT STUDY IN THE NORTH REGION																				
MANUAL CLASSIFIED COUNTS																				
Date _____ / _____ / _____										Station No. _____										
Time from _____ to _____										Direction _____										
Motor-Cycle รถจักรยานยนต์	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Passenger Cars & Taxi รถยนต์, แท็กซี่	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Light Bus รถโดยสารเล็ก	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Medium Bus รถโดยสาร - ขนาดกลาง	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Heavy Bus รถโดยสารขนาด ใหญ่	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Pick Up Truck รถบรรทุกยก	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
4-Wheel Truck รถบรรทุก 4 ล้อ	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
6-Wheel Truck รถบรรทุก 6 ล้อ	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
10-Wheel Truck and Over รถบรรทุก 10 ล้อ และที่หนักกว่า	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

## Appendix 6-3-3 TRAFFIC COMPOSITION AT O/D SURVEY POINT

Survey Point	Road <sup>1/</sup> Class	(*)					
		Passenger Traffic			Freight Traffic		
		P/C	L/B	H/B	L/T	M/T	H/T
OD-1	3	55.4	33.8	10.8	53.0	31.0	16.0
OD-2	4	17.0	83.0	-	(43.4) <sup>2/</sup>	(14.0) <sup>2/</sup>	(42.6) <sup>2/</sup>
OD-3	2	58.0	34.9	7.1	54.9	17.9	27.2
OD-4	4	23.9	66.7	9.4	53.6	23.6	22.8
OD-5	1	54.0	34.8	11.2	35.8	40.3	23.9
OD-6	4	24.4	65.4	10.3	51.2	43.8	5.0
OD-7	2	60.7	29.8	9.6	53.1	25.6	21.3
OD-8	2	74.0	21.8	4.3	54.5	26.0	19.5
OD-9	1	62.6	13.1	24.3	48.7	23.1	28.2
OD-11	3	40.1	52.2	7.6	45.4	42.4	12.2
OD-12	2	61.5	33.3	5.2	54.1	29.8	16.1

Note : <sup>1/</sup> Road Class 1. .... National Highway (primary)  
 2. .... National Highway (secondary)  
 3. .... Provincial Highway (paved)  
 4. .... Provincial Highway (unpaved)

<sup>2/</sup> The figure of freight traffic composition at OD-2 includes heavy trucks loaded construction materials to improve Route 1073.

## Appendix 6-3-4 COUNTED TRAFFIC AT SURVEY STATION

O/D STATION	(Vehicle/8 hrs)											
	Station Code	Passenger Traffic				Freight Traffic				Sub Total	M/C	Total
		P/C	L/B	H/B	(Total)	L/T	M/T	H/T	(Total)			
OD-1	128	78	25	(231)	89	52	27	(168)	399	216	615	
OD-2	8	39	-	(47)	62	20	61	(143)	190	272	462	
OD-3	228	137	28	(393)	273	89	135	(497)	890	603	1,493	
OD-4	38	106	15	(159)	59	26	25	(110)	269	131	400	
OD-5	363	234	75	(672)	251	283	168	(702)	1,374	732	2,106	
OD-6	19	51	8	(78)	62	53	6	(121)	199	205	404	
OD-7	165	81	26	(272)	110	53	44	(207)	479	153	632	
OD-8	554	163	32	(749)	229	109	82	(420)	1,169	535	1,704	
OD-9	214	45	83	(342)	183	87	106	(376)	718	126	844	
OD-21	116	151	22	(289)	246	230	66	(542)	831	408	1,239	
OD-22	454	246	38	(738)	178	98	53	(329)	1,067	394	1,461	

Note: Survey period 6:00 ~ 14:00 (8 hrs)

## MANUAL COUNT STATION

MANUAL COUNT STATION	(Vehicle/12 hrs)											
	Station Code	Passenger Traffic				Freight Traffic				Sub Total	M/C	Total
		P/C	L/B	H/B	(Total)	L/T	M/T	H/T	(Total)			
M-11	-	58	-	(58)	67	38	17	(122)	180	153	333	
M-12	60	120	9	(189)	316	85	103	(504)	698	778	1,471	
M-13	-	8	6	(14)	172	9	40	(221)	235	387	622	
M-14	4	6	-	(10)	137	26	12	(175)	185	200	385	
M-15	10	21	4	(35)	81	16	14	(111)	146	392	538	
M-16	6	5	-	(11)	74	16	6	(96)	107	142	249	
M-17	3	51	-	(54)	51	7	-	(58)	112	101	213	

Note: Survey period 6:00 ~ 18:00 (12 hrs)

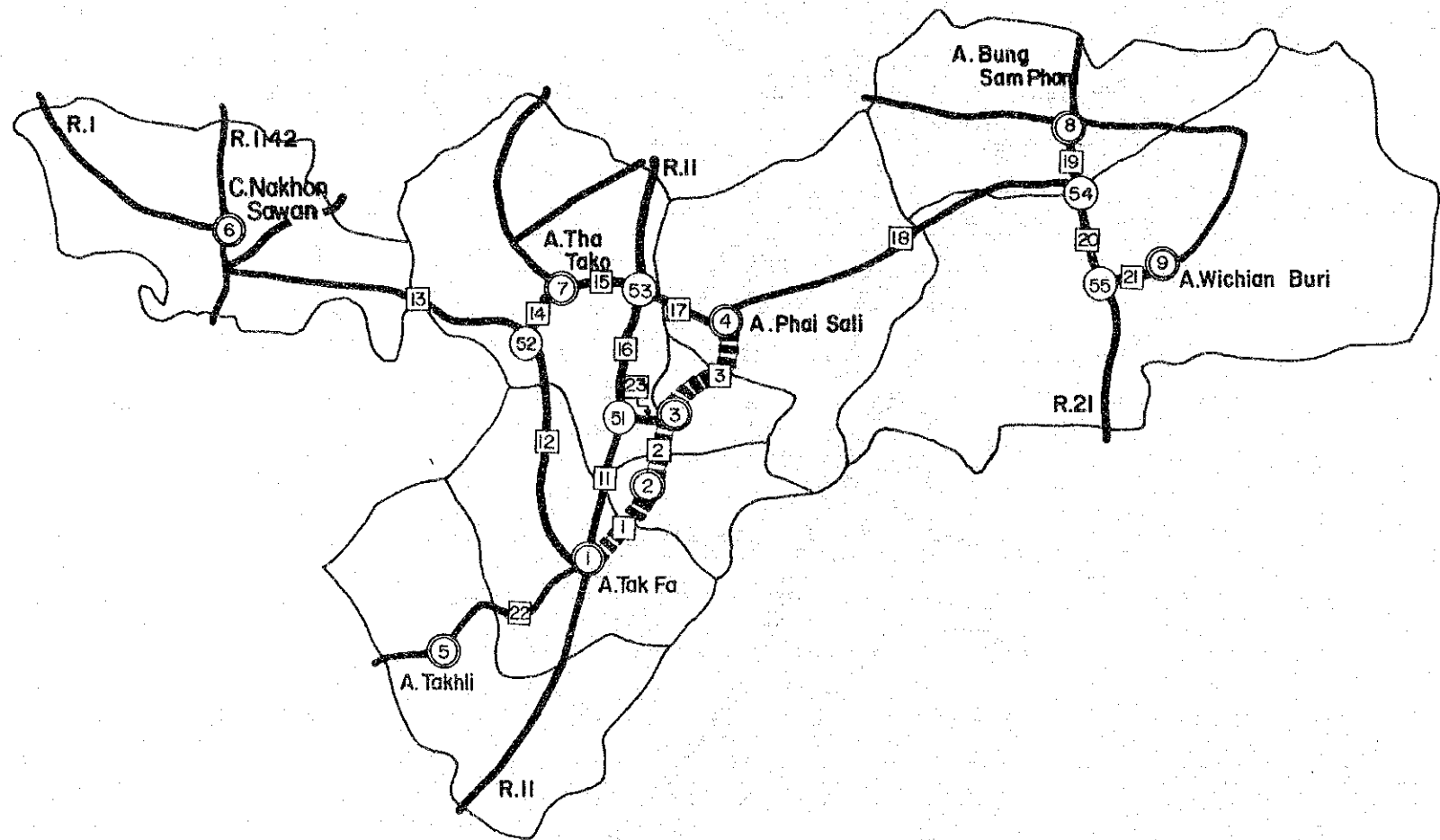
Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

1

**ROUTE 3330 B. Sam Yaek Samrong Chai (J. Route 1) - A. Phai Sali (J. Route 3004)**  
**PWD**  
**C. Nakhon Sawan**

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
1	Nakhon Sawan	Tak Fa	all
2	-do-	Phai Sali	05
3	-do-	-do-	02
4	-do-	-do-	01,03,04,06
5	-do-	Takhli	all
6	-do-	M.Nakhon Sawan	all
7	-do-	Tha Tako	all
8	Phatchabun	Bung Sam Pham	all
9	-do-	Wichian Buri	all
10			
11			



**ROAD LINK CHARACTERISTICS**

Link Code	Node Origin	Node Destination	Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
									Pair
Proposed Road	1	2	W	7.0	7	40	4	R.3330	
	2	3	W	7.0	4	70	3	R.3330	
			W	6.0	7	40	4	R.3330	
	3	4	W	20.3	7	40	4	R.3330,PWD	
W			20.3	4	70	3			
4			W						
Other Roads	11	51	W.W	13.5	1	80	1	R.II	
	12	52	W.W	27.9	7	40	4	R.II45	
	13	6	52	W.W	41.6	4	70	3	R.3004
	14	7	52	W.W	6.0	4	70	3	R.3004
	15	7	53	W.W	11.3	4	70	3	R.3004
	16	51	53	W.W	17.5	1	80	1	R.II
	17	4	53	W.W	9.5	4	70	3	R.3004
	18	4	54	W.W	47.0	8	30	4	R.3004,R.2184
	19	8	54	W.W	4.0	1	80	1	R.21
	20	54	55	W.W	15.0	1	80	1	R.21
	21	9	55	W.W	7.2	1	80	3	R.2012
	22	1	5	W.W	28.2	1	80	1	R.I
	23	3	51	W.W	4.0	4	70	3	R.II (package)
	24			W.W					
	25			W.W					
	26			W.W					
	27			W.W					
	28			W.W					
	29			W.W					
	30			W.W					
	31			W.W					
32			W.W						
33			W.W						
34			W.W						
35			W.W						

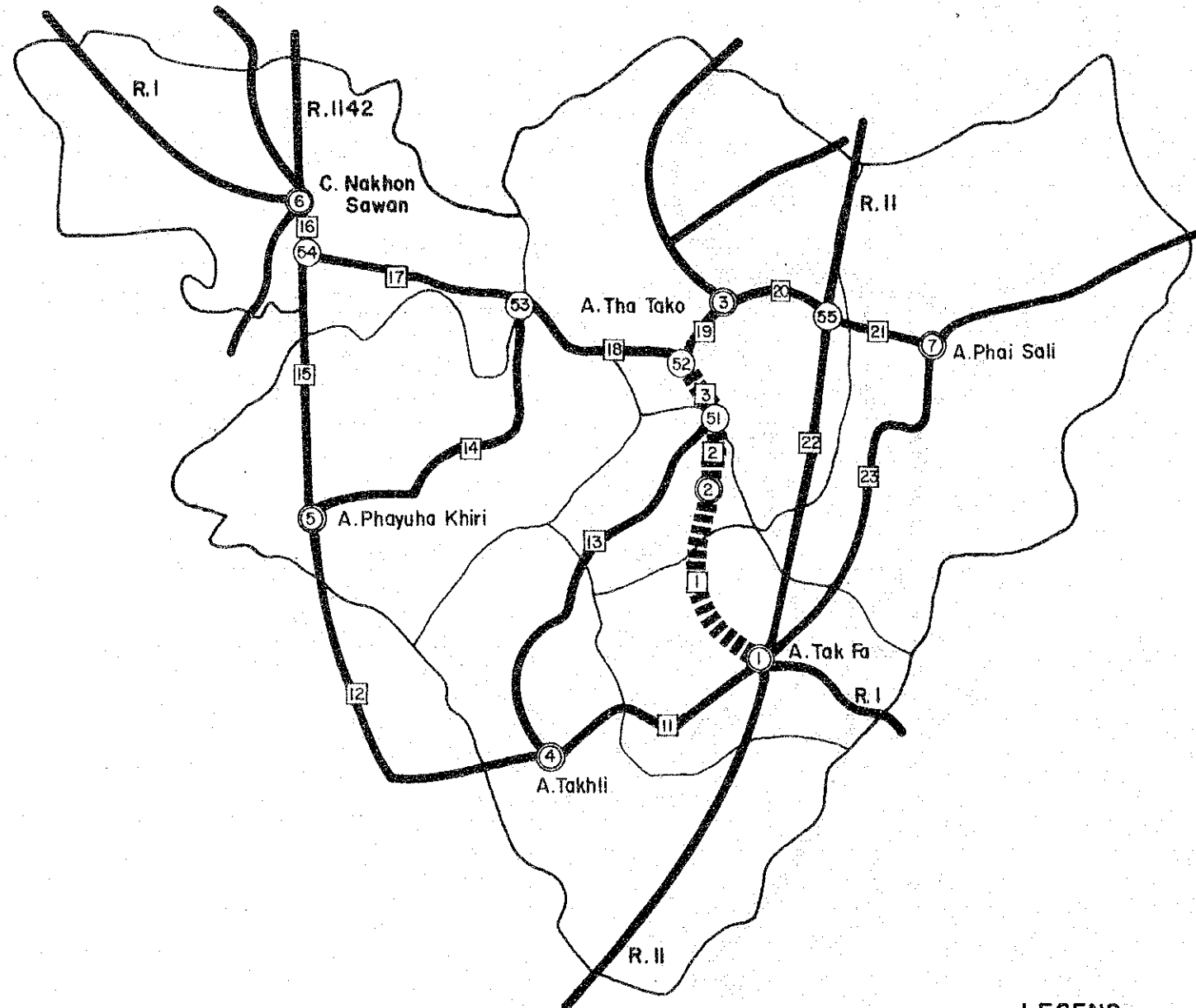
**LEGEND**

- ① Traffic Zone
- Ⓜ Dummy Node
- Ⓡ Road Link Code
- ▬ Proposed Road Link
- ▬ Other Road

Appendix 6-3-5 ROAD NETWORK AND TRAFFIC ZONES

ROUTE 1145 B. Hua Thanon Nua (J. Route 3004) – B. Tak Fa (J. Route 1)  
C. Nakhon Sawan

2



LEGEND

- Traffic Zone
- Dummy Node
- Road Link Code
- Proposed Road Link
- Other Road

TRAFFIC ZONES

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
1	Nakhon Sawan	Tak Fa	except 06
2	- do -	- do -	06
3	- do -	Tha Tako	all
4	- do -	Takhli	all
5	- do -	Phayuha Khiri	all
6	- do -	M. Nakhon Sawan	all
7	- do -	Phai Sali	all
8			
9			

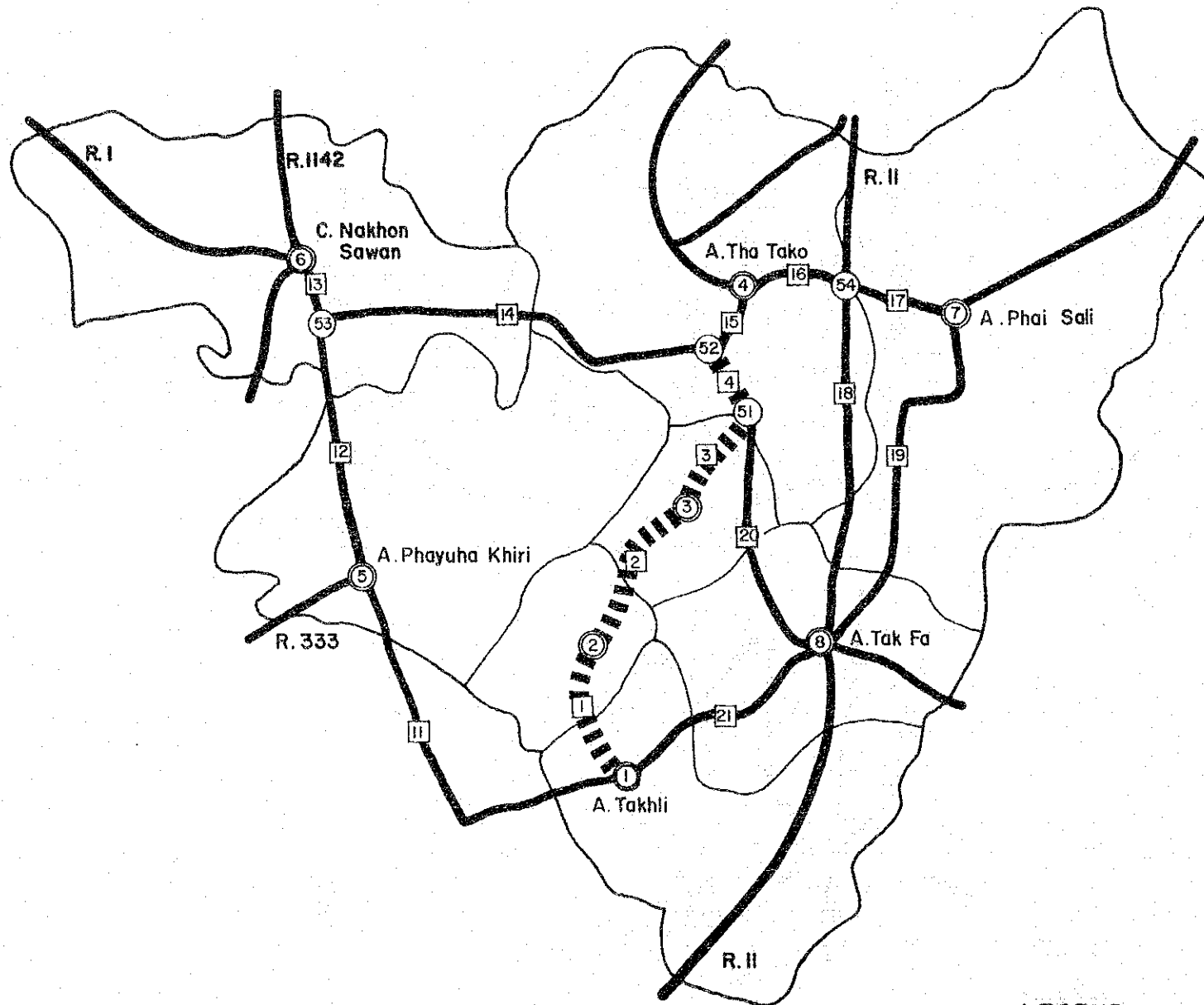
ROAD LINK CHARACTERISTICS

Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	2	W	12.2	7	40	4	R. 1145	
			W	12.2	4	70	3		
	2	51	W	8.0	7	40	4	R. 1145	
			W	8.0	4	70	3		
Proposed Road	3	51	W	7.7	7	40	4	R. 1145	
			W	7.7	4	70	3		
Proposed Road	4		W						
			W						
Other Roads	11	1	4	W.W	28.2	1	80	1	R. I
	12	4	5	W.W	39.0	1	80	1	R. I, R. 32
	13	4	51	W.W	38.8	7	40	4	R. 3329
	14	5	53	W.W	32.0	7	40	4	R. 3327
	15	5	54	W.W	21.3	1	80	1	R. I
	16	6	54	W.W	2.5	1	80	1	R. I
	17	53	54	W.W	20.0	4	70	3	R. 3004
	18	52	53	W.W	21.6	4	70	3	R. 3004
	19	3	52	W.W	6.0	4	70	3	R. 3004
	20	3	55	W.W	11.3	4	70	3	R. 3004
	21	7	55	W.W	9.5	4	70	3	R. 3004
	22	1	55	W.W	31.0	1	80	1	R. II
	23	1	7	W.W	33.3	7	40	4	R. 3330
	24			W.W					
	25			W.W					
	26			W.W					
	27			W.W					
	28			W.W					
	29			W.W					
	30			W.W					
	31			W.W					
	32			W.W					
	33			W.W					
	34			W.W					
	35			W.W					

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

3

**ROUTE 3329 B. Sam Yaek (J. Route I) – B. Hua Thanon Nua (J. Route 3004)**  
**ROUTE 1145 C. Nakhon Sawan**



**LEGEND**

- ① Traffic Zone
- Ⓜ Dummy Node
- Ⓜ Road Link Code
- Proposed Road Link
- Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Changwat Name	Amphoe Name	Tambon Code
①	Nakhon Sawan	Takhli	except 05,06
②	- do -	- do -	05,06
③	- do -	Tak Fa	06
④	- do -	Tha Tako	all
⑤	- do -	Phayuha Khili	all
⑥	- do -	M. Nakhon Sawan	all
⑦	- do -	Phai Sali	all
⑧	- do -	Tak Fa	except 06
⑨			
⑩			

**ROAD LINK CHARACTERISTICS**

Link Code	Node Pair		Project Case	Distance ( Km )	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	2	W	10.3	7	40	4	R. 3329	
			W	10.3	4	70	3	R. 3329	
	2	3	W	19.7	7	40	4	R. 3329	
			W	19.7	4	70	3	R. 3329	
	3	51	W	8.8	7	40	4	R. 3329	
			W	8.8	4	70	3	R. 3329	
	4	51	52	W	7.7	7	40	4	R. 1145
				W	7.0	4	70	3	R. 1145
Other Roads	11	1	5	W.W	39.0	1	80	1	R. I, R. 32
	12	5	53	W.W	21.3	1	80	1	R. I
	13	6	53	W.W	2.5	1	80	1	R. I
	14	52	53	W.W	41.6	4	70	3	R. 3004
	15	4	52	W.W	6.0	4	70	3	R. 3004
	16	4	54	W.W	11.3	4	70	3	R. 3004
	17	7	54	W.W	9.5	4	70	3	R. 3004
	18	8	54	W.W	31.0	1	80	1	R. II
	19	7	8	W.W	33.3	7	40	4	R. 3330
	20	8	51	W.W	20.2	7	40	4	R. 1145
	21	1	8	W.W	28.2	1	80	1	R. I
	22			W.W					
	23			W.W					
	24			W.W					
	25			W.W					
26			W.W						
27			W.W						
28			W.W						
29			W.W						
30			W.W						
31			W.W						
32			W.W						
33			W.W						
34			W.W						
35			W.W						

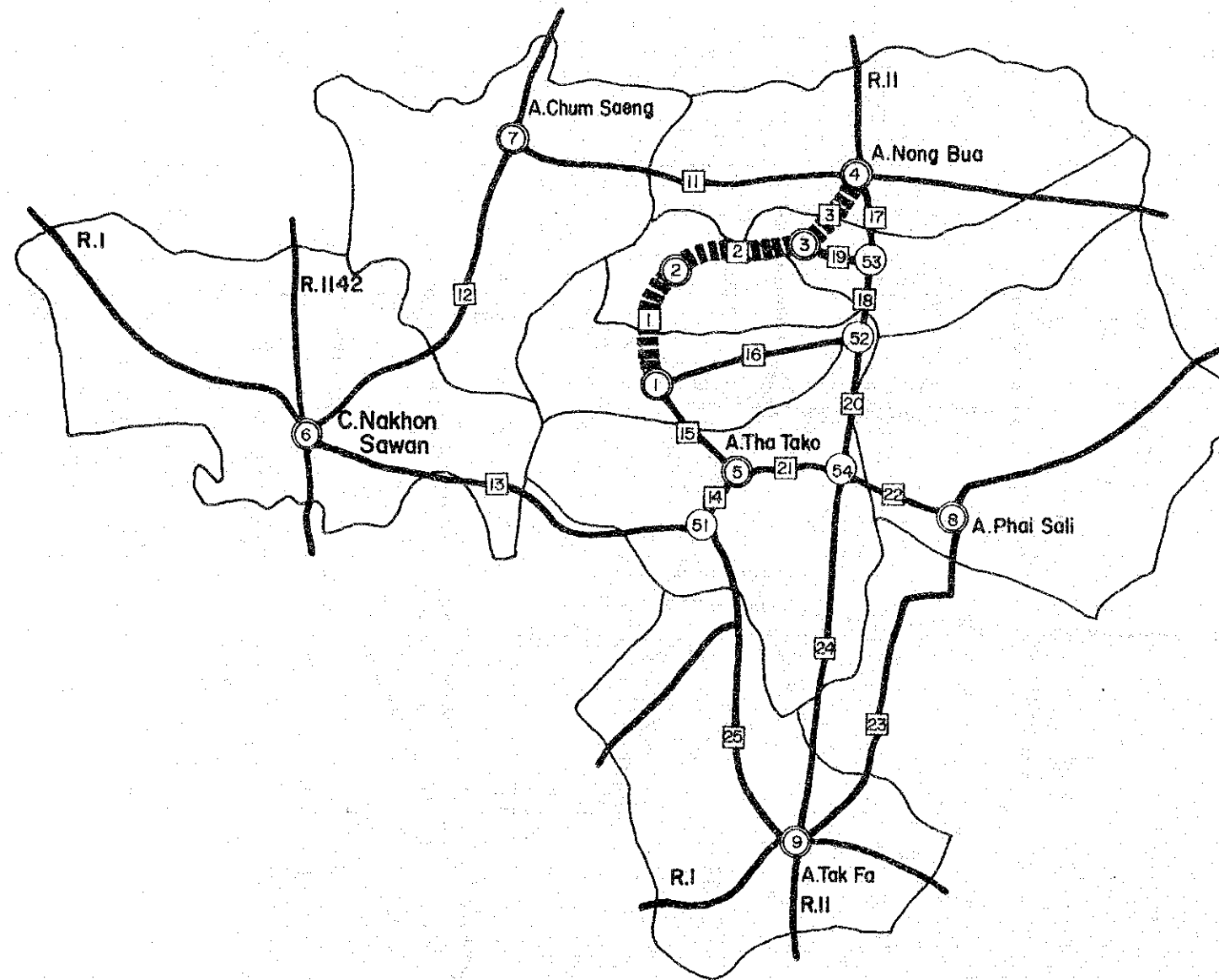


Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

4

**ROUTE 1119**

**A. Nong Bua -- B. Phanom Rok  
C. Nakhon Sawan**



**LEGEND**

- ① Traffic Zone
- ① Dummy Node
- [R] Road Link Code
- ▬▬▬▬ Proposed Road Link
- ▬▬▬▬ Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Nakhon Sawan	Tha Tako	02,09
②	-do-	Tha Tako	04,08
③	-do-	Nong Bua	03
④	-do-	Nong Bua	except 03
⑤	-do-	Tha Tako	01,03,05,06,07,10
⑥	-do-	M.Nakhon Sawan	all
⑦	-do-	Chum Saeng	all
⑧	-do-	Phai Sali	01,03,06
⑨	-do-	Tak Fa	all
⑩			
⑪			

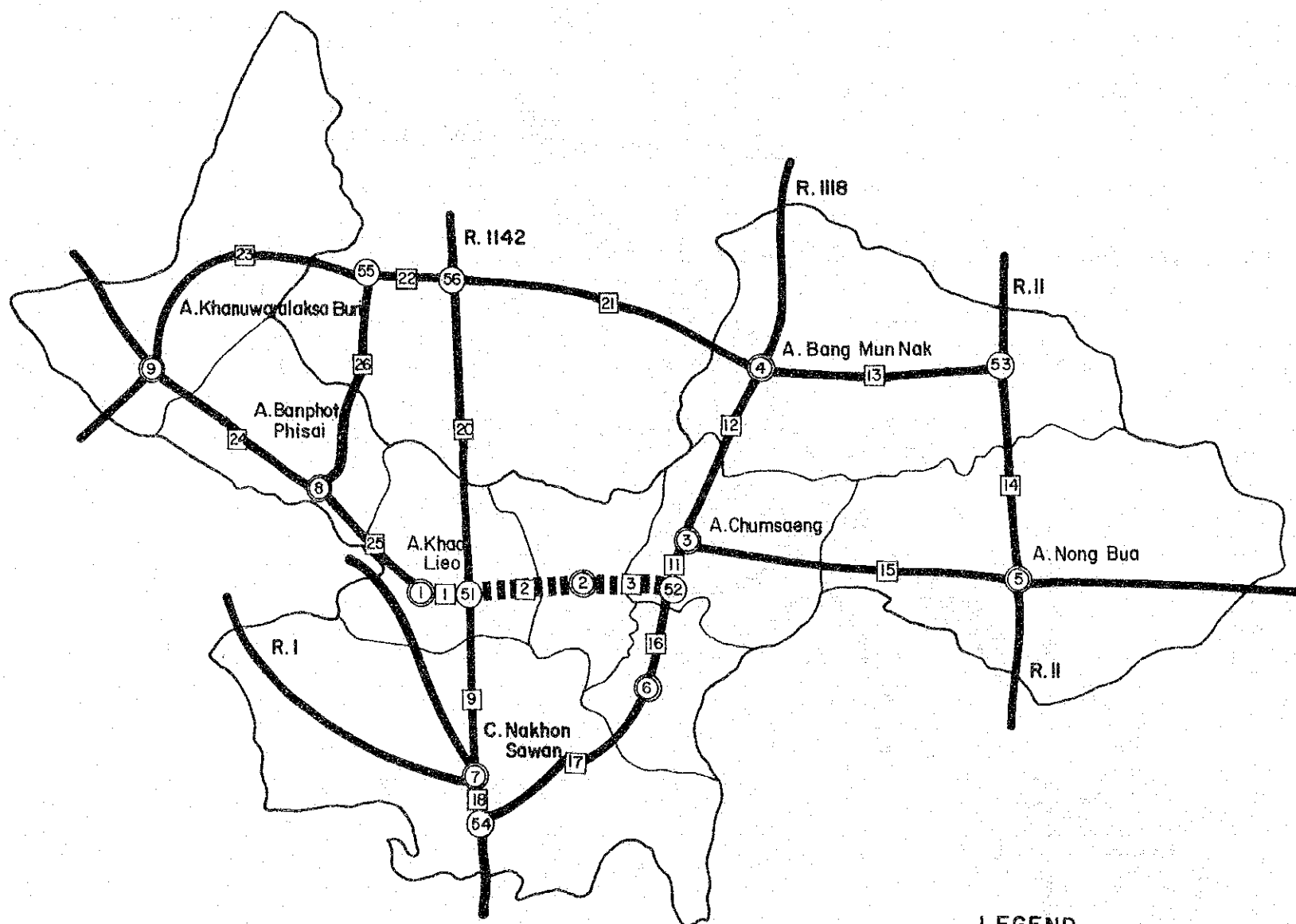
**ROAD LINK CHARACTERISTICS**

Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks
	Origin	Destination						
Proposed Road	1	2	W	17.0	7	40	4	R.1119
			W	17.0	4	70	3	
	2	3	W	8.0	7	40	4	R.1119
			W	8.0	4	70	3	
Other Roads	3	4	W	7.0	7	40	4	R.1119
			W	7.0	4	70	3	
	11	4	W.W	32.0	4	70	3	R.1119(OECF)
	12	6	7	W.W	38.3	4	70	3
13	6	51	W.W	44.1	4	70	3	R.3004, R.I
14	5	51	W.W	6.0	4	70	3	R.3004
15	1	5	W.W	7.6	4	70	3	R.1119
16	1	52	W.W	15.8	4	70	3	R.9124(ADB)
17	4	53	W.W	6.8	1	80	1	R.II
18	52	53	W.W	7.8	1	80	1	R.II
19	3	53	W.W	3.5	4	70	3	R.II(PackagePro)
20	52	54	W.W	13.0	1	80	1	R.II
21	5	54	W.W	11.3	4	70	3	R.3004
22	8	54	W.W	9.5	4	70	3	R.3004
23	8	9	W.W	33.3	7	40	4	R.3330
24	9	54	W.W	31.0	1	80	1	R.II
25	9	51	W.W	27.9	7	40	4	R.1145
26			W.W					
27			W.W					
28			W.W					
29			W.W					
30			W.W					
31			W.W					
32			W.W					
33			W.W					
34			W.W					
35			W.W					

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

5

**RURAL ROAD A. Kao Liao (Route 1142) - B. Koei Chai Nua (J.Route 1118)  
C. Nakhon Sawan**



**LEGEND**

- Traffic Zone
- Dummy Node
- Road Link Code
- Proposed Road Link
- Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
1	Nakhon Sawan	Kao Liao	all
2	- do -	Chumsaeng	05,06,09
3	- do -	Chumsaeng	except 02,05,06,08,09
4	Phichit	Bang Mun Nak	all
5	Nakhon Sawan	Nong Bua	all
6	- do -	Chumsaeng	02,08
7	- do -	M. Nakhon Sawan	all
8	- do -	Banphot Phisai	02,07,08
9	Kamphaeng Phet	Khanuwaralaks Buri	01,02,03,04,05
10			
11			

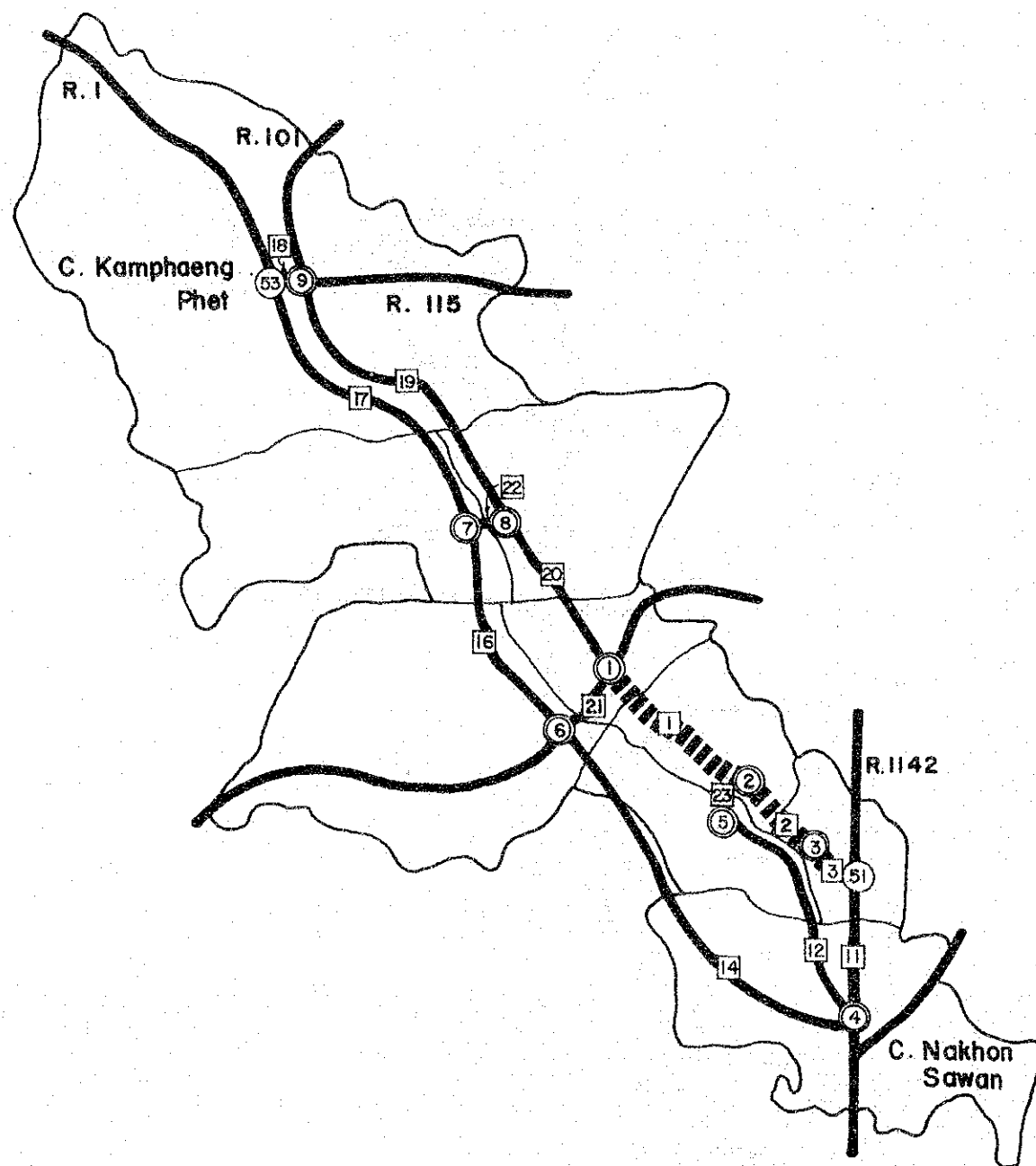
**ROAD LINK CHARACTERISTICS**

Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	1	51	W	5.0	7	40	4	Rural
	2	2	51	W	5.0	4	70	3	Rural
				W	10.5	4	70	3	Rural
	3	2	52	W	7.0	11	5	4	Rural
W				7.0	4	70	3		
4			W						
			W						
Other Roads	11	3	52	W.W	5.0	4	70	3	R.III8 (DOH)
	12	3	4	W.W	19.0	7	40	4	R.III8
	13	4	53	W.W	28.0	4	70	3	R.1069(ADB)
	14	5	53	W.W	20.0	1	80	1	R.II
	15	3	5	W.W	32.0	4	70	3	R.III9 (OECF)
	16	6	52	W.W	13.0	4	70	3	R.III8 (DOH)
	17	6	54	W.W	19.3	4	70	3	R.III8 (DOH)
	18	7	54	W.W	1.0	1	80	1	R.I
	19	7	51	W.W	17.0	4	70	3	R.1142(UC)
	20	51	56	W.W	28.0	4	70	3	R.1142(UC)
	21	4	56	W.W	31.0	4	70	3	R.1067,R.1073
	22	55	56	W.W	8.5	7	40	4	Rural
	23	9	55	W.W	24.3	4	70	3	Rural(OECF)
	24	8	9	W.W	22.6	10	10	4	Rural
	25	1	8	W.W	15.0	7	40	4	Rural
	26	8	55	W.W	23.5	7	40	4	R.1073
	27			W.W					
	28			W.W					
	29			W.W					
30			W.W						
31			W.W						
32			W.W						
33			W.W						
34			W.W						
35			W.W						

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

**RURAL ROAD** A. Khanuworaksd Buri (J.Route 1074) - B. Map Yang (J.Route 1142)  
C. Kamphaeng Phet C. Nakhon Sawan

6



**LEGEND**

- ① Traffic Zone
- Ⓜ Dummy Node
- Ⓡ Road Link Code
- ▬▬▬▬ Proposed Road Link
- ▬▬▬▬ Other Road

**TRAFFIC ZONES**

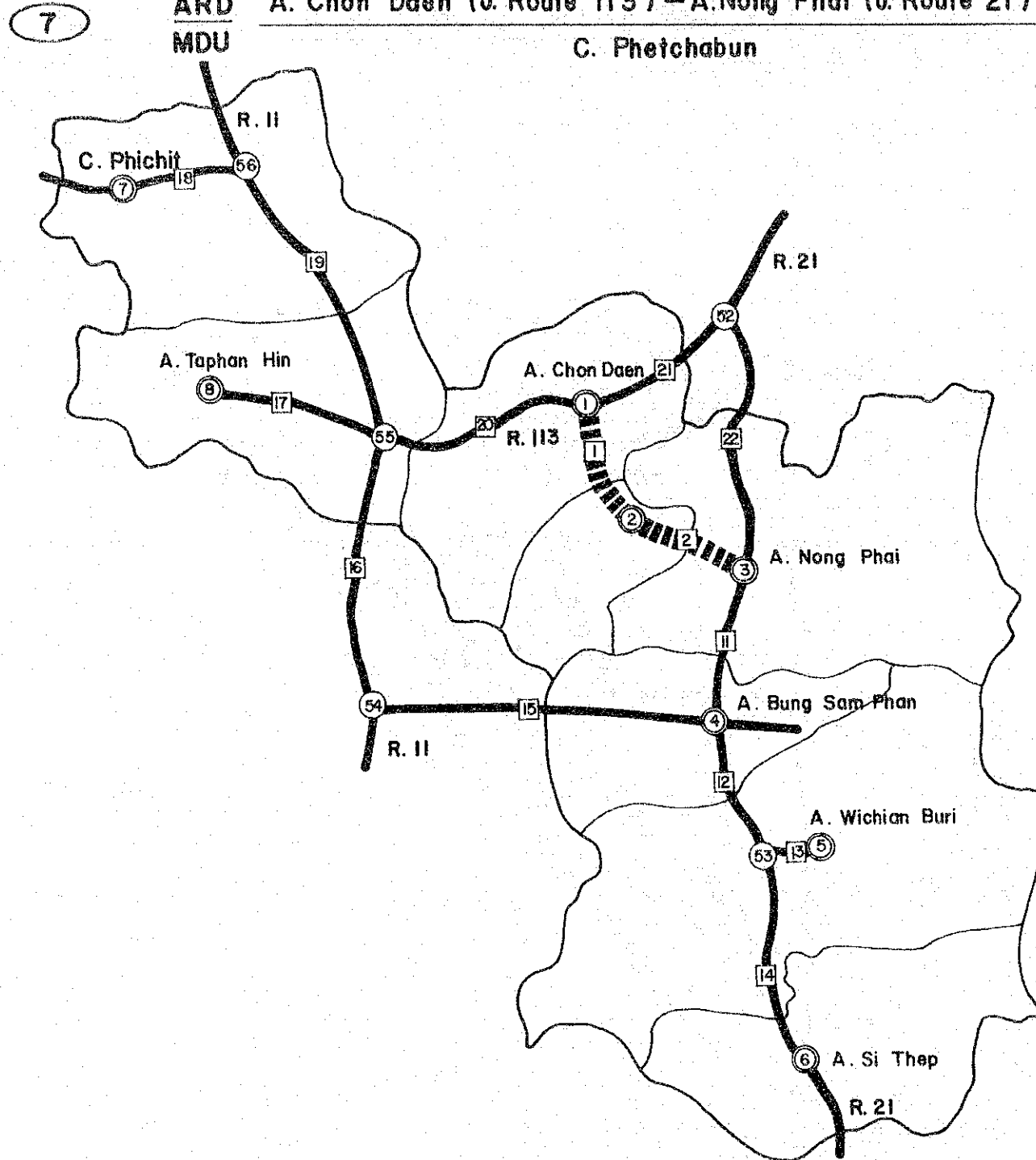
Traffic Zone Code	Changwat Name	Amphoe Name	Tambon Code
①	Kamphaeng Phet	Khanuworaksa Buri	03,04,05
②	Nakhon Sawan	Banphot Phisai	02,07,08
③	- do -	Kao Liao	01, 02,03,05
④	- do -	M. Nakhon Sawan	all
⑤	- do -	Banphot Phisai (01,03,04,05,06),Kao Liao (04)	
⑥	Kamphaeng Phet	Khanuworaksa Buri	06,07,08,09,10
⑦	- do -	Khlong Khlung	01, 08,09
⑧	- do -	- do -	02,03,04,05,06,07
⑨	- do -	M. Kamphaeng Phet	all
⑩			
⑪			

**ROAD LINK CHARACTERISTICS**

Link Code	Node Origin	Node Destination	Project Case	Distance ( Km )	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
Proposed Road	1	2	W	22.6	10	10	4	Rural	
			W	22.6	4	70	3		
	2	3	W	15.0	7	40	4	Rural	
			W	15.0	4	70	3		
3	51	W	5.0	7	40	4	Rural		
		W	5.0	4	70	3			
4			W						
			W						
Other Roads	4	51	W.W	17.0	4	70	3	R.1142(UC)	
	4	5	W.W	34.1	4	70	4	R.1182(OECF)	
	14	6	W.W	47.9	1	80	1	R.1	
	15								
	16	6	7	W.W	27.5	1	80	1	R.1
	17	7	53	W.W	39.6	1	80	1	R.1
	18	9	53	W.W	5.0	4	70	3	Brg.
	19	8	9	W.W	40.0	4	70	3	R.1084(ADB)
	20	1	8	W.W	30.0	4	70	3	R.1084(ADB)
	21	1	6	W.W	9.3	4	70	3	R.1074
	22	7	8	W.W	0.5	-	1	-	Ferry
	23	2	5	W.W	0.5	-	1	-	Ferry
	24			W.W					
	25			W.W					
	26			W.W					
	27			W.W					
	28			W.W					
	29			W.W					
	30			W.W					
	31			W.W					
	32			W.W					
	33			W.W					
	34			W.W					
35			W.W						

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

ARD A. Chon Daen (J. Route 113) - A. Nong Phai (J. Route 21)  
MDU C. Phetchabun



**LEGEND**

- ① Traffic Zone
- Ⓜ Dummy Node
- [R] Road Link Code
- ▬▬▬▬ Proposed Road Link
- ▬▬▬▬ Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Phetchabun	Chon Daen	01,02(80%),05(70%)
②	-- do --	Chon Daen	02(20%),05(30%)
③	-- do --	Nong Phai	all
④	-- do --	Bung Sam Phan	all
⑤	-- do --	Wichian Buri	all
⑥	-- do --	Si Thep	all
⑦	Phichit	M. Phichit	all
⑧	-- do --	Taphan Hin	all
⑨			
⑩			

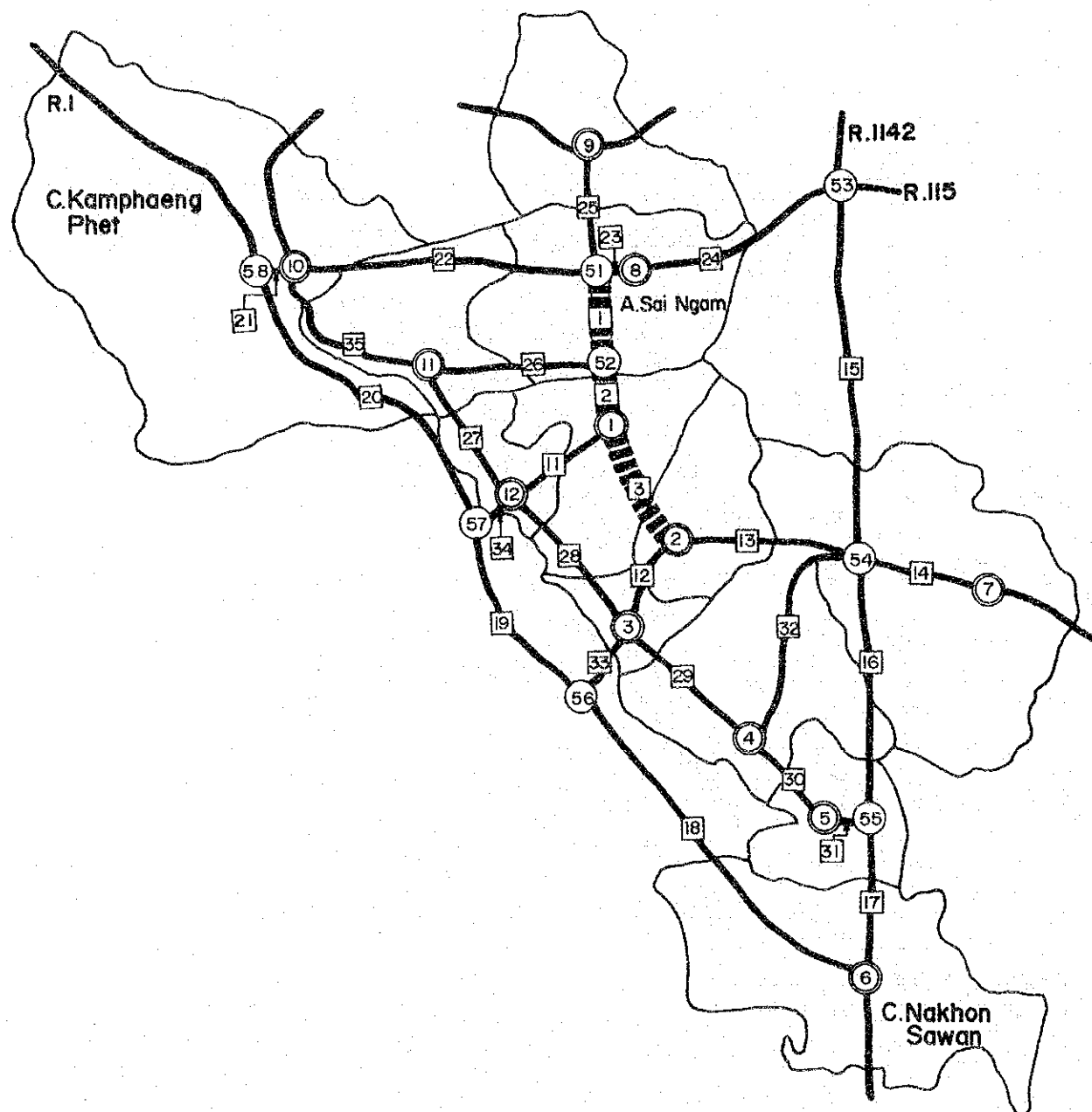
**ROAD LINK CHARACTERISTICS**

Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	2	W	25.0	8	30	4	ARD	
			W	25.0	5	55	3		
	2	3	W	16.7	10	10	4	MDU	
			W	16.7	5	55	3		
3			W						
			W						
4			W						
			W						
Other Roads	11	3	4	W.W	14.7	1	80	1	R. 21
	12	4	53	W.W	13.9	1	80	1	R. 21
	13	5	53	W.W	7.2	4	70	3	R. 2012
	14	6	53	W.W	23.2	1	80	1	R. 21
	15	4	54	W.W	45.3	1	60	3	R. 2184
	16	54	55	W.W	32.0	1	80	1	R. II
	17	8	55	W.W	21.5	4	70	2	R. II3
	18	7	56	W.W	16.5	1	80	2	R. III
	19	55	56	W.W	41.9	1	80	1	R. II
	20	1	55	W.W	28.9	5	55	2	R. II3
	21	1	52	W.W	30.1	6	40	2	R. II3
	22	3	52	W.W	47.5	1	80	1	R. 21
	23			W.W					
	24			W.W					
	25			W.W					
	26			W.W					
	27			W.W					
28			W.W						
29			W.W						
30			W.W						
31			W.W						
32			W.W						
33			W.W						
34			W.W						
35			W.W						

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

**RURAL ROAD** B. Thung Ma Ha Chai (J. Route 115) - B. Nong Takhian  
C. Kamphaeng Phet

8



**LEGEND**

- i Traffic Zone
- j Dummy Node
- R Road Link Code
- Proposed Road Link
- Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Changwat Name	Amphoe Name	Tambon Code
①	Kamphaeng Phet	Khlong Khlung	03,07
②	-- do --	Khanu Woraklaksaburi	01,02
③	-- do --	-- do --	03,04
④	Nakhon Sawan	Banphat Phisai	02,07,08,09,10
⑤	-- do --	Kao Liao	all
⑥	-- do --	M.Nakhon Sawan	all
⑦	Phichit	Pho Thale	all
⑧	Kamphaeng Phet	Sai Ngam	all
⑨	-- do --	Lan Krabu	all
⑩	-- do --	M.Kamphaeng Phet	except 11,12,13
⑪	-- do --	-- do --	11,12,13
⑫	-- do --	Khlong Khlung	02,04,06
⑬			
⑭			

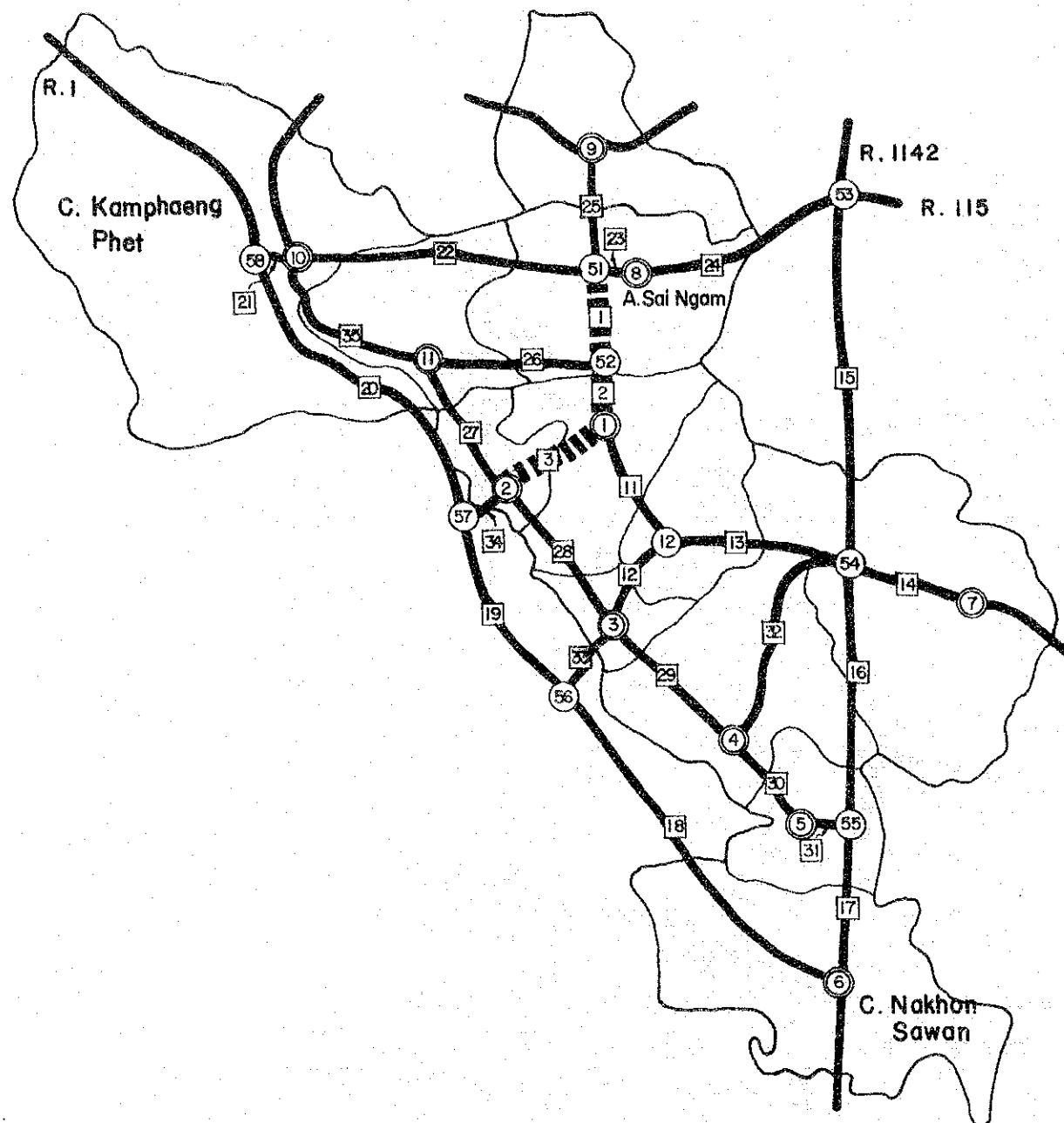
**ROAD LINK CHARACTERISTICS**

Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	51	52	W	15.0	7	40	4	Rural
	2	1	52	W	15.0	4	70	3	Rural
				W	6.2	7	40	4	Rural
	3	1	2	W	6.2	4	70	3	
W				28.3	10	10	4	Rural	
4			W	28.3	4	70	3		
			W						
Other Roads	11	1	12	W.W	11.3	7	40	4	Rural
	12	2	3	W.W	9.3	4	70	3	OECF
	13	2	54	W.W	235	4	70	3	OECF
	14	7	54	W.W	10.0	7	40	4	R.I073
	15	53	54	W.W	42.5	4	70	3	R.II42(U.C.)
	16	54	55	W.W	28.0	4	70	3	R.II42(U.C.)
	17	6	55	W.W	17.0	4	70	3	R.II42(U.C.)
	18	6	56	W.W	47.9	1	80	1	R.I
	19	56	57	W.W	27.5	1	80	1	R.I
	20	57	58	W.W	39.6	1	80	1	R.I
	21	10	58	W.W	5.0	4	70	3	Brg
	22	10	51	W.W	34.0	4	70	2	R.II5
	23	8	51	W.W	5.0	4	70	2	R.II5
	24	8	53	W.W	25.0	4	70	2	R.II5
	25	9	51	W.W	13.1	7	40	4	PWD
	26	11	52	W.W	22.0	7	40	4	Rural
	27	11	12	W.W	15.0	4	70	3	R.I084(ADB)
	28	3	12	W.W	30.0	4	70	3	R.I084(ADB)
	29	3	4	W.W	22.6	10	10	4	Rural
	30	4	5	W.W	15.0	7	40	4	Rural
31	5	55	W.W	5.0	7	40	4	Rural	
32	4	54	W.W	32.0	7	40	4	R.I073	
33	3	56	W.W	9.3	4	70	3	Brg	
34	12	57	W.W	0.5	-	1	3	Ferry	
35	10	11	W.W	25.0	4	70	4	R.I084(ADB)	

Appendix 6-3-5 ROAD NETWORK AND TRAFFIC ZONES

9

RURAL ROAD B. Thung Ma Ha Chai (J. Route 115) - B. Tha Makhua (J. Route 1084)  
C. Kamphaeng Phet



LEGEND

- Traffic Zone
- Dummy Node
- Road Link Code
- Proposed Road Link
- Other Road

TRAFFIC ZONES

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
1	Kamphaeng Phet	Khlong Khlung	03,07
2	- do -	- do -	02,04,06
3	- do -	Khanuwaralaksa Buri	03,04
4	Nakhon Sawan	Banphot Phisai	02,07,08,09,10
5	- do -	Kao Liao	all
6	- do -	M. Nakhon Sawan	all
7	Phichit	Pho Thale	all
8	Kamphaeng Phet	Sai Ngam	all
9	- do -	Lan Krabu	all
10	- do -	M. Kamphaeng Phet	except 11,12,13
11	- do -	- do -	11,12,13
12	- do -	Khanuwaralaksa Buri	01,02
13			
14			

ROAD LINK CHARACTERISTICS

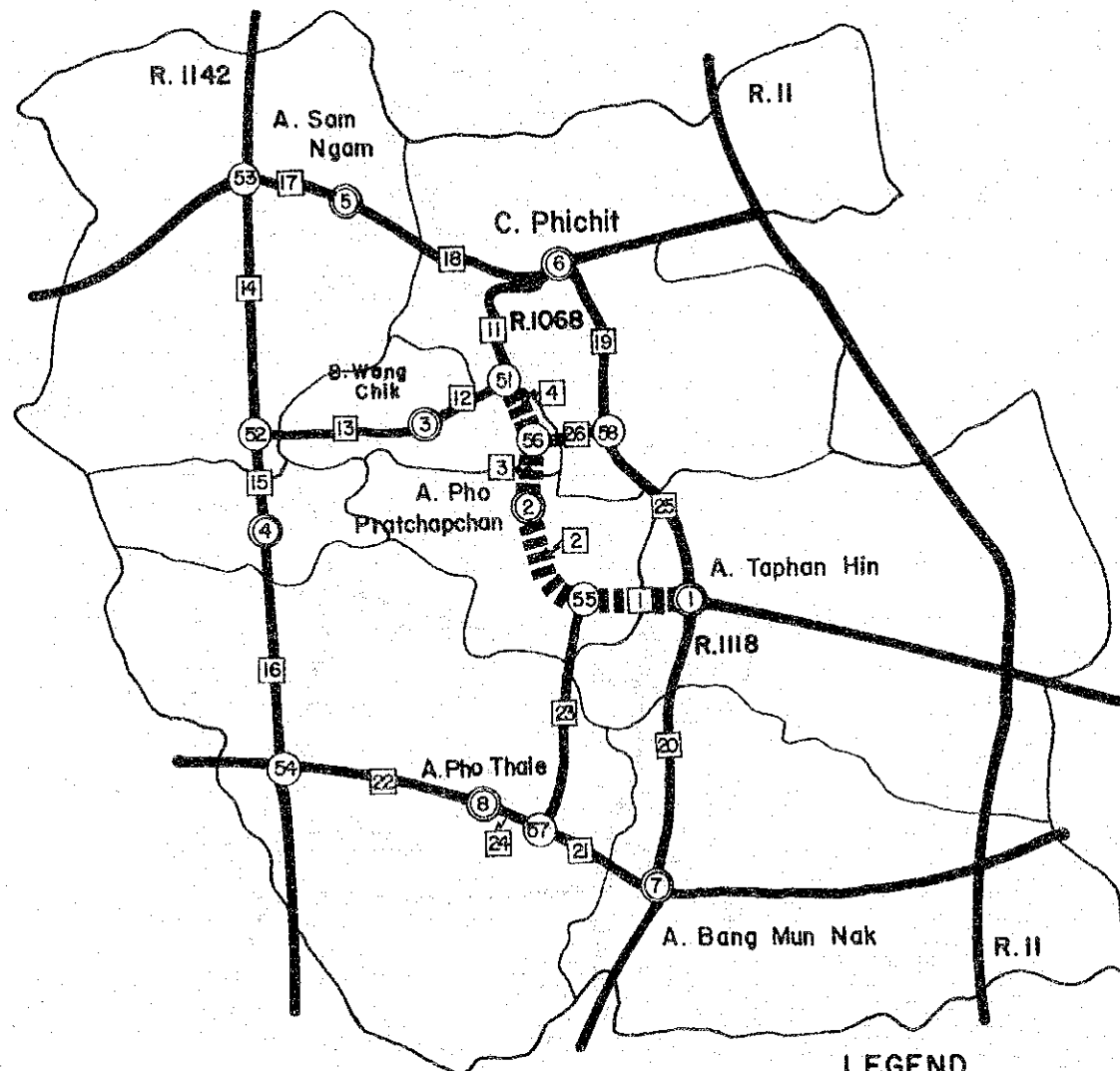
Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	51	52	W	15.0	7	40	4	Rural
				W	15.0	4	70	3	
	2	1	52	W	6.2	7	40	4	Rural
				W	6.2	4	70	3	
	3	1	2	W	11.3	7	40	4	Rural
				W	11.3	4	70	3	
	4			W					
				W					
Other Roads	11	1	12	W.W	28.3	10	10	4	
	12	3	12	W.W	9.3	4	70	3	OECF
	13	12	54	W.W	23.5	4	70	3	OECF
	14	7	54	W.W	10.0	7	40	4	R. 1073
	15	53	54	W.W	42.5	4	70	3	R. 1142
	16	54	55	W.W	28.0	4	70	3	R. 1142
	17	6	55	W.W	17.0	4	70	3	R. 1142
	18	6	56	W.W	47.9	1	80	1	R. 1
	19	56	57	W.W	27.5	1	80	1	R. 1
	20	57	58	W.W	39.6	1	80	1	R. 1
	21	10	58	W.W	5.0	4	70	3	Brg.
	22	10	51	W.W	34.0	4	70	2	R. 115
	23	8	51	W.W	5.0	4	70	2	R. 115
	24	8	53	W.W	25.0	4	70	2	R. 115
	25	9	51	W.W	13.1	7	40	4	PWD
	26	11	52	W.W	22.0	7	40	4	
	27	2	11	W.W	15.0	4	70	3	R. 1084 (ADB)
	28	2	3	W.W	30.0	4	70	3	R. 1084 (ADB)
	29	3	4	W.W	22.6	10	10	4	
	30	4	5	W.W	15.0	7	40	4	
	31	5	55	W.W	5.0	7	40	4	
	32	4	54	W.W	32.0	7	40	4	R. 1073
	33	3	56	W.W	9.3	4	70	3	
	34	2	57	W.W	0.5	-	1	-	Ferry
	35	10	11	W.W	25.0	4	70	3	R. 1084 (ADB)

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

**ROUTE 9045**  
**PWD, ARD**

**B. Tha Khoi (J.Route 1068)– A. Taphan Hin (J.Route 1118)**  
**C. Phichit**

10.11



**LEGEND**

- ① Traffic Zone
- Ⓜ Dummy Node
- Ⓜ Road Link Code
- ▬▬▬▬ Proposed Road Link
- ▬▬▬▬ Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Phichit	Taphan Hin	except 11, 12
②	-do-	Pho Pratchapchan (01,02)	Taphan Hin (11,12)
③	-do-	Pho Pratchapchan	03, 04
④	-do-	-do-	05, 06
⑤	-do-	Sam Ngam	all
⑥	-do-	M. Phichit	all
⑦	-do-	Bang Mun Nak	all
⑧	-do-	Pho Thale	all
⑨			
⑩			

**ROAD LINK CHARACTERISTICS**

Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	1	55	W	12.6	7	40	4	PWD
				W	12.6	4	70	3	
	2	2	55	W	9.8	7	40	4	ARD
				W	9.8	4	70	3	
	3	2	56	W	1.3	7	40	4	PWD
				W	1.3	4	70	3	
	4	51	56	W	5.0	7	40	4	PWD
				W	5.0	4	70	3	
Other Roads	11	6	51	W.W	10.7	4	70	3	R. 1068
	12	3	51	W.W	5.0	4	70	3	R. 1068
	13	3	52	W.W	15.4	10	10	4	Rural
	14	52	53	W.W	20.0	4	70	3	R. 1142
	15	4	52	W.W	10.0	4	70	3	R. 1142
	16	4	54	W.W	30.8	4	70	3	R. 1142
	17	5	53	W.W	6.0	4	70	2	R. 115
	18	5	6	W.W	16.6	4	70	2	R. 115
	19	6	58	W.W	11.0	4	70	3	R. 1118
	20	1	7	W.W	19.7	4	70	3	R. 1118
	21	7	57	W.W	6.3	4	70	3	R. 1067
	22	8	54	W.W	17.0	4	70	3	R. 1073
	23	55	57	W.W	17.0	7	40	4	PWD
	24	8	57	W.W	7.0	4	70	3	R. 1067
	25	1	58	W.W	16.1	4	70	3	R. 1118
	26	56	58	W.W	14.0	-	20	4	ARD
	27			W.W					
	28			W.W					
	29			W.W					
	30			W.W					
	31			W.W					
	32			W.W					
	33			W.W					
	34			W.W					
	35			W.W					

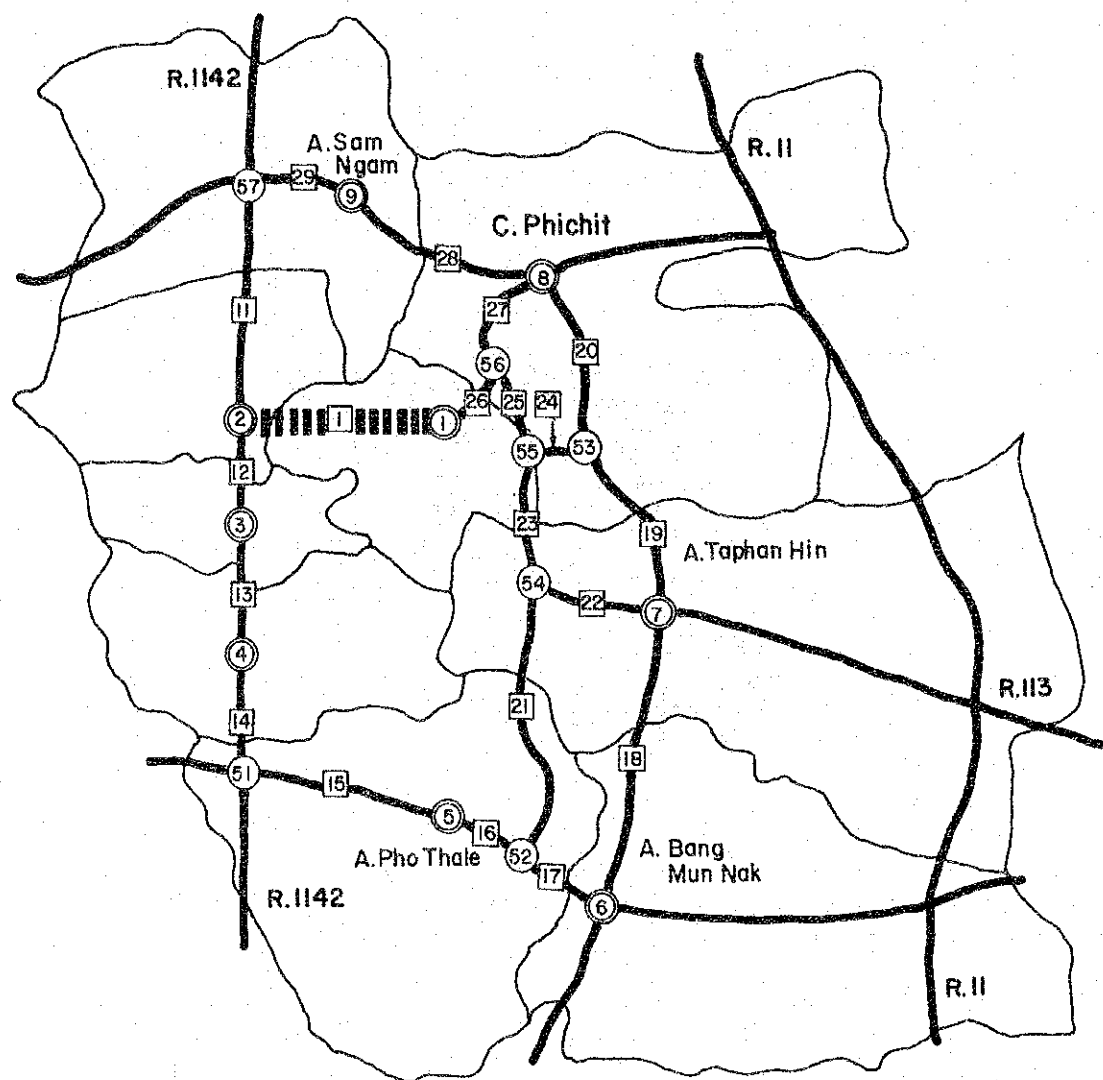
Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

12

**RURAL ROAD**

**B. Wang Chik (Route 1068) - B. Pa Daeng (J. Route 1142)**

**C. Phichit**



**LEGEND**

- ① Traffic Zone
- Ⓜ Dummy Node
- Ⓡ Road Link Code
- ▬▬▬▬ Proposed Road Link
- ▬▬▬▬ Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Phichit	Pho Prothap Chang	01, 02, 03, 04
②	--do--	Sam Ngam	06
③	--do--	Pho Prothap Chang	05, 06
④	--do--	Pho Thale	09, 10
⑤	--do--	--do--	except 09, 10
⑥	--do--	Bang Mun Nak	all
⑦	--do--	Taphan Hin	all
⑧	--do--	M. Phichit	all
⑨	--do--	Sam Ngam	01, 02, 03, 04, 05
⑩			
⑪			

**ROAD LINK CHARACTERISTICS**

Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks
	Origin	Destination						
Proposed Road	1	2	W	15.4	10	10	4	Rural
			W	15.4	4	70	3	Rural
	2		W					
	3		W					
Other Roads	11	2 57	W W	20.0	4	70	3	R.1142
	12	2 3	W W	10.0	4	70	3	R.1142
	13	3 4	W W	15.4	4	70	3	R.1142
	14	4 51	W W	15.4	4	70	3	R.1142
	15	5 51	W W	17.0	4	70	3	R.1073
	16	5 52	W W	7.0	4	70	3	R.1067
	17	6 52	W W	6.3	4	70	3	R.1067
	18	6 7	W W	19.7	4	70	3	R.1118
	19	7 53	W W	16.1	4	70	3	R.1118
	20	8 20	W W	11.0	4	70	3	R.1118
	21	52 54	W W	17.0	7	40	4	PWD
	22	7 54	W W	12.6	7	40	4	PWD
	23	54 55	W W	11.1	7	40	4	ARD
	24	53 55	W W	14.0	7, 10	20	4	ARD, R. 9053
	25	55 56	W W	5.0	7	40	4	PWD
	26	1 56	W W	5.0	4	70	3	R.1068
	27	8 56	W W	10.7	4	70	3	R.1068
	28	8 9	W W	16.6	4	70	2	R.115
	29	9 57	W W	6.0	4	70	2	R.115
	30		W W					
	31		W W					
32		W W						
33		W W						
34		W W						
35		W W						



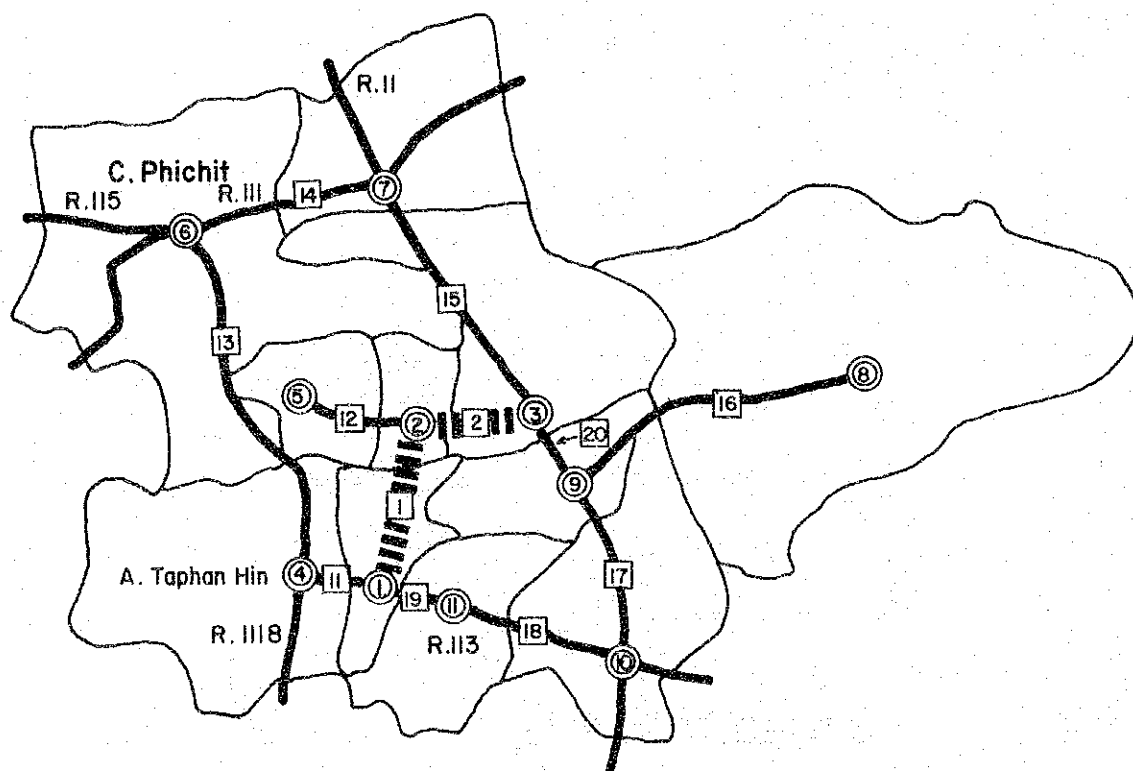
Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

13

**RURAL ROAD  
PWD**

**A. Wang Sai Phum (J. Route 11) – B. Nong Phayom (J. Route 113)**

**C. Phichit**



**LEGEND**

- ① Traffic Zone
- Ⓜ Dummy Node
- Ⓜ Road Link Code
- ▬▬▬▬ Proposed Road Link
- ▬▬▬▬ Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Phichit	Taphan Hin	06
②	-do-	M. Phichit	14
③	-do-	Wang Sai Phun	all
④	-do-	Taphan Hin	except 02,06,07,08,13,14
⑤	-do-	M. Phichit	13
⑥	-do-	-do-	except 13,14,16,17
⑦	-do-	-do-	16,17
⑧	Phetchabun	Chon Daen	03,04
⑨	Phichit	Taphan Hin	14
⑩	-do-	-do-	02,13
⑪	-do-	-do-	07,08
⑫			
⑬			

**ROAD LINK CHARACTERISTICS**

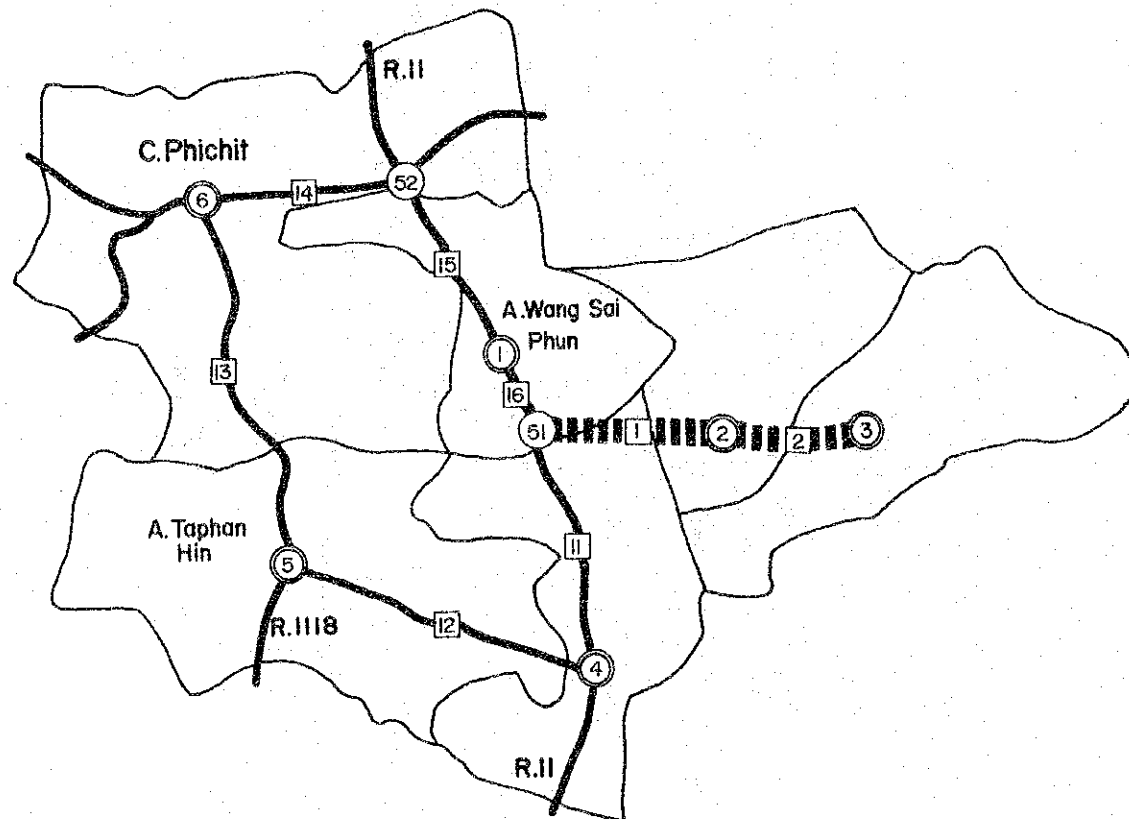
Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	2	W	18.9	-	7	4	Rural	
			W	15.5	4	70	3	PWD	
	2	3	W	7.1	7	40	4		
			W	8.5	4	70	3		
Other Roads	11	4	W.W	4.0	4	70	2	R. 113	
			W.W	8.0	7	40	4	PWD	
	12	5	W.W	27.1	4	70	3	R. 118	
			W.W	16.5	1	80	2	R. 117	
	13	6	W.W	22.9	1	80	1	R. 11	
			W.W	25.2	7	40	4	R. 119	
	14	7	W.W	15.0	1	80	1	R. 11	
			W.W	12.5	4	70	2	R. 113	
	15	8	W.W	5.0	4	70	2	R. 113	
			W.W	4.0	1	80	1	R. 11	
	16			W.W					
	17			W.W					
18			W.W						
19			W.W						
20			W.W						
21			W.W						
22			W.W						
23			W.W						
24			W.W						
25			W.W						
26			W.W						
27			W.W						
28			W.W						
29			W.W						
30			W.W						
31			W.W						
32			W.W						
33			W.W						
34			W.W						
35			W.W						

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

14

**ROUTE 1191**  
**RURAL ROAD**  
**ROUTE 1205**

**B. Nong Khanak (J. Route II) - B. Wang Pong**  
**C. Phichit C. Phetchabun**



**LEGEND**

- ① Traffic Zone
- Ⓜ Dummy Node
- Ⓜ Road Link Code
- ▬▬▬▬ Proposed Road Link
- ▬▬▬▬ Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Phichit	Wang Sai Phun	all
②	Phetchabun	Chan Daen	04
③	-do-	-do-	03
④	Phichit	Taphan Hin	09,13,14
⑤	-do-	-do-	except 09,13,14
⑥	-do-	M. Phichit	all
⑦			
⑧			

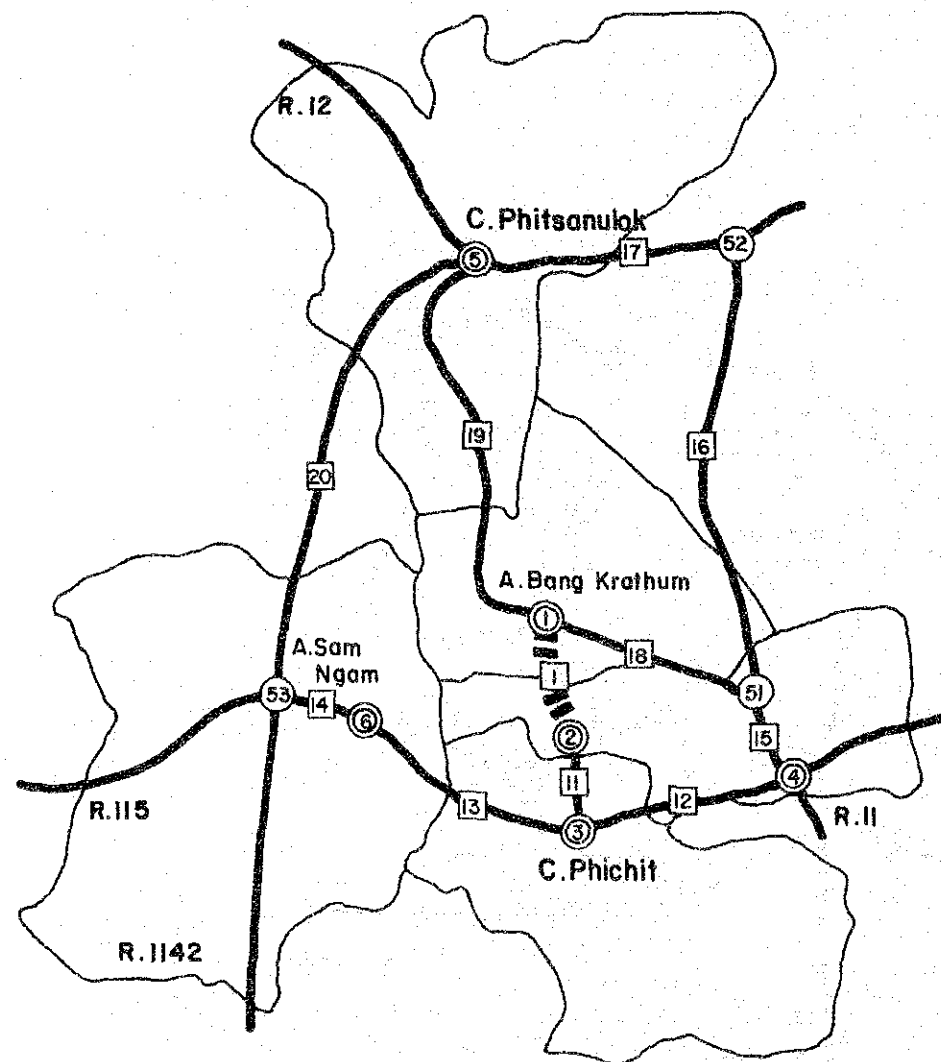
**ROAD LINK CHARACTERISTICS**

Link Code	Node Pair		Project Case	Distance ( Km )	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Distination							
Proposed Road	1	2	51	W	16.8	7	40	4	R.II91, Rural
				W	16.8	4	70	3	
	2	2	3	W	8.4	7	40	4	R.I205
				W	7.6	4	70	3	
Other Roads	11	4	51	W.W	15.0	1	80	1	R.II
	12	4	5	W.W	21.5	4	70	2	R.II5
	13	5	6	W.W	27.1	4	70	3	R.II18
	14	6	52	W.W	16.5	1	80	2	R.II1
	15	1	52	W.W	22.9	1	80	1	R.II
	16	1	51	W.W	4.0	1	80	1	R.II
	17			W.W					
	18			W.W					
	19			W.W					
	20			W.W					
	21			W.W					
22			W.W						
23			W.W						
24			W.W						
25			W.W						
26			W.W						
27			W.W						
28			W.W						
29			W.W						
30			W.W						
31			W.W						
32			W.W						
33			W.W						
34			W.W						
35			W.W						

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

15

**ROUTE 1221 B. Wang Tham (Route 1221) - B. Tha Makhm (J. Route 1114)**  
**ARD C. Phichit C. Phitsanulok**



**LEGEND**

- ① Traffic Zone
- ⊙ Dummy Node
- Ⓜ Road Link Code
- ▬ Proposed Road Link
- ▬ Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Phitsanulok	Bang Krihum	all
②	Phichit	M. Phichit	02,03,04
③	- do -	- do -	01,05-14
④	- do -	- do -	15,16,17
⑤	Phitsanulok	M. Phitsanulok	all
⑥	Phichit	Sam Ngam	all
⑦			
⑧			

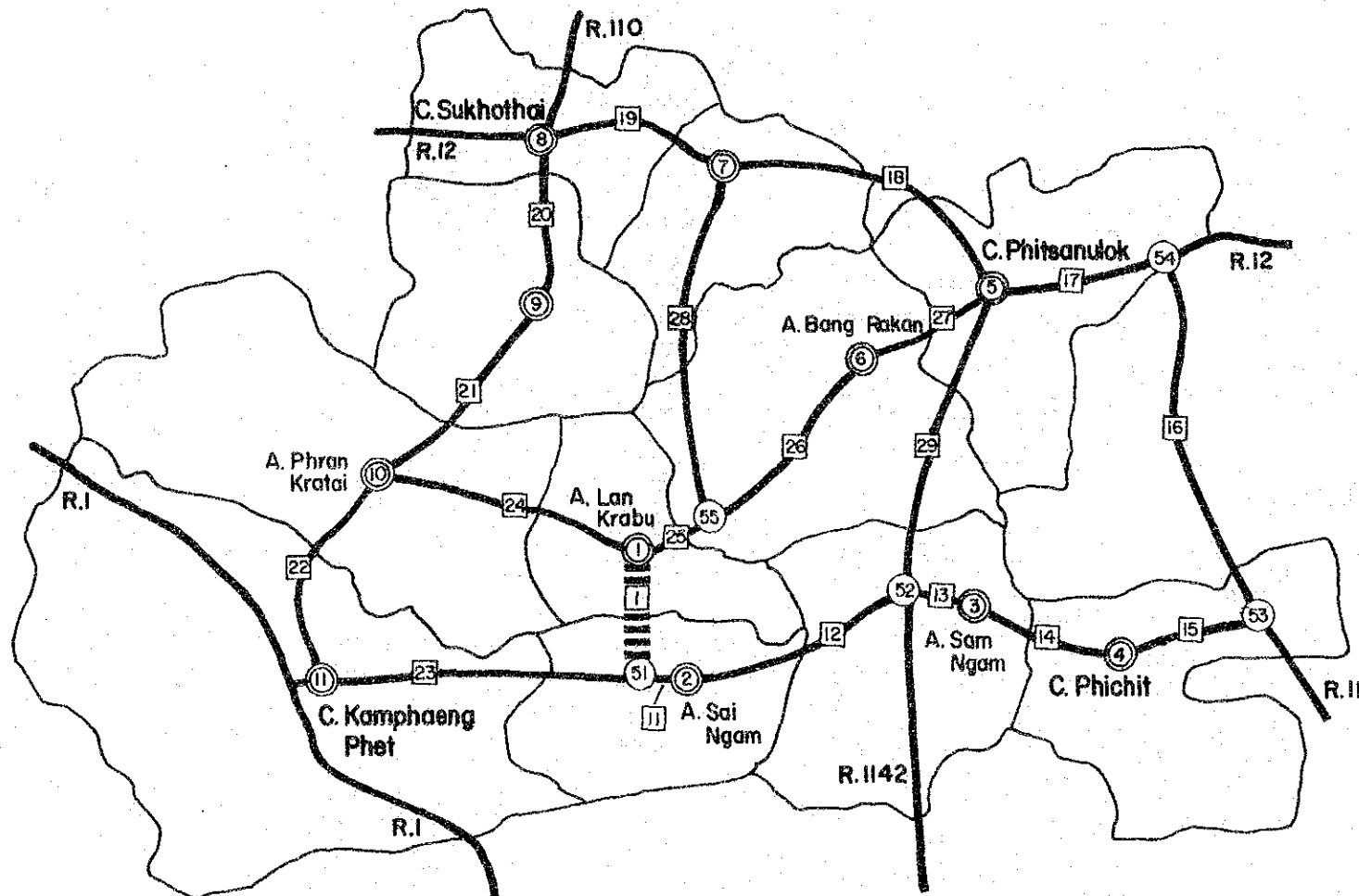
**ROAD LINK CHARACTERISTICS**

Link Code	Node Pair		Project Case	Distance ( Km )	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks
	Origin	Destination						
Proposed Road	1	2	W	8.7	-	25	4	R.1221
			W	8.5	4	20	3	
	2		W					
	3		W					
Other Roads			W					
			W					
	11	2 3	W.W	5.5	4	70	3	R.1114
	12	3 4	W.W	16.5	1	80	2	R.111
	13	3 6	W.W	16.6	4	70	2	R.115
	14	6 53	W.W	6.5	4	70	2	R.115
	15	4 51	W.W	7.5	1	80	1	R.11
	16	51 52	W.W	30.7	1	80	1	R.11
	17	5 52	W.W	22.0	1	80	1	R.12
	18	1 51	W.W	14.0	4	70	3	R.1114
	19	1 5	W.W	40.7	4	70	3	R.1063
	20	5 53	W.W	29.4	4	70	3	R.1142
	21		W.W					
	22		W.W					
	23		W.W					
	24		W.W					
	25		W.W					
	26		W.W					
	27		W.W					
	28		W.W					
	29		W.W					
	30		W.W					
	31		W.W					
	32		W.W					
	33		W.W					
	34		W.W					
	35		W.W					

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

16

**PWD B. Wang Phikun (J. Route 115) - A. Lan Krabu (J. Route 1065)  
C. Kamphaeng Phet**



**LEGEND**

- ① Traffic Zone
- Ⓜ Dummy Node
- Ⓡ Road Link Code
- ▬▬▬▬ Proposed Road Link
- ▬▬▬▬ Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Changwat Name	Amphoe Name	Tambon Code
①	Kamphaeng Phet	Lan Krabu	all
②	-do-	Sai Ngam	all
③	Phichit	Sam Ngam	all
④	-do-	M. Phichit	all
⑤	Phitsanulok	M. Phitsanulok	all
⑥	-do-	Bang Rakam	all
⑦	Sukhothai	Kong Krailat	all
⑧	-do-	M. Sukhothai	all
⑨	-do-	Khiri Mat	all
⑩	Kamphaeng Phet	Phran Kratai	all
⑪	-do-	M. Kamphaeng Phet	all
⑫			
⑬			

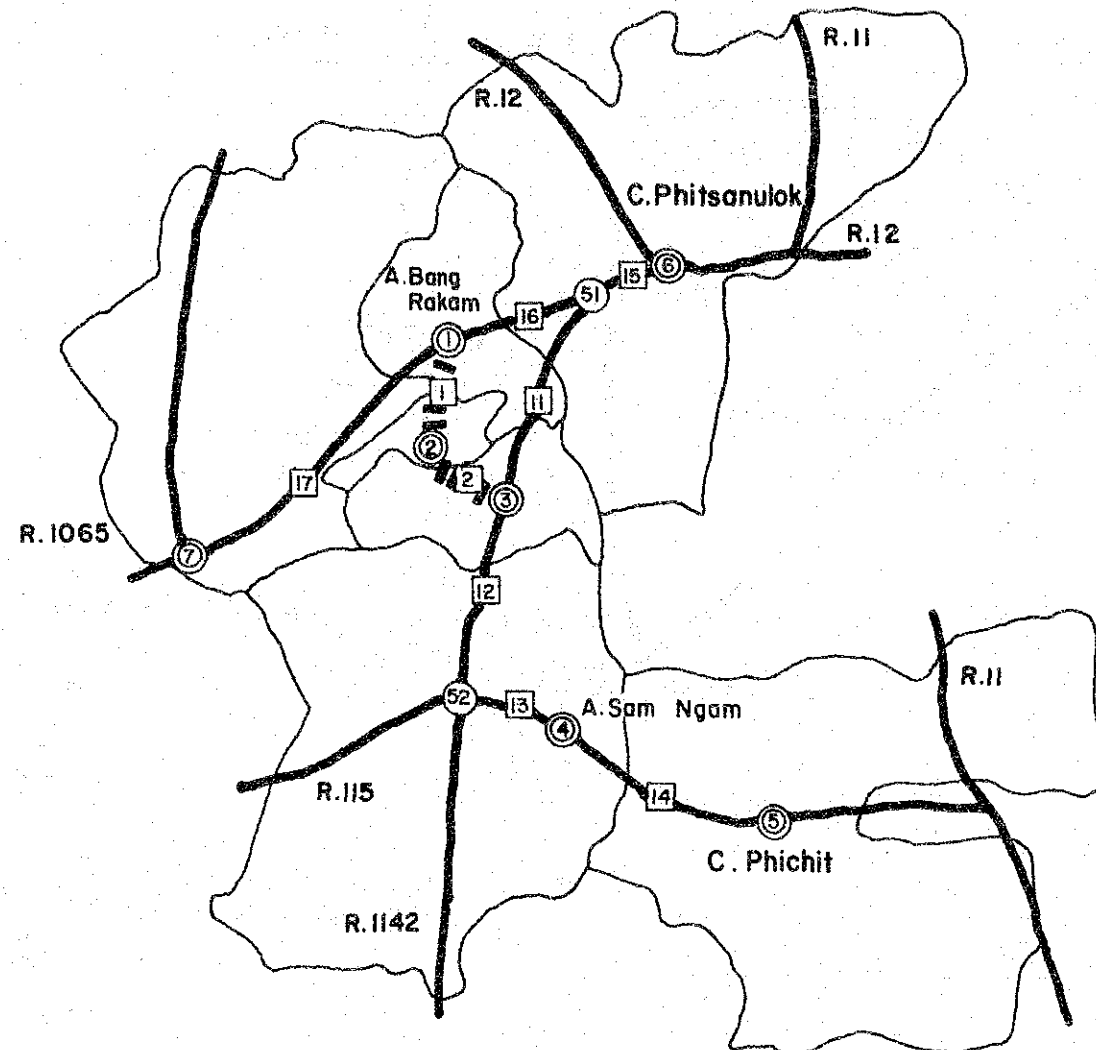
**ROAD LINK CHARACTERISTICS**

Link Code	Node Origin	Node Destination	Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
Proposed Road	1	51	W	13.1	7	40	4	PWD	
			W	13.1	4	70	3		
	2		W						
	3		W						
Other Roads	11	2	51	W	5.0	4	70	2	R.115
	12	2	52	W	25.0	4	70	2	R.115
	13	3	52	W	6.5	4	70	2	R.115
	14	3	4	W	16.6	4	70	2	R.115
	15	4	53	W	16.5	1	80	2	R.111
	16	53	54	W	38.2	1	80	1	R.11
	17	5	54	W	22.0	1	80	1	R.12
	18	5	7	W	35.7	1	80	1	R.12
	19	7	8	W	21.1	1	80	1	R.12
	20	8	9	W	20.1	4	70	2	R.101
	21	9	10	W	32.5	4	70	2	R.101
	22	10	11	W	27.6	4	70	2	R.101
	23	11	51	W	34.0	4	70	2	R.115
	24	1	10	W	26.0	4	70	3	R.1065(ADB)
	25	1	55	W	7.0	4	70	3	R.1065(ADB)
	26	6	55	W	30.6	4	70	3	R.1065(ADB)
	27	5	6	W	18.1	4	70	3	R.1065
	28	7	55	W	37.5	4	70	3	R.9117(ADB)
	29	5	52	W	29.4	4	70	3	R.1142
	30			W					
	31			W					
	32			W					
	33			W					
	34			W					
	35			W					

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

**ROUTE 9034 A. Bang Rakam (J. Route 1065) – B. Nong Bua (J. Route 1142)**  
**ARD C. Phitsanulok**

17



**LEGEND**

- i Traffic Zone
- j Dummy Node
- R Road Link Code
- Proposed Road Link
- Other Road

**TRAFFIC ZONES**

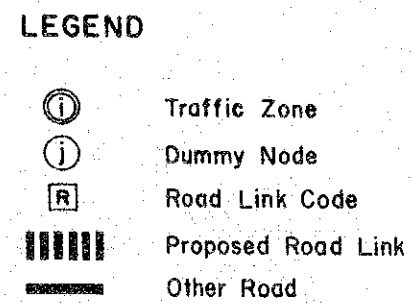
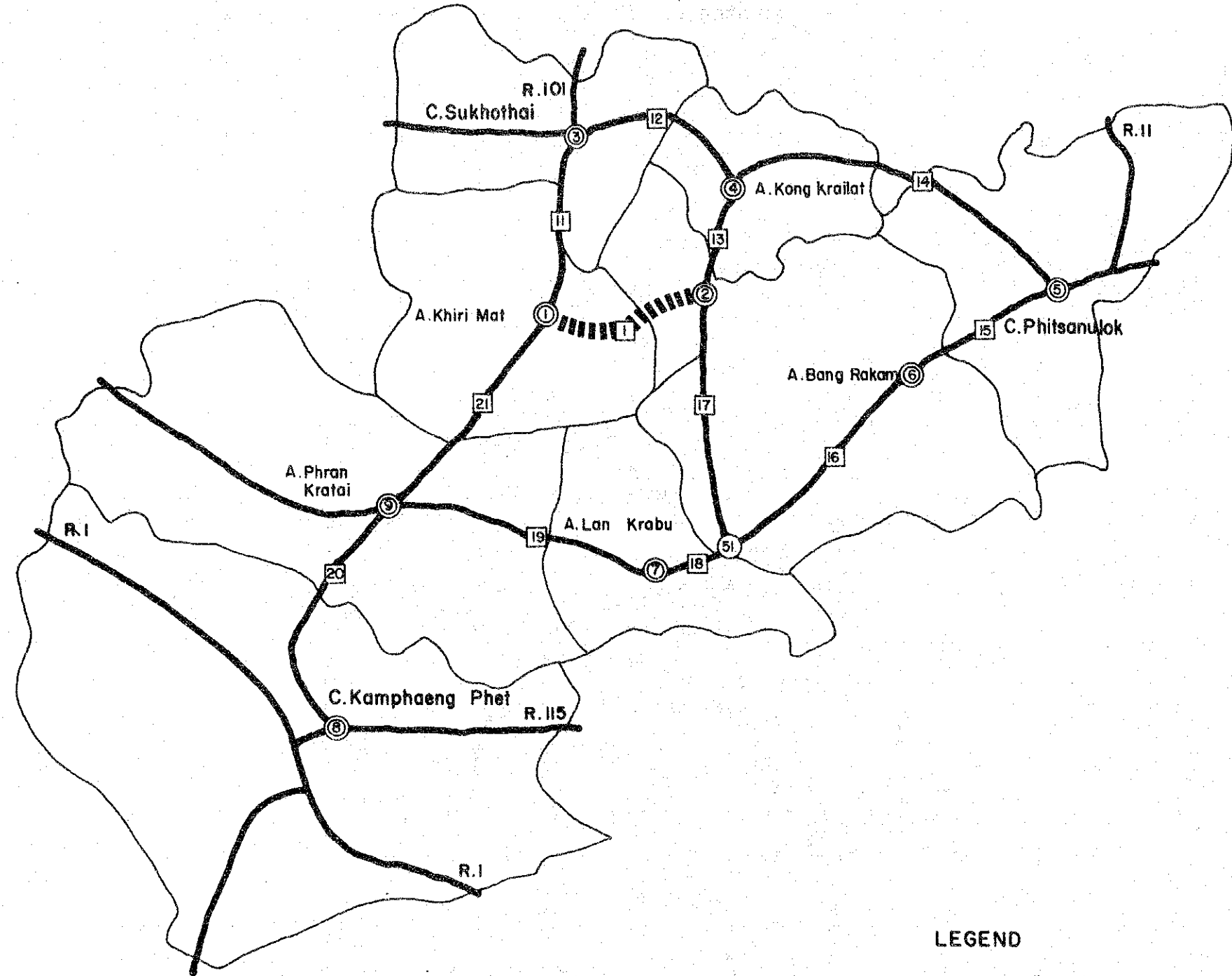
Traffic Zone Code	Changwat Name	Amphoe Name	Tambon Code
①	Phitsanulok	Bang Rakam	01
②	- do -	- do -	02
③	- do -	- do -	03,04
④	Phichit	Sam Ngam	all
⑤	- do -	M. Phichit	all
⑥	Phitsanulok	M. Phitsanulok	all
⑦	- do -	Bang Rakam	05,06,07
⑧			
⑨			

**ROAD LINK CHARACTERISTICS**

Link Code	Node Origin	Node Destination	Project Case	Distance ( Km )	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
Proposed Road	1	2	W	6.5	7	40	4	R.9034	
	2	3	W	6.5	4	70	3	ARD	
			W	8.4	7	40	4		
			W	8.4	4	70	3		
3			W						
4			W						
Other Roads	11	3	51	W.W	17.2	4	70	3	R.1142
	12	3	52	W.W	14.6	4	70	3	R.1142
	13	4	52	W.W	7.9	4	70	2	R.115
	14	4	5	W.W	16.6	4	70	2	R.115
	15	6	51	W.W	4.3	4	70	3	R.1065
	16	1	51	W.W	18.1	4	70	3	R.1065
	17	1	7	W.W	30.9	4	70	3	R.1065
	18			W.W					
	19			W.W					
	20			W.W					
	21			W.W					
	22			W.W					
	23			W.W					
	24			W.W					
	25			W.W					
	26			W.W					
	27			W.W					
	28			W.W					
	29			W.W					
	30			W.W					
	31			W.W					
	32			W.W					
	33			W.W					
	34			W.W					
	35			W.W					

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

**18** **ARD ROAD** A. Khir Mat (J. Route 101) - B. Nong Tum (J. Route 9117)  
C. Sukhothai



**TRAFFIC ZONES**

Traffic Zone Code	Changwat Name	Amphoe Name	Tambon Code
1	Sukhothai	Khiri Mat	all
2	-do-	Kong Krailat	09,10
3	-do-	M. Sukhothai	all
4	-do-	Kong Krailat	except 09,10
5	Phitsanulok	M. Phitsanulok	all
6	-do-	Bang Rakam	all
7	Kamphaeng Phet	Lan Krabu	all
8	-do-	M. Kamphaeng Phet	all
9	-do-	Phran Kratai	all
10			
11			

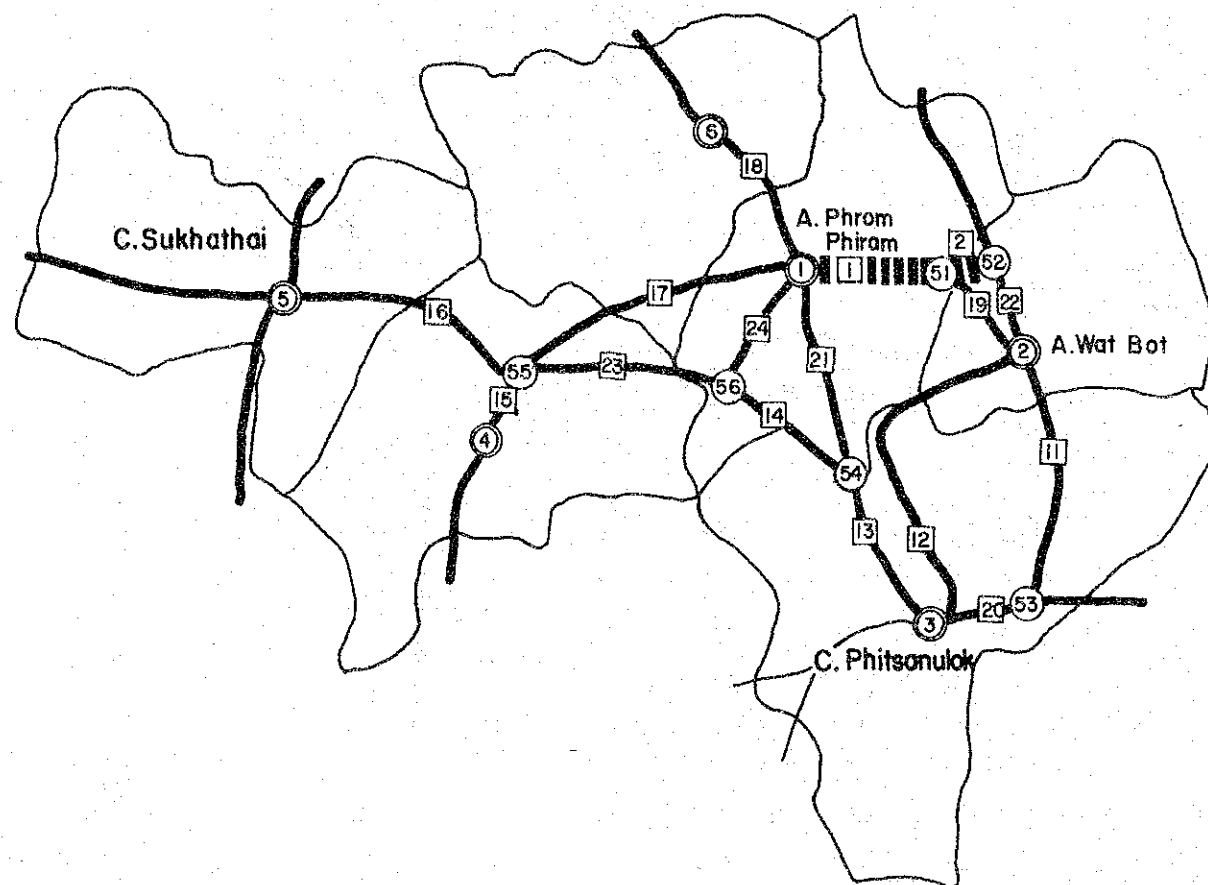
**ROAD LINK CHARACTERISTICS**

Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	2	W	16.0	7	40	4	ARD	
			W	16.0	4	70	3		
			W						
			W						
Other Roads	11	1 3	W.W	20.1	4	70	2	R.101	
	12	3 4	W.W	21.1	1	80	1	R.12	
	13	2 4	W.W	13.0	4	70	3	R.9117	
	14	4 5	W.W	35.7	1	80	1	R.12	
	15	5 6	W.W	18.1	4	70	3	R.1065	
	16	6 51	W.W	30.6	4	70	3	R.1065	
	17	2 51	W.W	24.5	4	70	3	R.9117	
	18	7 51	W.W	7.0	4	70	3	R.1065	
	19	7 9	W.W	26.0	4	70	3	R.1065	
	20	8 9	W.W	27.6	4	70	2	R.101	
	21	1 9	W.W	32.5	4	70	2	R.101	
	22			W.W					
	23			W.W					
	24			W.W					
	25			W.W					
	26			W.W					
	27			W.W					
	28			W.W					
	29			W.W					
	30			W.W					
	31			W.W					
	32			W.W					
	33			W.W					
	34			W.W					
	35			W.W					

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

19

**COOPERATIVE ROAD**      **A. Phrom Phiram - B. Nong Makhang (J. Route 11)**  
**C. Phitsanulok**



**LEGEND**

- Traffic Zone
- Dummy Node
- Road Link Code
- Proposed Road Link
- Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
1	Phitsanulok	Phrom Phiram	01,02,04,05,09,10,11,12
2	--do--	Wat Bot	01,02,03,04
3	--do--	M.Phitsanulok	all
4	Sukhothai	Kong Krailat	all
5	--do--	M.Sukhothai	all
6	Phitsanulok	Phrom Phiram	03,06,07,08
7			
8			

**ROAD LINK CHARACTERISTICS**

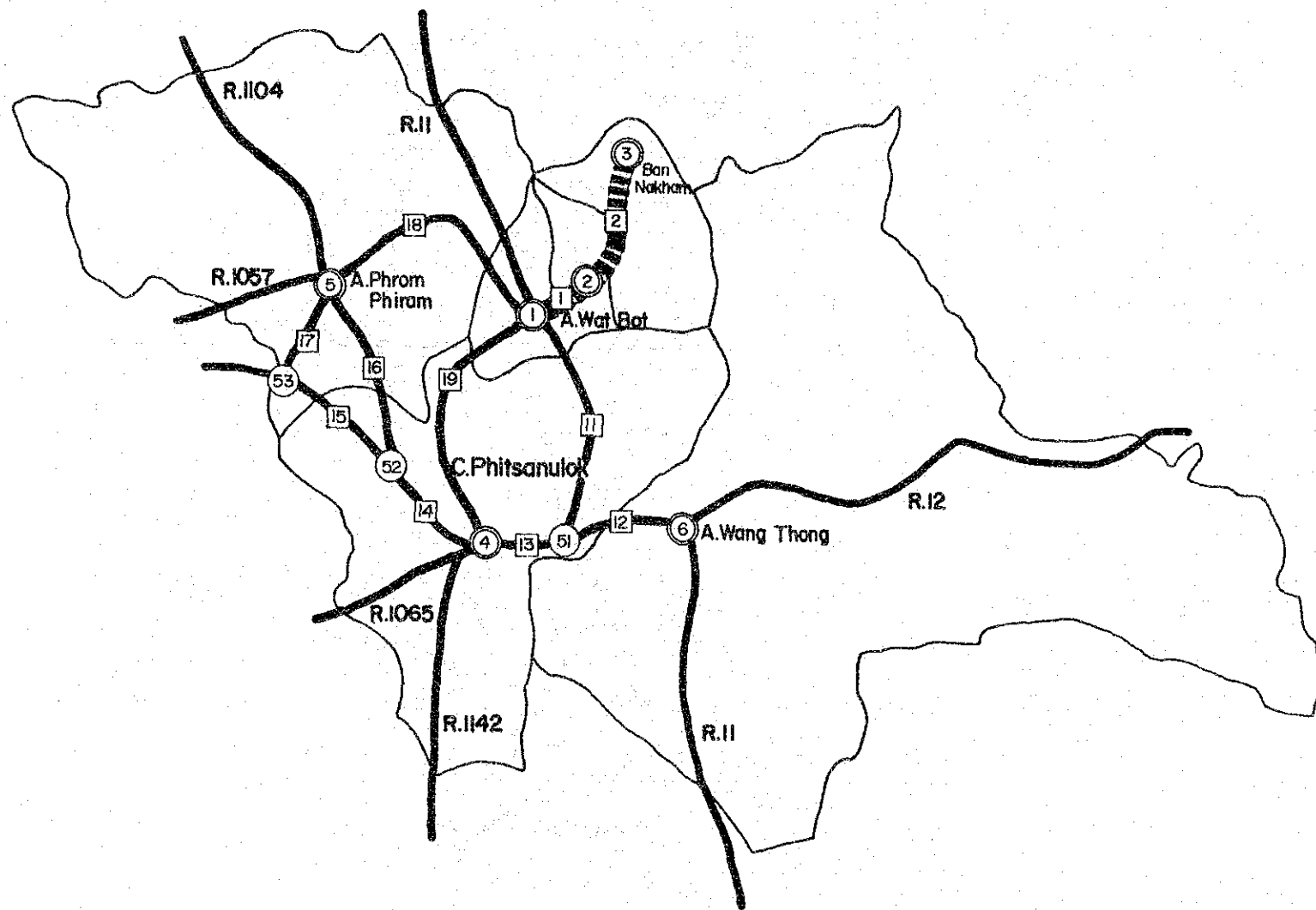
Link Code	Node Pair		Project Case	Distance ( Km )	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	51	W	9.9	--	30	4	Cooperative Road	
			W	9.2	4	70	3		
	2	52	W	5.4	--	15	4	Cooperative Road	
			W	5.4	4	70	3		
Other Roads	11	2	53	W.W	21.2	1	80	1	R. 11
	12	2	3	W.W	26.8	4	70	3	R. 1086
	13	3	54	W.W	11.0	1	80	1	R. 12
	14	54	56	W.W	12.4	1	80	1	R. 12
	15	4	55	W.W	3.0	4	70	3	R. 1055
	16	5	55	W.W	21.1	1	80	1	R. 12
	17	1	55	W.W	27.3	4	70	3	R. 1057
	18	1	6	W.W	14.0	4	70	3	R. 1104
	19	2	51	W.W	14.0	7	40	4	Cooperative Road
	20	3	53	W.W	9.5	1	80	1	R. 12
	21	1	54	W.W	17.0	7	40	4	R 1 D
	22	2	52	W.W	13.0	1	80	1	R. 11
23	55	56	W.W	12.4	1	80	1	R. 12	
24	1	56	W.W	10.5	4	70	3	R 1 D	
25			W.W						
26			W.W						
27			W.W						
28			W.W						
29			W.W						
30			W.W						
31			W.W						
32			W.W						
33			W.W						
34			W.W						
35			W.W						

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

20

**ROUTE I220**

**A. Wat Bot - B. Na Kham  
C. Phitsanulok**



**LEGEND**

- ① Traffic Zone
- Ⓜ Dummy Node
- Ⓡ Road Link Code
- ▬▬▬▬ Proposed Road Link
- ▬▬▬▬ Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Phitsanulok	Wat Bot	01,03
②	-do-	-do-	02
③	-do-	-do-	04
④	-do-	Phitsanulok	all
⑤	-do-	Phrom Phiram	all
⑥	-do-	Wang Thong	01,02,03,05,07,09,10
⑦			
⑧			

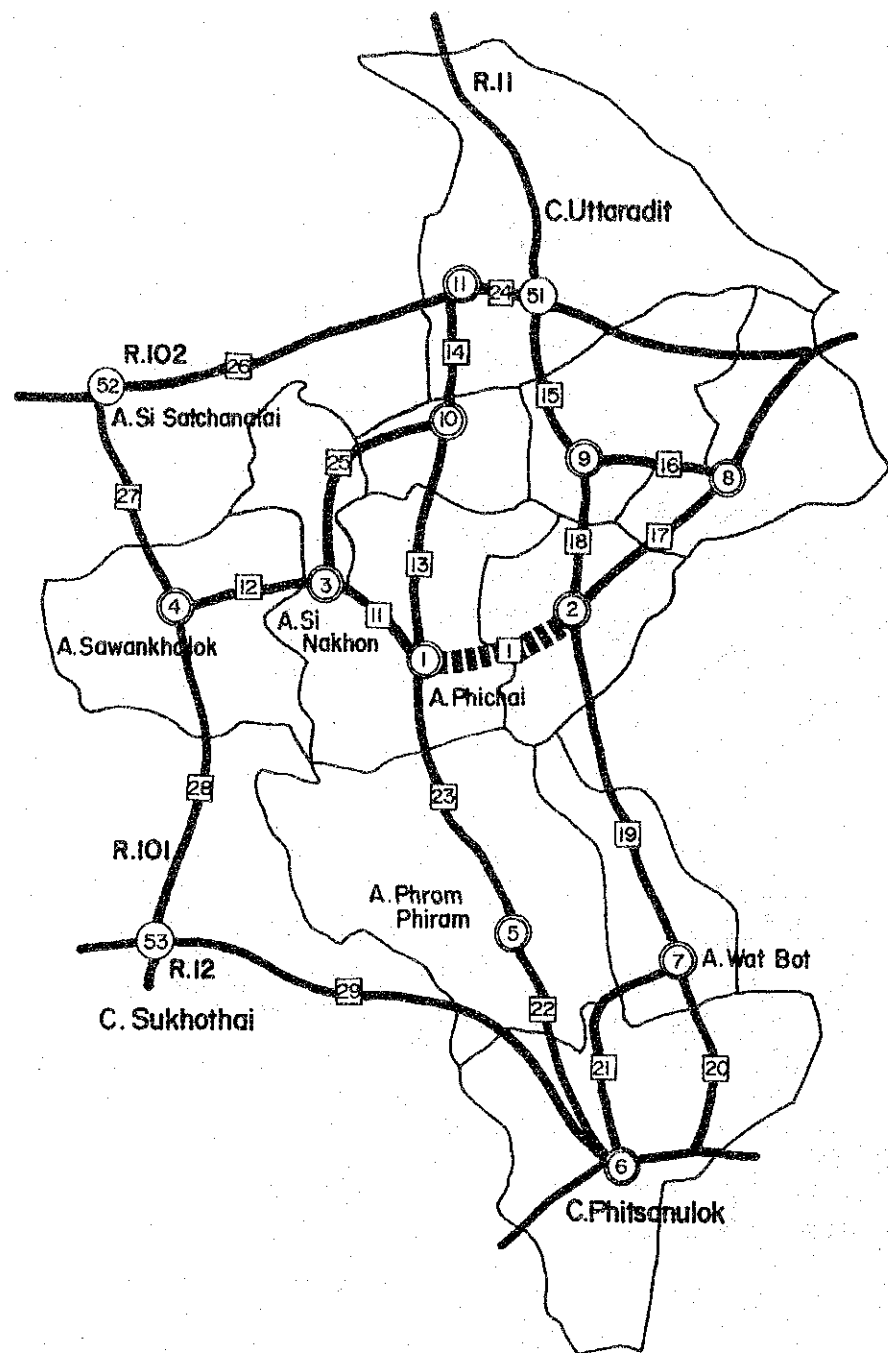
**ROAD LINK CHARACTERISTICS**

Link Code	Node Pair		Project Case	Distance ( Km )	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	2	W	4.5	7	40	4	R. I220	
			W	4.5	4	70	3		
	2	3	W	10.5	9	20	4	R. I220	
			W	10.5	4	70	3		
3		W							
		W							
4		W							
		W							
Other Roads	11	1	51	W.W	21.2	1	80	1	R.11
	12	6	51	W.W	12.5	1	80	1	R.12
	13	4	51	W.W	9.5	1	80	1	R.12
	14	4	52	W.W	11.0	1	80	1	R.12
	15	52	53	W.W	12.4	1	80	1	R.12
	16	5	52	W.W	17.0	7	40	4	RID
	17	5	53	W.W	10.5	4	70	3	RID
	18	1	5	W.W	23.9	7	40	4	Rural
	19	1	4	W.W	26.8	4	70	3	R.1086
	20			W.W					
	21			W.W					
	22			W.W					
	23			W.W					
	24			W.W					
	25			W.W					
	26			W.W					
	27			W.W					
	28			W.W					
	29			W.W					
30			W.W						
31			W.W						
32			W.W						
33			W.W						
34			W.W						
35			W.W						



Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

**21** **ROUTE 9053** **B. Na Isang (J.Route 11) - A. Phichai**  
**ARD** **C. Uttaradit**



**LEGEND**

- Traffic Zone
- Dummy Node
- Road Link Code
- Proposed Road Link
- Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Changwat Name	Amphoe Name	Tambon Code
1	Uttaradit	Phichai	except 10,11
2	-do-	-do-	10,11
3	Sukhothai	Si Nakhon	all
4	-do-	Sawankhalok	all
5	Phitsanulok	Phrom Phiram	except 11,12
6	-do-	M.Phitsanulok	all
7	-do-	Phrom Phiram (11,12; Wat Bot (01,02,03))	
8	Uttaradit	Tron	06,08
9	-do-	-do-	04,05,07
10	-do-	-do-	01,02,03
11	-do-	M.Uttaradit	all
12			
13			

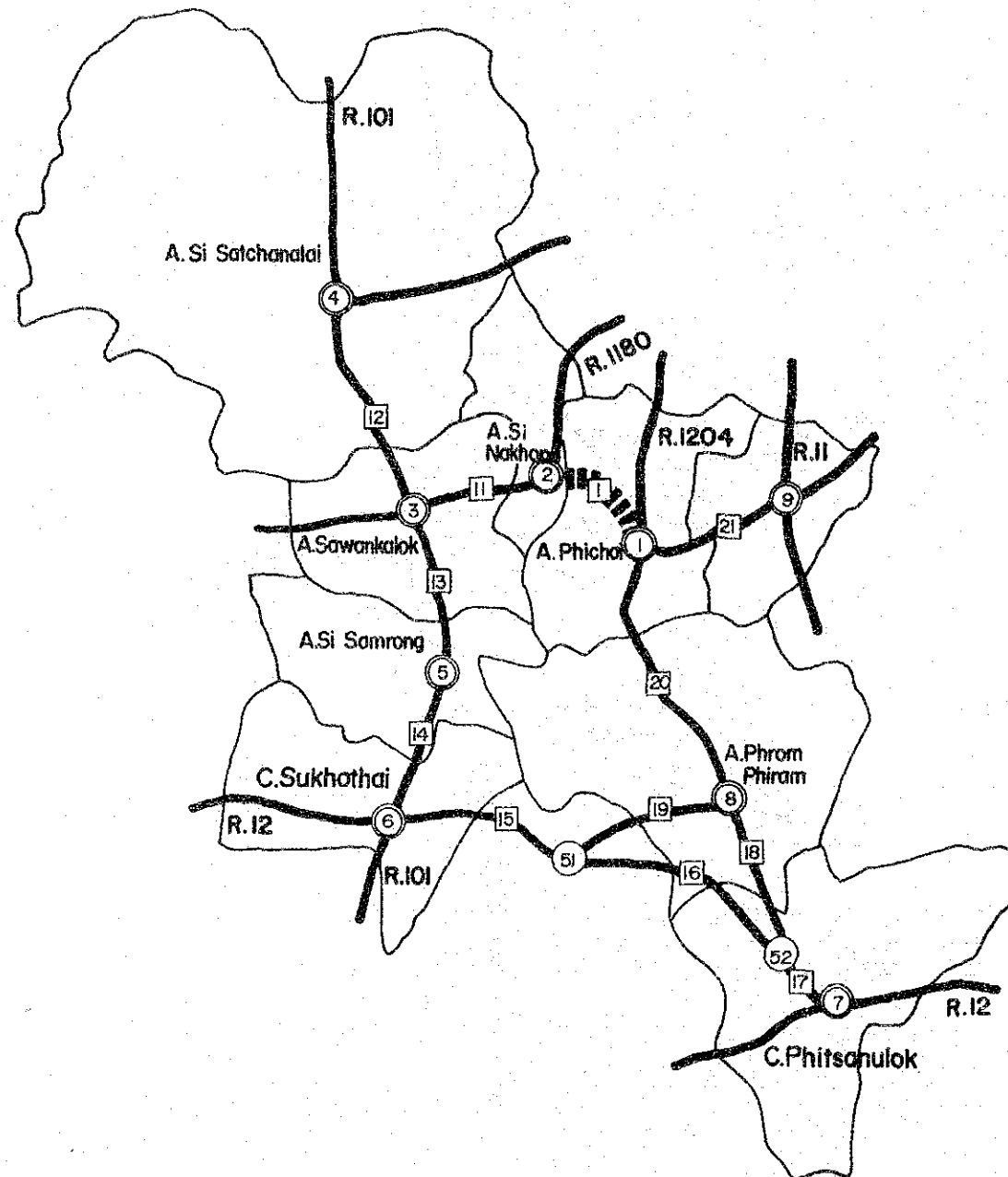
**ROAD LINK CHARACTERISTICS**

Link Code	Node Origin	Node Destination	Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
Proposed Road	1	2	W	22.7	7	40	4	ARD, R.9053	
			W	18.4	4	70	3		
			W						
			W						
Other Roads	11	3	W.W	15.9	7	40	4	ARD	
	12	3	4	W.W	15.3	4	70	3	R.1180
	13	1	10	W.W	32.0	4	70	3	R.1104, ARD
	14	10	11	W.W	11.0	4	70	3	R.1040
	15	9	51	W.W	25.0	1	80	1	R.11
	16	8	9	W.W	12.5	7	40	4	R.1214
	17	2	8	W.W	19.0	8	30	4	R.9053, R.1246
	18	2	9	W.W	15.0	2	65	1	R.11
	19	2	7	W.W	40.0	1	80	1	R.11
	20	6	7	W.W	27.2	1	80	1	R.12, R.11
	21	6	7	W.W	26.8	4	70	3	R.1086
	22	5	6	W.W	17.0	7	40	4	R.10
	23	1	5	W.W	25.0	4	70	3	R.1104
	24	11	51	W.W	12.0	4	70	3	R.1045
	25	3	10	W.W	24.0	4	70	3	R.1180, R.1196
	26	11	52	W.W	33.2	1	80	2	R.102
	27	4	52	W.W	29.2	1	80	2	R.101
	28	4	53	W.W	35.6	4	70	2	R.101
	29	6	53	W.W	56.8	1	80	1	R.12
	30			W.W					
31			W.W						
32			W.W						
33			W.W						
34			W.W						

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

**22** ARD ROAD

**A. Phichai — A. Si Nakhon**  
**C. Uttaradit C. Sukhothai**



**LEGEND**

- ① Traffic Zone
- Ⓜ Dummy Node
- Ⓜ Road Link Code
- ▬▬▬▬ Proposed Road Link
- ▬▬▬▬ Other Road

**TRAFFIC ZONES**

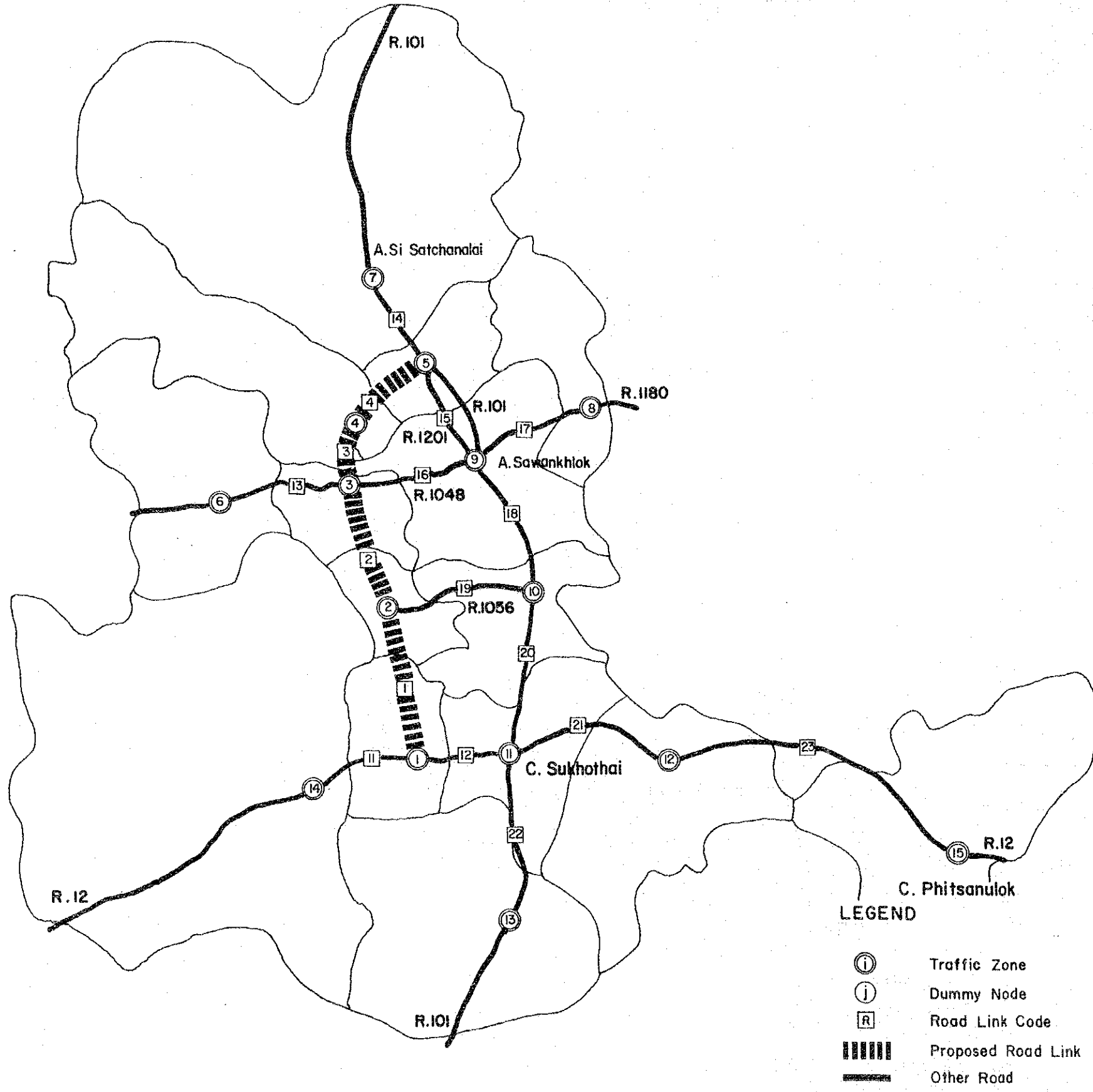
Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Uttaradit	Phichai	except 10,11
②	Sukhothai	Si Nakhon	all
③	--do--	Sawankhalok	all
④	--do--	Si Satchanalai	all
⑤	--do--	Si Samrong	all
⑥	--do--	M. Sukhothai	all
⑦	Phitsanulok	M. Phitsanulok	all
⑧	--do--	Phrom Phiram	all
⑨	Uttaradit	Phichai	10,11
⑩			
⑪			

**ROAD LINK CHARACTERISTICS**

Link Code	Node Pair		Project Case	Distance ( Km )	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	2	W	15.9	7	40	4	ARD	
			W	14.2	4	70	3		
			W						
			W						
Other Roads	11	2 3	W W	15.3	4	70	3	R.1180	
	12	3 4	W W	29.2	4	70	2	R.101	
	13	3 5	W W	17.8	4	70	2	R.101	
	14	5 6	W W	17.8	4	70	2	R.101	
	15	6 51	W W	21.1	1	80	1	R.12	
	16	51 52	W W	24.7	1	80	1	R.12	
	17	7 52	W W	11.0	1	80	1	R.12	
	18	8 52	W W	17.0	4	70	4	RID	
	19	8 51	W W	27.3	4	70	3	R.1057	
	20	1 8	W W	25.0	4	70	3	R.1104	
	21	1 9	W W	22.7	7	40	4	R.9053,ARD	
	22		W W						
	23		W W						
	24		W W						
	25		W W						
	26		W W						
	27		W W						
	28		W W						
	29		W W						
	30		W W						
	31		W W						
	32		W W						
	33		W W						
	34		W W						
	35		W W						

Appendix 6-3-5 ROAD NETWORK AND TRAFFIC ZONES

23 ROUTE 1113 B. Muang Kao (J.Route 12) – J. Route 1048 – B. Muang Kao (J. Route 1201)  
C. Sukhothai



**LEGEND**

- ① Traffic Zone
- Ⓜ Dummy Node
- Ⓡ Road Link Code
- ▬▬▬▬ Proposed Road Link
- ▬▬▬▬ Other Road

TRAFFIC ZONES

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphos Name	Tambon Code
①	Sukhothai	M. Sukhothai	03
②	-do-	Si Samrong	06,09
③	-do-	Sawankhalok (07,13) ; Thung Saliam (01)	
④	-do-	Si Satchanalai	10,11
⑤	-do-	-do-	07,08
⑥	-do-	Thung Saliam	02,03,04
⑦	-do-	Si Satchanalai	01,02,03,04,05,06,09
⑧	-do-	Si Nakhon	all
⑨	-do-	Sawankhalok	except 07,13
⑩	-do-	Si Samrong	except 06,09
⑪	-do-	M. Sukhothai	except 03
⑫	-do-	Kong Krailat	all
⑬	-do-	Khiri Mat	all
⑭	-do-	Ban Dan Lan Hoi	all
⑮	Phitsanulok	M. Phitsanulok	all
⑯			
⑰			

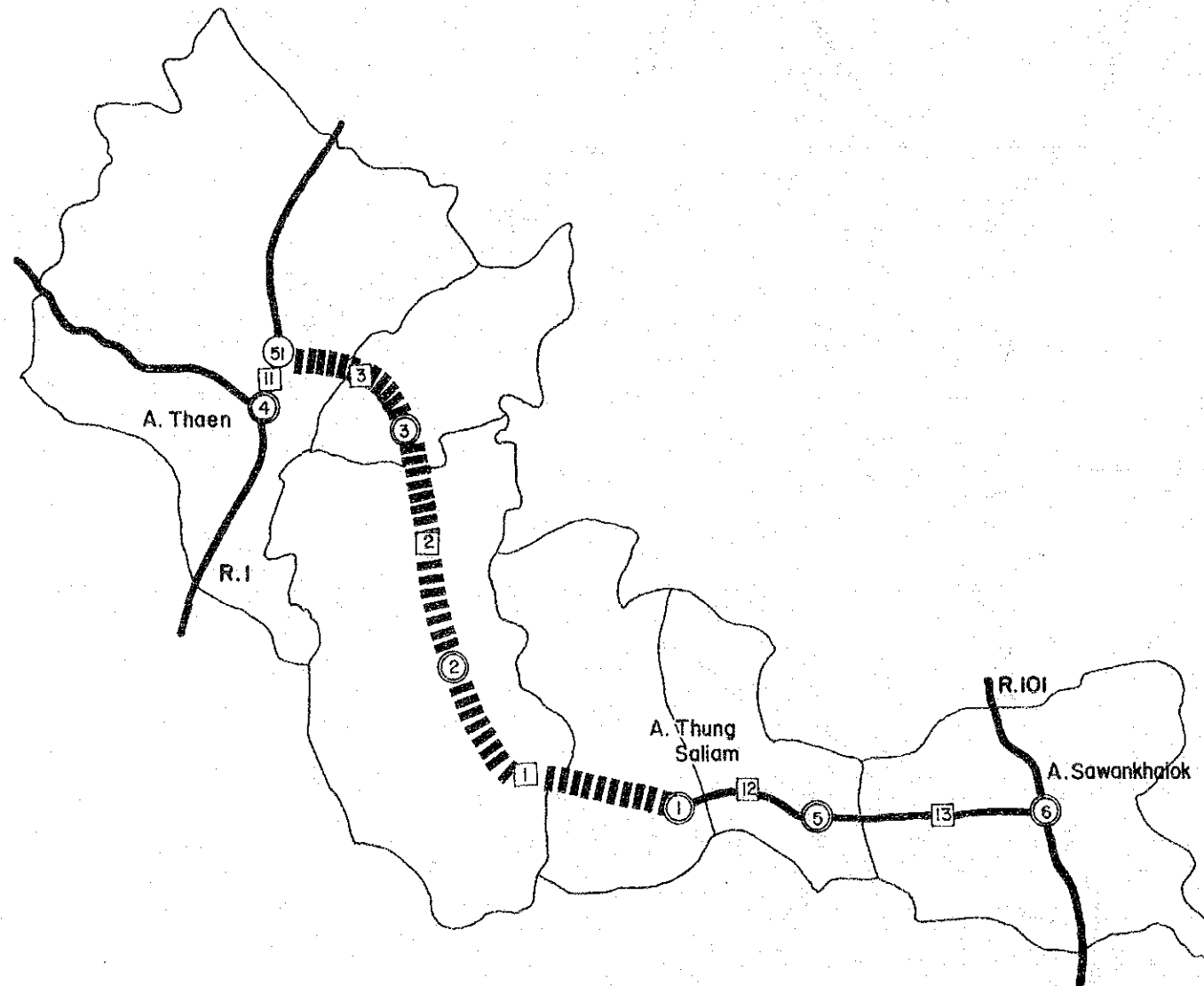
ROAD LINK CHARACTERISTICS

Link Code	Node Pair		Project Case	Distance ( Km )	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks
	Origin	Destination						
Proposed Road	1	2	W	16.8	-	15	4	R. 1113
			W	16.8	4	70	3	
	2	3	W	20.7	-	7	4	Cooperative Road
			W	20.7	4	70	3	
	3	4	W	8.6	-	2	4	Cooperative Road
			W	8.6	4	70	3	
	4	5	W	7.7	-	12	4	Rural Road
			W	7.7	4	70	3	
Other Roads	11	14	W.W	9.9	4	70	1	R. 12
	12	11	W.W	9.9	4	70	1	R. 12
	13	6	W.W	16.0	4	70	3	R. 1048
	14	5	W.W	14.2	4	70	2	R. 101
	15	5	W.W	10.9	4	70	3	R. 1201
	16	3	W.W	15.0	4	70	3	R. 1048
	17	8	W.W	15.3	4	70	3	R. 1180
	18	9	W.W	17.8	4	70	2	R. 101
	19	2	W.W	22.0	4	70	4	R. 1056
	20	10	W.W	17.8	4	70	2	R. 101
	21	11	W.W	21.1	1	80	1	R. 12
	22	11	W.W	20.1	4	70	2	R. 101
	23	12	W.W	35.7	1	80	1	R. 12
	24		W.W					
	25		W.W					
26		W.W						
27		W.W						
28		W.W						
29		W.W						
30		W.W						
31		W.W						

Appendix 6-3-5 ROAD NETWORK AND TRAFFIC ZONES

24

**ROUTE 1048** A. Thung Saliam (Route 1048) - B. Don Chai (J. Route 1)  
C. Sukhothai C. Lampang



- LEGEND**
- ① Traffic Zone
  - Ⓜ Dummy Node
  - Ⓜ Road Link Code
  - ▨▨▨▨ Proposed Road Link
  - ▬ Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Changwat Name	Amphoe Name	Tambon Code
①	Sukhothai	Thung Saliam	03,04
②	Lampang	Thaen	05
③	- do -	- do -	04
④	- do -	- do -	01,02,03,06,07,08,
⑤	Sukhothai	Thung Saliam	01,02
⑥	- do -	Sawankhalak	all
⑦			
⑧			

**ROAD LINK CHARACTERISTICS**

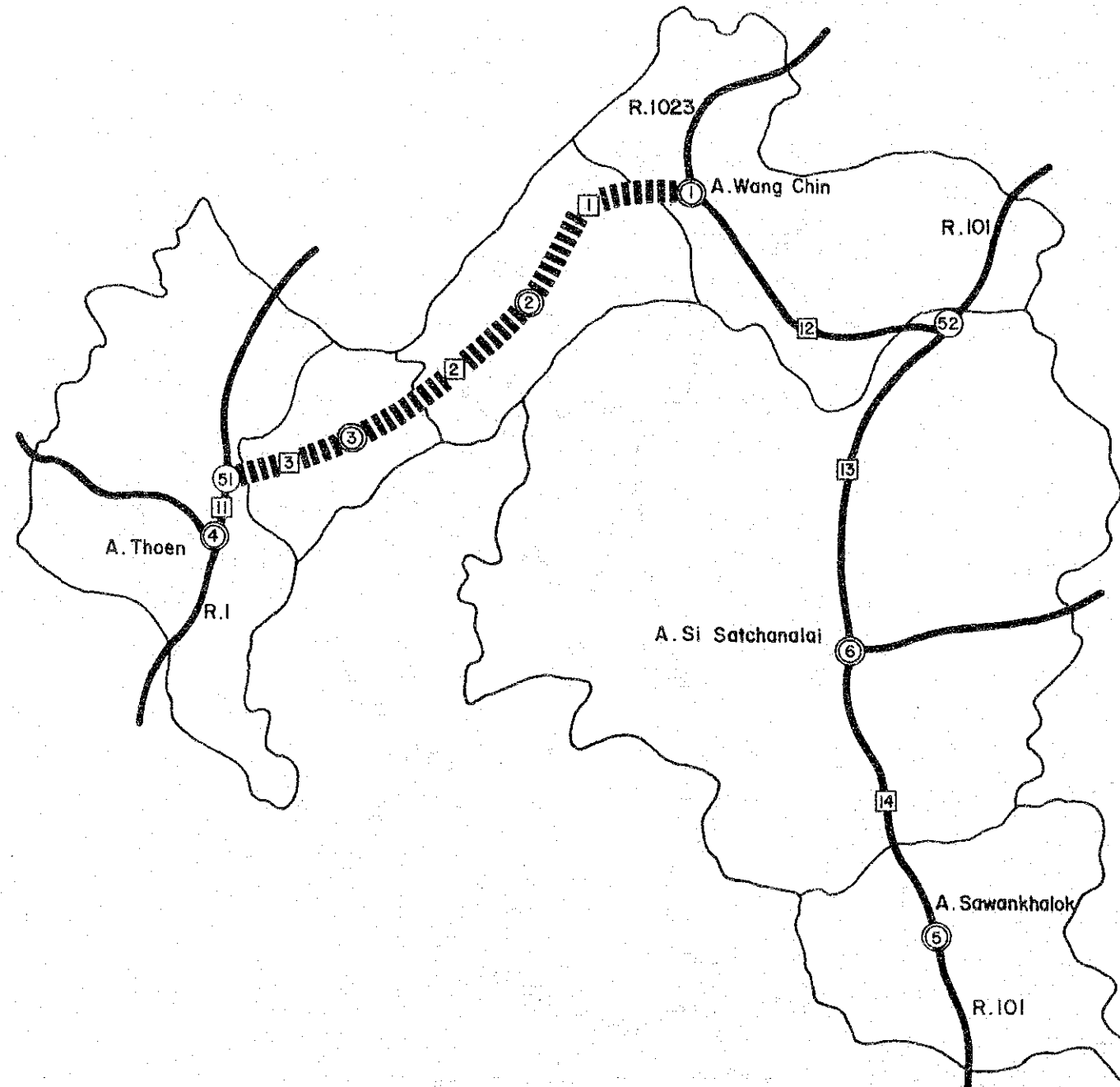
Link Code	Node Pair	Project Case	Distance ( Km )	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks
Proposed Road	1 2	W	37.0	-	15	4	R. 1048
		W	37.0	-	55	3	
	2 3	W	13.0	-	10	4	R. 1048
		W	13.0	-	50	3	
3 51	W	11.7	-	7	4	R. 1048	
	W	11.7	-	45	3		
4		W					
		W					
Other Roads	4 51	W.W	1.7	1	80	1	R. 1
	1 5	W.W	16.6	4	70	3	R. 1048
	5 6	W.W	20.7	4	70	3	R. 1048
		W.W					
		W.W					
		W.W					
		W.W					
		W.W					
		W.W					
		W.W					
		W.W					

Appendix 6-3-5 ROAD NETWORK AND TRAFFIC ZONES

25

ROUTE 1124

A. Wang Chin -- B. Don Chal (J. Route 1)  
C. Phrae C. Lampang



- LEGEND
- ① Traffic Zone
  - Ⓜ Dummy Node
  - Ⓡ Road Link Code
  - ▨ Proposed Road Link
  - Other Road

TRAFFIC ZONES

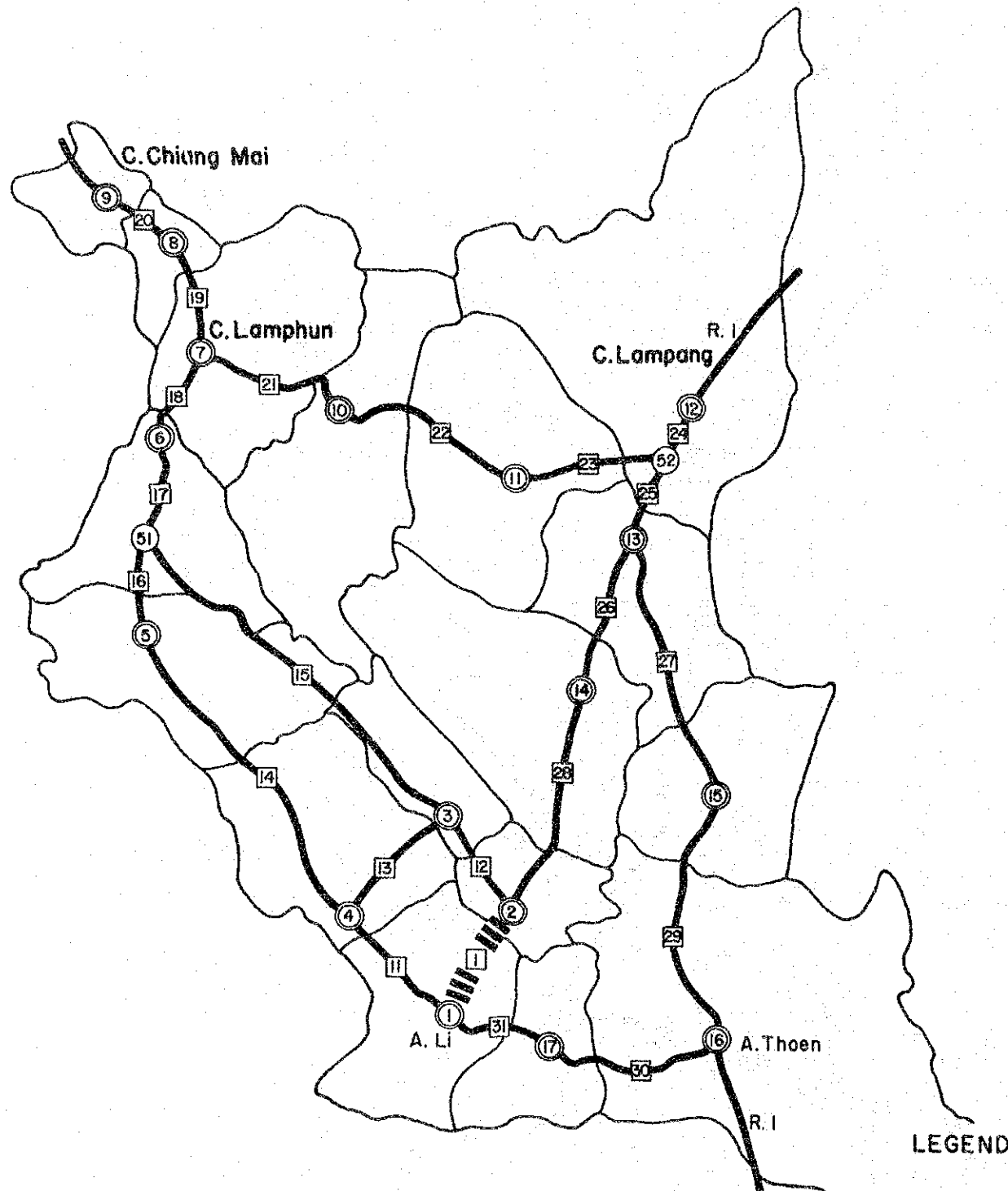
Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Phrae	Wang Chin	01,03,04
②	-do-	-do-	02,05
③	Lampang	Thaen	03
④	-do-	-do-	01,02,06,07,08
⑤	Sukhothai	Sawankhalok	all
⑥	-do-	Si Satchanalai	all
⑦			
⑧			

ROAD LINK CHARACTERISTICS

Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	2	W	20.5	8	30	4	R.1124	
			W	20.0	5	55	3		
	2	3	W	20.0	--	25	4	R.1124	
			W	20.0	--	47	3		
3	51	W	12.0	8	30	4	R.1124		
		W	12.0	5	55	3			
4			W						
Other Roads	11	4	51	W.W	3.0	1	80	1	R.1
	12	1	52	W.W	38.5	5	55	3	R.1125
	13	6	52	W.W	39.5	1	80	2	R.101
	14	5	6	W.W	29.2	4	70	2	R.101
	15			W.W					
	16			W.W					
	17			W.W					
	18			W.W					
	19			W.W					
	20			W.W					
	21			W.W					
	22			W.W					
	23			W.W					
	24			W.W					
	25			W.W					
	26			W.W					
	27			W.W					
	28			W.W					
	29			W.W					
	30			W.W					
	31			W.W					
	32			W.W					
	33			W.W					
	34			W.W					
	35			W.W					

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

**26** **ROUTE 1184** **A. Li (J.Route 106) - B. Puang (Route 1235)**  
**C. Lamphun**



- LEGEND**
- ① Traffic Zone
  - Ⓜ Dummy Node
  - Ⓡ Road Link Code
  - Proposed Road Link
  - Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Lamphun	Li	01
②	-do-	Thung Hua Chang	02
③	-do-	-do-	01,03
④	-do-	Li	02
⑤	-do-	Ban Hong	all
⑥	-do-	Pa Sang	all
⑦	-do-	M. Lamphun	all
⑧	Chiang Mai	Saraphi	all
⑨	-do-	M. Chiang Mai	all
⑩	Lamphun	Mae Tha	all
⑪	Lampang	Hang Chat	all
⑫	-do-	M. Lampang	all
⑬	-do-	Ko Kha	all
⑭	-do-	Saen Ngam	all
⑮	-do-	Sop Prap	all
⑯	-do-	Thoen	all
⑰	Lamphun	Li	03,04

**ROAD LINK CHARACTERISTICS**

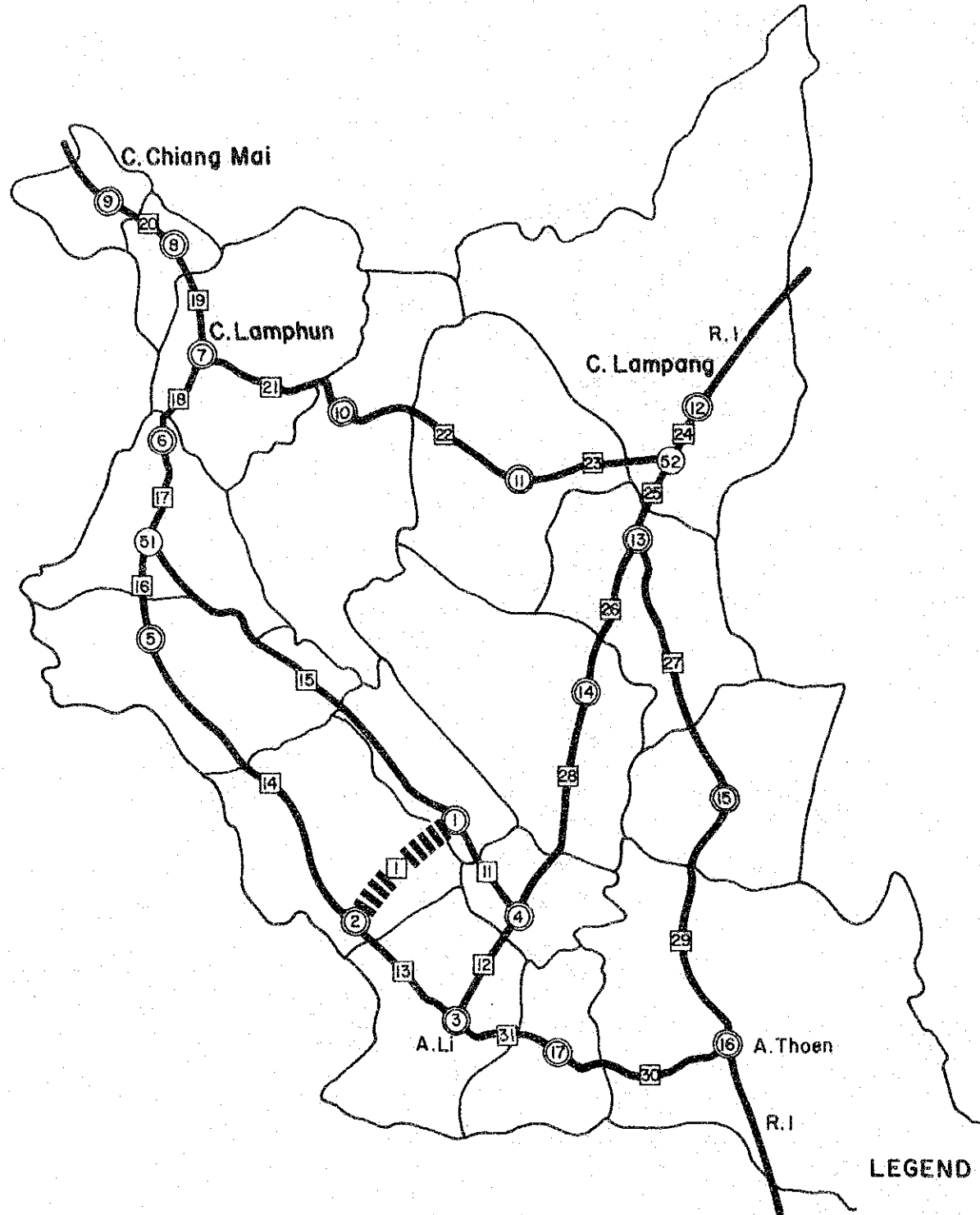
Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	2	W	18.5	8	30	4	R.1184	
			W	18.5	5	55	3		
	2		W						
	3		W						
Other Roads	11	1	4	W.W	19.0	1	80	2	R.106
	12	2	3	W.W	14.2	8	30	4	R.1184
	13	3	4	W.W	17.7	8	30	4	R.1219
	14	4	5	W.W	49.6	1	80	2	R.106
	15	3	51	W.W	54.8	9	20	4	R.1184
	16	5	51	W.W	15.0	4	70	2	R.106
	17	6	51	W.W	15.0	4	70	2	R.106
	18	6	7	W.W	10.0	4	70	2	R.106
	19	7	8	W.W	25.6	1	80	1	R.11
	20	8	9	W.W	14.2	1	80	1	R.11
	21	7	10	W.W	24.1	2	65	1	R.11
	22	10	11	W.W	28.9	2	65	1	R.11
	23	11	52	W.W	15.7	1	80	1	R.11
	24	12	52	W.W	6.4	1	80	1	R.1
	25	13	52	W.W	10.9	1	80	1	R.1
	26	13	14	W.W	28.0	7	40	4	Rural
	27	13	15	W.W	37.1	1	80	1	R.1
	28	2	14	W.W	33.0	8	30	4	Rural
	29	15	16	W.W	33.3	1	80	1	R.1
	30	16	17	W.W	32.0	5	55	2	R.106
	31	1	17	W.W	17.1	5	55	2	R.106

Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

27

**ROUTE 1219 B. Mae Thoei (J. Route 106) - A.Thung Hua Chang (J. Route 1184)**

**C. Lamphun**



**LEGEND**

- ① Traffic Zone
- Ⓜ Dummy Node
- R Road Link Code
- ▬▬▬▬ Proposed Road Link
- ▬▬▬▬ Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Changwat Name	Amphoe Name	Tambon Code
1	Lamphun	Thung Hua Chang	01,03
2	- do -	Li	02
3	- do -	Li	01
4	- do -	Thung Hua Chang	02
5	- do -	Ban Hong	all
6	- do -	Pa Sang	all
7	- do -	M. Lumphun	all
8	Chiang Mai	Saraphi	all
9	- do -	M. Ching Mai	all
10	Lamphun	Mae Tha	all
11	Lampang	Hang Chat	all
12	- do -	M. Lampang	all
13	- do -	Ko Kha	all
14	- do -	Saen Ngam	all
15	- do -	Sop Prap	all
16	- do -	Thoen	all
17	Lamphun	Li	03,04

**ROAD LINK CHARACTERISTICS**

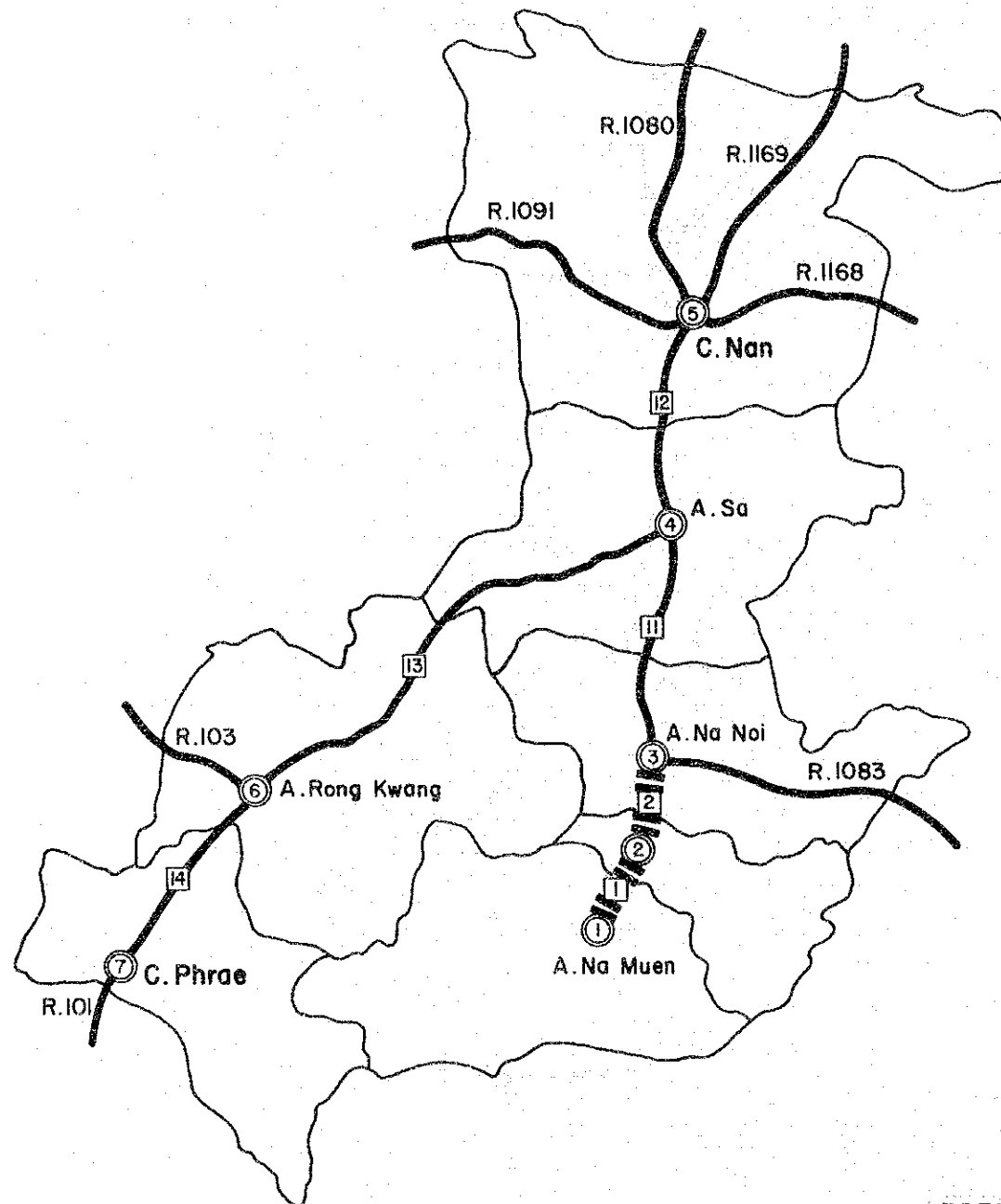
Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	2	W	17.7	8	30	4	R.1219	
			W	17.6	5	55	3		
	2		W						
			W						
3		W							
		W							
4		W							
		W							
Other Roads	11	1	4	W.W	14.2	8	30	4	R.1184
	12	3	4	W.W	18.5	8	30	4	R.1184
	13	2	3	W.W	19.0	1	80	2	R.106
	14	2	5	W.W	49.6	1	80	2	R.106
	15	1	51	W.W	54.8	9	20	4	R.1184
	16	5	51	W.W	15.0	4	70	2	R.106
	17	6	51	W.W	15.0	4	70	2	R.106
	18	6	7	W.W	10.0	4	70	2	R.106
	19	7	8	W.W	25.6	1	80	1	R.II
	20	8	9	W.W	14.2	1	80	1	R.II
	21	7	10	W.W	24.1	2	65	1	R.II
	22	10	11	W.W	28.9	2	65	1	R.II
	23	11	52	W.W	15.7	1	80	1	R.II
	24	12	52	W.W	6.4	1	80	1	R.I
	25	13	52	W.W	10.9	1	80	1	R.I
	26	13	14	W.W	28.0	7	40	4	Rural
	27	13	15	W.W	37.1	1	80	1	R.I
	28	4	14	W.W	33.0	8	30	4	Rural
	29	15	16	W.W	33.3	1	80	1	R.I
30	16	17	W.W	32.0	5	55	2	R.106	
31	3	17	W.W	17.1	5	55	2	R.106	

Appendix 6-3-5 ROAD NETWORK AND TRAFFIC ZONES

28

**ROUTE 9061**

**A. Na Noi (Route 1026) - A. Na Muen  
C. Nan**



**LEGEND**

- ① Traffic Zone
- Ⓜ Dummy Node
- Ⓜ Road Link Code
- ▬▬▬▬ Proposed Road Link
- ▬▬▬▬ Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Nan	Na Muen	all
②	-do-	Na Noi	04
③	-do-	-do-	01,02,03
④	-do-	Sa	except 07,09
⑤	-do-	M. Nan	all
⑥	Phrae	Rong Kwang	all(Na Noi 05 included)
⑦	-do-	M. Phrae	all
⑧			
⑨			

**ROAD LINK CHARACTERISTICS**

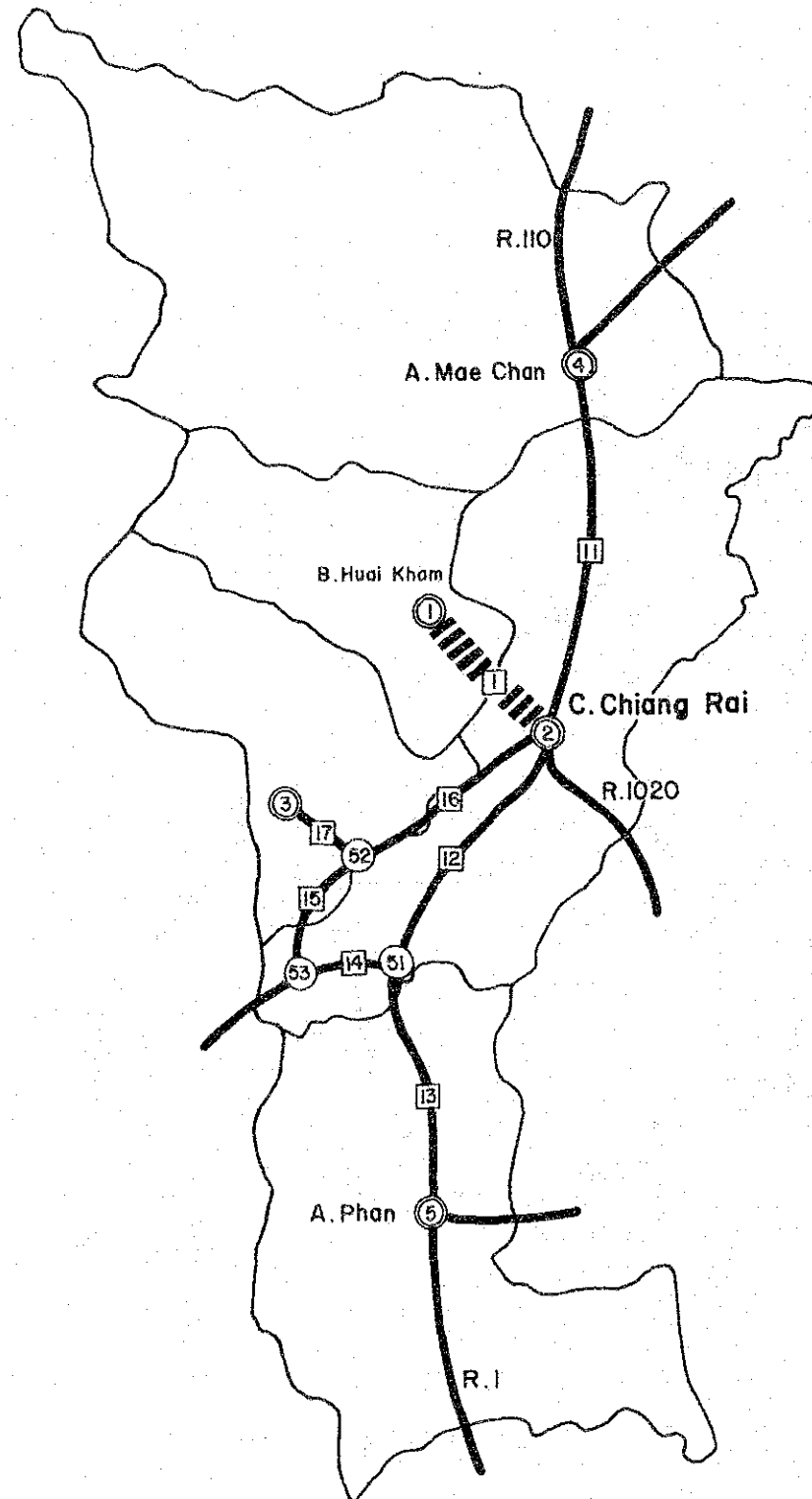
Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	2	W	9.0	8	30	4	R.9061	
			W	9.0	5	55	3	R.9061	
	2	3	W	11.0	8	30	4	R.9061	
			W	11.0	5	55	3		
3		W							
		W							
4		W							
		W							
Other Roads	11	3	4	W.W	35.0	5	55	3	R.1026
	12	4	5	W.W	23.8	4	70	2	R.101
	13	4	6	W.W	68.2	5	55	2	R.101
	14	6	7	W.W	25.3	4	70	2	R.101
	15			W.W					
	16			W.W					
	17			W.W					
	18			W.W					
	19			W.W					
	20			W.W					
	21			W.W					
	22			W.W					
	23			W.W					
	24			W.W					
	25			W.W					
	26			W.W					
	27			W.W					
	28			W.W					
	29			W.W					
	30			W.W					
	31			W.W					
	32			W.W					
	33			W.W					
	34			W.W					
	35			W.W					



Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

29

**ROUTE 1207** B. Rong Sua Ten (J. Route 110) – B. Huai Khom  
C. Chiang Rai



- LEGEND**
- ① Traffic Zone
  - ⊙ Dummy Node
  - Ⓡ Road Link Code
  - ▬▬▬▬ Proposed Road Link
  - ▬▬▬▬ Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Chiang Rai	M. Chiang Rai	06
②	-do-	-do-	except 06,11,12,13
③	-do-	-do-	11,12
④	-do-	Mae Chan	01,03,04,05,08
⑤	-do-	Phan	except 09,10,11
⑥			
⑦			

**ROAD LINK CHARACTERISTICS**

Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	2	W	13.4	7	40	4	R.1207	
			W	13.4	4	70	3		
	2		W						
			W						
3		W							
		W							
4		W							
		W							
Other Roads	11	2	4	W.W	28.5	1	80	2	R.110
	12	2	51	W.W	18.9	1	80	2	R.110
	13	5	51	W.W	20.0	1	80	2	R.110
	14	51	53	W.W	3.8	1	80	2	R.109
	15	52	53	W.W	15.0	4	70	3	R.1211
	16	2	52	W.W	17.3	4	70	3	R.1211
	17	3	52	W.W	7.0	8	30	4	Rural
	18			W.W					
	19			W.W					
	20			W.W					
	21			W.W					
	22			W.W					
	23			W.W					
	24			W.W					
	25			W.W					
	26			W.W					
	27			W.W					
	28			W.W					
	29			W.W					
	30			W.W					
	31			W.W					
	32			W.W					
	33			W.W					
	34			W.W					
	35			W.W					

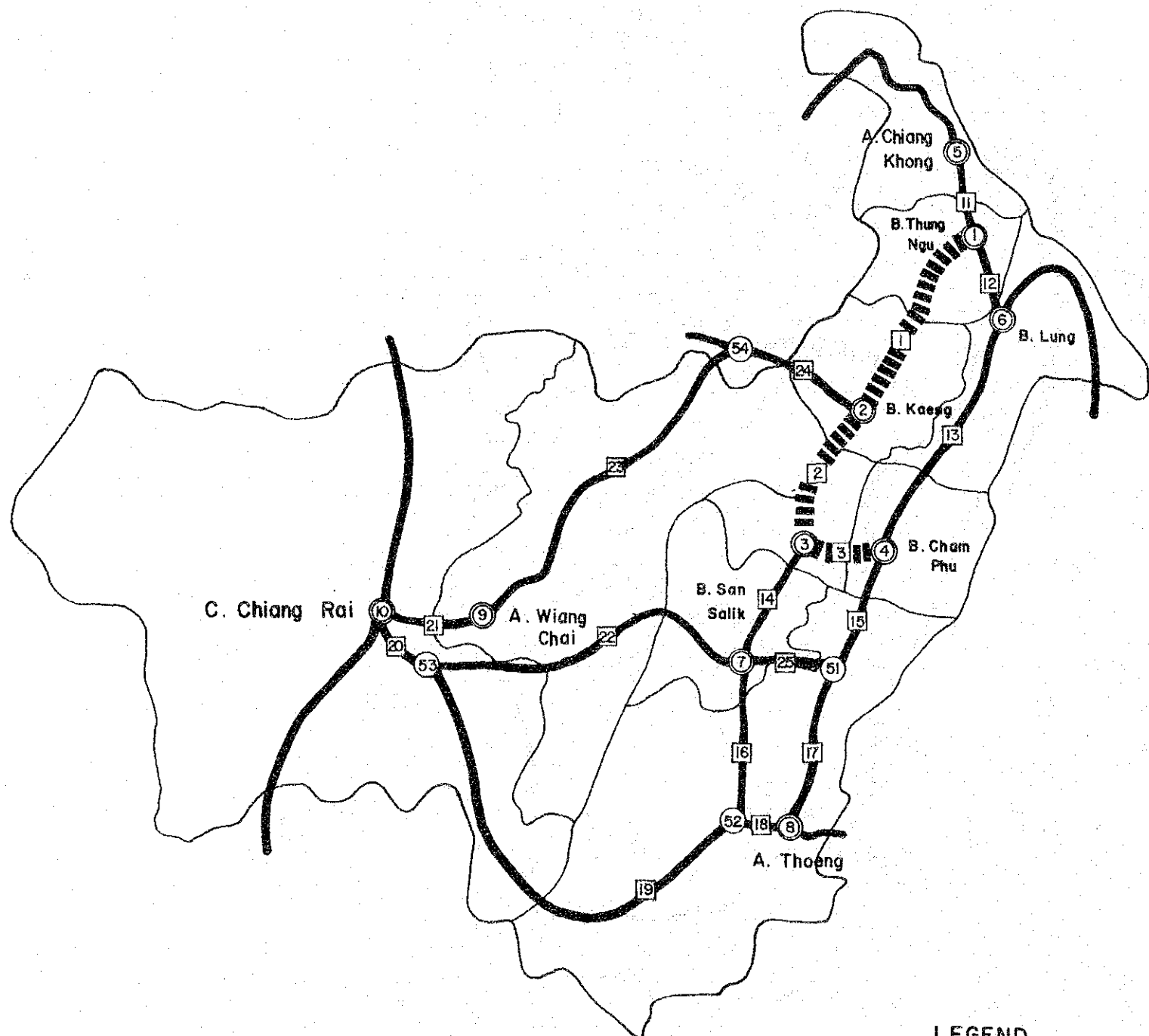
Appendix 6-3-5 **ROAD NETWORK AND TRAFFIC ZONES**

30

**ROUTE 1174**

**B. Thung Ngu (J. Route 1020) – B. Chomphu (J. Route 1020)**

**C. Chiang Rai**



**LEGEND**

- i Traffic Zone
- j Dummy Node
- R Road Link Code
- Proposed Road Link
- Other Road

**TRAFFIC ZONES**

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Chiang Rai	Chiang Khong	02
②	- do -	- do -	05
③	- do -	Thoeng	13
④	- do -	- do -	08
⑤	- do -	Chiang Khong	01
⑥	- do -	- do -	03,04,06
⑦	- do -	Thoeng	09
⑧	- do -	- do -	01,02,03,04,05,06,07
⑨	- do -	Wiang Chai	all
⑩	- do -	M. Chiang Rai	all
⑪			
⑫			

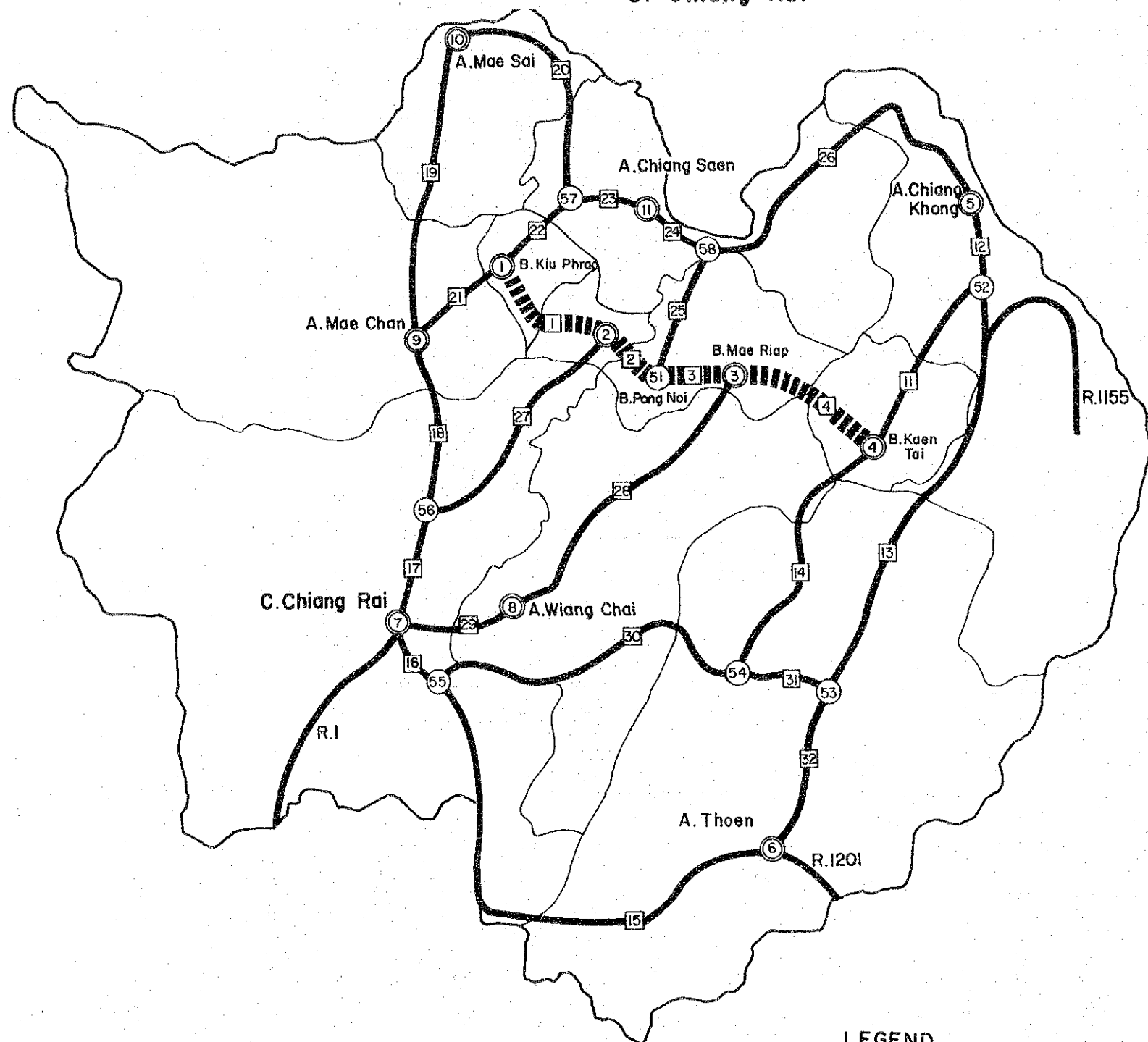
**ROAD LINK CHARACTERISTICS**

Link Code	Node Pair		Project Case	Distance ( Km )	Physical Grade	Speed (Km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	1	2	W	26.0	7	40	4	R. 1174
				W	25.6	4	70	3	
	2	2	3	W	12.0	7	40	4	R. 1174
				W	11.5	4	70	3	
	3	3	4	W	9.6	7	40	4	R. 1174
				W	9.6	4	70	3	
	4								
	Other Roads	11	1	5	W.W	6.7	1	80	3
12		1	6	W.W	8.1	1	80	3	R. 1020
13		4	6	W.W	27.3	1	80	3	R. 1020
14		3	7	W.W	17.0	7	40	4	ARD
15		4	51	W.W	15.4	1	80	3	R. 1020
16		7	52	W.W	28.0	7	40	4	ARD
17		8	51	W.W	16.2	1	80	3	R. 1020
18		8	52	W.W	11.3	1	80	3	R. 1020
19		52	53	W.W	46.4	1	80	3	R. 1020
20		10	53	W.W	10.3	4	70	3	R. 1020
21		9	10	W.W	8.3	4	70	3	R. 1173, R. 1233
22		7	53	W.W	40.1	4	70	3	R. 1152
23		9	54	W.W	42.6	4	70	3	R. 1173
24		2	54	W.W	19.0	8	30	4	R. 1098
25		7	51	W.W	12.0	4	70	3	Rural
26				W.W					
27				W.W					
28				W.W					
29				W.W					
30				W.W					
31				W.W					
32				W.W					
33				W.W					
34				W.W					
35				W.W					

Appendix 6-3-5 ROAD NETWORK AND TRAFFIC ZONES

31

ROUTE 1098 B. Kiu Phrao (J.Route 1016) - B. Kaen Tai (J.Route 1174)  
C. Chiang Rai



LEGEND

- 1 Traffic Zone
- J Dummy Node
- R Road Link Code
- Proposed Road Link
- Other Road

TRAFFIC ZONES

Traffic Zone Code	Related Administrative Divisions		
	Changwat Name	Amphoe Name	Tambon Code
①	Chiang Rai	Mae Chan	02
②	-do-	-do-	06
③	-do-	-do-	07
④	-do-	Chiang Khong	05
⑤	-do-	-do-	except 05
⑥	-do-	Thaeng	all
⑦	-do-	M.Chiang Rai	all
⑧	-do-	Wiang Chai	all
⑨	-do-	Mae Chan	01,03,04,05,08
⑩	-do-	Mae Sai	all
⑪	-do-	Chiang Saen	all
⑫			
⑬			

ROAD LINK CHARACTERISTICS

Link Code	Node Pair		Project Case	Distance (Km)	Physical Grade	Speed (km/h)	Administrative Grade	Remarks	
	Origin	Destination							
Proposed Road	1	2	W	15.7	7	40	4	R. 1098	
			W	15.7	4	70	3		
	2	51	W	12.1	8	30	4	R. 1098	
			W	11.6	5	55	3		
	3	51	W	9.2	8	30	4	R. 1098	
			W	9.2	5	55	3		
	4	3	4	W	19.0	8	30	4	R. 1098
				W	19.0	5	55	3	
Other Roads	11	4	52	W.W	26.0	7	40	4	R. 1174
	12	5	52	W.W	6.7	1	80	3	R. 1020
	13	52	53	W.W	50.8	1	80	3	R. 1020
	14	4	54	W.W	29.0	7	40	4	R. 1174, ARD
	15	6	55	W.W	57.7	1	80	3	R. 1020
	16	7	55	W.W	10.3	4	70	3	R. 1020
	17	7	56	W.W	11.1	1	80	2	R. 110
	18	9	56	W.W	17.3	1	80	2	R. 110
	19	9	10	W.W	31.5	1	80	2	R. 110
	20	10	57	W.W	32.0	7	40	4	ARD
	21	1	9	W.W	10.9	1	80	3	R. 1016
	22	1	57	W.W	9.4	1	80	3	R. 1016
	23	11	57	W.W	11.4	1	80	3	R. 1016
	24	11	58	W.W	10.1	7	40	4	R. 1129
	25	51	58	W.W	18.1	8	30	4	DOH
	26	5	58	W.W	43.0	8	30	3	R. 1129
	27	2	56	W.W	31.0	7	40	4	R. 1209
	28	3	8	W.W	42.6	4	70	3	R. 1173
	29	7	8	W.W	8.3	4	70	3	R.1173,R.1233
	30	54	55	W.W	40.1	4	70	3	R. 1152
	31	53	54	W.W	12.0	4	70	3	ARD
	32	6	53	W.W	16.3	1	80	3	R. 1020
	33			W.W					
	34			W.W					
	35			W.W					

Appendix 6-3-6 PASSENGER FLOW VOLUME BY O/D ZONE PAIR

(Trip/Day)

Study Route No.	Without Project										With Project									
	1	2	3	4	5	6	7	8	9		1	2	3	4	5	6	7	8	9	
1	1	0	290	502	386	826	283	427	89	93	1	0	290	502	429	826	283	427	91	96
	2	0	0	196	139	207	107	155	34	36	2	0	0	196	216	245	113	175	37	39
	3	0	0	0	339	325	212	369	63	66	3	0	0	0	496	351	212	369	68	71
	4	0	0	0	0	355	422	968	140	143	4	0	0	0	0	378	422	968	140	143
	5	0	0	0	0	0	347	401	121	130	5	0	0	0	0	0	347	401	124	132
	6	0	0	0	0	0	0	730	155	167	6	0	0	0	0	0	0	730	155	167
	7	0	0	0	0	0	0	0	136	141	7	0	0	0	0	0	0	0	136	141
	8	0	0	0	0	0	0	0	0	1003	8	0	0	0	0	0	0	0	0	1003
	9	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0
2	1	0	284	381	736	232	274	394			1	0	353	432	736	232	306	394		
	2	0	0	259	222	99	183	152			2	0	0	417	283	113	224	198		
	3	0	0	0	401	309	695	1109			3	0	0	0	432	309	695	1109		
	4	0	0	0	0	760	745	407			4	0	0	0	0	760	745	407		
	5	0	0	0	0	0	1743	225			5	0	0	0	0	0	1743	225		
	6	0	0	0	0	0	0	467			6	0	0	0	0	0	0	467		
	7	0	0	0	0	0	0	0			7	0	0	0	0	0	0	0		
3	1	0	741	181	376	714	699	382	691		1	0	765	333	460	714	699	382	691	
	2	0	0	128	152	201	230	129	170		2	0	0	236	261	240	260	166	212	
	3	0	0	0	252	91	181	149	112		3	0	0	0	407	126	222	196	130	
	4	0	0	0	0	309	695	1109	381		4	0	0	0	0	309	695	1109	381	
	5	0	0	0	0	0	1743	225	232		5	0	0	0	0	0	1743	225	232	
	6	0	0	0	0	0	0	467	274		6	0	0	0	0	0	0	467	274	
	7	0	0	0	0	0	0	0	394		7	0	0	0	0	0	0	0	394	
	8	0	0	0	0	0	0	0	0		8	0	0	0	0	0	0	0	0	
4	1	0	167	158	315	601	274	175	279	162	1	0	298	165	315	601	274	175	279	162
	2	0	0	250	400	269	178	197	172	118	2	0	0	250	551	424	211	236	201	132
	3	0	0	0	451	252	161	222	211	127	3	0	0	0	451	255	167	237	211	127
	4	0	0	0	0	514	408	649	429	266	4	0	0	0	0	514	408	649	429	266
	5	0	0	0	0	0	658	321	809	407	5	0	0	0	0	0	658	321	809	407
	6	0	0	0	0	0	0	996	356	274	6	0	0	0	0	0	0	996	356	274
	7	0	0	0	0	0	0	0	261	198	7	0	0	0	0	0	0	0	261	198
	8	0	0	0	0	0	0	0	0	338	8	0	0	0	0	0	0	0	0	338
	9	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0

Note: Year 1986

Appendix 6-3-6 PASSENGER FLOW VOLUME BY O/D ZONE PAIR

(Trip/Day)

Study Route No.	Without Project										With Project															
	1	2	3	4	5	6	7	8	9		1	2	3	4	5	6	7	8	9							
5	1	0	51	180	231	131	186	945	424	159	1	0	534	463	264	225	255	1136	424	169						
	2	0	0	91	91	76	61	137	44	45	2	0	0	630	302	259	397	773	212	131						
	3	0	0	0	600	521	632	738	128	136	3	0	0	0	600	521	632	738	229	159						
	4	0	0	0	0	452	272	508	183	280	4	0	0	0	0	452	272	508	183	280						
	5	0	0	0	0	0	233	431	104	132	5	0	0	0	0	0	233	431	155	132						
	6	0	0	0	0	0	0	1059	118	97	6	0	0	0	0	0	0	1059	143	106						
	7	0	0	0	0	0	0	0	459	334	7	0	0	0	0	0	0	0	501	334						
	8	0	0	0	0	0	0	0	0	194	8	0	0	0	0	0	0	0	0	194						
	9	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0						
6	1	0	92	113	450	96	893	362	517	303	1	0	485	249	450	195	893	362	517	303						
	2	0	0	389	459	355	149	96	107	131	2	0	0	606	668	355	490	218	296	236						
	3	0	0	0	867	172	190	112	121	143	3	0	0	0	1042	215	288	150	201	179						
	4	0	0	0	0	449	823	412	417	462	4	0	0	0	0	449	823	412	417	462						
	5	0	0	0	0	0	155	101	113	140	5	0	0	0	0	0	244	143	189	186						
	6	0	0	0	0	0	0	761	566	493	6	0	0	0	0	0	0	761	566	493						
	7	0	0	0	0	0	0	0	527	679	7	0	0	0	0	0	0	0	527	679						
	8	0	0	0	0	0	0	0	0	855	8	0	0	0	0	0	0	0	0	855						
	9	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0						
7	1	0	163	239	163	160	114	304	408	1	0	315	447	277	245	166	304	408								
	2	0	0	95	66	67	48	87	96	2	0	0	607	284	205	128	109	127								
	3	0	0	0	1460	882	481	219	241	3	0	0	0	1460	882	481	226	250								
	4	0	0	0	0	1206	543	190	215	4	0	0	0	0	1206	543	190	215								
	5	0	0	0	0	0	765	193	209	5	0	0	0	0	0	765	193	209								
	6	0	0	0	0	0	0	139	148	6	0	0	0	0	0	0	139	148								
	7	0	0	0	0	0	0	0	471	7	0	0	0	0	0	0	0	471								
	8	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0								
8	1	0	136	167	83	78	233	133	326	174	347	349	577	1	0	355	197	117	117	253	218	544	242	402	349	577
	2	0	0	436	129	142	295	309	106	63	192	160	203	2	0	0	436	129	142	295	309	190	111	203	160	203
	3	0	0	0	96	100	364	196	96	63	221	205	298	3	0	0	0	96	100	364	196	130	81	221	205	298
	4	0	0	0	0	513	555	229	108	69	143	92	97	4	0	0	0	0	513	555	229	108	70	143	92	97
	5	0	0	0	0	0	945	259	105	65	140	87	94	5	0	0	0	0	0	945	259	105	66	140	87	94
	6	0	0	0	0	0	0	525	227	143	416	264	296	6	0	0	0	0	0	0	525	227	145	416	264	296
	7	0	0	0	0	0	0	0	187	110	212	150	166	7	0	0	0	0	0	0	0	187	111	213	150	166
	8	0	0	0	0	0	0	0	0	413	613	205	198	8	0	0	0	0	0	0	0	0	413	613	226	268
	9	0	0	0	0	0	0	0	0	0	326	125	120	9	0	0	0	0	0	0	0	0	0	326	135	151
	10	0	0	0	0	0	0	0	0	0	0	978	547	10	0	0	0	0	0	0	0	0	0	0	978	547
	11	0	0	0	0	0	0	0	0	0	0	0	772	11	0	0	0	0	0	0	0	0	0	0	0	772
	12	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 6-3-6 PASSENGER FLOW VOLUME BY O/D ZONE PAIR

(Trip/Day)

Study Route No.	Without Project												With Project													
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12		
9	1	0	577	167	83	78	233	133	326	173	347	349	136	1	0	736	208	89	95	259	147	544	240	415	481	160
	2	0	0	298	97	94	296	166	198	120	547	772	203	2	0	0	298	97	94	296	166	342	178	547	772	203
	3	0	0	0	96	100	364	196	96	63	221	205	436	3	0	0	0	96	100	364	196	134	83	221	205	436
	4	0	0	0	0	513	555	229	108	69	143	92	129	4	0	0	0	0	513	555	229	108	69	143	92	129
	5	0	0	0	0	0	945	259	105	65	140	87	142	5	0	0	0	0	0	945	259	105	65	140	87	142
	6	0	0	0	0	0	0	525	227	142	416	264	295	6	0	0	0	0	0	0	525	227	146	416	264	295
	7	0	0	0	0	0	0	0	187	109	212	150	309	7	0	0	0	0	0	0	0	187	109	212	150	309
	8	0	0	0	0	0	0	0	0	411	613	205	106	8	0	0	0	0	0	0	0	0	411	613	254	116
	9	0	0	0	0	0	0	0	0	0	323	125	63	9	0	0	0	0	0	0	0	0	0	323	147	75
	10	0	0	0	0	0	0	0	0	0	0	978	192	10	0	0	0	0	0	0	0	0	0	0	978	192
	11	0	0	0	0	0	0	0	0	0	0	0	160	11	0	0	0	0	0	0	0	0	0	0	0	160
	12	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0
10/11	1	0	438	290	158	626	1463	1644	829	1	0	807	376	158	626	1463	1644	829								
	2	0	0	379	84	356	917	274	239	2	0	0	379	90	411	1162	354	281								
	3	0	0	0	67	312	846	167	131	3	0	0	0	67	312	846	199	161								
	4	0	0	0	0	297	273	184	212	4	0	0	0	0	297	273	184	212								
	5	0	0	0	0	0	1868	364	262	5	0	0	0	0	0	1868	364	262								
	6	0	0	0	0	0	0	703	474	6	0	0	0	0	0	0	703	474								
	7	0	0	0	0	0	0	0	1445	7	0	0	0	0	0	0	0	1445								
	8	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0								
12	1	0	111	92	74	163	205	314	1160	390	1	0	411	270	162	163	205	314	1160	390						
	2	0	0	321	216	159	158	145	348	392	2	0	0	321	216	159	158	190	491	392						
	3	0	0	0	319	193	184	162	273	271	3	0	0	0	319	193	184	162	357	271						
	4	0	0	0	0	297	254	206	208	185	4	0	0	0	0	297	254	206	254	185						
	5	0	0	0	0	0	1309	783	334	196	5	0	0	0	0	0	1309	783	334	196						
	6	0	0	0	0	0	0	1713	421	222	6	0	0	0	0	0	0	1713	421	222						
	7	0	0	0	0	0	0	0	630	318	7	0	0	0	0	0	0	0	630	318						
	8	0	0	0	0	0	0	0	0	1702	8	0	0	0	0	0	0	0	0	1702						
	9	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0						
13	1	0	87	238	687	98	431	189	110	154	537	284	1	0	253	350	687	214	431	196	115	174	537	284		
	2	0	0	326	143	250	182	180	92	188	204	73	2	0	0	326	403	250	200	208	99	188	239	158		
	3	0	0	0	379	311	496	596	232	366	692	210	3	0	0	0	530	371	496	596	232	366	692	211		
	4	0	0	0	0	163	897	374	186	242	769	509	4	0	0	0	0	334	897	374	194	268	769	509		
	5	0	0	0	0	0	204	183	110	156	199	80	5	0	0	0	0	0	220	201	116	182	221	134		
	6	0	0	0	0	0	0	1127	209	257	371	271	6	0	0	0	0	0	0	1127	209	257	371	271		
	7	0	0	0	0	0	0	0	171	287	335	129	7	0	0	0	0	0	0	0	171	287	335	129		
	8	0	0	0	0	0	0	0	0	145	206	88	8	0	0	0	0	0	0	0	0	145	206	88		
	9	0	0	0	0	0	0	0	0	0	398	139	9	0	0	0	0	0	0	0	0	0	398	139		
	10	0	0	0	0	0	0	0	0	0	0	398	10	0	0	0	0	0	0	0	0	0	0	398		
	11	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0		

Appendix 6-3-6 PASSENGER FLOW VOLUME BY O/D ZONE PAIR

(Trip/Day)

Study Route No.	Without Project							With Project																		
	1	2	3	4	5	6		1	2	3	4	5	6													
14	1	0	245	179	661	461	613		1	0	415	320	661	461	613											
	2	0	0	408	193	201	226		2	0	0	408	283	255	284											
	3	0	0	0	152	175	199		3	0	0	0	241	240	269											
	4	0	0	0	0	895	438		4	0	0	0	0	895	438											
	5	0	0	0	0	0	1351		5	0	0	0	0	0	1351											
	6	0	0	0	0	0	0		6	0	0	0	0	0	0											
15	1	0	453	742	839	759	416		1	0	650	1330	839	759	657											
	2	0	0	796	520	309	561		2	0	0	796	520	369	561											
	3	0	0	0	1227	706	1481		3	0	0	0	1227	706	1481											
	4	0	0	0	0	535	596		4	0	0	0	0	535	596											
	5	0	0	0	0	0	972		5	0	0	0	0	0	972											
	6	0	0	0	0	0	0		6	0	0	0	0	0	0											
16	1	0	386	227	241	384	448	283	256	183	531	386		1	0	620	277	280	384	448	283	256	183	531	445	
	2	0	0	529	463	454	285	194	200	139	279	637		2	0	0	529	463	454	340	227	227	159	348	637	
	3	0	0	0	1868	951	466	279	284	149	227	447		3	0	0	0	1868	951	466	279	284	149	259	447	
	4	0	0	0	0	877	484	305	325	176	259	493		4	0	0	0	0	877	484	305	325	176	289	493	
	5	0	0	0	0	0	2448	1023	817	371	375	515		5	0	0	0	0	0	2448	1023	817	371	375	515	
	6	0	0	0	0	0	0	472	442	219	374	404		6	0	0	0	0	0	0	472	442	219	374	438	
	7	0	0	0	0	0	0	0	1385	408	254	283		7	0	0	0	0	0	0	0	1385	408	254	305	
	8	0	0	0	0	0	0	0	0	1101	462	467		8	0	0	0	0	0	0	0	0	1101	462	467	
	9	0	0	0	0	0	0	0	0	0	515	422		9	0	0	0	0	0	0	0	0	0	515	422	
	10	0	0	0	0	0	0	0	0	0	0	1182		10	0	0	0	0	0	0	0	0	0	0	1182	
	11	0	0	0	0	0	0	0	0	0	0	0		11	0	0	0	0	0	0	0	0	0	0	0	
17	1	0	436	345	335	338	1231	448		1	0	436	534	446	415	1231	448									
	2	0	0	300	252	234	441	179		2	0	0	300	308	268	523	204									
	3	0	0	0	534	406	885	158		3	0	0	0	534	406	885	200									
	4	0	0	0	0	1868	776	210		4	0	0	0	0	1868	776	248									
	5	0	0	0	0	0	759	237		5	0	0	0	0	0	759	272									
	6	0	0	0	0	0	0	513		6	0	0	0	0	0	0	513									
	7	0	0	0	0	0	0	0		7	0	0	0	0	0	0	0									
18	1	0	294	1101	369	371	233	183	422	515		1	0	491	1101	504	436	276	230	422	515					
	2	0	0	393	509	355	212	209	168	161		2	0	0	393	509	355	212	209	190	194					
	3	0	0	0	1252	817	442	256	467	462		3	0	0	0	1252	817	442	256	467	462					
	4	0	0	0	0	925	427	256	256	229		4	0	0	0	0	925	427	256	284	266					
	5	0	0	0	0	0	2448	384	437	375		5	0	0	0	0	0	2448	384	437	375					
	6	0	0	0	0	0	0	448	404	374		6	0	0	0	0	0	0	448	404	374					
	7	0	0	0	0	0	0	0	386	531		7	0	0	0	0	0	0	0	386	531					
	8	0	0	0	0	0	0	0	0	1182		8	0	0	0	0	0	0	0	0	1182					
	9	0	0	0	0	0	0	0	0	0		9	0	0	0	0	0	0	0	0	0					

Appendix 6-3-6 PASSENGER FLOW VOLUME BY O/D ZONE PAIR

(Trip/Day)

Study Route No.	Without Project						With Project																	
	1	2	3	4	5	6	1	2	3	4	5	6												
19	1	0	283	1020	764	592	773	1	0	549	1020	764	592	773										
	2	0	0	932	218	226	153	2	0	0	932	270	267	245										
	3	0	0	0	923	815	485	3	0	0	0	923	815	485										
	4	0	0	0	0	1175	332	4	0	0	0	0	1175	332										
	5	0	0	0	0	0	304	5	0	0	0	0	0	304										
	6	0	0	0	0	0	0	6	0	0	0	0	0	0										
20	1	0	280	87	751	310	456	1	0	280	240	751	310	456										
	2	0	0	70	372	168	231	2	0	0	158	416	182	256										
	3	0	0	0	145	79	94	3	0	0	0	260	125	164										
	4	0	0	0	0	1202	2031	4	0	0	0	0	1202	2031										
	5	0	0	0	0	0	478	5	0	0	0	0	0	478										
	6	0	0	0	0	0	0	6	0	0	0	0	0	0										
21	1	0	221	497	520	834	560	181	89	224	413	644	1	0	512	497	520	834	560	261	126	378	413	644
	2	0	0	90	122	141	248	198	92	380	98	261	2	0	0	136	169	219	248	198	92	380	120	261
	3	0	0	0	1014	269	261	93	55	130	412	587	3	0	0	0	1014	269	261	120	59	145	412	587
	4	0	0	0	0	344	425	147	78	176	406	668	4	0	0	0	0	344	425	168	83	192	406	668
	5	0	0	0	0	0	1187	283	71	163	239	425	5	0	0	0	0	0	1187	283	92	228	239	425
	6	0	0	0	0	0	0	1083	120	280	239	452	6	0	0	0	0	0	0	1083	120	280	239	452
	7	0	0	0	0	0	0	0	74	192	97	238	7	0	0	0	0	0	0	0	74	192	110	238
	8	0	0	0	0	0	0	0	0	248	74	193	8	0	0	0	0	0	0	0	0	248	74	193
	9	0	0	0	0	0	0	0	0	0	201	587	9	0	0	0	0	0	0	0	0	0	201	587
	10	0	0	0	0	0	0	0	0	0	0	1211	10	0	0	0	0	0	0	0	0	0	0	1211
	11	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0
22	1	0	497	520	270	301	323	598	884	220	1	0	824	788	339	397	354	598	884	220				
	2	0	0	1014	334	427	337	272	285	90	2	0	0	1014	334	427	337	334	394	115				
	3	0	0	0	894	1418	841	425	364	121	3	0	0	0	894	1418	841	449	465	148				
	4	0	0	0	0	449	399	281	225	80	4	0	0	0	0	449	399	293	265	92				
	5	0	0	0	0	0	1511	463	331	83	5	0	0	0	0	0	1511	463	331	97				
	6	0	0	0	0	0	0	817	599	95	6	0	0	0	0	0	0	817	599	100				
	7	0	0	0	0	0	0	0	1418	153	7	0	0	0	0	0	0	0	1418	153				
	8	0	0	0	0	0	0	0	0	149	8	0	0	0	0	0	0	0	0	149				
	9	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0				



Appendix 6-3-6 PASSENGER FLOW VOLUME BY O/D ZONE PAIR

(Trip/Day)

Study Route No.	Without Project															With Project																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
23	1	0	91	124	60	115	107	148	139	307	425	884	435	357	544	336	1	0	387	210	141	121	158	154	139	307	425	884	435	357	544	336	
	2	0	0	82	42	75	73	100	92	192	234	195	119	102	86	141	2	0	0	316	182	144	188	166	133	315	234	440	207	173	271	202	
	3	0	0	0	87	264	526	270	293	855	347	273	162	138	117	187	3	0	0	0	398	405	526	363	293	855	347	293	170	145	180	194	
	4	0	0	0	0	122	77	149	97	203	121	120	82	70	60	109	4	0	0	0	0	341	305	439	218	674	261	213	129	110	126	152	
	5	0	0	0	0	0	174	570	294	732	344	256	148	126	107	168	5	0	0	0	0	0	231	570	294	732	344	256	148	126	112	168	
	6	0	0	0	0	0	0	208	205	510	250	225	143	123	104	177	6	0	0	0	0	0	0	255	205	510	250	237	150	128	146	183	
	7	0	0	0	0	0	0	0	301	813	365	315	197	168	142	238	7	0	0	0	0	0	0	0	301	813	365	315	197	168	148	238	
	8	0	0	0	0	0	0	0	0	964	387	305	182	154	131	210	8	0	0	0	0	0	0	0	0	964	387	305	182	154	131	210	
	9	0	0	0	0	0	0	0	0	0	1223	724	383	323	275	404	9	0	0	0	0	0	0	0	0	0	1223	724	383	323	275	404	
	10	0	0	0	0	0	0	0	0	0	0	1241	476	396	338	420	10	0	0	0	0	0	0	0	0	0	0	1241	476	396	338	420	
	11	0	0	0	0	0	0	0	0	0	0	0	1254	997	858	740	11	0	0	0	0	0	0	0	0	0	0	0	1254	997	858	740	
	12	0	0	0	0	0	0	0	0	0	0	0	0	408	349	1023	12	0	0	0	0	0	0	0	0	0	0	0	0	408	349	1023	
	13	0	0	0	0	0	0	0	0	0	0	0	0	0	290	371	13	0	0	0	0	0	0	0	0	0	0	0	0	0	290	371	
	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	316	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	316
	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	1	0	23	12	22	421	383	1	0	94	53	114	421	383																			
	2	0	0	23	26	19	36	2	0	0	132	170	64	97																			
	3	0	0	0	40	10	20	3	0	0	0	280	39	63																			
	4	0	0	0	0	20	39	4	0	0	0	0	88	150																			
	5	0	0	0	0	0	686	5	0	0	0	0	0	686																			
	6	0	0	0	0	0	0	6	0	0	0	0	0	0																			
25	1	0	138	34	72	124	157	1	0	275	68	140	124	157																			
	2	0	0	53	92	67	76	2	0	0	105	176	78	93																			
	3	0	0	0	165	28	30	3	0	0	0	296	37	41																			
	4	0	0	0	0	67	70	4	0	0	0	0	91	100																			
	5	0	0	0	0	0	894	5	0	0	0	0	0	894																			
	6	0	0	0	0	0	0	6	0	0	0	0	0	0																			

Appendix 6-3-6 PASSENGER FLOW VOLUME BY O/D ZONE PAIR

(Trip/Day)

Study Route No	Without Project																	With Project																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17					
26	1	0	69	87	400	154	129	158	86	124	64	61	122	84	63	81	172	273	1	0	134	89	400	154	129	158	86	124	64	61	122	84	76	81	172	273			
	2	0	0	68	45	36	36	46	26	39	20	25	51	35	44	23	41	35	2	0	0	68	69	46	43	54	30	44	22	25	51	35	44	27	52	52			
	3	0	0	0	116	78	73	92	52	76	39	36	71	48	51	35	62	49	3	0	0	0	116	78	73	92	52	76	39	36	71	48	51	35	63	50			
	4	0	0	0	0	202	148	178	93	132	68	59	99	68	50	62	122	135	4	0	0	0	0	202	148	178	93	132	68	59	99	68	60	62	122	135			
	5	0	0	0	0	0	580	584	243	320	175	130	201	118	59	63	112	87	5	0	0	0	0	0	580	584	243	320	175	130	201	118	62	63	112	87			
	6	0	0	0	0	0	0	1875	647	730	441	253	363	211	95	104	115	81	6	0	0	0	0	0	0	1875	647	730	441	253	363	211	95	104	115	81			
	7	0	0	0	0	0	0	0	1334	1324	868	416	572	330	142	157	171	102	7	0	0	0	0	0	0	0	0	1334	1324	868	416	572	330	142	157	171	102		
	8	0	0	0	0	0	0	0	0	1896	298	196	292	171	80	87	99	57	8	0	0	0	0	0	0	0	0	0	1896	298	196	292	171	80	87	99	57		
	9	0	0	0	0	0	0	0	0	0	372	268	412	242	119	127	146	84	9	0	0	0	0	0	0	0	0	0	0	372	268	412	242	119	127	146	84		
	10	0	0	0	0	0	0	0	0	0	0	416	465	261	93	108	110	43	10	0	0	0	0	0	0	0	0	0	0	0	0	0	416	465	261	93	108	110	43
	11	0	0	0	0	0	0	0	0	0	0	0	1497	746	156	198	175	57	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1497	746	156	198	175	57
	12	0	0	0	0	0	0	0	0	0	0	0	0	1927	337	444	371	117	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1927	337	444	371	117
	13	0	0	0	0	0	0	0	0	0	0	0	0	0	276	412	287	83	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	276	412	287	83		
	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	42	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	49		
	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	447	86	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	447	86		
	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	219	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	219	
	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Appendix 6-3-6 PASSENGER FLOW VOLUME BY O/D ZONE PAIR

(Trip/Day)

Study Route No.	Without Project																	With Project																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
27	0	116	87	68	78	73	92	52	76	39	36	71	48	51	35	62	49	0	227	134	68	103	89	110	60	88	45	40	71	48	51	41	75	66
	0	0	400	45	202	148	178	93	132	68	59	99	68	50	62	122	135	0	0	400	48	202	148	178	93	132	68	59	99	68	52	62	122	135
	0	0	0	69	154	129	158	86	124	64	61	122	84	63	81	172	273	0	0	0	69	154	129	158	86	124	64	61	122	84	63	81	172	273
	0	0	0	0	36	36	46	26	39	20	25	51	35	44	23	41	35	0	0	0	0	38	37	47	27	40	20	25	51	35	44	23	41	35
	0	0	0	0	0	580	584	243	320	175	130	201	118	59	63	112	87	0	0	0	0	0	580	584	243	320	175	130	201	118	59	63	112	87
	0	0	0	0	0	0	1875	647	730	441	253	363	211	95	104	115	81	0	0	0	0	0	0	1875	647	730	441	253	363	211	95	104	115	81
	0	0	0	0	0	0	0	1334	1324	868	416	572	330	142	157	171	102	0	0	0	0	0	0	0	1334	1324	868	416	572	330	142	157	171	102
	0	0	0	0	0	0	0	0	1896	298	196	292	171	80	87	99	57	0	0	0	0	0	0	0	0	1896	298	196	292	171	80	87	99	57
	0	0	0	0	0	0	0	0	0	372	268	412	242	119	127	146	84	0	0	0	0	0	0	0	0	372	268	412	242	119	127	146	84	
	0	0	0	0	0	0	0	0	0	0	416	465	261	93	108	110	43	0	0	0	0	0	0	0	0	0	416	465	261	93	108	110	43	
	0	0	0	0	0	0	0	0	0	0	0	1497	746	156	198	175	57	0	0	0	0	0	0	0	0	0	0	0	1497	746	156	198	175	57
	0	0	0	0	0	0	0	0	0	0	0	0	1927	337	444	371	117	0	0	0	0	0	0	0	0	0	0	0	0	1927	337	444	371	117
	0	0	0	0	0	0	0	0	0	0	0	0	0	276	412	287	83	0	0	0	0	0	0	0	0	0	0	0	0	0	276	412	287	83
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	42	0	0	0	0	0	0	0	0	0	0	0	0	0	109	109	42	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	447	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	447	86	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	219
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Appendix 6-3-6 PASSENGER FLOW VOLUME BY O/D ZONE PAIR

(Trip/Day)

Study Route No.	Without Project										With Project													
	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10				
28	1	0	191	132	99	106	53	60			1	0	233	256	132	132	61	68						
	2	0	0	166	86	86	40	44			2	0	0	251	105	100	43	47						
	3	0	0	0	233	202	80	86			3	0	0	0	233	202	80	86						
	4	0	0	0	0	991	195	193			4	0	0	0	0	991	195	193						
	5	0	0	0	0	0	207	216			5	0	0	0	0	0	207	216						
	6	0	0	0	0	0	0	1089			6	0	0	0	0	0	0	1089						
	7	0	0	0	0	0	0	0			7	0	0	0	0	0	0	0						
29	1	0	628	75	177	179					1	0	864	92	228	221								
	2	0	0	463	1268	1102					2	0	0	463	1268	1102								
	3	0	0	0	157	217					3	0	0	0	157	217								
	4	0	0	0	0	375					4	0	0	0	0	375								
	5	0	0	0	0	0					5	0	0	0	0	0								
30	1	0	83	87	157	302	385	91	173	83	146	1	0	155	115	157	302	385	91	173	85	146		
	2	0	0	152	90	66	82	73	109	80	118	2	0	0	186	169	113	138	91	150	80	123		
	3	0	0	0	231	70	121	145	185	87	158	3	0	0	0	231	90	150	145	224	87	158		
	4	0	0	0	0	118	242	192	347	103	188	4	0	0	0	0	118	242	192	347	103	188		
	5	0	0	0	0	0	351	75	142	72	126	5	0	0	0	0	0	351	75	142	73	126		
	6	0	0	0	0	0	0	123	232	103	183	6	0	0	0	0	0	0	123	232	103	183		
	7	0	0	0	0	0	0	0	412	171	329	7	0	0	0	0	0	0	0	412	171	329		
	8	0	0	0	0	0	0	0	0	283	530	8	0	0	0	0	0	0	0	0	283	530		
	9	0	0	0	0	0	0	0	0	0	2061	9	0	0	0	0	0	0	0	0	0	2061		
	10	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0		
31	1	0	144	81	31	67	148	557	270	683	306	583	1	0	236	156	61	79	148	557	270	683	306	583
	2	0	0	76	24	37	66	171	92	176	98	125	2	0	0	152	48	54	73	216	112	267	122	173
	3	0	0	0	95	100	126	367	274	140	101	115	3	0	0	0	185	130	140	367	274	212	135	159
	4	0	0	0	0	126	120	118	80	54	44	46	4	0	0	0	0	126	120	153	107	89	64	70
	5	0	0	0	0	0	355	239	136	113	94	119	5	0	0	0	0	0	355	239	139	123	101	119
	6	0	0	0	0	0	0	698	373	282	212	185	6	0	0	0	0	0	0	698	373	282	212	185
	7	0	0	0	0	0	0	0	2061	1344	606	528	7	0	0	0	0	0	0	0	2061	1344	606	528
	8	0	0	0	0	0	0	0	0	603	317	276	8	0	0	0	0	0	0	0	0	603	317	276
	9	0	0	0	0	0	0	0	0	0	717	623	9	0	0	0	0	0	0	0	0	0	717	623
	10	0	0	0	0	0	0	0	0	0	0	299	10	0	0	0	0	0	0	0	0	0	0	299
	11	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0