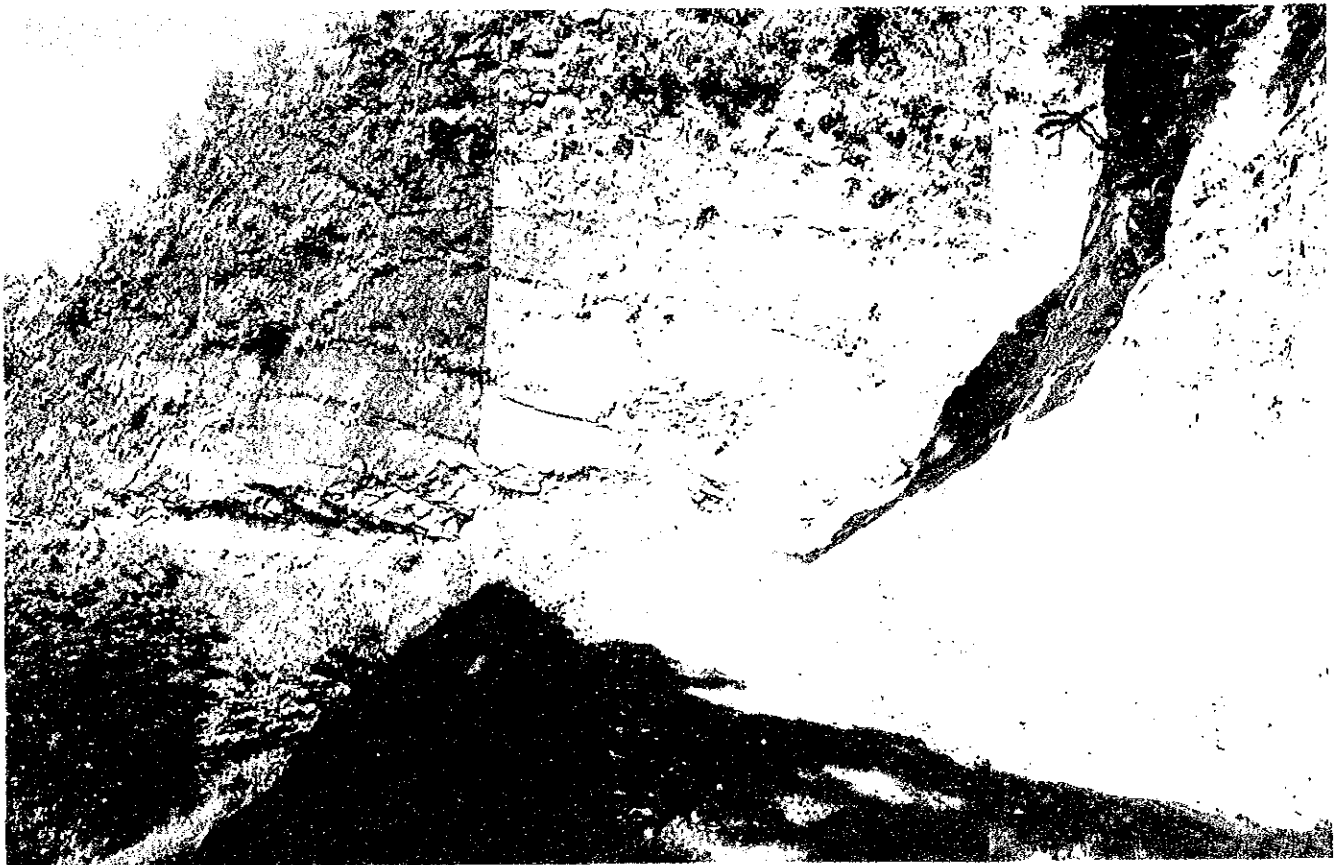
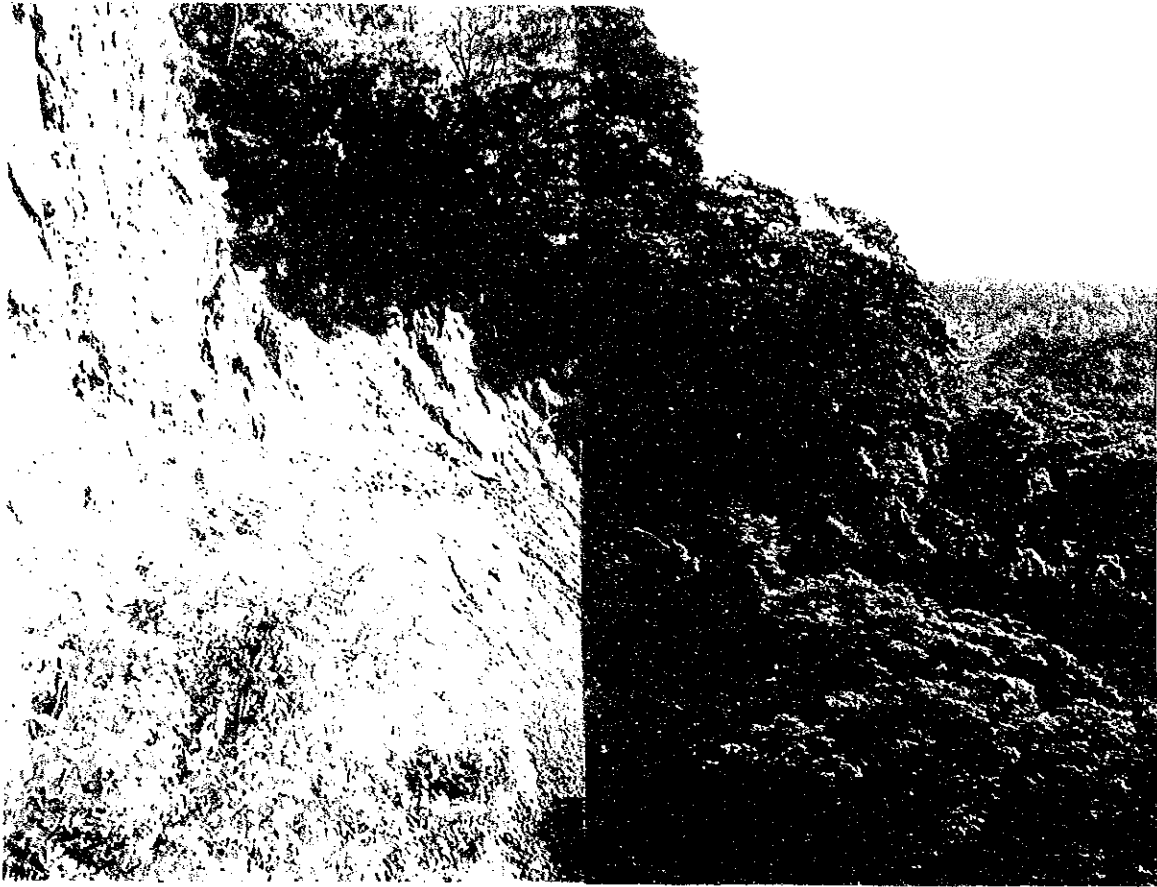


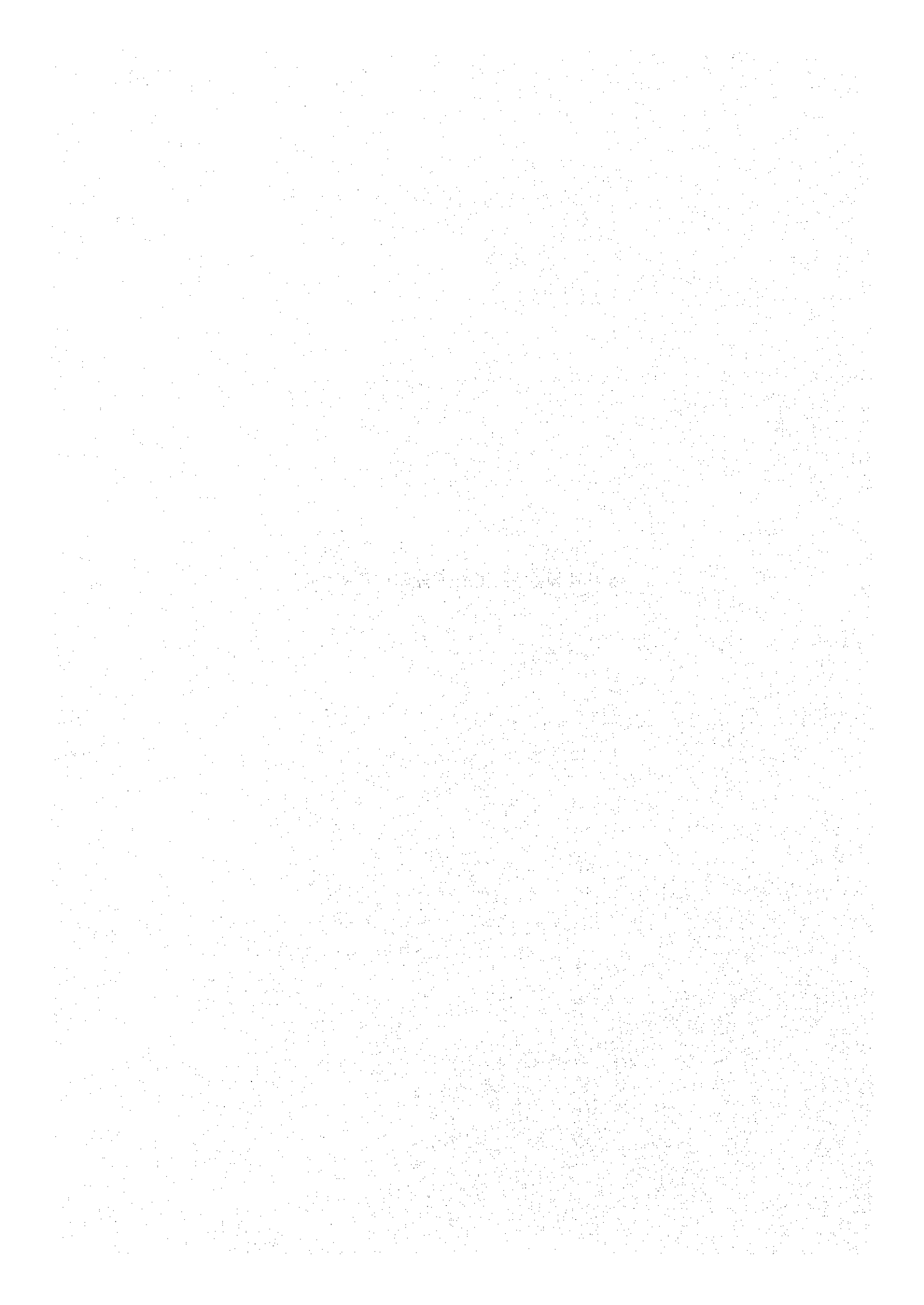
Form-4 : ROAD DAMAGE INSPECTION SHEET

		Name of Province	KALINGA - APAYAO		
Road NO.	0521		Name of Road	KALINGA - CAGAYAN	
Spot NO.	02		Location of Spot	474.80	
Classification of Road		<input checked="" type="checkbox"/> (1) National Road (2) Provincial Road			
NO. of Lanes & Roadway Width		<input checked="" type="checkbox"/> (1) 1-Lane (2) 2-Lane (3) -Lane		Total Width: 4.0	
Surface Type & Pavement Width		(1) PCC (2) AC <input checked="" type="checkbox"/> (3) Gravel (4) Earth		Pave. Width: 4.0	
General Information	1	Terrain	(1) Flat (2) Rolling <input checked="" type="checkbox"/> (3) Mountainous		
	2	Cross-section	<input checked="" type="checkbox"/> (1) Cut (2) Fill (height: m) (3) Flat		
	3	Roadbed Material	(1) Grained <input checked="" type="checkbox"/> (2) Gravel (3) Common (4) ()		
Evidence of Damage	4	Type of Damage	(1) Flooding Roadbed (2) Deposit on Surface (3) Scouring <input checked="" type="checkbox"/> (4) Ground Subsidence (5) ()		
	5	Length of Damage	50.0m		
	6	Date Occured	EVERY RAIN / / 19		
	7	Traffic Interruption	Magnitude	<input checked="" type="checkbox"/> (1) Full Width (2) Half Width (3) Shoulder (4) No Influence	
			Duration	.(1) 1 day < <input checked="" type="checkbox"/> (2) 1~7 days (3) 7 days >	
8	Countermeasure				
Existing Drainage Condition	9	Drainage Facilities	(1) Existing <input checked="" type="checkbox"/> (2) Nothing		
	10	Drainage Condition	NONE		
Engineering Judgement	11	Impact to Traffic	(1) Low (2) Medium <input checked="" type="checkbox"/> (3) High		
	12	Cause of Damage	(1) Concentration of Surface Water (2) Snaking of River (3) Deposit of Riverbed (4) Flood <input checked="" type="checkbox"/> (5) (SINKING)		
Judgement	13	Countermeasure	REALIGNMENT / REMOVE SOIL		
	14	Detour Road	<input checked="" type="checkbox"/> (1) None (2) Available		
Sketch					
Date of Inspection		09 / SEPT / 1992		Inspector NAGAMI / JAKE	



NAME OF ROAD : KALINGA - CAGAYAN ROAD
TYPE OF FAILURE : GROUND SUBSIDENCE
LOCATION : KM 474.8

APPENDIX FOR CHAPTER 4



APPENDIX 4.2 SUMMARY OF TRAFFIC SURVEY RESULTS AND APPLIED FACTORS (1/7)

Station No.	Day	Vehicle Type	Car,Taxi,Jeep	Jeepney	Pick-up,Van	Mini Bus	large Bus	Truck-2	Truck-3	Truck-4	Axle Motor	Tricycle	Motorcycle	Special Type	Total		
Station No. 01	Day 01	Counted 12-Hours Traffic Volume	484	510	326	93	35	1064	0	0	0	0	0	0	3585		
		OD Samples	349	381	205	71	32	0	0	0	0	0	0	0	1579		
		12-Hours Expansion Factors	1.54	1.29	1.34	1.31	1.18	1.09	0	0	0	0	0	0	2.27		
		Night Time Expansion Factors	1.42	1.22	1.44	1.44	1.2	1.19	1.2	1.19	1.19	1.19	1.19	1.19	1.19	-	
		Daily Fluctuation Factors	0.91	0.91	0.82	0.82	1.07	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	-	
		Monthly Fluctuation Factors	0.89	0.89	0.86	0.86	1.07	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	-	
		Daily Traffic Volume	530	504	331	94	48	1082	0	0	0	0	0	0	0	3967	
	Day 02	Counted 12-Hours Traffic Volume	483	553	318	94	23	1037	0	0	0	0	0	0	0	3508	
		OD Samples	336	418	226	80	22	0	0	0	0	0	0	0	0	1584	
		12-Hours Expansion Factors	1.44	1.32	1.41	1.17	1.05	0	0	0	0	0	0	0	0	2.21	
		Night Time Expansion Factors	1.22	1.22	1.44	1.44	1.2	1.19	1.2	1.19	1.19	1.19	1.19	1.19	1.19	1.19	-
		Daily Fluctuation Factors	0.81	0.81	0.99	0.99	1	0.76	1	0.76	0.76	0.76	0.76	0.76	0.76	-	
		Monthly Fluctuation Factors	0.89	0.89	0.86	0.86	1.07	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	-	
		Daily Traffic Volume	425	486	390	115	30	778	0	0	0	0	0	0	0	3170	
Station No. 02	Day 01	Counted 12-Hours Traffic Volume	273	422	226	88	43	84	0	0	0	0	0	0	1754		
		OD Samples	206	299	168	63	33	0	0	0	0	0	0	0	1182		
		12-Hours Expansion Factors	1.42	1.41	1.35	1.4	1.3	0	0	0	0	0	0	0	1.48		
		Night Time Expansion Factors	1.3	1.3	1.44	1.44	1.23	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	-	
		Daily Fluctuation Factors	0.84	0.84	0.86	0.86	0.98	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	-	
		Monthly Fluctuation Factors	0.97	0.97	0.96	0.96	1.01	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	-	
		Daily Traffic Volume	375	447	269	105	69	85	65	65	65	65	65	65	65	2095	
	Day 02	Counted 12-Hours Traffic Volume	279	297	158	97	43	110	0	0	0	0	0	0	0	1542	
		OD Samples	189	203	123	67	31	0	0	0	0	0	0	0	0	968	
		12-Hours Expansion Factors	1.48	1.46	1.28	1.45	1.39	0	0	0	0	0	0	0	0	1.59	
		Night Time Expansion Factors	1.3	1.3	1.44	1.44	1.58	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	-	
		Daily Fluctuation Factors	0.97	0.97	0.96	0.96	1	1	1	1	1	1	1	1	1	-	
		Monthly Fluctuation Factors	0.97	0.97	0.96	0.96	1.01	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	-	
		Daily Traffic Volume	341	363	218	134	61	158	153	153	153	153	153	153	153	2027	
Station No. 03	Day 01	Counted 12-Hours Traffic Volume	485	670	252	106	21	519	0	0	0	0	0	0	2586		
		OD Samples	374	523	183	90	15	1	0	0	0	0	0	0	1508		
		12-Hours Expansion Factors	1.3	1.28	1.38	1.18	1.4	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.71	
		Night Time Expansion Factors	1.39	1.39	1.47	1.47	2	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	-	
		Daily Fluctuation Factors	1.14	1.14	1.02	1.02	0.86	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	-	
		Monthly Fluctuation Factors	0.77	0.77	0.84	0.84	1.04	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	-	
		Daily Traffic Volume	592	818	317	134	38	596	147	147	147	147	147	147	147	3059	
	Day 02	Counted 12-Hours Traffic Volume	434	692	309	101	27	500	0	0	0	0	0	0	0	2551	
		OD Samples	292	501	244	82	24	0	0	0	0	0	0	0	0	1433	
		12-Hours Expansion Factors	1.49	1.38	1.27	1.23	1.12	0	0	0	0	0	0	0	0	1.78	
		Night Time Expansion Factors	1.39	1.39	1.47	1.47	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	-	
		Daily Fluctuation Factors	1.16	1.16	1.12	1.12	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	-	
		Monthly Fluctuation Factors	0.77	0.77	0.84	0.84	1.04	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	-	
		Daily Traffic Volume	539	859	427	140	56	456	101	101	101	101	101	101	101	3002	

APPENDIX 4.2 SUMMARY OF TRAFFIC SURVEY RESULTS AND APPLIED FACTORS (2/7)

Station No.	Vehicle Type	Car,Taxi,Jeep	Jeepney	Pick-up, Van	Mini Bus	large Bus	Truck-2 Axle	Truck-3 Axle	Truck-4 Axle	Tricycle	Motorcycle	Special Type	Total	
Station No. 04	Day 01													
	Counted 12-Hours Traffic Volume	878	249	1027	8	641	372	186	127	520	74	0	4082	
	OD Samples	684	173	750	3	501	280	136	95	1	0	0	2623	
	12-Hours Expansion Factors	1.28	1.44	1.37	2.67	1.28	1.33	1.37	1.34	520	0	0	1.56	
	Night Time Expansion Factors	1.44	1.2	1.44	1.31	1.73	1.75	1.75	2	0.98	0.98	0.98	-	
	Daily Fluctuation Factors	0.97	0.99	0.97	1.07	0.96	0.96	0.96	0.82	1.08	1.08	1.08	-	
	Monthly Fluctuation Factors	0.94	1.18	0.94	1.06	0.97	0.89	0.89	0.9	0.98	0.98	0.98	-	
	Daily Traffic Volume	1153	349	1348	12	1076	556	278	187	539	77	0	5576	
	Day 02													
	Counted 12-Hours Traffic Volume	990	259	1176	5	579	393	196	123	512	61	0	4294	
	OD Samples	615	184	734	3	406	286	141	81	0	0	0	2450	
	12-Hours Expansion Factors	1.61	1.41	1.6	1.67	1.43	1.37	1.39	1.52	0	0	0	1.75	
	Night Time Expansion Factors	1.44	1.2	1.44	1.31	1.73	1.75	1.75	2	0.98	0.98	0.98	-	
	Daily Fluctuation Factors	0.88	0.99	0.88	0.93	0.99	0.91	0.91	0.82	1.11	1.11	1.11	-	
Monthly Fluctuation Factors	0.94	1.18	0.94	1.06	0.97	0.89	0.89	0.9	0.98	0.98	0.98	-		
Daily Traffic Volume	1179	363	1401	6	962	557	278	182	546	65	0	5539		
Station No. 05	Day 01													
	Counted 12-Hours Traffic Volume	245	137	364	0	169	239	125	64	837	100	0	2280	
	OD Samples	144	97	277	0	142	157	81	50	0	0	0	948	
	12-Hours Expansion Factors	1.7	1.41	1.31	0	1.19	1.52	1.54	1.28	0	0	0	2.41	
	Night Time Expansion Factors	1.43	1.55	1.43	1.23	2	2	2	2	1.17	1.17	1.17	-	
	Daily Fluctuation Factors	1	0.88	1	0.85	0.99	0.85	0.85	0.86	1.17	1.17	1.17	-	
	Monthly Fluctuation Factors	0.81	0.96	0.81	0.71	1.03	0.8	0.8	0.77	0.79	0.79	0.79	-	
	Daily Traffic Volume	284	179	422	0	345	325	170	85	905	108	0	2823	
	Day 02													
	Counted 12-Hours Traffic Volume	269	106	393	0	140	196	144	55	788	70	0	2161	
	OD Samples	130	80	269	0	113	115	101	28	0	0	0	836	
	12-Hours Expansion Factors	2.07	1.33	1.46	0	1.24	1.7	1.43	1.96	0	0	0	2.58	
	Night Time Expansion Factors	1.43	1.55	1.43	1.23	2	2	2	2	1.17	1.17	1.17	-	
	Daily Fluctuation Factors	1.06	0.91	1.06	1.12	0.99	1.03	1.03	0.72	1.01	1.01	1.01	-	
Monthly Fluctuation Factors	0.81	0.96	0.81	0.71	1.03	0.8	0.8	0.77	0.79	0.79	0.79	-		
Daily Traffic Volume	330	144	483	0	286	323	237	61	736	65	0	2864		
Station No. 06	Day 01													
	Counted 12-Hours Traffic Volume	1685	1024	1816	106	581	603	324	85	83	89	3	6399	
	OD Samples	1005	622	898	61	331	377	188	68	0	0	0	3550	
	12-Hours Expansion Factors	1.68	1.65	2.02	1.74	1.76	1.6	1.72	1.25	0	0	0	1.80	
	Night Time Expansion Factors	1.4	1.42	1.4	1.72	1.3	1.75	1.75	1.68	1	1	1	-	
	Daily Fluctuation Factors	0.99	0.89	0.99	1.1	1.07	0.99	0.99	1.22	1	1	1	-	
	Monthly Fluctuation Factors	0.99	1.03	0.99	1.02	1.07	1.03	1.03	1.15	1	1	1	-	
	Daily Traffic Volume	2312	1333	2492	205	865	1076	578	200	83	89	3	9236	
	Day 02													
	Counted 12-Hours Traffic Volume	1865	1105	2015	126	607	585	341	124	90	93	4	6955	
	OD Samples	979	508	994	57	404	328	200	97	0	0	2	3569	
	12-Hours Expansion Factors	1.91	2.18	2.03	2.21	1.5	1.78	1.71	1.28	0	0	2	1.95	
	Night Time Expansion Factors	1.4	1.42	1.4	1.72	1.3	1.75	1.75	1.68	1	1	1	-	
	Daily Fluctuation Factors	0.99	0.99	0.99	1.03	1.03	1.09	1.09	1.43	1	1	1	-	
Monthly Fluctuation Factors	0.99	1.03	0.99	1.02	1.07	1.03	1.03	1.15	1	1	1	-		
Daily Traffic Volume	2559	1600	2765	267	870	1149	670	343	90	93	4	10410		

APPENDIX 4.2 SUMMARY OF TRAFFIC SURVEY RESULTS AND APPLIED FACTORS (3/7)

Station No.	Day	Vehicle Type	Car, Taxi, Jeep	Jeepney	Pick-up, Van	Mini Bus	large Bus	Truck-2	Truck-3	Truck-4	Axle Motor	Tricycle	Motorcycle	Special Type	Total	
Station No. 07	Day 01	Counted 12-Hours Traffic Volume	713	150	846	0	190	282	289	72	67	243	53	2905		
		OD Samples	491	147	659	0	160	217	239	66	45	17	0	2041		
		12-Hours Expansion Factors	1.45	1.02	1.28	0	1.19	1.3	1.21	1.19	1.09	1.49	0	1.42		
		Night Time Expansion Factors	1.39	1.32	1.39	1.63	1.31	1.31	1.5	1.31	1.5	1	1	1	-	
		Daily Fluctuation Factors	0.96	1.03	0.96	0.93	0.87	1.04	0.97	0.97	0.73	1	1	1	-	
		Monthly Fluctuation Factors	1	1	1	0.93	1.05	1.05	1.05	1.05	1.29	1	1	1	-	
		Daily Traffic Volume	951	204	1129	0	217	376	386	102	243	53	3737	3737		
	Day 02	Counted 12-Hours Traffic Volume	716	128	778	0	181	275	234	234	59	83	223	8	2685	
		OD Samples	576	122	581	0	160	209	213	59	59	67	25	0	2012	
		12-Hours Expansion Factors	1.24	1.05	1.34	0	1.13	1.32	1.1	1.1	1	1.24	8.92	0	1.33	
		Night Time Expansion Factors	1.39	1.32	1.39	1.63	1.31	1.31	1.31	1.5	1.5	1	1	1	1	-
		Daily Fluctuation Factors	0.99	1.32	0.99	0.98	1.03	1.01	1.01	1.01	1.01	1	1	1	1	-
		Monthly Fluctuation Factors	1	1	1	0.93	1.05	1.05	1.05	1.29	1.29	1	1	1	1	-
		Daily Traffic Volume	985	223	1071	0	244	382	325	114	223	83	223	8	3658	
Station No. 08	Day 01	Counted 12-Hours Traffic Volume	760	21	1002	12	501	604	281	63	74	235	7	3560		
		OD Samples	646	19	784	0	431	471	225	42	83	35	0	2736		
		12-Hours Expansion Factors	1.18	1.11	1.28	0	1.16	1.28	1.25	1.5	1.5	6.71	0	1.30		
		Night Time Expansion Factors	1.29	1.21	1.29	1.13	1.34	1.3	1.3	0.93	1.41	1.08	1.08	1.08	-	
		Daily Fluctuation Factors	1.07	0.92	1.07	1.31	1.05	0.93	1.02	1.02	0.98	0.89	0.89	0.89	-	
		Monthly Fluctuation Factors	1.09	1.18	1.09	1.06	0.98	1.02	1.02	0.98	1.02	0.78	0.78	0.78	-	
		Daily Traffic Volume	1143	28	1508	19	691	745	347	174	174	55	176	5	4891	
	Day 02	Counted 12-Hours Traffic Volume	765	7	1019	12	529	624	293	81	60	132	7	3529		
		OD Samples	630	11	825	0	446	511	238	66	44	15	0	2786		
		12-Hours Expansion Factors	1.21	0.64	1.24	0	1.19	1.22	1.23	1.23	1.23	8.8	0	1.27		
		Night Time Expansion Factors	1.29	1.21	1.29	1.13	1.34	1.3	1.3	0.99	1.12	1.08	1.08	1.08	-	
		Daily Fluctuation Factors	0.96	0.98	0.96	1.12	1.05	0.99	1.02	1.02	0.98	0.86	0.86	0.86	-	
		Monthly Fluctuation Factors	1.09	1.18	1.09	1.06	0.98	1.02	1.02	0.98	1.02	0.78	0.78	0.78	-	
		Daily Traffic Volume	1033	10	1376	16	729	819	385	178	178	43	96	5	4689	
Station No. 09	Day 01	Counted 12-Hours Traffic Volume	1816	1069	1475	157	473	500	382	151	93	327	0	6443		
		OD Samples	907	459	829	94	249	279	202	202	122	0	2	0	3143	
		12-Hours Expansion Factors	2	2.33	1.78	1.67	1.9	1.79	1.89	1.89	1.24	0	183.5	0	2.05	
		Night Time Expansion Factors	1.24	1.34	1.24	1.26	1.35	1.45	1.45	1.45	1.45	1	1	1	1	-
		Daily Fluctuation Factors	0.98	0.97	0.98	0.93	1.01	1.02	1.02	1.02	1.02	1	1	1	1	-
		Monthly Fluctuation Factors	0.99	1.03	0.99	1.02	1.02	1.03	1.03	1.15	1.15	1	1	1	1	-
		Daily Traffic Volume	2185	1431	1775	188	658	762	582	227	327	93	327	0	8236	
	Day 02	Counted 12-Hours Traffic Volume	2355	829	1934	130	455	554	374	374	170	174	1153	0	8128	
		OD Samples	1045	252	926	18	248	274	198	198	132	0	0	0	3093	
		12-Hours Expansion Factors	2.25	3.29	2.09	7.22	1.83	2.02	1.89	1.89	1.29	0	0	0	2.63	
		Night Time Expansion Factors	1.24	1.34	1.24	1.26	1.35	1.45	1.45	1.45	1.45	1	1	1	1	-
		Daily Fluctuation Factors	0.96	1.02	0.96	1.1	1.03	1.03	1.03	1.03	1.04	1	1	1	1	-
		Monthly Fluctuation Factors	0.99	1.03	0.99	1.02	1.02	1.03	1.03	1.15	1.15	1	1	1	1	-
		Daily Traffic Volume	2775	1167	2279	184	645	827	553	295	1153	174	1153	0	10053	

APPENDIX 4.2 SUMMARY OF TRAFFIC SURVEY RESULTS AND APPLIED FACTORS (4/7)

Station No.	Vehicle Type	Car, Taxi, Jeep	Jeepney	Pick-up, Van	Mini Bus	large Bus	Truck-2 Axle	Truck-3 Axle	Truck-4 Axle	Motorcycle	Special Type	Total	
Station No. 10	Day 01												
	Counted 12-Hours Traffic Volume	9964	6881	4952	949	966	689	423	85	409	0	25543	
	OD Samples	1949	738	874	136	133	257	115	30	23	0	4279	
	12-Hours Expansion Factors	5.11	9.32	5.67	6.98	7.26	2.68	3.68	2.83	17.04	0	5.97	
	Night Time Expansion Factors	1.54	1.54	1.54	2	2	1.52	2	2	2	2	-	
	Daily Fluctuation Factors	0.72	0.85	0.72	0.64	0.74	0.6	0.6	0.96	0.72	0.72	-	
	Monthly Fluctuation Factors	1.19	1.18	1.19	1.19	1.31	0.97	0.97	0.76	1.16	1.16	-	
	Daily Traffic Volume	13147	1	6534	1446	1311	610	374	124	683	0	24605	
	Day 02												
	Counted 12-Hours Traffic Volume	10248	6720	5091	849	1181	761	448	80	408	0	25992	
	OD Samples	1597	504	693	100	109	223	167	20	13	0	3453	
	12-Hours Expansion Factors	6.42	13.33	7.35	8.49	10.83	3.41	2.68	4	31.38	0	7.53	
	Night Time Expansion Factors	1.54	1.54	1.54	2	1.4	1.52	2	2	2	2	-	
Daily Fluctuation Factors	0.89	0.85	0.89	0.74	1.24	0.84	0.84	0.96	0.79	0.79	-		
Monthly Fluctuation Factors	1.19	1.18	1.19	1.19	1.31	0.97	0.97	0.76	1.16	1.16	-		
Daily Traffic Volume	16715	1	8303	1495	2886	943	555	117	748	0	31939		
Station No. 11	Day 01												
	Counted 12-Hours Traffic Volume	1253	1400	1140	2	20	403	330	42	83	0	4761	
	OD Samples	840	551	620	1	11	314	200	30	10	0	2592	
	12-Hours Expansion Factors	1.49	2.54	1.84	2	1.82	1.28	1.65	1.4	8.3	0	1.84	
	Night Time Expansion Factors	1.33	1.45	1.33	1.4	1.47	1.37	1.37	1.76	1.75	1.75	-	
	Daily Fluctuation Factors	0.98	0.9	0.98	0.68	1.07	0.97	0.97	0.82	0.92	0.92	-	
	Monthly Fluctuation Factors	0.96	1	0.96	0.57	1.06	0.81	0.81	0.82	1	1	-	
	Daily Traffic Volume	1568	1827	1426	1	33	434	355	57	142	0	5977	
	Day 02												
	Counted 12-Hours Traffic Volume	1306	1233	1221	8	14	447	368	44	105	0	4834	
	OD Samples	794	631	655	4	13	321	261	20	14	0	2720	
	12-Hours Expansion Factors	1.64	1.95	1.86	2	1.08	1.39	1.41	2.2	7.5	0	1.78	
	Night Time Expansion Factors	1.33	1.45	1.33	1.4	1.47	1.37	1.37	1.76	1.75	1.75	-	
Daily Fluctuation Factors	1.01	1.06	1.01	1	1.35	1.17	1.17	1.19	1.04	1.04	-		
Monthly Fluctuation Factors	0.96	1	0.96	0.57	1.06	0.81	0.81	0.82	1	1	-		
Daily Traffic Volume	1684	1895	1575	6	29	580	478	76	191	0	6675		
Station No. 12	Day 01												
	Counted 12-Hours Traffic Volume	4336	979	4514	71	1159	877	588	166	92	0	12910	
	OD Samples	1082	284	1510	4	510	413	243	89	3	1	4144	
	12-Hours Expansion Factors	4.01	3.45	2.99	17.75	2.27	2.12	2.42	1.87	30.67	0	3.12	
	Night Time Expansion Factors	1.73	1.72	1.73	1	1.5	1.64	1.64	1.38	1.29	1.29	-	
	Daily Fluctuation Factors	1	0.98	1	1	0.96	0.82	0.82	0.82	1.19	1.19	-	
	Monthly Fluctuation Factors	0.95	0.95	0.95	0.5	0.95	0.87	0.87	1.15	1.54	1.54	-	
	Daily Traffic Volume	7126	1568	7419	36	1586	1026	688	177	217	0	20144	
	Day 02												
	Counted 12-Hours Traffic Volume	4273	758	3659	37	1037	701	523	148	105	0	11348	
	OD Samples	911	298	1019	4	391	263	159	36	15	0	3066	
	12-Hours Expansion Factors	4.69	2.54	3.59	9.25	2.65	2.67	4.05	4.11	7	0	3.70	
	Night Time Expansion Factors	1.73	1.72	1.73	1	1.5	1.64	1.64	1.38	1.29	1.29	-	
Daily Fluctuation Factors	0.99	1.01	0.99	0.6	1.06	0.89	0.89	1.8	0.75	0.75	-		
Monthly Fluctuation Factors	0.95	0.95	0.95	0.5	0.95	0.87	0.87	1.15	1.54	1.54	-		
Daily Traffic Volume	6952	1251	5953	11	1566	890	664	423	156	0	18027		

APPENDIX 4.2 SUMMARY OF TRAFFIC SURVEY RESULTS AND APPLIED FACTORS (6/7)

Station No. 16													
Day 01													
Vehicle Type	Car,Taxi,Jeep	Jeepney	Pick-up,Van	Mini Bus	Large Bus	Truck-2 Axle	Truck-3 Axle	Truck-4 Axle	Motorcycle	Tricycle	Motorcycle	Special Type	Total
Counted 12-Hours Traffic Volume	17	10	43	41	19	11	3	0	16	16	16	0	176
Night Time Expansion Factors	1.35	1.5	1.35	1.48	1.58	1.7	1.7	1	1.36	1.36	1.36	1.36	-
Daily Fluctuation Factors	1.18	1.3	1.18	0.91	0.94	0.8	0.8	1	1.17	1.17	1.17	1.17	-
Monthly Fluctuation Factors	0.96	0.72	0.96	0.97	1.04	0.85	0.85	2	0.55	0.55	0.55	0.55	-
Daily Traffic Volume	26	14	66	54	29	13	3	0	14	14	14	0	233
Day 02													
Counted 12-Hours Traffic Volume	12	11	32	46	15	13	8	0	25	25	12	1	175
Night Time Expansion Factors	1.35	1.5	1.35	1.48	1.58	1.7	1.7	1	1.36	1.36	1.36	1.36	-
Daily Fluctuation Factors	0.93	1.11	0.93	0.91	1.26	0.94	0.94	1	1.81	1.81	1.81	1.81	-
Monthly Fluctuation Factors	0.96	0.72	0.96	0.97	1.04	0.85	0.85	2	0.55	0.55	0.55	0.55	-
Daily Traffic Volume	14	13	39	60	31	18	11	0	34	34	16	1	237
Station No. 17													
Day 01													
Counted 12-Hours Traffic Volume	11	35	17	0	2	15	0	0	0	0	10	0	90
Night Time Expansion Factors	1.25	1.24	1.25	1.22	1.33	1.27	1.27	2	1.31	1.31	1.31	1.31	-
Daily Fluctuation Factors	0.89	0.94	0.89	0.92	0.92	1.21	1.21	1	0.99	0.99	0.99	0.99	-
Monthly Fluctuation Factors	1.09	1.06	1.09	1.25	1.36	1.05	1.05	1.25	0.99	0.99	0.99	0.99	-
Daily Traffic Volume	13	43	21	0	3	24	0	0	12	0	12	0	117
Day 02													
Counted 12-Hours Traffic Volume	7	30	8	0	2	23	0	0	6	0	6	0	76
Night Time Expansion Factors	1.25	1.24	1.25	1.22	1.33	1.27	1.27	2	1.31	1.31	1.31	1.31	-
Daily Fluctuation Factors	1.13	1	1.13	0.8	0.73	1.57	1.57	1	1.02	1.02	1.02	1.02	-
Monthly Fluctuation Factors	1.09	1.06	1.09	1.25	1.36	1.05	1.05	1.25	0.99	0.99	0.99	0.99	-
Daily Traffic Volume	11	39	12	0	3	48	0	0	8	0	8	0	121
Station No. 18													
Day 01													
Counted 12-Hours Traffic Volume	223	188	155	179	125	173	39	4	58	144	58	0	1288
Night Time Expansion Factors	1.23	1.08	1.23	1.19	1.08	1.13	1.13	1.22	1.17	1.17	1.17	1.17	-
Daily Fluctuation Factors	1.02	1.11	1.02	1.05	1.02	0.89	0.89	0.87	1.05	1.05	1.05	1.05	-
Monthly Fluctuation Factors	1.02	0.97	1.02	0.98	1.02	1.04	1.04	0.93	1.02	1.02	1.02	1.02	-
Daily Traffic Volume	285	219	198	219	140	181	41	4	73	180	73	0	1541
Day 02													
Counted 12-Hours Traffic Volume	211	177	140	163	102	180	54	10	78	216	78	0	1331
Night Time Expansion Factors	1.23	1.08	1.23	1.19	1.08	1.13	1.13	1.22	1.17	1.17	1.17	1.17	-
Daily Fluctuation Factors	0.98	0.79	0.98	0.93	1.1	1.02	1.02	0.62	0.9	0.9	0.9	0.9	-
Monthly Fluctuation Factors	1.02	0.97	1.02	0.98	1.02	1.04	1.04	0.93	1.02	1.02	1.02	1.02	-
Daily Traffic Volume	259	146	172	177	124	216	65	7	84	232	84	0	1482

APPENDIX 4.2 SUMMARY OF TRAFFIC SURVEY RESULTS AND APPLIED FACTORS (5/7)

Station No. 13

Vehicle Type	Day 01													Total
	Car,Taxi,Jeep	Jeepney	Pick-up,Van	Mini Bus	large Bus	Truck-2	Truck-3	Truck-4	Axis	Motor	Tricycle	Motorcycle	Special Type	
Counted 12-Hours Traffic Volume	2242	1219	2252	3	511	464	309	22	260	260	285	0	7567	
OD Samples	1277	349	1024	0	194	263	208	11	11	11	9	0	3346	
12-Hours Expansion Factors	1.76	3.49	2.2	0	2.63	1.76	1.49	2	23.64	31.67	31.67	0	2.26	
Night Time Expansion Factors	1.34	1.33	1.34	1.27	1.33	1.48	1.48	1.57	1.36	1.36	1.36	1.36	-	
Daily Fluctuation Factors	1.03	1	1.03	1.4	0.92	0.94	0.94	1.09	1.04	1.04	1.04	1.04	-	
Monthly Fluctuation Factors	0.88	1.1	0.88	0.9	0.87	0.81	0.81	0.67	0.81	0.81	0.81	0.81	-	
Daily Traffic Volume	2723	1783	2735	5	544	523	348	25	298	298	327	0	9311	
Counted 12-Hours Traffic Volume	2139	1111	2349	0	537	495	353	47	263	263	270	0	7564	
OD Samples	1278	279	1073	0	192	271	233	36	16	16	6	0	3384	
12-Hours Expansion Factors	1.67	3.98	2.19	0	2.8	1.83	1.52	1.31	16.44	16.44	45	0	2.24	
Night Time Expansion Factors	1.34	1.33	1.34	1.27	1.33	1.48	1.48	1.57	1.36	1.36	1.36	1.36	-	
Daily Fluctuation Factors	1.09	1.01	1.09	1.23	0.96	0.89	0.89	0.87	1.03	1.03	1.03	1.03	-	
Monthly Fluctuation Factors	0.88	1.1	0.88	0.9	0.87	0.81	0.81	0.67	0.81	0.81	0.81	0.81	-	
Daily Traffic Volume	2749	1642	3019	0	597	528	377	43	298	298	306	0	9559	

Station No. 14

Vehicle Type	Day 01													Total
	Car,Taxi,Jeep	Jeepney	Pick-up,Van	Mini Bus	large Bus	Truck-2	Truck-3	Truck-4	Axis	Motor	Tricycle	Motorcycle	Special Type	
Counted 12-Hours Traffic Volume	330	233	700	5	479	258	221	43	59	59	37	0	2365	
OD Samples	228	163	501	3	390	185	151	31	31	31	15	0	1698	
12-Hours Expansion Factors	1.45	1.43	1.4	1.67	1.23	1.39	1.46	1.39	1.9	1.9	2.47	0	1.39	
Night Time Expansion Factors	1.43	1.44	1.43	1.15	1.43	1.75	1.7	1.75	1.7	1.59	1.59	1.59	-	
Daily Fluctuation Factors	0.95	1.17	0.95	1.11	1.06	0.97	0.97	1.03	0.76	0.76	0.76	0.76	-	
Monthly Fluctuation Factors	1.21	1.03	1.21	1.28	0.95	1.02	1.02	1.03	0.75	0.75	0.75	0.75	-	
Daily Traffic Volume	542	494	1151	8	844	434	372	89	53	53	34	0	3931	
Counted 12-Hours Traffic Volume	307	259	713	0	451	300	192	33	77	77	44	0	2376	
OD Samples	260	179	575	0	394	246	148	27	10	10	6	0	1845	
12-Hours Expansion Factors	1.18	1.45	1.24	0	1.14	1.22	1.3	1.22	7.7	7.7	7.33	0	1.29	
Night Time Expansion Factors	1.43	1.44	1.43	1.15	1.75	1.7	1.7	1.75	1.7	1.59	1.59	1.59	-	
Daily Fluctuation Factors	1.06	1.06	1.06	1.02	0.94	0.94	0.94	1.61	0.92	0.92	0.92	0.92	-	
Monthly Fluctuation Factors	1.21	1.03	1.21	1.28	0.95	1.02	1.02	1.03	0.75	0.75	0.75	0.75	-	
Daily Traffic Volume	563	407	1308	0	705	489	313	109	84	84	48	0	4027	

Station No. 15

Vehicle Type	Day 01													Total
	Car,Taxi,Jeep	Jeepney	Pick-up,Van	Mini Bus	large Bus	Truck-2	Truck-3	Truck-4	Axis	Motor	Tricycle	Motorcycle	Special Type	
Counted 12-Hours Traffic Volume	1091	1059	1117	2	614	480	82	22	58	58	489	0	5014	
OD Samples	781	489	812	1	305	357	67	12	29	29	115	0	2968	
12-Hours Expansion Factors	1.4	2.17	1.38	2	2.01	1.34	1.22	1.83	2	2	4.25	0	1.69	
Night Time Expansion Factors	1.25	1.27	1.25	1.21	2	1.23	1.23	1.23	1.27	1.27	1.27	1.27	-	
Daily Fluctuation Factors	1.03	0.99	1.03	1.04	1.4	1.16	1.16	1	1.66	1.66	1.66	1.66	-	
Monthly Fluctuation Factors	0.95	1.08	0.95	1.05	1.07	0.91	0.91	1.33	1	1	1	1	-	
Daily Traffic Volume	1334	1438	1366	3	1840	623	106	59	122	122	1031	0	7922	
Counted 12-Hours Traffic Volume	1017	831	1020	0	497	518	71	14	57	57	371	0	4396	
OD Samples	529	210	654	0	246	369	56	11	28	28	64	0	2167	
12-Hours Expansion Factors	1.92	3.96	1.56	0	2.02	1.4	1.27	1.27	2.04	2.04	5.8	0	2.03	
Night Time Expansion Factors	1.25	1.27	1.25	1.21	2	1.23	1.23	1.23	1.27	1.27	1.27	1.27	-	
Daily Fluctuation Factors	1.01	1.01	1.01	1.04	1.22	1.09	1.09	1.04	1.04	1.04	2.1	2.1	-	
Monthly Fluctuation Factors	0.95	1.08	0.95	1.05	1.07	0.91	0.91	1.33	1	1	1	1	-	
Daily Traffic Volume	1220	1151	1223	0	1298	632	87	39	152	152	989	0	6791	

APPENDIX 4.2 SUMMARY OF TRAFFIC SURVEY RESULTS AND APPLIED FACTORS (7/7)

Station No. 19	Day 01	Station No. 20	Day 01
Vehicle Type	Car, Taxi, Jeep	Vehicle Type	Car, Taxi, Jeep
Counted 12-Hours Traffic Volume	177	Counted 12-Hours Traffic Volume	215
Night Time Expansion Factors	1.26	Night Time Expansion Factors	1.34
Daily Fluctuation Factors	0.83	Daily Fluctuation Factors	0.92
Monthly Fluctuation Factors	1.07	Monthly Fluctuation Factors	0.88
Daily Traffic Volume	198	Daily Traffic Volume	233
		Day 02	
Counted 12-Hours Traffic Volume	166	Counted 12-Hours Traffic Volume	200
Night Time Expansion Factors	1.26	Night Time Expansion Factors	1.34
Daily Fluctuation Factors	1.11	Daily Fluctuation Factors	1.27
Monthly Fluctuation Factors	1.07	Monthly Fluctuation Factors	0.88
Daily Traffic Volume	248	Daily Traffic Volume	300
		Day 01	
Jeepney	405	Jeepney	497
Pick-up, Van	59	Pick-up, Van	146
Mini Bus	0	Mini Bus	1
Large Bus	75	Large Bus	4
Truck-2 Axle	135	Truck-2 Axle	71
Truck-3 Axle	27	Truck-3 Axle	46
Truck-4 Axle	15	Truck-4 Axle	0
Axle Motor	1.11	Axle Motor	1.11
Tricycle	123	Tricycle	562
Motorcycle	230	Motorcycle	83
Special Type	129	Special Type	131
Total	1375	Total	1756
		Day 02	
Jeepney	405	Jeepney	552
Pick-up, Van	59	Pick-up, Van	140
Mini Bus	0	Mini Bus	4
Large Bus	75	Large Bus	4
Truck-2 Axle	135	Truck-2 Axle	61
Truck-3 Axle	27	Truck-3 Axle	21
Truck-4 Axle	15	Truck-4 Axle	0
Axle Motor	1.11	Axle Motor	1.2
Tricycle	123	Tricycle	623
Motorcycle	230	Motorcycle	87
Special Type	129	Special Type	136
Total	1375	Total	1828
		Day 01	
Jeepney	405	Jeepney	497
Pick-up, Van	59	Pick-up, Van	146
Mini Bus	0	Mini Bus	1
Large Bus	75	Large Bus	4
Truck-2 Axle	135	Truck-2 Axle	71
Truck-3 Axle	27	Truck-3 Axle	46
Truck-4 Axle	15	Truck-4 Axle	0
Axle Motor	1.11	Axle Motor	1.11
Tricycle	123	Tricycle	562
Motorcycle	230	Motorcycle	83
Special Type	129	Special Type	131
Total	1375	Total	1756
		Day 02	
Jeepney	405	Jeepney	552
Pick-up, Van	59	Pick-up, Van	140
Mini Bus	0	Mini Bus	4
Large Bus	75	Large Bus	4
Truck-2 Axle	135	Truck-2 Axle	61
Truck-3 Axle	27	Truck-3 Axle	21
Truck-4 Axle	15	Truck-4 Axle	0
Axle Motor	1.11	Axle Motor	1.2
Tricycle	123	Tricycle	623
Motorcycle	230	Motorcycle	87
Special Type	129	Special Type	136
Total	1375	Total	1828

APPENDIX 4.3 UPDATED TRAFFIC VOLUME DATA USED IN ESTIMATION PROCEDURE (1/3)

Region	Station	Link	CAR	J'NY	M/B	B/B	R/T	A/T	Total	
A. NATIONAL TRAFFIC COUNT PROGRAM										
CAGAYAN N	421	COV	21-12C	102	94	13	50	96	112	468
CAGAYAN N	422	COV	21-11I	97	164	94	3	191	3	550
CAGAYAN N	430	COV	21-23B	12	58	0	4	247	0	321
CAGAYAN S	115	CONT	21-32	53	72	3	0	32	0	160
CAGAYAN S	400	COV	21-21B	191	662	36	37	207	0	1133
CAGAYAN S	404	COV	21-21A	191	662	36	37	207	0	1133
CAGAYAN S	410	COV	21-30A	191	662	36	37	207	0	1133
CAGAYAN S	412	COV	21-11C	514	622	155	121	174	0	1585
CAGAYAN S	414	COV	21-11D	389	280	68	199	401	36	1374
CAGAYAN			21-24B	132	183	112	0	190	0	617
ISABELA I	823	COV	22-29C	124	275	41	42	58	0	540
ISABELA II	804	COV	22-22C	338	435	10	6	61	37	887
ISABELA II	815	COV	22-11F	799	429	158	250	403	0	2039
ISABELA			22-25A	304	116	112	0	152	0	684
QUIRINO	40	SEAS	24-21AX	157	203	3	21	61	1	446
QUIRINO	1206	COV	24-21B	95	80	0	29	120	0	324
BATAAN	129	CONT	31-21C	2422	772	466	517	524	503	5203
BATAAN	1800	COV	31-22F	695	852	1142	153	432	392	3666
BATAAN	1816	COV	31-25B	490	233	122	82	74	77	1079
BULACAN	2001	COV	32-11D	4125	1258	62	439	1096	173	7154
BULACAN	2014	COV	32-26A	1131	640	19	0	326	0	2116
BULACAN	2018	COV	32-11C	5654	902	55	494	1290	74	8470
NUEVA ECIJA	124	CONT	33-29D	256	144	86	63	64	39	652
NUEVA ECIJA	1600	COV	33-11B	2528	860	928	0	1287	0	5604
NUEVA ECIJA	1601	COV	33-11G	2222	755	813	0	1136	0	4926
NUEVA ECIJA	1611	COV	33-24C	95	121	12	0	73	0	301
NUEVA ECIJA	1612	COV	33-11C	2508	853	919	0	1281	0	5560
NUEVA ECIJA	1614	COV	33-11H	1795	601	640	0	965	0	4000
NUEVA ECIJA			33-24B	443	610	65	0	274	0	1392
PAMPANGA	1917	COV	34-12E	7668	5472	205	1033	1273	136	15787
PAMPANGA			34-01B	30100	3713	202	2982	4357	443	41797
PAMPANGA			34-22B	6371	1827	630	0	1339	0	10167
TARLAC	1509	COV	35-12H	1714	571	607	0	933	0	3825
TARLAC	1512	COV	35-12F	2198	286	355	576	342	52	3809
TARLAC	1518	COV	35-24B	825	26	305	228	159	27	1569
TARLAC	1521	COV	35-23A	1616	182	385	64	296	0	2543
ZAMBALES	1409	COV	36-21B	1873	384	542	249	165	50	3263
ZAMBALES	1415	COV	36-22A	923	531	101	185	189	52	1981
NCR			00-22B	22346	10507	1470	1998	1240	120	37682
AURORA	2578	COV	41-23A	111	70	0	4	111	17	312
BATANGAS I	144	CONT	42-23E	1371	1402	1	225	444	60	3503
BATANGAS I	2429	COV	42-23C	1304	1484	35	84	16	0	2924
BATANGAS I	2432	COV	42-29C	690	849	25	15	174	0	1753
BATANGAS II	143	CONT	42-21B	7584	1924	8	708	954	177	11355
BATANGAS II	2415	COV	42-21F	5138	1439	6	845	1522	227	9176
BATANGAS II	2400	COV	42-21A	16574	3385	0	1893	2474	496	24823
BATANGAS			42-33A	60	64	20	0	40	0	184
BATANGAS	8	SEAS	42-11B	4810	981	26	821	1078	156	7435
CAVITE			43-23A	1107	363	337	152	189	65	2214
CAVITE	2116	COV	43-22B	4924	6693	1578	346	370	950	14861
CAVITE			43-21A	4158	2359	424	192	386	133	7652
CAVITE	2125	COV	43-23D	903	1095	233	149	79	79	2537
LAGUNA	142	CONT	44-29B	97	421	2	3	40	0	563
LAGUNA	135	CONT	44-31B	35	152	0	6	37	1	231
LAGUNA	2311	COV	44-11B	6539	3033	10	205	1348	121	11256
LAGUNA	2313	COV	44-11E	6918	3705	42	313	1114	60	12152
LAGUNA	2320	COV	44-24C	2236	3223	15	804	744	5	7028
LAGUNA	2316	COV	44-24A	3430	2069	5	389	439	79	6411
LAGUNA	2326	COV	44-24F	485	1107	0	64	0	0	1655
QUEZON I	146	CONT	45-23A	1049	289	66	34	470	41	1948
QUEZON I	8	SEAS	45-11A	4373	981	26	821	1078	156	7436

APPENDIX 4.3 UPDATED TRAFFIC VOLUME DATA USED IN ESTIMATION PROCEDURE (2/3)

Region	Station	Link	CAR	J'NY	M/B	B/B	R/T	A/T	Total	
QUEZON I	2512	COV	45-11B	3522	1874	37	821	1456	115	7824
QUEZON			45-11E	3077	693	15	797	941	127	5650
QUEZON	2516	COV	45-25A	439	318	0	0	568	0	1325
QUEZON I	2516	COV	45-25B	439	318	0	0	568	0	1325
QUEZON I	2517	COV	45-25D	299	270	0	3	285	0	857
QUEZON II	2534	COV	45-11H	1468	655	223	553	853	128	3880
QUEZON II	2535	COV	45-31A	10	106	0	6	23	1	147
QUEZON II	2538	COV	45-30C	132	302	4	60	167	5	670
QUEZON			45-30D	10	106	0	6	23	1	147
QUEZON			45-29A	132	302	4	60	167	5	670
RIZAL	2318	COV	44-31A	232	476	3	0	88	0	798
ILOCOS N	100	COV	11-12D	1497	1390	516	233	376	135	4147
ILOCOS N	113	COV	11-12H	259	302	79	134	494	53	1322
ILOCOS N	116	COV	11-21A	367	441	5	18	105	0	736
ILOCOS S I	101	CONT	12-12G	1470	983	137	403	525	106	3625
ILOCOS S I	504	COV	12-12H	1522	1077	444	277	484	55	3860
ILOCOS S II	503	COV	12-12E	1755	1374	100	912	495	436	5072
ILOCOS S II	502	COV	12-21B	89	175	0	0	44	8	316
ILOCOS S II	518	COV	12-12B	1488	1373	141	632	529	320	4483
LA UNION	511	COV	13-12D	1540	639	431	619	152	490	3872
PANGASINAN I	1300	COV	14-28C	758	432	319	101	681	10	2300
PANGASINAN I	1315	COV	14-25A	75	147	6	78	122	19	446
PANGASINAN I	1308	COV	14-21F	573	299	155	69	556	12	1665
PANGASINAN I	1319	COV	14-25B	504	355	6	93	218	1	1177
PANGASINAN I	1314	COV	14-21E	501	292	224	102	186	0	1306
PANGASINAN I	1317	COV	14-21C	457	239	196	8	180	0	1080
PANGASINAN I	1318	COV	14-21A	403	224	141	8	188	0	964
PANGASINAN II	1352	COV	14-31A	203	304	42	52	147	50	796
PANGASINAN II	1346	COV	14-29A	1476	2333	76	99	606	29	4619
PANGASINAN II	1342	COV	14-12C	2214	1193	244	671	556	39	4917
PANGASINAN II	1305	COV	14-21G	840	942	125	56	568	2	2533
PANGASINAN II	1355	COV	14-22A	358	388	0	83	165	0	994
PANGASINAN II	1353	COV	14-29B	568	699	20	26	196	8	1518
PANGASINAN II	1356	COV	14-22B	358	388	0	83	165	0	994
PANGASINAN			14-57A	358	388	0	83	165	0	994
PANGASINAN			14-52A	358	388	0	83	165	0	994
ABRA	201	COV	01-22A	156	264	2	0	21	0	443
ABRA	211	COV	01-22B	268	526	64	72	105	0	1035
BENGUET	106	CONT	02-24D	853	0	28	80	142	0	1103
BENGUET	108	CONT	02-21A	1343	543	99	457	358	33	2833
BENGUET	1001	COV	02-24CX	713	410	7	122	316	43	1611
BENGUET			02-24CY	783	205	18	101	229	21	1357
BENGUET	1014	COV	02-26AY	502	42	22	72	115	3	756
IFUGAO	59	CONT	04-21A	215	729	16	16	123	5	1104
KALINGA	315	COV	05-23C	17	53	0	0	33	0	103
KALINGA	312	COV	05-21B	6	68	0	0	0	0	74
KALINGA			05-22B	108	195	3	0	13	0	319
MT. PROVINCE	600	COV	03-24B	53	142	1	29	36	0	261
MT. PROVINCE	615	COV	03-22B	25	41	5	6	13	0	90
MT. PROVINCE	613	COV	03-21A	18	76	0	4	7	0	105
ALBAY	3014	COV	51-23A	69	336	0	2	45	1	453
CAMARINES N	9	SEAS	52-11B	1261	772	103	425	834	0	3395
CAMARINES N	10	SEAS	52-11CY	945	1163	179	210	478	0	2975
CAMARINES N	2612	COV	52-11CX	1103	968	141	318	656	0	3186
CAMARINES S I	2800	COV	53-11E	788	1359	217	103	301	0	2768
CAMARINES S I	2817	COV	53-24B	560	1049	0	3	660	0	2272
CAMARINES S II	2801	COV	53-25A	598	889	35	98	202	0	1822
CAMARINES S II	2812	COV	53-11G	1230	685	408	189	670	36	3219
CAMARINES S II	2820	COV	53-27A	435	620	24	66	148	26	1319
CAMARINES S			53-29A	272	353	13	34	94	16	782
CAMARINES S			53-29B	108	84	1	1	39	5	238
CAMARINES S			53-52A	272	353	13	34	94	16	782

APPENDIX 4.3 UPDATED TRAFFIC VOLUME DATA USED IN ESTIMATION PROCEDURE (3/3)

Region	Station	Link	CAR	J'NY	M/B	B/B	R/T	A/T	Total
CAMARINES S		53-94BY	108	84	1	1	39	5	238
SORSOGON	12 SEAS	54-11A	513	523	17	190	200	16	1459
SORSOGON	157 CONT	54-11F	173	302	5	85	106	6	677
SORSOGON	3110 COV	54-11B	346	566	6	202	253	86	1460
SORSOGON	3014 COV	54-21A	69	336	0	2	45	1	453
SORSOGON	3116 COV	54-27A	52	58	0	0	5	1	117
SORSOGON	3100 COV	54-11C	281	730	14	96	268	70	1459
SORSOGON	3112 COV	54-11G	263	438	0	87	221	52	1061
SORSOGON	3117 COV	54-28A	26	57	1	7	2	0	93
SORSOGON	3118 COV	54-30A	87	232	9	15	68	4	415
SORSOGON	3115 COV	54-11H	259	265	36	105	131	0	796
SORSOGON		54-23A	52	58	0	0	5	1	117
B. STUDY TRAFFIC SURVEY									
ISABELA	LISR02	22-11I	763	299	0	340	363	65	1830
PANGASINAN	LISR03	14-24C	1404	22	3	393	582	47	2452
LA UNION	LISR04	13-12A	2541	356	11	1019	835	185	4947
NUEVA ECIJA	LISR05	33-11J	759	161	0	315	528	73	1836
PAMPANGA	LISR06	34-12G	5064	1467	236	868	1737	272	9642
NUEVA ECIJA	LISR07	33-21B	2068	213	0	230	734	108	3354
NUEVA ECIJA	LISR08	33-11A	2530	19	17	710	1148	176	4600
PAMPANGA	LISR09	34-21C	4506	1299	186	652	1362	261	8265
CAVITE	LISR11	43-26B	3127	1861	4	31	923	66	6012
LAGUNA	LISR12	44-11F	13727	1409	23	1576	1634	300	18670
LAGUNA	LISR13	44-24B	5614	1713	2	570	888	34	8821
QUEZON	LISR14	45-11F	1782	406	4	774	804	99	3869
CAMARINES SUR	LISR15	53-11F	1009	1022	312	146	486	18	2993
ILOCOS N	LISR16	11-12I	72	14	57	30	22	0	195
IFUGAO	LISR17	04-21C	29	41	0	3	36	0	109
NUEVA ECIJA	LISR19	33-30A	291	389	0	54	119	8	860
C. METRO MANILA EXPRESSWAY SYSTEM STUDY									
MNL N EX'WAY	EX01	00-01A	45151	5569	303	4473	6536	669	62701
MNL S EX'WAY	EX02	00-02A	18837	3409	90	3023	2358	241	27959
MNL S EX'WAY	EX03	00-02B	18604	4370	110	2332	2653	272	28341
MNL	CH07	00-25B	5428	7046	10	4	2203	226	14918
D. RURAL ROAD DEVELOPMENT PROJECT STUDY									
RIZAL	R13	46-21C	1137	1254	79	140	190	56	2857
RIZAL	R12	46-22AX	3393	4034	154	274	497	278	8498
RIZAL	R18	46-22B	489	217	11	20	83	24	845
LA UNION	L02	13-21B	1395	608	210	409	599	218	3438
LA UNION	L04	13-22C	130	138	0	1	22	8	298
LA UNION	L05	13-21E	1782	1101	462	901	918	334	5498
LA UNION	L06	13-23C	528	453	76	158	500	69	1784
LA UNION	L09	13-12H	1978	1792	238	466	543	197	5214
LA UNION	L12	13-12J	1221	1373	181	353	564	205	3897
ALBAY	A01	51-11A	1181	668	361	157	477	34	2878
ALBAY	A05	51-25A	143	101	62	25	124	15	471
ALBAY	A07	51-11D	1133	651	313	125	284	33	2538
ALBAY	A11	51-28C	108	84	1	1	39	5	238
ALBAY	A13	51-28B	606	1003	173	70	161	19	2033
NUEVA VIZCAYA	NV01	23-11H	447	425	95	164	404	122	1659
NUEVA VIZCAYA	NV05	23-11F	1054	1092	84	144	440	133	2948
NUEVA ECIJA	NE06	33-23A	1113	1054	9	7	538	119	2840
CAVITE	CO4	43-28A	473	515	0	0	57	20	1065
CAVITE	CO6	43-27A	1739	510	109	49	131	45	2582
CAVITE	CO8	43-21C	4158	2359	424	192	386	133	7652
CAVITE	C10	43-28B	647	398	94	43	50	17	1249
CAVITE	C21	43-21F	1543	448	132	60	238	82	2504
CAVITE	C25	43-31B	665	322	5	2	6	2	1002

APPENDIX 4.4 PRESENT TRAFFIC VOLUMES - 1992

(1/8)

Link	Car	Jeepney	Bus	Truck	Total
00-22B	22346	10507	3468	1360	37681
01-21A	240	393	134	104	871
01-21B	240	393	134	104	871
01-22A	156	264	42	35	497
01-22B	156	264	42	35	497
01-22C	108	195	4	13	320
02-21	1709	27	421	439	2596
02-22	130	138	1	30	299
02-23A	528	453	350	569	1900
02-23B	528	453	350	569	1900
02-24A	713	410	129	359	1611
02-24B	713	410	129	359	1611
02-24CX	713	410	129	359	1611
02-24CY	783	205	119	250	1357
02-24D	442	0	61	81	584
02-25A	0	0	0	0	0
02-25B	0	0	0	0	0
02-25C	0	0	0	0	0
02-26 X	0	0	0	0	0
02-26 Y	502	60	94	118	774
02-27	0	0	0	0	0
03-21	18	76	4	7	105
03-22A	42	41	20	36	139
03-22B	37	60	21	26	144
03-23	66	164	17	40	287
03-24A	442	0	61	81	584
03-24B	509	164	77	121	871
03-24C	509	164	77	121	871
03-25	66	164	17	40	287
04-21A	215	729	35	128	1107
04-21B	42	41	20	36	139
04-21C	42	41	20	36	139
04-23A	0	0	0	0	0
04-23B	0	0	0	0	0
05-21A	18	76	4	7	105
05-21B	45	80	11	30	166
05-21C	27	60	2	16	105
05-21D	27	60	2	16	105
05-22A	108	195	4	13	320
05-22B	108	195	4	13	320
05-23A	18	19	10	14	61
05-23B	60	59	24	62	205
05-23C	60	59	24	62	205
05-27A	0	0	0	0	0
05-27B	0	0	0	0	0
05-27C	0	0	0	0	0
05-51	0	0	0	0	0
11-12A	1522	1077	725	708	4032
11-12B	1522	1077	725	708	4032
11-12C	1522	1077	725	708	4032
11-12D	1497	1390	749	616	4252
11-12E	1244	1055	703	628	3630
11-12F	1244	1055	703	628	3630
11-12G	259	602	213	547	1621
11-12H	259	602	213	547	1621
11-12I	193	475	144	127	939
11-21A	367	441	49	105	962
11-21B	0	0	0	0	0
11-21C	0	0	0	0	0
12-12A	1605	1373	975	872	4825
12-12B	1644	1373	1002	887	4906
12-12C	1644	1373	1002	887	4906
12-12D	1755	1374	1012	931	5072
12-12E	1755	1374	1012	931	5072
12-12F	1755	1374	1012	931	5072
12-12G	1573	1259	884	833	4549
12-12H	1522	1077	725	708	4032
12-21A	66	164	17	40	287

APPENDIX 4.4 PRESENT TRAFFIC VOLUMES - 1992

(2/8)

Link	Car	Jeepney	Bus	Truck	Total
12-21B	66	164	17	40	287
12-22	0	0	0	0	0
12-23	66	164	17	40	287
12-29	240	393	134	104	871
13-12A	2541	356	1030	1020	4947
13-12B	1644	329	765	774	3512
13-12C	1644	329	765	774	3512
13-12D	2236	351	1005	1210	4802
13-12E	2138	1101	1363	1252	5854
13-12F	2138	1101	1363	1252	5854
13-12G	2138	1101	1363	1252	5854
13-12H	2258	1792	1357	1212	6619
13-12I	1605	1373	975	872	4825
13-12J	1605	1373	975	872	4825
13-12K	1605	1373	975	872	4825
13-21	1709	27	421	439	2596
13-22A	130	138	1	30	299
13-22B	130	138	1	30	299
13-22C	130	138	1	30	299
13-23A	528	453	350	569	1900
13-23B	528	453	350	569	1900
13-23C	528	453	350	569	1900
13-24	1404	22	396	629	2451
13-51	0	0	0	0	0
14-12A	2313	571	799	943	4626
14-12B	2470	1193	915	1033	5611
14-12C	2470	1193	915	1033	5611
14-12D	2470	1193	915	1033	5611
14-12E	2541	356	1030	1020	4947
14-21A	422	225	194	188	1029
14-21B	422	225	194	188	1029
14-21C	405	207	194	137	943
14-21D	405	207	194	137	943
14-21E	534	339	285	254	1412
14-21F	979	351	224	561	2115
14-21G	915	811	181	574	2481
14-22A	358	388	83	165	994
14-22B	219	467	83	168	937
14-22C	219	467	83	168	937
14-22D	219	467	83	168	937
14-24A	358	388	83	165	994
14-24C	1404	22	396	629	2451
14-25A	129	132	91	117	469
14-25B	504	355	99	219	1177
14-26A	17	18	0	51	86
14-27	17	18	0	51	86
14-28A	820	432	420	691	2363
14-28B	820	432	420	691	2363
14-28C	820	432	420	691	2363
14-29A	1249	1739	198	568	3754
14-29B	718	1076	56	235	2085
14-29C	0	0	0	0	0
14-30A	536	665	210	336	1747
14-30B	330	222	116	122	790
14-31A	206	443	95	214	958
14-31B	291	389	80	127	887
14-32	1404	22	396	629	2451
14-52	358	388	83	165	994
14-57	358	388	83	165	994
21-11A	763	299	340	428	1830
21-11B	763	299	340	428	1830
21-11C	514	622	276	174	1586
21-11D	389	280	267	437	1373
21-11E	389	280	267	437	1373
21-11F	389	280	267	437	1373
21-11G	97	164	97	194	552
21-11H	97	164	97	194	552
21-11I	97	164	97	194	552

APPENDIX 4.4 PRESENT TRAFFIC VOLUMES - 1992

(3/8)

Link	Car	Jeepney	Bus	Truck	Total
21-12A	193	475	144	127	939
21-12B	193	475	144	127	939
21-12C	157	400	77	208	842
21-12D	157	400	77	208	842
21-21A	266	662	133	272	1333
21-21B	147	662	53	165	1027
21-21C	147	662	53	165	1027
21-22A	157	400	77	208	842
21-22B	157	400	77	208	842
21-23B	31	72	22	247	372
21-24A	132	183	112	190	617
21-24B	132	183	112	190	617
21-30A	188	423	98	198	907
21-30B	60	59	24	62	205
21-31	202	392	112	183	889
21-32	27	60	2	16	105
21-52	0	0	0	0	0
21-53	0	0	0	0	0
21-91A	0	0	0	0	0
21-91B	0	0	0	0	0
22-11A	539	425	259	526	1749
22-11B	618	528	243	507	1896
22-11C	471	550	104	299	1424
22-11D	799	429	408	403	2039
22-11E	799	429	408	403	2039
22-11F	799	429	408	403	2039
22-11G	886	464	413	462	2225
22-11H	886	464	413	462	2225
22-11I	763	299	340	428	1830
22-11J	763	299	340	428	1830
22-11K	763	299	340	428	1830
22-11L	763	299	340	428	1830
22-21	157	203	24	62	446
22-22A	338	435	139	209	1121
22-22B	338	435	139	209	1121
22-22C	338	435	139	209	1121
22-23	0	0	0	0	0
22-25A	304	116	112	152	684
22-25B	0	0	0	0	0
22-28A	0	0	0	0	0
22-28B	0	0	0	0	0
22-29A	338	435	139	209	1121
22-29B	202	392	112	183	889
22-29C	202	392	112	183	889
22-29D	202	392	112	183	889
22-29E	202	392	112	183	889
22-56	0	0	0	0	0
22-57A	0	0	0	0	0
22-57B	0	0	0	0	0
22-91	0	0	0	0	0
22-92	0	0	0	0	0
23-11A	759	161	315	601	1836
23-11B	759	161	315	601	1836
23-11C	759	161	315	601	1836
23-11D	1054	1092	302	573	3021
23-11E	1054	1092	302	573	3021
23-11F	1054	1092	302	573	3021
23-11G	754	872	294	595	2515
23-11H	539	425	259	526	1749
23-21	215	729	35	128	1107
23-22	0	0	0	0	0
23-23	0	0	0	0	0
23-24A	0	0	0	0	0
23-24B	0	0	0	0	0
23-24C	0	0	0	0	0
23-24D	0	0	0	0	0
24-21AX	157	203	24	62	446
24-21AY	95	80	29	120	324
24-21B	95	80	29	120	324

APPENDIX 4.4 PRESENT TRAFFIC VOLUMES - 1992

(4/8)

Link	Car	Jeepney	Bus	Truck	Total
24-21C	95	80	29	120	324
24-21D	0	0	0	0	0
24-21E	0	0	0	0	0
24-23B	0	0	0	0	0
24-91	0	0	0	0	0
31-21A	4506	1299	838	1623	8266
31-21B	2422	772	983	1027	5204
31-21C	2422	772	983	1027	5204
31-22A	2772	1695	1086	1344	6897
31-22B	2772	1695	1086	1344	6897
31-22C	2772	1695	1086	1344	6897
31-22D	2772	1695	1086	1344	6897
31-22E	695	852	1295	824	3666
31-22F	695	852	1295	824	3666
31-25B	490	233	204	151	1078
31-25C	0	0	0	0	0
31-51	0	0	0	0	0
31-52	0	0	0	0	0
32-01A	45151	5569	4776	7205	62701
32-01B	45151	5569	4776	7205	62701
32-01C	45151	5569	4776	7205	62701
32-01D	30100	3713	3184	4800	41797
32-01E	30100	3713	3184	4800	41797
32-11A	16285	1666	1152	2551	21654
32-11B	5370	902	726	1403	8401
32-11C	5370	902	726	1403	8401
32-11D	4309	1258	716	1276	7559
32-11E	4309	1258	716	1276	7559
32-11F	2530	19	727	1324	4600
32-12A	0	0	0	0	0
32-12B	0	0	0	0	0
32-12C	0	0	0	0	0
32-12D	0	0	0	0	0
32-12E	0	0	0	0	0
32-12F	0	0	0	0	0
32-12G	0	0	0	0	0
32-25	0	0	0	0	0
32-26A	1231	640	18	279	2168
32-26B	0	0	0	0	0
32-27A	0	0	0	0	0
32-27B	0	0	0	0	0
33-11A	2530	19	727	1324	4600
33-11B	4379	860	942	2059	8240
33-11C	3772	853	942	1788	7355
33-11D	2222	755	813	1136	4926
33-11E	2222	755	813	1136	4926
33-11F	2222	755	813	1136	4926
33-11G	2222	755	813	1136	4926
33-11H	1795	601	640	965	4001
33-11I	1795	601	640	965	4001
33-11J	759	161	315	601	1836
33-11K	759	161	315	601	1836
33-21A	2068	213	230	842	3353
33-21B	2068	213	230	842	3353
33-23A	1113	1054	48	657	2872
33-23B	1113	1054	48	657	2872
33-23C	1113	1054	48	657	2872
33-24A	443	610	73	274	1400
33-24B	443	610	73	274	1400
33-24C	95	121	38	73	327
33-24D	95	121	38	73	327
33-25	0	0	0	0	0
33-29A	330	222	116	122	790
33-29B	330	222	116	122	790
33-29C	330	222	116	122	790
33-29D	330	222	116	122	790
33-30A	291	389	80	127	887
33-30B	291	389	80	127	887
33-56A	0	0	0	0	0

APPENDIX 4.4 PRESENT TRAFFIC VOLUMES - 1992

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Link	Car	Jeepney	Bus	Truck	Total
33-56B	0	0	0	0	0
34-01A	30100	3713	3184	4800	41797
34-01B	30100	3713	3184	4800	41797
34-01C	4081	504	1085	1742	7412
34-12A	0	0	0	0	0
34-12B	0	0	0	0	0
34-12C	0	0	0	0	0
34-12D	21387	6391	2066	3474	33318
34-12E	7668	5472	1238	1409	15787
34-12F	983	963	19	267	2232
34-12G	5064	1467	1104	2009	9644
34-21A	4506	1299	838	1623	8266
34-21B	4506	1299	838	1623	8266
34-21C	4506	1299	838	1623	8266
34-22A	25734	3098	2396	4274	35502
34-22B	6371	1827	630	1339	10167
34-22C	6371	1827	630	1339	10167
34-22D	6371	1827	630	1339	10167
34-22E	2068	213	230	842	3353
34-22F	2068	213	230	842	3353
34-27	0	0	0	0	0
34-31B	4081	504	1085	1742	7412
35-12A	5064	1467	1104	2009	9644
35-12B	5064	1467	1104	2009	9644
35-12C	5064	1467	1104	2009	9644
35-12D	2350	386	931	1009	4676
35-12E	2350	386	931	1009	4676
35-12F	2350	386	931	1009	4676
35-12G	2313	571	799	943	4626
35-12H	2313	571	799	943	4626
35-21	0	0	0	0	0
35-22A	1113	1054	48	657	2872
35-22B	1113	1054	48	657	2872
35-23A	2033	196	449	861	3539
35-23B	2033	196	449	861	3539
35-23C	820	432	420	691	2363
35-24A	825	26	533	186	1570
35-24B	825	26	533	186	1570
35-24C	358	388	83	165	994
36-21A	2422	772	983	1027	5204
36-21B	1873	384	791	215	3263
36-22A	923	531	286	241	1981
36-22B	422	225	194	188	1029
36-23	0	0	0	0	0
36-51	0	0	0	0	0
41-21	0	0	0	0	0
41-22	95	121	38	73	327
41-23A	111	70	18	128	327
41-23B	111	70	18	128	327
41-24	0	0	0	0	0
41-51	0	0	0	0	0
41-91	0	0	0	0	0
41-92	0	0	0	0	0
42-11A	13727	1409	1599	1934	18669
42-11B	4810	981	847	1234	7872
42-21A	9097	1077	770	968	11912
42-21B	7584	1924	716	1131	11355
42-21C	7584	1924	716	1131	11355
42-21D	5206	1439	851	1749	9245
42-21E	5206	1439	851	1749	9245
42-21F	5206	1439	851	1749	9245
42-21G	5896	2288	891	1923	10998
42-22A	1543	448	192	320	2503
42-22B	1543	448	192	320	2503
42-22C	1543	448	192	320	2503
42-22D	0	0	0	0	0
42-23B	1304	1484	119	16	2923
42-23C	1304	1484	119	16	2923
42-23D	1371	1402	226	504	3503

APPENDIX 4.4 PRESENT TRAFFIC VOLUMES - 1992

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Link	Car	Jeepney	Bus	Truck	Total
42-23E	1371	1402	226	504	3503
42-23F	1371	1402	226	504	3503
42-23G	1371	1402	226	504	3503
42-24A	665	322	7	29	1023
42-24B	665	322	7	29	1023
42-24C	665	322	7	29	1023
42-25A	0	0	0	0	0
42-25B	0	0	0	0	0
42-25C	0	0	0	0	0
42-29C	690	849	40	174	1753
42-30A	690	849	40	174	1753
42-30B	1049	289	100	511	1949
42-31	0	0	0	0	0
42-33	99	114	20	40	273
42-36	1304	1484	119	16	2923
42-37A	1543	448	192	320	2503
42-91	0	0	0	0	0
43-21A	4112	2065	1331	403	7911
43-21B	4112	2065	1331	403	7911
43-21C	4204	2653	1216	741	8814
43-21D	4204	2653	1216	741	8814
43-21E	2083	1505	443	471	4502
43-21F	1543	448	192	320	2503
43-21G	1543	448	192	320	2503
43-22A	10335	6693	1924	1320	20272
43-22B	10335	6693	1924	1320	20272
43-23A	1257	363	489	254	2363
43-23B	0	0	0	0	0
43-23D	903	1095	382	158	2538
43-26A	3127	1861	35	989	6012
43-26B	3127	1861	35	989	6012
43-27A	3035	1272	155	651	5113
43-27B	1083	576	17	296	1972
43-28A	236	258	0	39	533
43-28B	2188	953	139	393	3673
43-29A	0	0	0	0	0
43-29B	0	0	0	0	0
43-31A	665	322	7	29	1023
43-31B	665	322	7	29	1023
43-31C	0	0	0	0	0
43-32	665	322	7	29	1023
44-02A	20569	4150	2545	3074	30338
44-02B	18965	3208	2164	2895	27232
44-02C	18965	3208	2164	2895	27232
44-02D	13676	1382	1594	1929	18581
44-11A	0	0	0	0	0
44-11B	4730	2802	415	1168	9115
44-11C	282	215	9	61	567
44-11D	5571	2042	580	1027	9220
44-11E	51	27	5	5	88
44-11F	13727	1409	1599	1934	18669
44-11G	4810	981	847	1234	7872
44-11H	5024	2611	1137	1286	10058
44-11I	4373	981	847	1234	7435
44-11J	4373	981	847	1234	7435
44-21	4730	2802	415	1168	9115
44-23A	5428	1844	587	1040	8899
44-23B	0	0	0	0	0
44-24A	5622	2069	585	1032	9308
44-24B	5614	1713	572	922	8821
44-24C	5456	3223	819	909	10407
44-24D	857	1315	66	331	2569
44-24E	741	1107	64	270	2182
44-24F	741	1107	64	270	2182
44-25	214	1630	290	52	2186
44-26B	214	1630	290	52	2186
44-26C	214	1630	290	52	2186
44-27A	0	0	0	0	0
44-27B	0	0	0	0	0

APPENDIX 4.4 PRESENT TRAFFIC VOLUMES - 1992

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Link	Car	Jeepney	Bus	Truck	Total
44-27C	0	0	0	0	0
44-29A	116	421	4	61	602
44-29B	116	421	4	61	602
44-31A	232	476	26	88	822
44-31B	244	181	21	72	518
44-32	0	0	0	0	0
45-11A	4373	981	847	1234	7435
45-11B	3522	1874	858	1571	7825
45-11C	3872	1936	861	1689	8358
45-11D	3872	1936	861	1689	8358
45-11E	3077	693	812	1068	5650
45-11F	1782	406	778	903	3869
45-11G	1782	406	778	903	3869
45-11H	1690	655	776	981	4102
45-11I	1690	655	776	981	4102
45-11J	1368	772	531	834	3505
45-11K	1368	772	531	834	3505
45-21A	244	181	21	72	518
45-21B	244	181	21	72	518
45-21C	0	0	0	0	0
45-23	1049	289	100	511	1949
45-25A	439	318	30	568	1355
45-25B	412	318	14	485	1229
45-25C	412	318	14	485	1229
45-25D	334	270	18	430	1052
45-27	0	0	0	0	0
45-28	116	421	4	61	602
45-29	399	302	82	172	955
45-30B	237	302	64	172	775
45-30C	237	302	64	172	775
45-30D	85	106	15	32	238
45-30E	85	106	15	32	238
45-31	68	106	14	30	218
45-32A	0	0	0	0	0
45-32B	0	0	0	0	0
45-51A	0	0	0	0	0
45-51B	0	0	0	0	0
45-53A	0	0	0	0	0
45-53B	0	0	0	0	0
45-54	0	0	0	0	0
45-91	0	0	0	0	0
45-92	0	0	0	0	0
45-93	0	0	0	0	0
46-21A	3393	4034	428	775	8630
46-21C	805	734	125	175	1839
46-22AX	3393	4034	428	775	8630
46-22AY	16	4	3	3	26
46-22B	821	737	127	178	1863
46-22C	232	476	26	88	822
46-22D	232	476	26	88	822
46-22E	232	476	26	88	822
46-25A	5428	7046	47	2429	14950
46-25B	0	0	0	0	0
46-25C	0	0	0	0	0
46-25D	0	0	0	0	0
46-25E	0	0	0	0	0
46-26A	805	734	125	175	1839
46-26B	805	734	125	175	1839
51-11A	1181	745	518	511	2955
51-11B	1181	745	518	511	2955
51-11C	1181	745	518	511	2955
51-11D	1133	651	438	317	2539
51-11E	1133	651	438	317	2539
51-11F	1133	651	438	317	2539
51-11G	482	531	216	233	1462
51-11H	482	531	216	233	1462
51-21A	0	0	0	0	0
51-22	0	0	0	0	0
51-23A	69	336	18	46	469

APPENDIX 4.4 PRESENT TRAFFIC VOLUMES - 1992

(8/8)

Link	Car	Jeepney	Bus	Truck	Total
51-23B	69	336	18	46	469
51-24	0	0	0	0	0
51-25	143	103	87	139	472
51-27A	708	236	227	92	1263
51-27B	606	1003	243	180	2032
51-28A	606	1003	243	180	2032
51-28B	606	1003	243	180	2032
51-28C	71	85	1	24	181
51-29	0	0	0	0	0
51-51	0	0	0	0	0
52-11A	1368	772	531	834	3505
52-11B	1368	772	531	834	3505
52-11CX	1300	968	520	683	3471
52-11CY	1199	1163	513	628	3503
53-11A	1199	1163	513	628	3503
53-11B	1199	1163	513	628	3503
53-11C	1180	1359	503	613	3655
53-11D	1180	1359	503	613	3655
53-11E	1180	1359	503	613	3655
53-11F	1009	1022	458	504	2993
53-11G	1190	1206	487	571	3454
53-11H	1190	1206	487	571	3454
53-11I	1181	745	518	511	2955
53-11J	1181	745	518	511	2955
53-21	0	0	0	0	0
53-22A	0	0	0	0	0
53-22B	0	0	0	0	0
53-24A	0	0	0	0	0
53-24B	560	1049	37	660	2306
53-25A	468	533	141	219	1361
53-25B	468	533	141	219	1361
53-25C	71	85	1	24	181
53-27A	539	618	142	243	1542
53-27B	539	618	142	243	1542
53-27C	244	261	42	99	646
53-28A	0	0	0	0	0
53-28B	0	0	0	0	0
53-29A	244	261	42	99	646
53-29B	122	130	23	50	325
53-30	0	0	0	0	0
53-52	272	353	47	110	782
53-53	0	0	0	0	0
53-94A	0	0	0	0	0
53-94BX	0	0	0	0	0
53-94BY	122	130	19	50	321
53-96	0	0	0	0	0
54-11A	482	531	216	233	1462
54-11B	384	589	199	282	1454
54-11C	274	607	114	271	1266
54-11D	274	607	114	271	1266
54-11E	274	607	114	271	1266
54-11F	221	548	91	231	1091
54-11G	281	438	133	238	1090
54-11H	238	265	95	156	754
54-11I	238	265	95	156	754
54-21	99	304	19	99	521
54-23	52	58	22	27	159
54-24A	0	0	0	0	0
54-24B	0	0	0	0	0
54-27	53	58	24	40	175
54-28	47	58	18	25	148
54-29A	0	0	0	0	0
54-29B	47	58	18	25	148
54-30	90	232	37	82	441
54-51	0	0	0	0	0
54-52	0	0	0	0	0
54-92	0	0	0	0	0

APPENDIX 4.5 ZONE DIVISION BY PROVINCE AND MUNICIPALITY (1/2)

Province Name	Zone	Municipality				
NCR	1					
ABRA	2	Bangued Lagangilang Pilar	Bucay Lagayan San Isidro	Danglas Manabo San Juan	Dolores Penarubia San Quintin	La Paz Pidigan Langiden
	3	Luba Boliney Malibcong	Tayum Bucloc Sal-Lapadan	Villaviciosa Daguionan Tineg	Lacub Tubo	Licuan Baay
BENGUET	4	Bakun	Rugias	Mankayan	Kapangan	Kibungan
	5	Atok	Bokod	Kabayán	Sablan	Tuba
	6	Baguio City Tublay	Itogon	La Trinidad		
MOUNTAIN PROVINCE	7	Bauko Sagada	Besao Tadian	Bontoc	Sabangan	Sadanga
	8	Barlig	Natonin	Paracelis		
IFUGAO	9	Aguinaldo Kiangan	Alfonso Lista Lagawe	Banaue Lamut	Hingyon Mayoyao	Hungduan Tinoc
KALINGA	10	Calanasan Pudtol	Conner Santa Marcela	Flora	Kabugao	Luna
APAYAO	11	Balbalan	Lubuangan	Pasil	Tanudan	Tinglayan
	12	Pinukpuk	Rizal	Tabuk		
ILOCOS NORTE	13	Adams Pasuquin	Bangui	Burgos	Dumalneg	Pagudpud
	14	Bacarra	Laoag City	San Nicolas		
	15	Carasi	Solsona	Espritu (Banna)	Marcos	Piddig
	16	Sarrat Badoc Pinili	Batac	Vintar Currimao	Nueva Era	Paoay
ILOCOS SUR	17	Bantay Narvacan Sta. Catalina	Cabugao San Ildefonso	Caoayan San Juan	Magsingal San Vicente	Nagbukel Santa Vigan
	18	Banayoyo San Emilio	Burgos San Esteban	Sto. Domingo Candon	Sinait Galimuyod	Lidlidda
	19	Alilem Sta. Cruz Tagudin	Cervantes Sta. Lucia	Santiago Gregorio del Pilar Sigay	Quirino Sugpon	Salcedo Suyo
LA UNION	20	Bacnotan Luna Sudipen	Bagulin San Fernando	Balaoan San Gabriel	Bangar San Juan	Santol
	21	Agoo Naguilian	Aringay Pugo	Bauang Rosario	Burgos Sto. Tomas	Caba Tubao
PANGASINAN	22	Agno	Anda	Bani	Bolinao	Burgos
	23	Aguilar Dasul Mangatarem	Alaminos Infanta San Carlos City	Birmaley Labrador Sual	Bugallon Lingayen Urbiztondo	Mabini
	24	Binalonan Mangaldan Sta. Barbara	Calasiao Mapandan Sison	Dagupan City Pozzorobio	Laoac San Fabian	Manaoag San Jacinto
	25	Alcala Rosales	Basista Sto. Tomas	Bautista Urdaneta	Bayambang Villasis	Malasiqui
	26	Asingan San Quintin	Balungao Sta. Maria	Natividad Tayug	San Manuel Umingan	San Nicolas
	27	Abulug Claveria	Aparri Pamplona	Ballesteros Sanchez Mira	Calayan Santa Praxedes	Calamanyugan
CAGAYAN	28	Allacapan Tuao	Lasam	Piat	Rizal	Santo Nino
	29	Alcala Tuguegarao	Amulung	Enrile	Iguig	Solan
	30	Ruguey	Gonzaga	Santa Ana	Santa Teresita	
	31	Raggao	Galtaran	Lailo	Penablanca	
ISABELA	32	Aurora San Manuel (Callang)	Cabatuan	Mallig	Quezon	Roxas
	33	Burgos Ilagan Reina Mercedes	Cabagan Luna (Antatet)	Magsaysay Macanacon	Divilican Naguilian	Gamu Quirino
	34	Alicia Jones San Mateo	San Pablo Angadanan Ramon(Aguinaldo)	Santa Maria Cauayan San Agustin	Sto. Tomas Cordon San Guillermo	Tumauini Echague San Isidro
	35	Benito Soliven	Santiago Dinapigui	Palanan	San Mariano	
	36	Ambaguio Kayapa	Bagabag Quezon	Bambang Solano	Bayombong Villaverde (Ibug)	Diadi Kasibu
NUEVA VIZCAYA	37	Alfonso Castaneda Sta. Fe	Aritao	Dupax del Norte	Dupax del Sur	
QUIRINO	38	Aglipay	Cabarroguis	Diffun	Saguday	
	39	Madella	Nagtipunan			
BATAAN	40	Abucay Morong	Bagac Orani	Balanga Pilar	Dinalupihan Samal	Hermosa
	41	Limay	Mariveles	Orion		
BULACAN	42	Rigaa (Balagtas) CaLumpit Meycuayan Pulilan	Baliuag Guiginto Obando	Bocaué Hagonoy Pandi	Bulacan Malolos Paombong	Bustos Marilao Plaridel
	43	Angat San Miguel	Santa Maria Dona R. Trinidad San Rafael	Norzagaray	San Ildefonso	San Jose del Monte

APPENDIX 4.5 ZONE DIVISION BY PROVINCE AND MUNICIPALITY (2/2)

Province Name	Zone				Municipality	
NUEVA ECIJA	44	Carrangalan Lupao San Jose City	Cuyapo Munoz Santo Domingo	Guimba Nampicuan Talavera	Licab Pantabangan Talugtog	Llanera Quezon
	45	Cabanatuan City				
	46	Aliaga Zaragoza	Jaen	Penaranda	San Leonardo	Santa Rosa
	47 48	Cabiao Bongabon Palayan City	Gapan Gabaldon Rizal	San Antonio Gen. M. Natividad	San Isidro Gen. Tinio	Laur
PAMPANGA	49	Angeles City	Mabalacat	Porac		
	50	Arayat Santa Ana	Candaba	Magalang	Mexico	San Luis
	51	Apalit Macabebe Santa Rita	Bacolor Masantol Santo Tomas	Florida Blanca Minalin Sexmoan	Guagua San Fernando	Lubao San Simon
TARLAC	52	Camiling	Mayantoc	San Clemente	San Jose	Santa Ignacia
	53	Anao Ramos	Gerona San Manuel	Moncada	Paniqui	Pura
	54	Bamban Victoria	Capas	Concepcion	La Paz	Tarlac
ZAMBALES	55	Candelaria	Masinloc	Santa Cruz		
	56	Botolan	Cabangan	Iba	Palauig	
	57	Castillejos San Narciso	Olongapo City Subic	San Antonio	San Felipe	San Marcelino
AURORA	58	Casiguran	Dilasag	Dinalungan		
	59	Baler	Dingalan	Dipaculao	Maria Aurora	San Luis
BATANGAS	60	Balayan Tuy	Calaca	Calatagan	Lian	Nasugbu
	61	Agoncillo Habini Tingloy	Alitagtag San Luis	Bauan San Nicolas	Laurel Santa Teresita	Lemery Taal
	62	Balete Santo Tomas	Lipa City Talisay	Malvar Tanauan	Mataas na Kahoy	Padre Garcia
	63	Batangas City San Pascual	Cuenca Taysan	Ibaan	Rosario	San Jose
	64	Lobo	San Juan			
CAVITE	65	Bacoor	Carmona	Cavite City	Dasmaringas	Gen. Alvarez
	66	Imus	Kawit			
	67	General Trias Gen. E. Aguinaldo	Noveleta Indang	Rosario Magallanes	Tanza Maragondon	Trece Martirez Naic
	68	Ternate Alfonzo	Amadeo	Mendez Nunez	Silang	Tagaytay City
LAGUNA	69	Binan	Cabuyao	Calamba	San Pedro	Santa Rosa
	70	Alaminos Rizal	Bay San Pablo City	Calauan	Los Banos	Nagcarlan
	71	Cavinti Majayjay	Liliw (Lilio) Pagsanjan	Lusiana Pila	Lumban Santa Cruz	Magdalena Victoria
	72	Famy Pangil	Kalayaan (Longo) Santa Maria	Mabitac Siniloan	Paete	Pakil
QUEZON	73	Burdeos	General Nakar	Infanta	Jomalig	Panukuhan
	74	Patnamangan	Polillo	Real		
	75	Lucban	Mauban	Sampaloc	Tayabas	
	76	Candelaria Tiaong	Dolores	Lucena City	San Antonio	Sariaya
	77	Alabat Agdangan Plaridel	Atimonan General Luna Unisan (Panaon)	Padre Burgos Gumaca	Pagbilao Macalelon	Perez Titigo
	78	Calauag	Guinayangan	Lopez	Quezon	Tagkawayan
	79	Buenavista	Catanauan	Mulanay	San Narciso	
	80	San Andres	San Francisco			
RIZAL	81	Antipolo	Rodriguez	San Mateo		
	82	Angono Morong	Baras	Binangonan	Cainta	Cardona
	83	Tagaytay Jala-Jala	Teresa Pililla	Tanay		
ALBAY	84	Malinao	Tabaco	Tiwi		
	85	Libon	Ligao	Oas	Polangui	
	86	Bacacay	Camalig	Darag	Guinobatan	Legaspi City
	87	Malilipot Jovellar	Manito Pio Duran	Rapu-Rapu	Sto. Domingo	
CAMARINES NORTE	88	Capalonga	Jose Panganiban	Labon	Paracale	Santa Elena
	89	Basud Talisay	Daet Vinzons	Mercedes	San Lorenzo Ruiz	San Vicente
CAMARINES SUR	90	Cabusao	Del Gellego	Lupi	Ragay	Sipocot
	91	Caramoan	Garchitorena	Lagonoy	Presentacion	
	92	Calabanga	Goa	San Jose	Siruma	Tinambac
	93	Bombon Magarao Pamplona	Camaligan Milaor	Canaman Minalabac	Gainza Naga City	Libmanan Ocampo
94	Raao Iriga City	Pasacao Balatan Nabua	Pili Bato Sagnay	San Fernando Buhi	Tigaon Bula	
SORSOGON	95	Castilla	Donsol	Pilar		
	96	Bacon	Casiguran	Gubat	Prieto Diaz	Sorsogon
	97	Barcelona	Bulusan	Irosin	Juban	Matnog
	98	Santa Magdalena Bulan	Magallanes			

APPENDIX 4.6 PROVINCIAL OD MATRIX FOR PASSENGER TRIPS - 1992

OD	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	TOTAL	
1 ABRA	876	404	271	10	360	117	954	400	287	77	112	20	54	80	180	83	88	70	68	147	140	110	135	63	48	21	88	98	805	6,741		
2 BENGUET	404	9,472	1,559	51	76	6,664	810	2,336	4,233	680	404	36	7	59	101	148	140	279	786	57	144	79	88	141	52	24	55	104	2,947	31,820		
3 MT. PROVINCE	271	1,559	0	32	210	641	559	40	49	134	38	82	5	35	13	18	48	13	53	5	38	27	25	48	13	21	9	39	43	449	4,115	
4 IFUGAO	10	51	32	0	0	30	14	7	15	116	578	3,430	70	22	6	10	21	5	16	3	20	14	12	24	8	11	4	19	21	28	4,807	
5 KALINGAYAPAYAO	880	76	210	0	0	0	428	13	56	271	102	0	0	35	13	18	41	9	28	6	38	27	25	48	13	21	8	39	43	4	2,413	
6 ILOCOS NORTE	117	6,664	841	30	0	9,740	2,008	1,387	987	0	307	69	0	106	119	399	132	201	146	128	259	183	219	311	128	86	41	178	191	1,779	26,225	
7 ILOCOS SUR	684	910	559	14	426	2,008	1,175	2,330	814	1,281	0	151	28	47	49	228	83	101	56	48	117	86	94	140	48	21	91	100	1,984	13,895		
8 LA UNION	480	2,038	40	7	13	3,387	2,330	8,250	7,628	1,564	55	16	16	106	42	78	70	143	45	22	33	53	59	86	31	38	16	70	78	830	25,864	
9 PANGASINAN	287	4,233	49	15	38	667	814	7,825	32,728	465	348	51	27	171	251	5,885	3,689	10,210	4,514	20	385	211	308	278	111	128	43	202	242	5,271	75,749	
10 CAGAYAN	77	688	134	116	271	0	1,281	1,554	486	23,533	9,757	215	128	161	84	78	172	78	174	24	202	141	141	245	78	88	41	180	187	1,137	41,427	
11 ISABELA	112	484	38	578	102	307	181	55	348	8,757	21,010	730	1,012	75	43	86	108	41	82	12	84	62	52	101	28	43	18	78	85	895	38,900	
12 NUEVA VIZCAYA	20	38	52	3,490	0	86	29	18	61	215	730	9,434	112	39	28	51	58	14	27	6	47	27	25	48	13	21	8	39	43	91	14,873	
13 QUIRINO	20	7	5	79	0	0	29	16	27	128	1,012	112	643	35	13	8	39	27	8	39	27	25	48	13	21	8	39	43	91	14,873		
14 BATMANI	64	58	35	22	35	106	47	105	171	151	75	39	35	47	528	286	431	9,578	120	14,882	51	124	98	149	114	66	45	17	78	90	8,374	80,849
15 BULACAN	60	101	13	6	13	119	49	42	251	64	43	26	13	288	1,887	891	7,486	181	227	26	502	478	432	172	145	45	15	80	82	53,188	83,388	
16 NUEVA ECUIA	190	148	18	10	18	389	226	78	6,936	78	85	51	18	431	861	32,751	5,583	7,516	1,125	408	211	145	185	174	38	83	30	132	144	9,512	88,332	
17 PAMPANGA	82	140	46	21	41	132	58	70	388	172	109	56	41	8,578	7,486	5,583	91,881	6,129	1,538	84	341	407	478	81	240	42	14	59	83	76,506	204,933	
18 TARLAC	89	279	13	5	9	201	101	143	10,210	78	41	14	8	120	181	7,518	9,128	21,788	559	115	116	78	107	92	38	40	14	69	81	2,026	53,225	
19 ZAMBALES	70	768	55	13	28	140	55	45	4,514	174	62	27	27	14,882	227	1,125	1,538	569	38,655	34	132	89	159	114	74	45	16	78	90	5,942	87,123	
20 AUPORA	65	67	6	3	6	128	46	22	20	24	12	6	6	51	28	408	84	115	34	859	55	40	39	79	29	24	10	44	48	45	2,180	
21 BATAVINGAS	147	144	38	20	39	258	117	83	355	202	84	47	38	134	602	211	341	119	132	55	56,098	6,848	3,524	5,275	502	173	55	274	323	28,881	108,853	
22 CAVITE	140	79	27	14	27	183	86	52	211	141	62	27	27	86	478	145	407	78	99	40	6,848	110,150	8,980	2,778	246	343	152	690	151,359	264,480		
23 LAGUNA	110	86	25	12	25	219	84	59	308	141	52	25	25	149	432	185	478	107	158	39	3,524	8,360	38,189	8,970	581	123	50	217	250	52,281	110,144	
24 QUEZON	155	141	48	24	48	311	140	82	275	245	101	48	48	114	172	174	91	82	114	78	5,275	2,778	5,870	10,549	237	474	1,038	1,153	988	5,800	45,859	
25 RIZAL	63	52	13	6	13	126	48	31	111	78	26	13	13	58	145	88	240	38	74	28	582	248	581	227	3,408	48	20	81	104	81,128	87,584	
26 ALBAY	49	52	21	11	21	85	50	39	128	88	43	21	21	45	45	83	42	40	45	24	173	343	123	474	48	30,274	1,026	4,338	486	1,308	39,578	
27 CAMARINES NORTE	21	24	8	4	8	41	21	15	43	41	18	6	9	17	16	30	14	14	16	10	55	152	50	1,038	20	1,025	1,812	2,411	532	582	7,855	
28 CAMARINES SUR	85	83	38	19	38	178	91	70	208	180	78	39	39	79	90	133	88	88	78	44	274	850	217	1,153	81	4,333	2,411	23,955	1,147	732	36,077	
29 SORSOGON	96	104	43	21	43	191	100	78	242	197	85	43	43	80	83	144	83	81	90	48	323	880	250	986	104	483	532	1,147	6,304	1,254	13,870	
30 MANILA	805	2,847	48	28	4	1,779	1,884	830	5,271	1,137	935	81	4	6,374	53,188	9,512	76,508	2,086	6,942	45	28,681	167,859	52,281	5,800	81,128	1,308	682	732	1,254	—	488,428	
TOTAL	6,741	31,820	4,115	4,807	2,410	26,225	13,895	25,864	75,749	41,427	38,900	14,813	2,782	80,849	88,888	86,332	204,933	53,325	87,123	2,180	108,053	284,480	110,144	45,859	87,684	7,855	36,077	13,870	488,428	2,055,186		

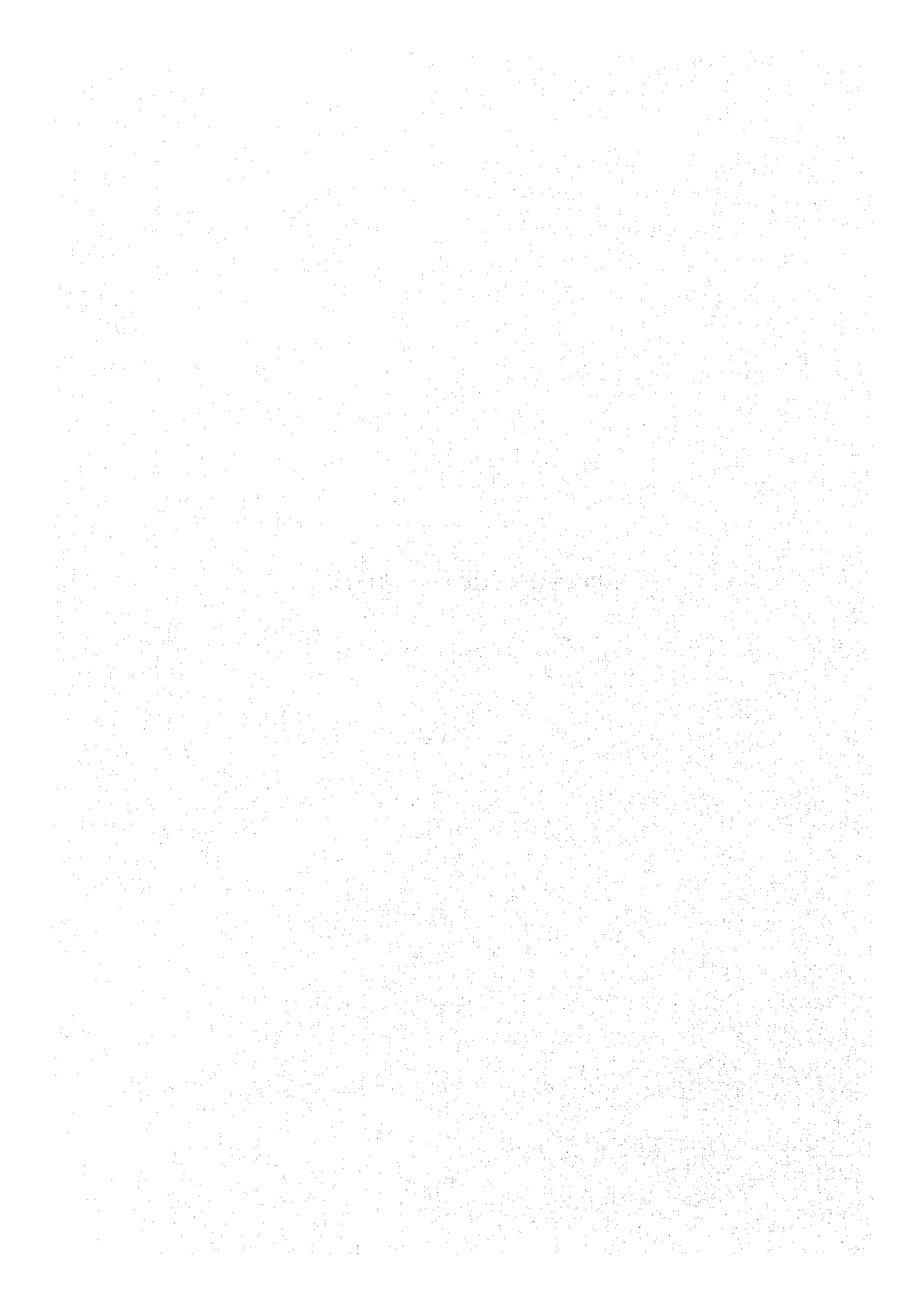
APPENDIX 4.6 PROVINCIAL OD MATRIX FOR COMMODITY TRIPS - 1992

OID	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	TOTAL	
1. ABRÁ	5	12	5	1	19	1	9	11	38	7	8	1	1	4	6	13	4	7	8	4	9	7	8	14	5	4	2	8	9	76	305	
2. BENGUET	9	1,319	127	0	4	60	7	56	110	12	1	2	0	6	8	37	14	10	47	3	15	7	5	15	6	5	3	11	10	220	2,189	
3. MT. PROVINCE	4	153	0	3	0	16	68	12	7	1	4	4	1	3	2	2	4	1	3	1	5	3	4	7	2	3	1	5	5	0	927	
4. IFUGAO	1	5	3	0	0	2	1	1	2	0	52	132	8	2	1	3	2	1	1	0	2	2	2	4	1	2	1	3	3	0	223	
5. KALINGA-APAYAO	17	8	0	0	0	0	0	2	4	36	6	0	0	3	2	2	4	1	3	1	5	3	4	7	2	3	1	5	5	0	182	
6. ILOCOS NORTE	1	45	18	2	0	1,506	47	228	56	0	20	4	0	8	53	24	77	22	11	8	17	13	15	28	9	8	4	16	16	113	2,585	
7. ILOCOS SUR	8	3	48	1	6	270	5	5	28	58	34	1	1	3	8	7	3	3	4	2	0	17	5	10	3	3	2	8	8	122	715	
8. LA UNION	12	1,183	7	1	2	1,513	9	4	1,058	41	87	9	7	11	4	30	2	341	43	3	7	6	11	12	3	4	2	8	8	86	5,092	
9. PANGASINAN	74	445	6	1	4	84	71	588	1,938	53	20	5	3	61	97	523	160	805	280	2	23	20	31	42	14	15	7	29	29	444	5,917	
10. CAGAYAN	26	51	5	0	343	0	138	119	128	9,897	628	0	0	30	283	23	87	16	45	6	58	41	46	91	26	33	15	64	66	165	9,221	
11. ISABELA	13	30	6	80	12	35	00	87	89	1,057	715	78	75	14	326	24	172	15	57	2	40	13	17	28	18	12	5	22	22	427	3,533	
12. NUEVA VIZAYA	2	6	7	188	0	5	3	1	8	0	77	68	17	4	28	10	23	3	3	1	8	7	5	9	2	4	2	7	7	75	679	
13. QUIRINO	4	4	2	24	0	0	7	6	8	0	220	35	1,079	11	11	5	32	3	8	2	15	10	12	23	5	9	4	17	18	10	1,684	
14. BATAN	4	7	3	2	3	8	4	21	39	12	6	3	3	2,185	115	61	72	147	715	5	7	12	28	12	242	4	2	8	5	222	4,820	
15. BULACAN	4	7	1	0	1	55	25	8	83	185	135	13	4	256	32	488	2,655	113	203	3	100	98	20	28	13	4	1	25	7	7,108	11,556	
16. NUEVA ECUA	20	52	3	1	2	44	22	28	394	13	11	7	3	139	823	1,308	1,932	8,578	288	81	33	56	41	56	26	16	10	30	29	1,335	15,438	
17. PAMPANGA	8	55	3	2	5	189	121	62	188	154	57	17	2	1,040	497	1,400	2,831	767	482	9	20	135	24	31	22	4	2	8	8	2,020	9,700	
18. TARLAC	6	58	1	0	1	31	12	152	590	5	11	1	1	103	22	6	496	314	81	0	10	16	6	10	6	4	2	8	8	604	2,506	
19. ZAMBALES	5	12	3	1	3	11	5	6	268	14	11	2	2	45	78	120	357	22	488	4	6	5	9	10	17	3	2	8	8	8	150	1,711
20. AURORA	7	6	1	1	1	14	6	4	2	4	2	1	1	9	5	55	15	0	6	623	10	7	10	15	5	5	3	11	10	25	859	
21. BATANGAS	11	30	6	3	6	20	12	11	70	20	10	6	6	9	43	24	34	10	14	7	5,798	165	374	1,721	67	32	0	135	37	1,497	10,198	
22. CAVITE	9	3	1	1	1	5	7	2	8	5	2	1	1	3	17	8	11	18	2	2	107	3,798	402	127	161	23	15	52	46	1,129	5,859	
23. LAGUNA	9	14	5	3	5	23	14	30	54	25	11	5	5	22	42	57	34	13	21	11	1,122	1,955	513	529	11	37	11	107	29	4,054	7,870	
24. QUEZON	18	24	10	5	10	36	20	17	48	42	18	11	10	17	28	36	17	15	16	12	1,007	483	582	4,228	45	51	410	108	60	470	7,807	
25. RIZAL	13	22	5	2	5	28	14	11	23	23	8	5	5	41	34	18	61	7	37	8	75	1,374	21	48	14	12	7	29	28	20,300	22,570	
26. ALBAY	7	10	5	2	5	13	8	8	23	20	10	5	5	7	7	18	7	7	7	5	40	87	30	88	7	2,219	20	70	13	52	3,422	
27. CAMARINES NORTE	3	4	2	1	2	7	4	3	8	6	4	2	2	3	3	13	4	3	3	3	14	65	15	467	4	23	1	13	19	61	756	
28. CAMARINES SUR	8	12	5	3	5	15	10	8	25	22	10	5	5	6	9	19	10	8	8	6	95	122	87	106	9	358	11	2,049	18	18	3,035	
29. SORSOGON	9	18	8	3	6	18	11	10	30	28	12	6	8	10	8	22	10	10	10	7	42	124	40	55	11	9	9	19	1,110	5	1,907	
30. MANILA	78	386	0	0	1	211	138	286	496	215	356	42	0	457	1,343	653	3,883	458	270	51	1,418	2,835	3,891	195	4,813	122	49	51	96	2,992		
TOTAL	388	3,985	290	330	451	4,217	885	1,831	6,419	8,794	2,536	471	1,251	4,483	4,050	4,812	13,072	11,710	3,152	870	10,121	10,593	6,448	7,989	5,585	3,028	810	3,599	1,738	41,172	183,857	

APPENDIX 4.6 PROVINCIAL OD MATRIX FOR VEHICLE TRIPS - 1992

OD	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	TOTAL	
1 ABRA	108	33	22	1	110	15	81	39	37	11	11	2	2	5	5	16	5	7	6	5	18	23	10	14	5	4	2	8	8	45	654	
2 BENGUET	33	1,607	290	4	8	300	51	683	482	49	26	8	1	10	26	34	33	82	54	3	16	6	14	14	10	5	3	9	10	438	4,255	
3 MT. PROVINCE	22	280	0	3	18	82	79	12	5	12	4	8	1	4	1	2	8	1	5	1	3	2	3	6	1	2	1	4	4	9	520	
4 IFUGAO	1	4	3	0	0	2	1	1	2	10	61	371	6	3	1	1	2	1	1	0	2	1	1	3	1	1	0	2	2	3	481	
5 KALINGA-APAYAO	110	9	18	0	0	0	37	3	4	65	10	0	0	4	1	2	5	1	3	1	3	2	3	5	1	2	1	4	4	0	287	
6 ILOCOS NORTE	15	300	52	2	0	1,279	348	347	103	0	20	6	0	9	13	33	24	24	11	10	24	15	19	28	10	6	4	16	17	137	2,885	
7 ILOCOS SUR	81	61	70	1	37	348	96	199	196	111	20	2	2	4	6	14	16	10	5	4	10	10	9	14	4	6	2	9	9	136	1,423	
8 LA UNION	39	683	12	1	3	347	199	798	793	130	18	3	3	6	8	12	23	61	13	2	7	5	7	10	4	4	2	7	8	165	3,223	
9 PANGASINAN	37	482	5	2	4	103	136	756	3,489	42	26	10	3	38	64	821	143	859	450	2	35	26	38	22	23	14	5	21	24	659	6,172	
10 CAGAYAN	11	46	12	10	55	0	111	130	42	2,146	974	18	11	15	21	6	29	7	16	2	16	12	14	25	7	9	4	18	10	89	3,879	
11 ISABELA	11	26	4	61	10	26	20	18	28	874	1,905	71	137	9	29	19	31	6	11	1	10	7	6	12	3	4	2	8	6	116	3,270	
12 NUEVA VIZCAYA	2	6	8	371	0	6	2	3	10	18	71	1,045	12	6	8	12	13	3	3	1	6	3	3	5	1	2	1	4	4	40	1,966	
13 QUIRINO	2	1	1	9	0	0	2	3	3	11	137	12	154	4	2	2	6	1	3	1	3	2	3	6	1	2	1	4	4	1	376	
14 BATMAN	5	10	4	3	4	9	4	8	36	15	9	5	4	2,506	123	103	1,243	60	959	5	13	13	22	11	30	4	2	3	9	735	5,957	
15 BULACAN	5	20	1	1	1	13	6	8	64	21	29	8	2	123	245	416	1,521	70	76	3	120	124	85	42	26	5	2	9	8	10,123	13,181	
16 NUEVA ECUIJA	15	34	2	1	2	33	14	12	621	8	18	12	2	103	416	2,940	1,162	1,319	172	47	29	20	28	20	13	11	4	14	14	1,008	6,086	
17 PAMPANGA	5	38	6	2	5	24	16	23	143	26	31	13	6	1,248	1,521	1,192	9,868	1,285	473	10	70	80	79	14	47	4	2	7	8	14,178	29,507	
18 TARLAC	7	82	1	1	1	24	10	51	898	7	5	3	1	90	70	1,319	1,285	1,353	48	10	13	11	12	10	8	4	2	7	8	500	5,788	
19 ZAMBALES	8	54	8	1	3	11	5	13	430	16	11	3	3	399	70	172	473	43	2,979	4	13	15	24	11	13	4	2	5	9	712	8,068	
20 AURORA	5	3	1	0	1	10	4	2	2	2	1	1	1	1	1	5	3	47	10	4	207	4	3	4	6	4	2	1	5	5	18	370
21 BATANGAS	18	18	3	2	3	24	10	7	95	19	10	6	3	13	120	28	70	12	13	4	7,208	871	520	891	140	21	7	38	33	5,270	15,619	
22 CAVITE	20	9	2	1	2	15	10	5	28	12	7	3	2	13	124	20	80	11	15	3	871	7,304	1,435	512	118	66	38	143	130	17,916	29,916	
23 LAGUNA	10	14	3	1	3	19	9	7	39	14	6	3	3	22	88	29	73	13	24	4	832	1,485	3,180	784	82	10	8	28	24	7,422	14,073	
24 QUEZON	14	14	5	3	5	28	14	10	32	25	12	5	5	11	42	20	14	10	11	8	991	512	784	2,448	37	45	160	100	81	943	9,383	
25 RIZAL	5	10	1	1	1	10	4	4	22	7	3	1	1	30	26	13	47	8	13	4	140	118	62	37	104	4	3	8	11	10,895	11,593	
26 ALEY	4	6	2	1	2	8	5	4	14	9	4	2	2	4	5	11	4	4	4	2	21	88	13	45	4	2,596	78	475	54	58	3,831	
27 CAMARINES NORTE	2	3	1	0	1	4	2	2	5	4	2	1	1	2	2	2	2	2	2	1	7	38	8	160	3	79	138	212	48	26	816	
28 CAMARINES SUR	8	9	4	2	4	16	9	7	21	18	8	4	4	8	9	14	7	7	8	5	33	143	28	103	8	479	212	3,099	100	56	4,424	
29 SORSOGON	8	10	4	2	4	17	9	8	24	19	6	4	4	9	9	14	8	8	6	5	33	133	24	61	11	54	48	100	798	62	1,497	
30 MANILA	45	438	9	3	0	137	136	185	669	89	110	40	1	735	10,123	1,069	14,176	500	712	18	5,270	17,916	7,482	843	10,896	86	86	56	62	71,974	259,141	
TOTAL	654	4,255	530	481	287	2,886	1,493	3,223	8,173	3,879	3,270	1,566	378	5,857	13,181	6,086	370	15,619	29,916	14,073	6,333	11,593	6,333	11,593	9,381	3,831	619	4,434	1,487	71,974	259,141	

APPENDIX FOR CHAPTER 5



APPENDIX 5.1 RAIL PASSENGER OD MATRIX - 1990

ORIGIN	DESTINATION											
	No.	1	2	3	4	5	6	7	8	9	10	11
Station	Manila	Paco	Binan	Calamba	Col-lege	San Pablo	Candelaria	Lucena	Gumaca	Calauag	Tagkawayan	
1 Manila	-	14329	4458	1487	658	2693	799	3040	1469	681	4392	
2 Paco	14329	-	3666	2867	541	2214	657	2500	1208	560	3612	
3 Binan	4458	3666	-	892	168	689	204	778	376	174	1124	
4 Calamba	3487	2867	892	-	132	539	160	608	294	136	879	
5 College	658	541	168	132	-	102	30	115	55	26	166	
6 San Pablo	2693	2214	689	539	102	-	123	470	227	105	679	
7 Candelaria	799	657	204	160	30	123	-	139	67	31	201	
8 Lucena	3040	2500	778	608	115	470	139	-	256	119	766	
9 Gumaca	1469	1208	376	294	55	227	67	256	-	57	370	
10 Calauag	681	560	174	136	26	105	31	119	57	-	172	
11 Tagkawayan	4392	3612	1124	879	166	679	201	766	370	172	-	
12 Del Gallego	2080	1710	532	416	79	321	95	363	175	81	524	
13 Godofredo R.	1436	1181	367	287	54	222	66	251	121	56	362	
14 Ragay	7547	6205	1931	1510	285	1166	346	1316	636	295	1902	
15 Banga Caves	593	488	152	119	22	92	27	104	50	23	150	
16 Sipocot	3812	3135	975	763	144	589	175	665	321	149	961	
17 Libmanan	4173	3431	1067	835	158	645	191	728	352	163	1052	
18 Pamplona	648	533	166	130	24	100	30	113	55	25	163	
19 Naga	29757	24468	7613	5954	1124	4598	1365	5191	2509	1163	7501	
20 Pili	1265	1040	324	253	48	195	58	221	107	49	319	
21 Iriga	3203	2633	819	641	121	495	147	559	270	125	807	
22 Polangui	4206	3458	1076	841	159	650	193	734	355	164	1060	
Total	94726	80434	27551	21741	4211	16913	5106	19034	9331	4356	27161	

No.	12	13	14	15	16	17	18	19	20	21	22	
Station	Del Gallego	Godofredo R.	Banga Ragay	Caves	Libmanan	Sipocot	Pamplona	Naga	Pili	Iriga	Polangui	Total
1 Manila	2080	1436	7547	593	3812	4173	648	29757	1265	3203	4206	94726
2 Paco	1710	1181	6205	488	3135	3431	533	24468	1040	2633	3458	80434
3 Binan	532	367	1931	152	975	1067	166	7613	324	819	1076	27551
4 Calamba	416	287	1510	119	763	835	130	5954	253	641	841	21741
5 College	79	54	285	22	144	158	24	1124	48	121	159	4211
6 San Pablo	321	222	1166	92	589	645	100	4598	195	495	650	16913
7 Candelaria	95	66	346	27	175	191	30	1365	58	147	193	5106
8 Lucena	363	251	1316	104	665	728	113	5191	221	559	734	19034
9 Gumaca	175	121	636	50	321	352	55	2509	107	270	355	9331
10 Calauag	81	56	295	23	149	163	25	1163	49	125	164	4356
11 Tagkawayan	524	362	1902	150	961	1052	163	7501	319	807	1060	27161
12 Del Gallego	-	171	901	71	455	498	77	3552	151	382	502	13137
13 Godofredo R.	171	-	622	49	314	344	53	2453	104	264	347	9126
14 Ragay	901	622	-	257	1651	1807	280	12887	548	1387	1821	45299
15 Banga Caves	71	49	257	-	130	142	22	1013	43	109	143	3799
16 Sipocot	455	314	1651	130	-	913	142	6510	277	701	920	23701
17 Libmanan	498	344	1807	142	913	-	155	7126	303	767	1007	25856
18 Pamplona	77	53	280	22	142	155	-	1106	47	119	156	4144
19 Naga	3552	2453	12887	1013	6510	7126	1106	-	2160	5469	7183	140699
20 Pili	151	104	548	43	277	303	47	2160	-	232	305	8047
21 Iriga	382	264	1387	109	701	767	119	5469	232	-	773	20023
22 Polangui	502	347	1821	143	920	1007	156	7183	305	773	-	26054
Total	13137	9126	45299	3799	23701	25856	4144	140699	8047	20023	26054	630449

APPENDIX 5.2 RAIL RICE OD MATRIX -1990 (kg)

(1/2)

ORIGIN		DESTINATION									
No.	1	2	3	4	5	6	7	8	9	10	
Station	Manila	Paco	Binan	Calamba	College	San Pablo	Candelaria	Lucena	Agdangan	Panaon	
1 Manila											
2 Paco											
3 Binan											
4 Calamba											
5 College											
6 San Pablo											
7 Candelaria	2,003	7,291									
8 Lucena	1,295										
9 Agdangan											
10 Panaon		2,436						1,007			
11 Gumaca	6,368										
12 Hondagua	1,018										
13 Calauag											
14 Tagkawayan	2,730	1,887				4,501	1,674				
15 Del Gallego	1,366										
16 Sinuknipan											
17 G. Reyes, Sr.											
18 Port Junction											
19 Ragay	7,159	3,386				2,305			2,055		
20 Banga Caves											
21 Sipocot	6,157	2,608	4,462			1,805					
22 Libmanan	35,097	28,578	9,588	1,850		6,418	2,200				
23 Pamplona	3,281	3,272	2,446			4,248					
24 Naga	116,913	76,867	7,230	8,992	1,046	6,357		3,299			
25 Pili	32,542	41,356	7,142	2,994		9,567					
26 Baao	16,496	18,409	5,773								
27 Iriga	46,697	43,827	10,144	3,635		1,964					
28 Polangui	36,367	36,895	10,092	2,674		1,958		1,665			
29 Liboro	2,120										
TOTAL	317,609	266,812	56,877	20,145	1,046	39,123	3,874	5,971	2,055	-	

No.	11	12	13	14	15	16	17	18	19	20
Station	Gumaca	Hondagua	Calauag	Tagkawayan	Del Gallego	Sinuknipan	G. Reyes, Sr	Port Junct.	Ragay	Banga Caves
1 Manila					19,983				80,000	
2 Paco										
3 Binan										
4 Calamba										
5 College										
6 San Pablo				1,150						
7 Candelaria							1,128			
8 Lucena										
9 Agdangan										
10 Panaon										
11 Gumaca										
12 Hondagua										
13 Calauag				5,950		6,588	1,500		10,725	
14 Tagkawayan							4,600		2,900	
15 Del Gallego										
16 Sinuknipan										
17 G. Reyes, Sr.										
18 Port Junction										
19 Ragay			1,670							
20 Banga Caves										
21 Sipocot				1,660			3,600		1,450	
22 Libmanan	1,896		1,800	79,505	87,703	72,203	34,238	7,000	61,229	7,704
23 Pamplona		1,600				3,515	16,144	2,000		
24 Naga	75,005			85,877	97,131	18,940	31,782	2,500	113,181	11,991
25 Pili										
26 Baao				21,850						
27 Iriga				1,338						
28 Polangui										
29 Liboro										
TOTAL	76,901	1,600	3,470	197,330	204,817	101,246	92,992	11,500	269,485	19,695

APPENDIX 5.2 RAIL RICE OD MATRIX - 1990 (kg)

(2/2)

No.	ORIGIN										DESTINATION									
	21	22	23	24	25	26	27	28	29											
Station	Sipocot	Lib- manan	Pam- plona	Naga	Pili	Baao	Iriga	Polangui	Liboro											TOTAL
1 Manila			20,000		40,000			480,000												639,983
2 Paco				5,139																5,139
3 Binan								84,151												84,151
4 Calamba																				-
5 College																				-
6 San Pablo																				1,150
7 Candelaria																				10,422
8 Lucena																				1,295
9 Agdangan																				-
10 Panaon																				3,443
11 Gumaca		1,796		72,680																80,844
12 Hondagua			1,600																	2,618
13 Calauag																				25,763
14 Tagkawayan	1,657			1,903				2,850	3,320											28,022
15 Del Gallego				1,025																2,391
16 Sinuknipan																				-
17 G. Reyes, Sr.																				-
18 Port Junction																				-
19 Ragay				3,731																20,306
20 Banga Caves																				-
21 Sipocot																				21,742
22 Libmanan																				437,009
23 Pamplona																				36,506
24 Naga																				657,111
25 Pili																				93,601
26 Baao				1,000																63,528
27 Iriga																				107,605
28 Polangui																				89,651
29 Liboro																				2,120
TOTAL	1,657	1,796	21,600	85,478	40,000	-	2,850	567,471	1,000											2,414,400

APPENDIX 5.3 RAIL CORN OD MATRIX - 1990 (kg)

	ORIGIN					DESTINATION				
	Manila	Paco	Gumaca	Tagka- wayan	Ragay	Banga Caves	Sipocot	Naga		TOTAL
Manila							1,260			1,260
Paco								2,650		2,650
Gumaca								2,700		2,700
Tagkawayan										-
Ragay	3,035									3,035
Banga Caves				3,850						3,850
Sipocot										-
Naga			2,700	1,170	6,024					9,894
TOTAL	3,035		2,700	5,020	6,024		1,260	5,350		23,389

APPENDIX 5.4 RAIL OIL SEEDS OD MATRIX - 1990 (kg)

ORIGIN		DESTINATION									
No.	1	2	3	4	5	6	7	8	9	10	11
	Manila	Paco	Binan	Calamba	San Pablo	Lucena	Alone-ros	Kina-takutan	Tagka-wayan	Del Gallego	Sinuk-nipan
1	Manila										
2	Paco										
3	Binan										
4	Calamba										
5	San Pablo										
6	Lucena							2,824			
7	Aloneros					5,116					
8	Kinatakutan										
9	Tagkawayan					1,420,130					
10	Del Gallego	40,000		80,000		6,040,822					
11	Sinuknipan					7,812					
12	G. Reyes, Sr.	20,000				1,448					
13	Port Junct.					60,328					
14	Ragay	6,845	6,150	9,120		5,085,454					
15	Banga Caves					943,900					
16	Lupi Viejo					228,476					
17	Sipocot										
18	Pamplona										
19	Naga	3,644									
20	Polangui				1,147						
21	Liboro										
	TOTAL	10,489	66,150	9,120	80,000	1,147	13,793,486	-	2,824	-	-

No.	12	13	14	15	16	17	18	19	20	21	TOTAL	
	G.Reyes Sr.	Port Junct.	Banga Ragay	Caves	Lupi Viejo	Sipocot	Pam-plona	Naga	Polan-gui	Liboro		
1	Manila										-	
2	Paco										-	
3	Binan										-	
4	Calamba										-	
5	San Pablo										-	
6	Lucena			1,000							3,824	
7	Aloneros										5,116	
8	Kinatakutan										-	
9	Tagkawayan										1,420,130	
10	Del Gallego										6,160,822	
11	Sinuknipan										7,812	
12	G.Reyes, Sr.										21,448	
13	Port Junct.										60,328	
14	Ragay							168,392			5,275,961	
15	Banga Caves										943,900	
16	Lupi Viejo						20,000				248,476	
17	Sipocot		20,000								20,000	
18	Pamplona										-	
19	Naga										3,644	
20	Polangui										1,147	
21	Liboro							2,805			2,805	
	TOTAL	-	-	21,000	-	-	-	20,000	171,197	-	-	14,175,413

APPENDIX 5.5 RAIL OTHER AGRICULTURAL PRODUCTS OD MATRIX - 1990 (1/2)

ORIGIN	DESTINATION										(kg)
	1	2	3	4	5	6	7	8	9	10	
NO.	Manila	Paco	Binan	Calamba	College	San Pablo	Candelaria	Lucena	Agdangan	Panaon	
1 Manila											
2 Paco	492		20	70				3,430	7		
3 Binan	1,971	200						75	210	1,634	
4 Calamba	990				61			138	1,050		
5 College										50	
6 San Pablo	42	46	50						6,666	18	
7 Candelaria	1,153		474						480	4,637	
8 Lucena	19,435	1,911	1			38				400	
9 Agdangan	4,018	454	515	1,333	1,664	5,341	546			459	
10 Panaon	1,265	230	1,394		34	464	350	2,433	849	65	
11 Gumaca	9,021	2,789	2,126	1,200	600	357	36		800	2,490	
12 Hondagua	3,725,521	16,628	531			137	6	682		402	
13 Calauag	4,505	527			282					260	
14 Tagkawayan	1,640,534	70,463	226,770	61,977	6,328	646,312	4,183	4,844	2	1,602	
15 Del Gallego	34,830	19,919	11,671	8,331	1,800	4,803	2,748	6,648	840	358	
16 Sinuknipan	20,157	933	897	2,195	30		3,411	3,341		5	
17 G. Reyes, Sr.	105,046	34,555	35,475	776	1,470	16,790	4,188	14,026	430	645	
18 Port Junction	22,997	680	200	3,080		990	175	23,670			
19 Ragay	476,479	228,356	209,269	29,971	360	126,376	2,841	50,638	80	1,250	
20 Banga Caves	8,371	6,258	25,137	8,029	820	20,675	740	3,770	14,708	12,937	
21 Sipocot	315,505	14,237	30,981	4,342	2,935	4,075	925	4,798	2,190	500	
22 Libmanan	10,204	5,921	1,137	2,576	27	2,555	163	60			
23 Pamplona	1,731	1,381	70	10				71			
24 Naga	1,339,661	245,787	11,265	4,151	1,266	92,758	656	4,777			
25 Pili	59,421	12,760	5,756	378		2,301		1,155			
26 Baao	33,109	194,925	1,572	804		1,020		37,060			
27 Iriga	155,916	128,134	254,230	5,905		9,455		1,228			
28 Polangui	296,990	30,164	17,656	8,126	3,030	5,458		1,650			
29 Liboro	81,456	5,740	6,060	850		35,390	12,386	490	160		
TOTAL	8,370,820	1,022,998	843,257	144,104	20,707	975,295	33,354	164,984	28,472	27,692	

No.	11	12	13	14	15	16	17	18	19	20
	Gumaca	Hon-dagua	Calauag	Tagkawayan	Del Gallego	Sinuknipan	G. Reyes, Sr.	Port Junct.	Ragay	Banga Caves
1 Manila		217,140		14,000	80,000				60,000	
2 Paco	886	369	17	16,362	3,405	29	2,252	5,154	29,338	538
3 Binan	99		249	14,246	2,151	86			29,074	1,052
4 Calamba	10		501	2,614	691	183	607		5,749	3
5 College			6	121						
6 San Pablo	477	96	192	8,452	2,662	4,842	6,419	6,300	29,319	8,514
7 Candelaria	36	272	576	32,842	4,459	7,123	186	2,560	6,926	6,610
8 Lucena		260		4,195	26,210	1,186	382		21,882	10,201
9 Agdangan	300					604	295		8	
10 Panaon		290		730		480	40			
11 Gumaca				3,838	614	1,513	1,090		112	890
12 Hondagua				4,486	3,102	1,665			108	
13 Calauag				3,813	1,350	48,495	57,887	7,711	311,974	28,447
14 Tagkawayan	374		1,302		48				1,275	25,140
15 Del Gallego	905	1,266	2,677							
16 Sinuknipan		3,775	3,080							
17 G. Reyes, Sr.		80	8,330	864	375		60			
18 Port Junction										
19 Ragay	730	1,095	13,087	6	365					
20 Banga Caves	947	1,838		525						
21 Sipocot	1,270	30	60	34,311	300	15	200	1,675	10,680	1,100
22 Libmanan				1,500	7,875	490	4,131		1,256	934
23 Pamplona	20				397		80			
24 Naga	5,049	1,426	932	22,627	36,217	3,921	18,086	2,498	524,522	62,523
25 Pili									493	
26 Baao										108
27 Iriga				185						
28 Polangui	6,886	3,616	11,173	1,075						
29 Liboro					400					
TOTAL	17,989	231,553	42,182	166,792	170,621	70,632	91,655	25,958	1,032,824	145,952

APPENDIX 5.5 RAIL OTHER AGRICULTURAL PRODUCTS OD MATRIX - 1990 (2/2)

ORIGIN		DESTINATION								(kg)	
No.	Station	21	22	23	24	25	26	27	28	29	TOTAL
	Sipocot	Libmanan	Pamplona	Naga	Pili	Baao	Iriga	Polangui	Liboro		
1	Manila			1,287,632			627,200				2,285,972
2	Paco	2,100	1,953	105	141,602	13,804	30,190	29,614	81,749	7,678	371,164
3	Binan	3,096		376	72,057	2,583	513	55,245	9,374	2,343	196,634
4	Calamba	121			4,471	1,796	774	686	1,525		-
5	College	84	116		877			40	578		-
6	San Pablo	504	474		23,495	508	498	544	416	10,044	110,578
7	Candelaria				2,797					1,260	72,391
8	Lucena		3,215		8,902	46		156	272	378	99,070
9	Agdangan	1,880									-
10	Panaon				132						8,756
11	Gumaca	2,746	175		8,988			3,956			43,341
12	Hondagua	390	170		259						3,754,087
13	Calauag	120		26	560					19,397	485,334
14	Tagkawayan	66,655			28,863	2,300		20,752	4,333		2,814,057
15	Del Gallego	727			17,556			3,673	1,325		120,077
16	Sinuknipan				1,745						-
17	G. Reyes, Sr.	2,760			30,926			1,730	400		-
18	Port Junction	200			7,655						-
19	Ragay	1,620	178	1,083	66,047			2,715	2,220		1,214,766
20	Banga Caves	480		742	1,782						-
21	Sipocot				1,820			220			432,269
22	Libmanan								168	1,980	40,977
23	Pamplona	288						140			4,188
24	Naga	1,408	48			105		1,764	2,947		2,384,394
25	Pili										82,264
26	Baao		50								268,540
27	Iriga				100						555,261
28	Polangui	50			21,205						407,079
29	Liboro				2,268						145,200
TOTAL		85,229	6,379	2,332	1,731,739	21,142	31,975	742,715	108,180	46,027	16,371,584

APPENDIX 5.6 RAIL NON-AGRICULTURAL PRODUCTS OD MATRIX - 1990 (1/2)

ORIGIN		DESTINATION										(kg)
No.	Station	1	2	3	4	5	6	7	8	9	10	TOTAL
	Manila	Paco	Binan	Calamba	College	San Pablo	Candelaria	Lucena	Agdangan	Panaon		
1	Manila	925										
2	Paco	753										
3	Binan	325		322	2	181	452	203	1,644	96	1,807	
4	Calamba	1,902	24	45								
5	College	637										
6	San Pablo	533		128	81							
7	Candelaria	630		9	69							
8	Lucena	11,889	1,675	3,398	958	26	1,272					
9	Agdangan	92		143	722	8	5	620	145			
10	Panaon	222		72		6	1,330			152		
11	Gumaca	9,237	6,469	357	627	93	375	50	518	2	848	
12	Hondagua	7,402	42,883	339			4		60	361	112	
13	Calauag	3,991	286	27		4	7		590	176	317	
14	Tagkawayan	54,490	515,634	111,963	1,057	1,176	58,785	5,449	131,621		220	
15	Del Gallego	3,912	272,965	489	167	104	5	60	281,463	10	2	
16	Sinuknipan	3,912	480,001	37	846		184	181	59			
17	G. Reyes, Sr.	894	1,397	6,111	570	1	3	103	16,623	2	3	
18	Port Junction	360	3	6			14	2	2		60	
19	Ragay	39,495	6,017	51,920	2,892	500	8,556	4,844	133,002	1,035	1,445	
20	Banga Caves	28,122	338	10	2	2	88	197	2	2	33	
21	Sipocot	6,729	2,594	3,841	778	338	302	1,560	313			
22	Libmanan	2,339	2,756	182		1	195	43	291			550
23	Pamplona	1,852	41	20			20		170			
24	Naga	367,780	192,126	8,507	3,819	268	8,908	437	16,112	142	191	
25	Pili	7,148	3,474	537	679	116	681		563			
26	Baao	2,470	4,459	2,189	980	85	1,658		857			
27	Iriga	27,917	25,963	4,900	2,059		1,076	94	681			
28	Polangui	131,457	167,060	19,462	13,896	676	6,279		15,543			
29	Liboro	3,053	2,400	3,954	9,690	600	44,965	35,626	10,544			
TOTAL		720,468	1,728,565	218,968	39,894	4,249	135,165	49,713	611,600	2,148	9,571	

APPENDIX 5.6 RAIL NON-AGRICULTURAL PRODUCTS OD MATRIX - 1990 (kg) (2/2)

No. Station	11	12	13	14	15	16	17	18	19	20
	Gumaca	Hon- dagua	Calauag	Tagka- wayan	Del Gallego	Sinuk- nipan	G. Reyes, Sr.	Port Junct.	Ragay	Banga Caves
1 Manila				28,000	40,000				133,400	46,000
2 Paco	3,232	264	1,169	45,689	28,040	1,253	21,119	783	23,924	3,702
3 Binan	52	1,420	2,724	9,364	767	269	619	114	5,805	982
4 Calamba	280	76	360	2,978	643	170	43	508	802	524
5 College	60	55	87	505	92		3		74	103
6 San Pablo	197	146	753	7,608	158	32	789	10	7,830	6,812
7 Candelaria	50	202	4	3,759	556	6,529	336	1,647	303	5
8 Lucena	518		4,227	464,458	9,600	6,281	29,463	1,482	196,015	70,472
9 Agdangan	1	343	176		1,931	90	22		575	
10 Panaon	118	2	1,235	655	3	17	4			
11 Gumaca				8,083	2	3	2,109	3	4,215	51
12 Hondagua				556	5	242			92	3
13 Calauag				1,654	945	10	127	2	14,067	
14 Tagkawayan	4,160	92	75					256	11,397	
15 Del Gallego	64	460	25		300				4	2
16 Sinuknipan							684			
17 G. Reyes, Sr.	1	140	1,534							
18 Port Junction			1,940							
19 Ragay	1,178	6,990	3,305	92	1	1				
20 Banga Caves	3				3	1			80	
21 Sipocot	30	480		2,108	2,292		3	40	20,948	
22 Libmanan	139		35	544	231	553	3,149	248	849	
23 Pamplona							380			
24 Naga	1,516	3,134	2,401	38,866	23,353	35,797	13,487	34,553	274,662	10,664
25 Pili				1	1					
26 Baao		72								
27 Iriga				968	1				1,117,161	390,000
28 Polangui		50	400	349	40		200		302	150,000
29 Liboro	1,444		1,221							
TOTAL	13,043	13,926	21,671	616,237	108,964	51,248	72,537	39,646	1,812,505	679,320

No. Station	21	22	23	24	25	26	27	28	29	TOTAL
	Sipocot	Lib- manan	Pam- plona	Naga	Pili	Baao	Iriga	Polangui	Liboro	
1 Manila		19,800		1,393,962						1,662,087
2 Paco	3,711	12,634	770	1,324,252	41,274	11,215	495,724	338,227	486	2,362,928
3 Binan	13,888	2,568	885	8,472	7,754	10,013	11,816	79,672	1,128	159,142
4 Calamba	141	116	236	12,718	690	3,825	4,390	4,816	14	35,837
5 College	68	14	75	1,966	445	1		1,200	2	5,852
6 San Pablo	353	198	62	26,774	1,083	4	3,734	2,593	3,158	63,566
7 Candelaria	329			1,635					4	16,157
8 Lucena	16,872	812	1,168	6,489	615	279	838	3,915		835,855
9 Agdangan			255	142						5,270
10 Panaon				500						4,316
11 Gumaca	280	152	110	2,096	280				4,438	40,398
12 Hondagua				236						52,295
13 Calauag			200	800					1	23,204
14 Tagkawayan	5,758	70	2	61,287	80		1,157	622		965,351
15 Del Gallego	201		2	43,142	2		29			603,408
16 Sinuknipan		2								485,906
17 G. Reyes, Sr.	72					47,326			2	74,782
18 Port Junction				1						2,388
19 Ragay	765	1,861	350	142,000	192	1	907	1,134		408,483
20 Banga Caves		1		246						29,130
21 Sipocot				710			50			43,116
22 Libmanan							152	250	252	12,759
23 Pamplona										2,483
24 Naga	490	300	40		104		1,240	3,479	1,333	1,043,709
25 Pili	1				714			60		13,975
26 Baao	141	418		700						14,029
27 Iriga	200			164						1,571,184
28 Polangui	300	732		289						507,035
29 Liboro				1,991						115,488
TOTAL	43,570	39,678	4,155	3,077,898	53,233	25,338	520,039	435,968	10,816	11,160,133

APPENDIX 5.7 RAIL PROVINCIAL OD MATRIX OF RICE - 1990

	D E S T I N A T I O N					(Kg)
	NCR	LAGUNA	QUEZON	CAMARINES S	ALBAY	TOTAL
O NCR				165122	480000	645122
R LAGUNA			1150		84151	85301
I QUEZON	26628	4501	8631	109327	3320	152407
G CAMARINES SUR	486131	97966	279755	578067		1441919
I ALBAY	73262	14724	1665			89651
N TOTAL	586021	117191	291201	852516	567471	2414400

APPENDIX 5.8 RAIL PROVINCIAL OD MATRIX OF CORN - 1990

	D E S T I N A T I O N					(Kg)
	NCR	LAGUNA	QUEZON	CAMARINES S	ALBAY	TOTAL
O NCR				3910		3910
R LAGUNA						
I QUEZON				2700		2700
G CAMARINES SUR	3035		7720	6024		16779
I ALBAY						
N TOTAL	3035		7720	12634		23389

APPENDIX 5.9 RAIL PROVINCIAL OD MATRIX OF OIL SEEDS (incl. Copra) - 1990

	D E S T I N A T I O N					(Kg)
	NCR	LAGUNA	QUEZON	CAMARINES S	ALBAY	TOTAL
O NCR						
R LAGUNA						
I QUEZON			1428070	1000		1429070
G CAMARINES SUR	76639	109120	12368240	191197		12745196
I ALBAY		1147				1147
N TOTAL	76639	110267	13796310	192197		14175413

APPENDIX 5.10 RAIL PROVINCIAL OD MATRIX OF OTHER AGRICULTURAL PRODUCTS - 1990

	D E S T I N A T I O N					(Kg)
	NCR	LAGUNA	QUEZON	CAMARINES S	ALBAY	TOTAL
O NCR	492	90	252211	2314916	89427	2657136
R LAGUNA	3249	111	36904	266510	24280	331054
I QUEZON	5498454	957878	78820	729705	29596	7294454
G CAMARINES SUR	3477273	948714	307647	824099	10904	5568637
I ALBAY	414350	76570	37436	23923		552279
N TOTAL	9393818	1983363	713018	4159152	154207	16403560

APPENDIX 5.11 RAIL PROVINCIAL OD MATRIX OF NON-AGRICULTURAL PRODUCTS - 1990

	D E S T I N A T I O N					(Kg)
	NCR	LAGUNA	QUEZON	CAMARINES S	ALBAY	TOTAL
O NCR	1678	957	82104	3601563	338713	4025015
R LAGUNA	3421	319	28636	139438	92583	264397
I QUEZON	654900	182832	634832	461302	8980	1942846
G CAMARINES SUR	1485064	114646	527160	2171974	6508	4305352
I ALBAY	303970	99522	65177	153854		622523
N TOTAL	2449033	398276	1337909	6528131	446784	11160133

Source: Trade Division, National Statistics Office.

APPENDIX 5.12 COASTWISE OD MATRIX OF RICE - 1990

		D E S T I N A T I O N								(Ton)	
		Manila N	Batangas	Legaspi	Tabaco	Bulan	Bauan	Cotta	Dalahican	OTHERS	TOTAL
O	Manila N	-	6430	-	-	-	-	-	-	25244	31674
R	Batangas	1342	-	-	-	-	-	16	-	16946	18304
I	Legaspi	907	-	-	100	-	-	-	-	11449	12456
G	Tabaco	-	-	-	-	-	-	-	-	29136	29136
I	Bulan	95	-	-	-	-	-	-	-	1194	1289
N	Bauan	-	-	-	-	-	-	-	-	4	4
	Cotta	24	-	-	-	-	-	-	-	298	322
	Dalahican	-	-	-	-	-	-	-	-	2036	2036
	OTHERS	21160	68032	-	2337	1	1194	250	7523	267074	367571
	TOTAL	23528	74462	-	2437	1	1194	266	7523	353381	462792

APPENDIX 5.13 COASTWISE OD MATRIX OF CORN - 1990

		D E S T I N A T I O N					(Ton)	
		Manila N	Batangas	Bauan	Cotta	OTHERS	TOTAL	
O	Manila N	-	86	-	-	420	506	
R	Batangas	72	-	-	1	379	452	
G	Bauan	2	-	-	-	13	16	
I	Cotta	19	-	-	-	101	121	
N	OTHERS	54434	58319	119	873	284473	398217	
	TOTAL	54528	58405	119	874	285385	399311	

APPENDIX 5.14 COASTWISE OD MATRIX OF COPRA - 1990

		D E S T I N A T I O N							(Ton)	
		Batangas	Legaspi	Manila N	Siain	Bauan	Cotta	Dalahican	OTHERS	TOTAL
O	Batangas	-	-	2	-	-	2	-	18	22
R	Legaspi	-	-	-	-	-	-	-	-	-
I	Manila N	37	5	-	-	-	-	-	219	261
G	Siain	-	-	-	-	-	-	-	-	-
I	Bauan	-	-	40	-	-	-	-	330	370
N	Cotta	-	-	-	-	-	-	-	-	-
	Dalahican	-	-	-	-	-	-	-	11	11
	OTHERS	30788	4546	22361	414	324	15182	4433	184008	262057
	TOTAL	30825	4551	22403	414	324	15184	4433	184576	262722

APPENDIX 5.15 COASTWISE OD MATRIX OF OTHER-AGRICULTURAL PRODUCTS - 1990

		D E S T I N A T I O N											(Ton)		
		Manila N	S Fernando	Irene	B'gas	Siain	L'spi	Pasacao	Tabaco	Bulan	Bauan	C'ta	Guis'	OTHERS	TOTAL
O	Manila N	-	-	488	4070	-	1734	-	-	41	-	-	-	49519	55853
R	S Fernando	-	-	-	-	-	-	-	-	-	-	-	-	1664	1664
I	Irene	13201	-	-	-	-	-	-	-	-	-	-	-	35270	48471
G	Batangas	15520	-	-	-	-	-	-	-	-	81	-	-	41468	57069
I	Siain	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	Legaspi	246	-	-	-	-	-	-	-	-	-	1	-	657	904
	Pasacao	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tabaco	-	-	-	-	-	135	-	-	-	-	-	-	3846	3980
	Bulan	6241	-	-	-	-	-	-	-	-	-	-	-	16675	22916
	Bauan	658	-	-	-	-	-	-	-	-	-	-	-	1757	2415
	Cotta	667	-	-	-	-	-	-	-	-	-	-	-	1782	2449
	Guisguis	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	OTHERS	480837	70419	12668	105604	2617	44981	3997	10441	1068	14573	2509	5434	1284704	2039852
	TOTAL	517369	70419	13157	109675	2617	46849	3997	10441	1109	14573	2591	5434	1437343	2235574

APPENDIX 5.16 COASTWISE OD MATRIX OF NON-AGRICULTURAL PRODUCTS - 1990

		D E S T I N A T I O N									(Ton)
		Manila N	Manila S	S Fernando	Irene	Aparri	Batangas	Legaspi	Siañ	Pasacao	Tabaco
O	Manila N	-	1593	-	3137	-	54987	-	-	-	-
R	Manila S	-	-	-	-	-	-	-	-	-	-
I	S Fernando	-	-	-	-	-	-	-	-	-	-
G	Irene	4568	-	-	-	-	-	-	-	-	-
I	Aparri	-	-	-	-	-	-	-	-	-	-
N	Batangas	98177	-	-	-	-	-	-	-	-	-
	Siañ	-	-	-	-	-	-	-	-	-	-
	Legaspi	5458	-	-	-	-	-	-	-	-	630
	Pasacao	-	-	-	-	-	-	-	391	-	-
	Tabaco	-	-	-	-	-	-	-	2159	-	-
	Bulan	2013	-	-	-	-	-	-	-	-	-
	Matnog	-	-	-	-	-	-	-	-	-	-
	Bauan	4315	-	-	-	-	-	-	-	-	-
	Cotta	3210	-	-	-	-	-	-	-	-	-
	Dalahican	-	-	-	-	-	-	-	-	-	-
	Tagkawayan	-	-	-	-	-	-	-	-	-	-
	Camaligan	-	-	-	-	-	-	-	-	-	-
	Sorsogon	-	-	-	-	-	-	-	-	-	-
	Currimao	-	-	-	-	-	-	-	-	-	-
	OTHERS	377201	-	105065	11180	9	195937	724	151142	4076	43638
	TOTAL	494943	1593	105065	14317	9	250924	724	153693	4076	44268

		D E S T I N A T I O N									TOTAL	
		Bulan	Matnog	Bauan	Cotta	Dalahican	Tagkawayan	Camaligan	Sorsogon	Currimao	OTHERS	
O	Manila N	1660	-	-	-	-	-	-	-	-	207499	268876
R	Manila S	-	-	-	-	-	-	-	-	-	-	-
I	S Fernando	-	-	-	-	-	-	-	-	-	4	4
G	Irene	-	-	-	-	-	-	-	-	-	8954	13522
I	Aparri	-	-	-	-	-	-	-	-	-	205	205
N	Batangas	-	-	-	2956	-	-	-	-	-	192420	293554
	Siañ	-	-	-	-	-	-	-	-	-	257	257
	Legaspi	-	-	-	-	-	-	-	-	-	10694	16782
	Pasacao	-	-	-	-	-	-	-	-	-	1919	2310
	Tabaco	-	-	-	-	-	-	-	-	-	10590	12749
	Bulan	-	-	-	-	-	-	-	-	-	3945	5958
	Matnog	-	-	-	-	-	-	-	-	-	278470	278470
	Bauan	-	-	-	-	-	-	-	-	-	8458	12774
	Cotta	-	-	-	-	-	-	-	-	-	6291	9501
	Dalahican	-	-	-	-	-	-	-	-	-	3724	3724
	Tagkawayan	-	-	-	-	-	-	-	-	-	-	-
	Camaligan	-	-	-	-	-	-	-	-	-	1189	1189
	Sorsogon	-	-	-	-	-	-	-	-	-	-	-
	Currimao	-	-	-	-	-	-	-	-	-	391	391
	OTHERS	5914	316756	11257	11360	12912	1268	1839	20384	968	736634	2008266
	TOTAL	7574	316756	11257	14316	12912	1268	1839	29384	968	2008266	2928531

APPENDIX 5.17 AIR PASSENGERS MOVEMENT AT LUZON AIRPORTS

AIRPORT	1966	1968	1970	1972	1974	1976	1978	1980	1981
Baguio	32468	42070	159185	26624	50369	41670	126140	129447	63022
Laoag	25719	14984	15523	13778	13448	11865	14044	10127	12068
San Fernando	-	-	-	5658	3626	24186	20935	6251	3651
Vigan	9500	4350	-	847	555	880	285	447	295
Appari	24306	7362	10393	9361	8617	8666	4348	863	351
Bagabag	11000	1600	-	1229	3510	646	2083	4181	2944
Cauayan	38339	30415	23170	19436	29845	33272	21034	19740	9394
Tuguegarao	40050	34000	21000	21284	23094	24602	19073	35249	29994
Plaridel	-	-	-	466	160	308	31	351	1146
Manila	1001437	1202793	1217488	1231110	1413099	1510662	1912906	1711547	1786061
Daet	39000	20060	25600	22499	18250	8611	848	38	339
Legaspi	76588	93423	45735	84138	74314	95281	100721	69741	56493
Naga	10060	3360	47309	28515	29589	29397	25080	13990	16948
Total	1308467	1454417	1565403	1464945	1668476	1790046	2247528	2001972	1982706

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Baguio	51537	57435	54371	14730	38597	35373	34153	25716	41800
Laoag	13061	24380	31329	6064	19744	12051	27057	16968	11649
San Fernando	2071	1902	1215	501	1011	1755	2189	2418	4904
Vigan	207	429	227	207	298	319	397	719	507
Appari	579	315	309	3	470	135	31	-	-
Bagabag	3385	2507	2673	-	1595	2837	2267	3300	6351
Cauayan	6691	4939	3544	1236	3096	4578	4302	3994	58557
Tuguegarao	29428	31580	30361	7376	32840	30994	42712	41828	76392
Plaridel	217	417	727	-	2322	-	5501	9558	12101
Manila	2005011	2328363	2388978	2584283	2784500	2655247	2762548	2935160	3107772
Daet	200	207	141	111	478	5507	7459	7781	7469
Legaspi	71405	92843	104588	32141	152283	171588	168431	298389	142179
Naga	22959	26708	29168	-	39179	23385	38834	35362	50643
Total	2206751	2572025	2647631	2646652	3076413	2943769	3095881	3381193	3520324

APPENDIX 5.18 AIR CARGO MOVEMENT AT LUZON AIRPORTS (kg)

AIRPORT	1980	1981	1982	1983	1984	1985	1986
Baguio	301508	189933	171739	266277	202191	194677	331161
Laoag	79379	128514	175973	117057	159104	116810	130248
San Fernando	12385	5751	871	382	176	-	5939
Vigan	2880	760	105	700	195	5235	3075
Appari	240	440	448	2000	2029	3419	1950
Bagabag	198277	170420	209957	157561	186031	146966	73912
Cauayan	322416	98852	40627	47902	55184	45798	44844
Tuguegarao	317096	522941	528402	309423	332931	268843	479961
Plaridel	230	5832	-	-	480	-	-
Manila	41688000	37567000	43602000	36534000	36625000	40637000	49212000
Daet	-	-	-	4591	93	202	1200
Legaspi	631054	385462	258741	331804	407097	402237	1122646
Naga	172904	134619	80035	-	121476	97769	246959
Total	43726369	39210524	45068898	37771697	38091987	41918956	51653895

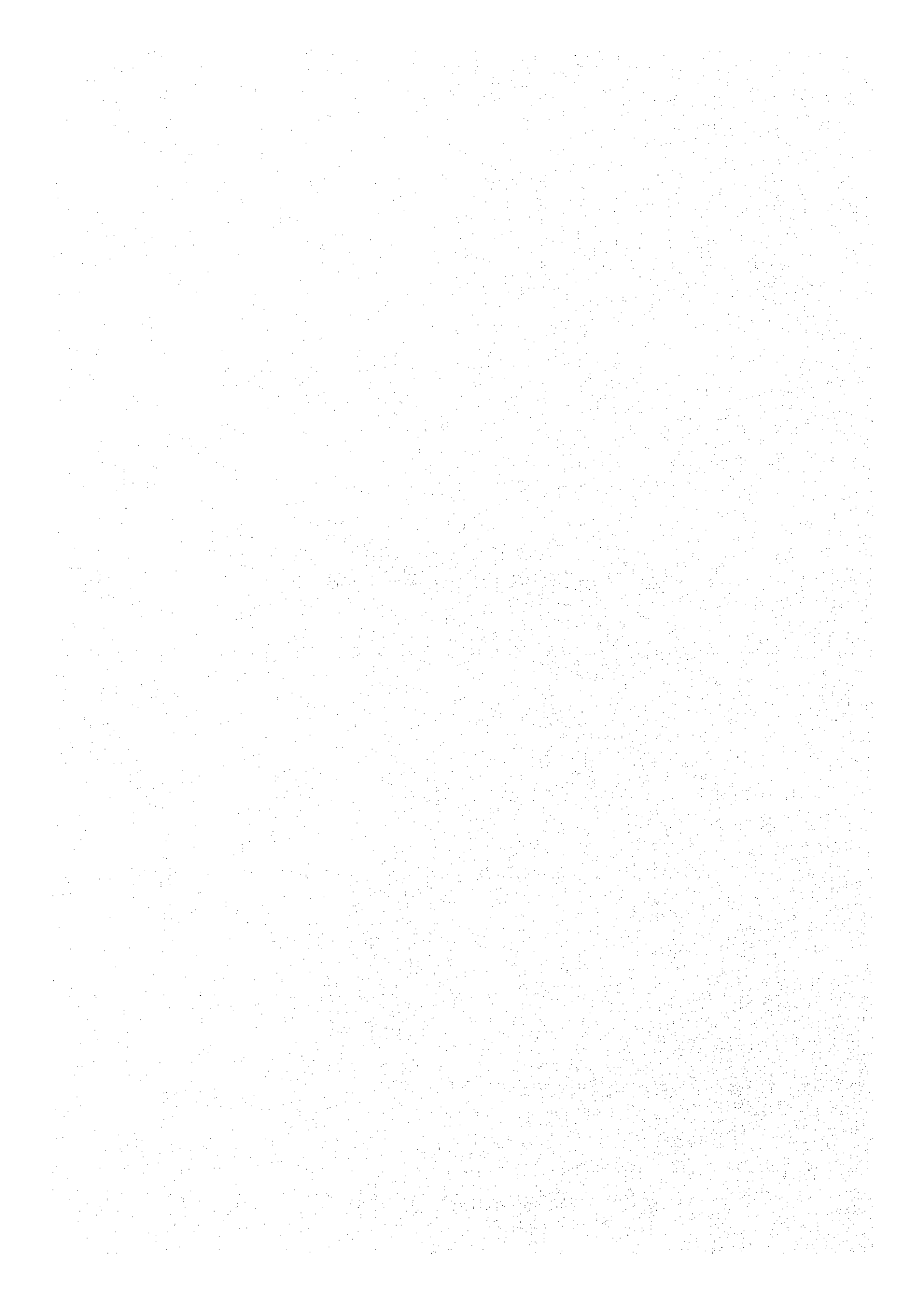
APPENDIX 5.19 COMMERCIAL AIRCRAFT MOVEMENT AT LUZON AIRPORTS

AIRPORT	1972	1974	1976	1978	1980	1982	1984	1986
BAGUIO	235	1584	1010	1960	2346	1226	1140	1032
Laoag	176	486	396	540	598	616	618	930
San Fernando	27	22	606	712	182	74		
Vigan								
Appari	227	424	344	216				
Bagabag	5	280	100	50	4			
Cauayan	631	922	816	520	396	224	186	287
Tuguegarao	348	694	630	530	1074	1004	864	936
Plaridel	662							
Manila	32754	29932	52150	29842	26815	26841	30249	54371
Daet	310	588	510	58				
Legaspi	1650	2090	2540	1902	1284	1120	1418	1805
Naga	352	369	780	722	618	1354	1504	1239
Total	37377	37391	59882	37052	33317	32459	35979	60600

APPENDIX 5.20 GENERAL AVIATION AIRCRAFT MOVEMENT AT LUZON AIRPORTS

AIRPORT	1972	1974	1976	1978	1980	1982	1984	1986
BAGUIO	1802	3518	2428	3892	2674	2066	2063	1222
Laoag	189	650	736	944	1292	397	366	370
San Fernando	1892	2496	3428	1932	3288	878	633	850
Vigan	73	110	190	62	208	64	42	96
Appari	134	292	220	156	331	216	197	151
Bagabag	237	228	88	614	758	696	622	611
Cauayan	713	2314	2264	2030	1087	552	425	645
Tuguegarao	167	486	537	410	996	1020	1294	1202
Plaridel	1147	2642	1994	962	3638	1474	2214	2481
Manila	76713	56658	62623	67750	57435	44138	34414	36437
Daet	59	214	148	80	38	93	80	138
Legaspi	490	2268	1382	1830	912	616	698	738
Naga	212	676	438	458	218	382	409	312
Total	83828	72552	76476	81120	72875	52592	43457	45253

APPENDIX FOR CHAPTER 6



APPENDIX 6.1 LIST OF MAJOR DEVELOPMENT PROJECTS IN LUZON ISLAND (1/3)

Name of Project	Location	Capacity (MW)
1. POWER GENERATING PROJECTS		
<u>EXISTING</u>		
1. MOI H.E.	Ilocos Norte	
2. Ambuklao Unit 1-3	Benguet	75
3. Binga Unit 1-4	Benguet	100
4. Magat Unit 1-4	Isabela	360
5. Pantabangan H.E.	Nueva Ecija	100
6. Masiway H.E.	Nueva Ecija	12
7. Angat Auxilliary	Bulacan	212
8. Bataan 1 & 2	Bataan	225
9. Bataan GT	Bataan	120
10. Manila 1 & 2	Manila	200
11. Sucat 1,2,3 & 4	Paranaque	850
12. Malaya 1 & 2	Rizal	650
13. Malaya GT	Rizal	90
14. Kalayaan P.H.	Laguna	300
15. Caliraya Unit 1-4	Laguna	32
16. Botocan H.E.	Laguna	17
17. Mak-ban Plant A,B & C	Laguna	330
18. Calaca Coal I	Batangas	300
19. Tiwi Plant A,B & C	Albay	330
20. Barit MH	Camarines Sur	2
21. Cawayan MH	Sorsogon	0.4
<u>ON-GOING/COMMITTED</u>		
1. Masinloc Coal I & II	Zambales	300
2. Bataan Combined Cycle I & II	Bataan	300
3. Sucat Land-Base Gas Turbine	Paranaque	30
4. Sucat 2 & 3 Rehabilitation	Paranaque	400
5. Mak-ban Binary Geothermal	Laguna	16
6. Maibarara Binary Geothermal	Batangas	10
7. Calaca Coal II	Batangas	300
8. Bacman Geothermal I & II	Albay	110
9. Bacman Binary	Sorsogon	16
<u>PROPOSED</u>		
1. Gened H.E.	Kalinga-Apayao	-
2. B. Buhay H.E.	Kalinga-Apayao	-
3. Binongan H.E.	Abra	-
4. Isabela GT	Isabela	-
5. San Roque H.E.	Pangasinan	-
6. Casecnan H.E.	Nueva Vizcaya	214
7. Del Gallego Geothermal	Quezon	120

APPENDIX 6.1 LIST OF MAJOR DEVELOPMENT PROJECTS IN LUZON ISLAND (2/3)

Name of Project	Location	Covered Area (ha.)	Name of Project	Location	Covered Area (ha.)
2. IRRIGATION PROJECTS					
EXISTING					
1. Laoag-Vintar RIS	Ilocos Norte	2,377	49. Lagnas RIS	Quezon	922
2. Cura	Ilocos Norte	431	50. Agos RIS	Quezon	1,119
3. Bolo	Ilocos Norte	420	51. Cavite FLIS	Cavite	14,708
4. Dingras	Ilocos Norte	1,018	52. Cabuyao East Pump IS.	Laguna	1,648
5. NMC & Pasquin Extension	Ilocos Norte	683	53. Diezmo Pump IS.	Laguna	1,982
6. Bonga Pump 1,2 & 3	Ilocos Norte	1,174	54. San Cristobal IS.	Laguna	387
7. Sta. Maria-Burgos	Ilocos Sur	947	55. Macablang	Laguna	752
8. Sta. Lucia-Candon	Ilocos Sur	1,557	56. San Juan	Laguna	509
9. Tegudin	Ilocos Sur	1,376	57. Sta. Cruz-Mabacan RIS	Laguna	4,340
10. Amburayan RIS	La Union	3,613	58. Malaunad	Laguna	224
11. Masalip IS	La Union	1,578	59. Balanac	Laguna	738
12. Agno-Sinucalan RIS	Pangasinan	12,130	60. Lumban IS.	Laguna	96
13. San Fabian RIS	Pangasinan	2,765	61. Sta. Maria-Mayor RIS	Laguna	3,172
14. Dumuloc RIS	Pangasinan	1,500	62. Palico RIS	Batangas	852
15. Ambayon-Depalo RIS	Pangasinan	6,013	63. Daet-Talisay-Matogdon RIS	Camarines Sur	3,051
16. Lower Agno-Itonoguen RIS	Pangasinan	7,500	64. Inarihan RIS	Camarines Sur	1,584
17. Pamplonan PIS	Cagayan	294	65. Cagaycay RIS	Camarines Sur	1,745
18. Banbur Creek IS.	Cagayan	900	66. Barit	Camarines Sur	2,260
19. Dumnon RIS	Cagayan	1,513	67. Buh-Lalo RIS	Camarines Sur	2,724
20. Baggao IS.	Cagayan	1,812	68. Libmanan-Cabusao PIS	Camarines Sur	2,195
21. Zinundungan RIS	Cagayan	2,015	69. Mahaba-Nasisi-Ogsong-Kibiga RIS	Albay	1,947
22. Solana PIS	Cagayan	1,341	70. Pili	Sorsogon	1,250
23. Pinacanauan RIS	Cagayan	500	71. Bulan	Sorsogon	360
24. Lower Chico RIS	Cagayan	2,384	72. San Francisco RIS	Sorsogon	590
25. Baua RIS	Cagayan	1,300			
26. Iguig-Alcala-Amulung, IS.	Cagayan	2,325	ON-GOING		
27. Magapit PIS	Cagayan	4,945	1. Palsiguan River IS.	Ilocos Norte	2,849
28. Upper Chico RIS	Kalinga-Apayao	17,035	2. CIADP	Cagayan	14,000
29. Apayao-Abuleg IS.	Cagayan/K. Apayao	10,435	3. Balog-Balog Irri. Project	Pampanga/Tarlac	28,130
30. Magat River Integrated Irrig. System	Quirino/Isabela	97,404	4. Western Barrios	Tarlac	1,670
31. Mallig RIS	Isabela	2,427	5. Casecan Transbasin Diversion Proj.	Nueva Ecija	64,100
32. Tumauni IS.	Isabela	3,615	6. Pampanga Delta-1C	Bulacan/Pampanga	11,000
33. San Pablo-Cabagan IS.	Nueva Ecija	1,200	7. Maga-Catabanga	Camarines Sur	8,441
34. UPRIS	Nueva Ecija	103,285			
35. NEPIS	Tarlac	1,313	PROPOSED		
36. Tarlac RIS	Tarlac	6,282	1. Ilocos Sur Transbasin	Ilocos Sur	4,000
37. San Miguel-O'Donnell RIS	Tarlac	8,412	2. Mabini Irrigation Project	Pangasinan	11,500
38. Camiling RIS	Zambales	8,412	3. Lower Agno Irrigation Project	Pangasinan	30,800
39. Sto. Tomas RIS	Zambales	4,083	4. Chico-Malig RIS	Isabela	31,200
40. Noyom-Bayto RIS	Zambales	1,148	5. Matuno Irrigation Project	Nueva Vizcaya	12,680
41. Bucao RIS	Pampanga	1,230	6. Addalam Irrigation Project	Quirino/Isabela	6,130
42. Porac-Gumain RIS	Pampanga	4,405	7. Balintingan Irrigation Project	Nueva Ecija/Bulacan	9,000
43. Caulanan IS.	Bulacan	31,483	8. Gumain RIS	Pampanga	11,000
44. Angat-Maasim RIS	Bataan	483	9. Bagsit-Bangcal	Zambales	3,700
45. Disalit IS.	Aurora	490			
46. Dumacea	Quezon	2,509			
47. Hanagdong	Quezon	264			

APPENDIX 6.2 FOREIGN ASSISTED ROAD PROJECTS IN LUZON ISLAND

(1/3)

Loan No.	Project Name	Location		Length (Km.)	Improvement Level	Construction Period	
		From	To			Started	Completion
9th	Philippine-Japan Highway Loan Projects	Allacapan	Davao	1,500.0	Technical Assistant and Advisory Services	Aug 1976	Jul 1980
	Manila North Road Improvement Project	Rosario	Sinait	230.0	Design and Construction Management	Nov 1979	Sep 1985
	Laoag-Allacapan Road Improvement Project (Stage-1)	Laoag	Allacapan	51.0	Construction, Supervision and Management	Sep 1981	Feb 1989
	Laoag-Allacapan Road Improvement Project (Stage-2)	Laoag	Allacapan	77.0	Construction and Supervision	Jul 1991	Aug 1995
PH-P93 (S.R.L.) Special Rehab. Loan	Allacapan-Aritao Road Rehabilitation Project	Allacapan	Aritao	359.0	Construction and Supervision	Oct 1991	Dec 1995
	Aritao-Sta. Rita Road Rehabilitation Project	Aritao	Sta. Rita	200.0	Construction and Supervision	Jun 1991	Dec 1995
	Calamba-Calaug Road Rehabilitation Project	Calamba	Calaug	181.0	Construction and Supervision	Jun 1991	Dec 1995
PH-P101 (15th)	Regional Tourism Development Roads Project	Carmona Nabas	Terdate Caticlan	57.0 20.0	Construction and Supervision	Oct 1991 Oct 1991	Mar 1993 Sep 1993
PH-P104 (16th)	Rehabilitation and Maintenance of Bridge along Arterial Roads Project	-	-	-	Construction of 37 Bridges along Pan-Philippine Highway and Manila North Road	Apr 1992	May 1994
PH-P105 (16th)	Disaster Prevention and Road Rehabilitation Project	Naguilian Calaug	Matnog	47.0 412.0	Construction and Supervision	Oct 1992 Oct 1992	Dec 1993 Dec 1994
PH-P115 (17th)	Rehabilitation and Maintenance of Bridge along Arterial Roads Project	Bued Bauang-I Bauang-II	-	-	Construction of three bridges (Bued, Bauang-I, and II)	Jul 1992	Nov 1994
PH-P118 (17th)	Rural Road Network Development Project	Cavite Masbate Bohol Tarlac	-	80.0 208.0 122.0 56.0	Construction and Supervision	Jan 1994 Jan 1994 Jan 1994 Jan 1994	Jun 1996 Jun 1996 Jun 1996 Jun 1996

1. OECF PROJECTS:

APPENDIX 6.2 FOREIGN ASSISTED ROAD PROJECTS IN LUZON ISLAND

(2/3)

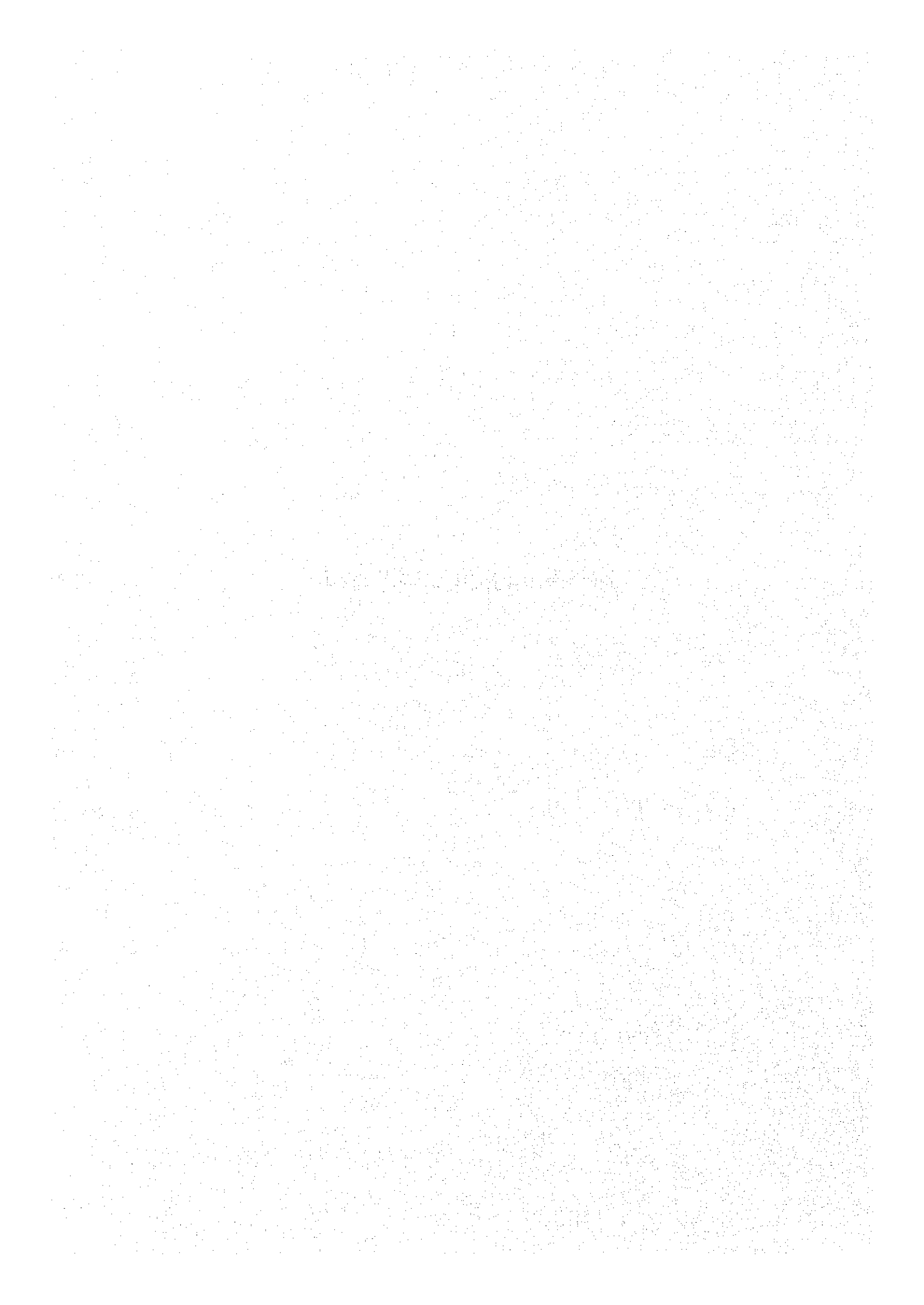
Loan No.	Project Name	Location		Length (Km.)	Improvement Level	Construction Period	
		From	To			Started	Completion
2. ABB PROJECTS:							
136-PHI	Tarlac-Sta. Rosa Road	Tarlac	Sta. Rosa	41.0	Rehabilitation & Upgrading	Nov 1975	Dec 1979
308-PHI	Olongapo-Bugallon Road	Olongapo	Botolan	80.0	Upgrading/Widening	Feb 1980	Aug 1986
		Botolan	Infanta	80.0	Upgrading/Widening	Jul 1980	Feb 1985
		Infanta	Bugallon	100.0	Upgrading/Widening	Jul 1980	Jul 1985
	Tagaytay-Batangas Road	Tagaytay	Palico	39.0	Upgrading/Widening	Nov 1980	Jun 1985
		Palico	Batangas	59.0	Upgrading/Widening	Nov 1980	Jun 1985
	Cabarroguis-Madella Road	Cabarroguis	Madella	35.0	Upgrading/Widening	Oct 1990	Apr 1993
802-PHI	HADP (Road Component)	Talaba-Paliparan Road		33.0	-	Nov 1980	Jun 1985
		Gen. Trias	Anadeo	6.0	-	Nov 1980	Jun 1985
		Tanza	Bunga	20.0	-	Nov 1980	Jun 1985
		Alfonso	Gen. Aguinaldo	5.0	-	Nov 1980	Jun 1985
		Lumbangan	Pinkian	28.0	-	Nov 1980	Jun 1985
		Lian	Calatagan	11.0	-	Nov 1980	Jun 1985
		Talisay	Balayon	13.0	-	Nov 1980	Jun 1985
		Palico	Nasugbu	5.85	-	Mar 1990	Feb 1993
		Geweng	Bookong	3.22	-	Mar 1990	Apr 1992
		Naguey	Masdong	1.60	-	Apr 1992	Oct 1992
1058-PHI	Famy-Infanta Road	Access Rd.		5.60	-	Apr 1992	Oct 1992
		JNR Soysoyan	Magining	6.84	-	Oct 1991	Dec 1992
		JNR Kabayan	Libang	6.82	-	Oct 1991	Dec 1992
		JNR	Libang	15.57	-	Jul 1991	Jun 1992
		Madaymen	Ansuling	15.48	-	Feb 1992	Dec 1992
		Kibungan	Palina	8.34	-	May 1992	Sep 1992
		JNR Tram	Upper Balili	35.0	Upgrading/Widening	Jul 1992	Jul 1995
		Famy	Tignoan	23.5	Upgrading/Widening	Aug 1992	Aug 1994
		Tignoan	Infanta	28.4	Upgrading/Widening	Apr 1992	Apr 1994
		Gamu	Roxas	32.6	Upgrading/Widening	-	-
	Gamu-Roxas Road	Bambang	Kasibu				
	Bambang-Kasibu Road						

APPENDIX 6.2 FOREIGN ASSISTED ROAD PROJECTS IN LUZON ISLAND

(3/3)

Loan No.	Project Name	Location		Length (Km.)	Improvement Level	Construction Period	
		From	To			Started	Completion
3. IBRD PROJECTS:							
950-PH 2nd	Manila North Expressway Extension	32+427	44+000	11.57	-	Apr 1974	Mar 1977
		44+000	65+264	21.26	-	Apr 1974	May 1977
		65+264	83+400	18.13	-	Apr 1974	Mar 1977
	Manila North Road	14+000	68+545	54.54	-	May 1974	Aug 1976
		68+545	143+690	75.14	-	May 1974	May 1976
		143+690	213+480	69.79	-	May 1974	Sep 1976
		23+992	82+592	58.60	-	Jul 1974	Jul 1977
	Manila East Road	85+592	143+725	61.13	-	Nov 1974	May 1978
		67+506.79	126+006.51	58.49	-	Sep 1974	-
	Olongapo-San Fernando-Gapan Road	68+647.36	114+271.95	45.64	-	Nov 1974	Jul 1978
		65+376.44	109+295.42	44.54	-	Sep 1974	Mar 1977
	Sto. Tomas-Batangas Road	17+500	55+840	38.00	-	Aug 1974	Mar 1976
	Las Pinas-Tagaytay Road	125+220.80	206+028.28	81.00	-	Jul 1974	Nov 1976
	Tarlac-Lingayen Road	211+976.14	239+640	28.00	-	Aug 1974	Feb 1976
	Dagupan-Damortis Road	199+584.77	208+853.42	-	-	-	-
	Urdaneta-Dagupan Road	117+820	126+006	8.20	-	Mar 1979	Jun 1979
	Olongapo-Gapan Road	Baguio	Banaue	88.00	-	Aug 1986	Jun 1989

APPENDIX FOR CHAPTER 7



Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020		
NCR				5,970,314	7,928,867	9,838,829	11,416,329	12,693,056		
CAR	2		ABRA	160,094	184,743	220,213	247,918	274,066		
		0101	Bangued	28,648	34,184	40,912	46,272	51,261		
		0103	Bucay	12,367	13,346	15,954	18,026	19,954		
		0106	Danglas	2,655	3,042	3,628	4,089	4,519		
		0107	Dolores	7,610	8,577	10,226	11,529	12,741		
		0108	La Paz	9,199	11,240	13,312	14,927	16,427		
		0110	Lagangilang	9,460	11,248	13,410	15,119	16,708		
		0111	Lagayan	3,825	3,771	4,789	5,685	6,539		
		0112	Langiden	2,255	2,452	2,671	2,795	2,917		
		0114	Luba	4,908	5,563	6,186	6,589	6,968		
		0116	Manabo	6,586	7,797	9,295	10,480	11,581		
		0117	Penarubia	4,093	4,893	5,833	6,577	7,269		
		0118	Pidigan	7,157	8,807	10,500	11,838	13,081		
		0119	Pilar	7,513	8,451	10,076	11,360	12,554		
		0121	San Isidro	3,085	3,744	4,258	4,620	4,956		
		0122	San Juan	7,228	8,445	9,671	10,552	11,367		
		0123	San Quintin	3,572	4,293	5,006	5,544	6,041		
0124	Tayum	9,615	11,045	13,168	14,847	16,407				
0127	Villaviciosa	3,930	4,612	5,468	6,138	6,758				
				133,706	155,510	184,363	206,986	228,050		
	3	0102	Boliney	3,058	3,773	4,272	4,620	4,943		
		0104	Bucloc	1,604	1,932	2,368	2,731	3,071		
		0105	Daguionan	1,253	1,413	1,747	2,029	2,295		
		0109	Lacub	2,037	2,326	2,773	3,126	3,455		
		0113	Licuan Baay	3,092	3,697	4,070	4,300	4,518		
		0115	Malibcong	3,106	3,494	4,426	4,697	5,191		
		0120	Sai-Lapadan	4,271	4,941	6,093	7,062	7,972		
		0125	Tineg	2,986	3,068	4,050	4,963	5,850		
		0126	Tube	4,981	4,589	6,050	7,405	8,722		
						26,388	29,233	35,850	40,932	46,016
			4		BENGUET	357,312	485,546	611,994	704,951	785,941
0203	Bakun			8,942	10,817	13,653	15,731	17,532		
0205	Buguias			17,635	25,236	31,853	36,700	40,902		
0211	Mankayan			25,869	32,889	39,352	43,406	46,768		
				52,446	68,942	84,858	95,836	105,202		
	5	0201	Atok	14,570	13,853	18,333	21,956	25,215		
		0204	Bokod	11,985	11,474	13,895	15,479	16,806		
		0207	Kabayan	9,138	10,306	13,008	14,987	16,704		
		0208	Kapangan	13,478	15,537	17,012	17,455	17,784		
		0209	Kibungan	10,576	12,753	15,400	17,113	18,545		
				59,747	63,923	77,649	86,991	95,054		
	6	0202	Baguio City	119,868	183,102	233,182	270,629	303,324		
		0206	Itogon	47,949	61,773	76,360	86,495	95,135		
		0210	La Trinidad	28,920	48,252	62,848	74,296	84,469		

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
		0212	Sablan	7,957	8,440	10,653	12,275	13,680
		0213	Tuba	30,669	39,635	51,955	61,737	70,473
		0214	Tublay	9,756	11,479	14,489	16,693	18,605
				245,119	352,681	449,487	522,125	585,685
			MT. PROVINCE	103,152	116,535	128,162	135,519	141,470
7	0302		Bauko	16,704	21,126	23,622	25,190	26,376
	0303		Besao	9,102	8,473	9,062	9,319	9,486
	0304		Bontoc	17,109	17,716	18,947	19,484	19,835
	0307		Sabangan	8,202	8,083	8,646	8,890	9,050
	0308		Sadanga	6,656	7,302	8,147	8,673	9,069
	0309		Sagada	9,469	10,353	10,443	10,237	10,043
	0310		Tadian	13,594	14,369	15,016	15,152	15,199
				80,836	87,422	93,883	96,945	99,059
8	0301		Barlig	5,246	6,273	6,347	6,238	6,132
	0305		Natonin	7,332	9,813	10,496	10,793	10,987
	0306		Paracelis	9,738	13,027	17,436	21,543	25,292
				22,316	29,113	34,279	38,574	42,412
			IFUGAO	111,575	147,281	175,156	197,683	216,707
9	0401		Aguinaldo	10,035	19,830	22,071	23,561	24,713
	0402		Alfonso Lista (Potia)	11,036	14,816	18,981	22,727	26,058
	0403		Banaue	22,943	16,943	20,834	24,123	26,948
	0404		Hingyon	6,029	8,373	10,031	11,370	12,493
	0405		Hungduan	5,001	7,254	8,583	9,629	10,497
	0406		Kiangnan	17,513	21,329	25,849	29,578	32,740
	0407		Lagawe	9,074	12,437	14,899	16,889	18,557
	0408		Lamut	11,037	14,101	17,491	20,397	22,912
	0409		Mayoyao	14,032	23,942	26,650	28,447	29,838
	0410		Tinoc	4,875	8,256	9,768	10,961	11,950
				111,575	147,281	175,156	197,683	216,707
			KALINGA APAYAO	186,054	211,775	262,771	306,569	344,171
10	0502		Calanasan	5,586	10,699	12,488	13,806	14,827
	0503		Conner	14,272	16,220	20,963	25,186	28,847
	0504		Flora	12,361	10,810	16,894	23,711	30,646
	0505		Kabugao	9,651	11,198	13,764	15,872	17,610
	0507		Luna	13,741	10,550	13,188	15,418	17,290
	0510		Pudtol	7,639	7,621	9,701	11,510	13,056
	0512		Santa Marcela	7,810	7,622	9,180	10,413	11,406
				71,060	74,720	96,178	115,916	133,684
11	0501		Balbalan	9,217	10,147	11,712	12,829	13,678
	0506		Lubuagan	8,591	9,189	10,931	12,272	13,337
	0508		Pasil	6,909	7,572	9,465	11,066	12,409
	0514		Tanudan	6,361	9,323	10,642	11,554	12,234

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
		0515	Tinglayan	11,766	12,637	14,636	16,080	17,184
				42,844	48,868	57,386	63,801	68,842
	12	0509	Pinukpuk	17,455	20,102	24,257	27,553	30,217
		0511	Rizal	11,699	10,885	12,269	13,182	13,848
		0513	Tabuk	42,996	57,200	72,681	86,117	97,580
				72,150	88,187	109,207	126,852	141,645
REGION I			ILOCOS NORTE	389,428	461,661	539,248	604,007	659,290
	13	1101	Adams	1,209	1,119	1,440	1,744	2,022
		1104	Bangui	11,087	12,921	14,163	15,048	15,760
		1106	Burgos	5,852	7,643	8,935	10,007	10,916
		1110	Dumalneg	600	828	976	1,100	1,205
		1115	Pagudpud	13,632	16,558	19,793	22,571	24,970
		1117	Pasunquin	17,757	21,410	25,190	28,356	31,057
				50,137	60,479	70,497	78,827	85,930
	14	1102	Bacarra	23,297	26,940	31,629	35,545	38,878
		1112	Laoag City	69,428	83,756	97,923	109,666	119,630
		1120	San Nicolas	23,310	27,632	32,477	36,528	39,980
				116,035	138,328	162,029	181,739	198,488
	15	1107	Carasi	420	632	757	866	960
		1109	Diugras	26,427	30,519	35,681	39,960	43,591
		1111	Esperitu Banna	12,846	15,342	17,646	19,500	21,053
		1113	Marcos	10,273	12,990	15,187	17,009	18,555
		1118	Piddig	14,727	17,078	20,105	22,644	24,811
		1121	Sarrat	18,738	21,272	24,522	27,149	29,353
		1122	Solsona	14,684	18,883	22,077	24,725	26,971
		1123	Vintar	23,282	27,084	32,967	38,155	42,697
				121,397	143,800	168,944	190,007	207,991
	16	1103	Badoc	22,259	25,627	30,506	34,670	38,255
		1105	Batac	37,460	43,092	50,381	56,422	61,550
		1108	Currimao	7,785	9,467	8,748	8,088	7,607
		1114	Nueva Era	3,915	5,238	6,123	6,858	7,481
		1116	Paoay	16,962	20,680	24,409	27,550	30,236
		1119	Pinili	13,478	14,950	17,611	19,845	21,753
				101,859	119,054	137,779	153,434	166,881
	17		ILOCOS SUR	442,250	519,930	627,889	724,175	816,153
		1203	Bantay	22,215	26,024	31,481	36,348	40,993
		1205	Cabugao	24,350	27,997	34,096	39,584	44,832
		1207	Caoayan	14,027	15,637	18,783	21,563	24,211
		1212	Magsingal	19,119	22,271	26,940	31,107	35,081
		1213	Nagbukel	3,528	3,806	4,740	5,604	6,438
		1214	Narvacan	30,589	35,153	43,125	50,367	57,311

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
		1219	San Ildefonso	3,629	4,528	5,478	6,324	7,133
		1220	San Juan	17,390	20,328	24,591	28,393	32,021
		1221	San Vicente	8,462	9,989	12,083	13,951	15,734
		1222	Santa	11,325	12,570	15,133	17,404	19,568
		1223	Sta. Catalina	9,731	11,388	13,425	15,179	16,841
		1226	Sta. Maria	21,244	23,821	28,815	33,272	37,523
		1228	Sto. Domingo	17,674	20,720	26,059	31,060	35,903
		1230	Sinait	18,992	21,779	26,450	30,639	34,640
		1234	Vigan	33,382	38,574	46,014	52,526	58,716
				255,657	294,585	357,213	413,322	466,944
18		1202	Banayoyo	5,022	5,864	7,484	9,029	10,536
		1204	Burgos	8,339	9,601	11,746	13,686	15,546
		1206	Candon	36,692	43,473	52,884	61,342	69,426
		1209	Galimuyod	6,556	7,941	9,606	11,091	12,509
		1211	Lidlidda	2,728	3,515	4,195	4,789	5,354
		1217	San Emilio	4,385	5,649	6,606	7,421	8,191
		1218	San Esteban	5,487	6,327	7,635	8,798	9,907
		1227	Santiago	11,807	14,427	17,407	20,055	22,580
				81,016	96,797	117,563	136,211	154,049
19		1201	Alilem	4,585	5,314	6,299	7,153	7,965
		1208	Cervantes	9,588	12,476	15,128	17,500	19,766
		1210	Gregorio del Pilar	3,071	3,417	4,094	4,692	5,260
		1215	Quirino	5,267	6,623	7,215	7,647	8,072
		1216	Salcedo	8,277	9,397	11,232	12,842	14,374
		1224	Sta. Cruz	22,957	28,764	33,718	37,944	41,950
		1225	Sta. Lucia	17,292	20,504	24,467	27,937	31,236
		1229	Sigay	1,736	1,964	2,466	2,934	3,388
		1231	Sugpon	3,009	2,844	3,440	3,972	4,480
		1232	Suyo	6,434	7,950	9,617	11,104	12,523
		1233	Tagudin	23,361	29,295	35,438	40,918	46,147
				105,577	128,548	153,113	174,642	195,159
20			LA UNION	453,031	548,742	667,449	770,732	869,460
		1303	Bacnotan	24,825	29,568	35,260	40,045	44,321
		1304	Bagulin	7,016	9,418	11,391	13,085	14,612
		1305	Balaoan	25,222	30,042	35,430	39,874	43,822
		1306	Bangar	23,739	25,966	32,545	38,494	43,968
		1310	Luna	25,106	28,308	33,194	37,183	40,717
		1314	San Fernando	68,478	84,949	106,706	126,437	144,619
		1315	San Gabriel	10,258	12,532	15,157	17,413	19,445
		1316	San Juan	20,382	25,046	30,697	35,650	40,146
		1318	Santol	7,844	9,544	10,977	12,103	13,092
		1319	Sudipen	10,807	13,043	15,394	17,334	19,060
				223,677	268,416	326,750	377,617	423,801
21		1301	Agoo	34,884	42,698	50,992	57,978	64,228
		1302	Aringay	27,552	33,258	40,660	47,125	52,985

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
		1307	Bauang	41,901	51,573	62,381	71,669	80,037
		1308	Burgos	4,153	5,410	6,729	7,908	8,989
		1309	Caba	14,128	16,620	20,101	23,093	25,787
		1311	Naguilian	29,333	36,328	43,264	49,081	59,350
		1312	Pugo	7,788	10,939	13,192	15,118	16,851
		1313	Rosario	29,360	35,010	44,538	53,324	61,485
		1317	Sto. Tomas	22,633	27,352	32,424	36,645	40,406
		1320	Tubao	17,622	21,138	26,418	31,172	35,541
				229,354	280,326	340,698	393,115	445,659
			PANGASINAN	1,637,510	2,020,273	2,346,870	2,609,205	2,817,101
22		1401	Agno	17,256	21,197	24,537	27,194	29,306
		1405	Anda	20,472	26,856	31,076	34,429	37,093
		1408	Bani	29,128	37,180	42,877	47,374	50,930
		1414	Bolinao	39,370	49,202	58,294	65,844	72,009
				106,226	134,435	156,784	174,841	189,339
23		1402	Aguilar	22,100	27,303	31,986	35,797	38,870
		1403	Alaminos	47,757	59,363	68,690	76,102	81,992
		1413	Binmaley	47,374	59,601	68,966	76,408	82,321
		1415	Bugallon	39,107	47,412	55,625	62,329	67,743
		1416	Burgos	12,828	14,774	17,095	18,940	20,405
		1419	Dasul	16,972	19,671	23,813	27,373	30,346
		1420	Infanta	12,334	16,149	18,686	20,702	22,304
		1421	Labrador	12,131	15,229	17,306	18,893	20,123
		1423	Lingayen	65,245	77,837	90,066	99,786	107,508
		1424	Mabini	15,993	17,628	20,397	22,599	24,348
		1428	Mangatarem	40,618	47,714	55,326	61,402	66,241
		1433	San Carlos City	101,333	124,529	144,095	159,646	172,000
		1443	Sual	15,810	19,594	23,436	26,678	29,352
		1446	Urbiztondo	27,372	33,102	40,031	45,979	50,942
				476,974	579,906	675,517	752,633	814,495
24		1412	Binalonan	35,606	43,839	48,849	52,480	55,209
		1417	Calasiao	48,144	62,966	75,605	86,335	95,222
		1418	Dagupan City	98,431	122,247	141,453	156,719	168,847
		1422	Laoac	19,269	22,864	27,840	32,156	35,782
		1426	Manaoag	36,775	45,339	55,569	64,529	72,105
		1427	Mangaldan	50,479	65,947	77,130	86,206	93,510
		1429	Mapandan	20,112	25,622	29,647	32,847	35,388
		1431	Pozzorobio	38,291	48,460	55,896	61,766	66,412
		1434	San Fabian	42,055	51,904	60,059	66,540	71,689
		1435	San Jacinto	20,630	25,722	29,875	33,201	35,854
		1439	Sta. Barbara	37,034	47,746	55,198	61,109	65,801
		1442	Sison	25,075	32,892	37,602	41,250	44,102
				471,901	595,548	694,724	775,139	839,922
25		1404	Alcala	25,015	30,684	35,504	39,337	42,380
		1409	Basista	17,206	22,360	25,873	28,666	30,884

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
		1410	Bautista	18,088	21,280	24,719	27,474	29,674
		1411	Bayambang	64,094	79,027	91,443	101,312	109,152
		1425	Malasiqui	70,968	92,053	106,516	118,011	127,143
		1432	Rosales	36,614	45,275	52,389	58,043	62,534
		1441	Sto. Tomas	8,954	10,253	11,538	12,495	13,226
		1447	Urdaneta	71,860	90,694	107,569	121,608	133,085
		1448	Villasis	39,161	47,475	55,582	62,172	67,482
				351,960	439,101	511,133	569,116	615,560
	26	1406	Asingan	37,334	43,704	48,105	51,164	53,407
		1407	Balungao	17,357	21,473	24,847	27,528	27,557
		1430	Natividad	15,260	17,010	19,151	20,750	21,972
		1436	San Manuel	29,648	34,017	39,289	43,463	46,772
		1437	San Nicolas	23,264	27,415	30,884	33,476	35,458
		1438	San Quintin	20,854	24,293	27,516	29,957	31,841
		1440	Sta. Maria	19,035	23,793	27,532	30,503	32,863
		1444	Tayug	26,296	31,575	35,844	39,097	41,616
		1445	Umingan	41,401	48,003	55,544	61,539	66,302
				230,449	271,283	308,711	337,476	357,787
REGION II			CAGAYAN	713,485	829,974	993,116	1,133,110	1,258,586
	27	2101	Abulug	23,984	24,562	29,443	33,605	37,307
		2105	Aparri	45,197	51,635	58,204	63,177	67,460
		2107	Ballesteros	22,317	24,849	30,089	34,626	38,687
		2109	Calayan	8,994	11,222	13,297	15,031	16,564
		2110	Calamanyugan	15,121	17,276	20,166	22,521	24,583
		2111	Claveria	24,578	24,252	27,229	29,460	31,378
		2118	Pamplona	17,653	16,775	20,094	22,919	25,432
		2122	Sanchez - Mira	18,236	17,873	20,972	23,522	25,763
		2124	Santa Praxedes	2,217	2,514	3,012	3,435	3,812
				178,297	190,958	222,506	248,295	270,987
	28	2103	Allacapan	19,327	21,916	30,335	38,942	47,364
		2117	Lasam	23,117	27,376	32,791	37,403	41,503
		2120	Piat	14,086	17,771	22,340	26,506	30,326
		2121	Rizal	11,481	12,478	14,489	16,112	17,530
		2126	Santo Nino (Faire)	19,548	18,608	22,077	24,987	27,559
		2128	Tuao	36,357	43,926	54,193	63,323	71,592
				123,916	142,075	176,225	207,272	235,872
	29	2102	Alcala	24,574	29,161	34,006	37,949	41,401
		2104	Amulung	29,161	35,116	42,063	47,977	53,237
		2112	Enrile	23,469	25,608	30,935	35,529	39,636
		2115	Iguig	15,804	18,598	22,231	25,314	28,052
		2127	Solana	46,194	56,366	70,508	83,321	95,028
		2129	Tuguegarao	73,718	94,767	113,516	129,477	143,672
				212,920	259,616	313,258	359,567	401,027

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
	30	2108	Buguey	21,297	22,889	26,662	29,726	32,407
		2114	Gonzaga	22,530	26,536	31,785	36,255	40,230
		2123	Santa Ana	12,586	17,614	21,105	24,078	26,722
		2125	Santa Teresita	10,176	11,557	13,844	15,791	17,522
				66,589	78,596	93,396	105,849	116,880
	31	2106	Baggao	44,205	55,264	64,802	72,640	79,524
		2113	Gattaran	35,577	41,565	46,980	51,106	54,665
		2116	Lallo	27,023	31,373	37,581	42,864	47,563
		2119	Penablanca	24,958	30,527	38,368	45,516	52,069
				131,763	158,729	187,731	212,126	233,821
	32	ISABELA		877,178	1,080,341	1,353,067	1,595,900	1,813,800
		2203	Aurora	20,475	24,903	31,222	36,630	41,226
		2207	Cabatuan	21,561	26,380	31,934	36,408	40,077
		2219	Mallig	17,311	22,060	27,732	32,607	36,761
		2222	Quezon	9,894	16,280	20,464	24,057	27,120
		2226	Roxas	33,295	40,230	50,439	59,175	66,600
		2230	San Manuel (Callang)	18,104	24,620	32,664	40,132	46,816
				120,640	154,473	194,455	229,010	258,599
	33	2205	Burgos	15,252	17,485	21,921	25,718	28,945
		2206	Cabagan	29,126	34,999	41,883	47,303	51,692
		2210	Magsaysay	17,859	20,410	25,414	29,650	33,225
		2212	Divilican	1,873	2,479	3,108	3,647	4,104
		2214	Gamu	17,050	19,141	24,763	29,805	34,218
		2215	Ilagan	79,935	99,120	119,380	135,538	148,717
		2217	Luna (Antatet)	9,819	12,335	15,465	18,143	20,419
		2218	Maconacon	4,555	7,259	17,690	35,825	61,722
		2220	Naguilian	20,274	24,131	27,612	30,067	31,939
		2223	Quirino	14,481	17,070	21,401	25,108	28,258
		2225	Reina Mercedes	14,497	17,139	21,160	24,516	27,325
		2233	San Pablo	13,868	16,680	19,963	22,550	24,645
		2235	Santa Maria	13,669	16,767	21,022	24,663	27,757
		2236	Sto. Tomas	16,035	18,063	20,477	22,129	23,370
2237	Tumauini	32,208	40,664	50,982	59,812	67,316		
				300,501	363,742	452,240	534,474	613,652
	34	2201	Alicia	36,911	47,674	65,429	82,648	98,507
		2202	Angadanan	27,915	32,548	39,790	45,729	50,652
		2208	Cauayan	62,694	83,591	109,743	133,690	154,921
		2209	Cordon	21,153	27,544	36,221	44,184	51,253
		2213	Echague	41,703	51,916	59,351	64,580	68,566
		2216	Jones	29,046	34,373	37,608	39,484	40,776
		2224	Ramon (Aguinaldo)	31,048	33,444	44,686	55,226	64,714
		2227	San Agustin	14,992	16,577	20,559	23,907	26,722
		2228	San Guillermo	7,038	10,700	13,415	15,739	17,713
		2229	San Isidro	11,614	14,444	18,013	21,041	23,600
2232	San Mateo	41,463	48,461	60,728	71,218	80,129		

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
		2234	Santiago	70,402	90,787	112,890	131,553	147,288
				395,979	492,059	618,434	728,998	824,840
	35	2204	Benito Soliven	16,836	20,236	25,371	29,766	33,501
		2211	Dinapigui	770	2,105	1,965	1,811	1,693
		2221	Palanan	10,373	11,431	14,332	16,813	18,923
		2231	San Mariano	32,079	36,295	46,270	55,029	62,592
				60,058	70,067	87,938	103,419	116,709
	36		NUEVA VIZCAYA	242,946	301,179	380,442	453,283	523,014
		2302	Ambaguio	3,876	7,241	10,809	14,658	18,610
		2304	Bagabag	20,963	26,028	29,975	32,880	35,409
		2305	Bambang	26,340	33,663	41,471	48,063	54,014
		2306	Bayombong	32,234	39,886	49,475	57,661	65,082
		2307	Diadi	8,650	11,351	17,124	23,422	29,938
		2311	Kayapa	20,597	18,685	20,658	21,918	23,004
		2312	Quezon	9,766	12,206	18,803	26,163	33,891
		2314	Solano	36,901	44,246	53,367	60,791	67,408
		2315	Villaverde (Ibug)	10,699	13,594	16,269	18,414	20,317
				170,026	206,900	257,951	303,969	347,672
	37	2301	Alfonso Castaneda	2,812	3,751	4,615	5,344	6,001
		2303	Aritao	22,118	25,942	31,920	36,956	41,499
		2308	Dupax del Norte	16,830	20,904	25,720	29,778	33,439
		2309	Dupax del Sur	9,682	12,297	15,131	17,518	19,671
		2310	Kasibu	15,107	21,425	32,848	45,530	58,799
		2313	Sta. Fe	6,371	9,960	12,255	14,188	15,932
				72,920	94,279	122,491	149,314	175,342
	38		QUIRINO	84,018	114,132	155,080	196,559	236,993
		2401	Aglipay	12,452	16,427	21,506	26,292	30,715
		2402	Cabarroguis	17,615	21,793	34,503	49,277	64,948
		2403	Diffun	23,305	31,266	41,892	52,194	61,870
		2406	Saguday	6,736	9,918	11,505	12,745	13,794
				60,108	79,404	109,406	140,509	171,328
	39	2404	Madella	17,397	25,268	33,231	40,781	47,777
		2405	Nagtipunan	6,513	9,460	12,443	15,270	17,889
				23,910	34,728	45,675	56,051	65,666
REGION III			BATAAN	326,074	425,803	554,793	670,611	772,344
	40	3101	Abucay	22,890	26,708	32,802	37,621	41,537
		3102	Bagac	13,223	18,241	23,413	27,834	31,600
		3103	Balanga	39,473	51,512	64,945	76,091	84,419
		3104	Dinalupihan	41,776	58,172	72,619	84,398	94,148
		3105	Hermosa	25,896	34,633	43,000	49,754	55,313
		3108	Morong	10,730	17,155	23,902	30,386	36,339

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
		3109	Orani	33,372	43,494	55,037	64,679	72,774
		3111	Pilar	18,711	25,244	31,880	37,403	42,030
		3112	Samal	18,198	21,991	24,592	26,130	27,194
				224,269	297,150	372,189	434,296	485,354
41		3106	Limay	24,493	32,629	47,689	63,048	77,730
		3107	Mariveles	49,018	60,761	89,657	119,462	148,177
		3110	Orion	28,294	35,263	45,258	53,804	61,084
				101,805	128,653	182,604	236,315	286,990
			BULACAN	1,103,198	1,505,219	1,878,132	2,207,923	2,485,056
42		3202	Bigaa	28,841	42,658	55,051	66,009	75,033
		3203	Baliuag	71,015	89,719	108,559	123,498	134,770
		3204	Bocaue	50,017	67,243	83,232	96,457	106,782
		3205	Bulacan	35,148	48,770	60,366	69,958	77,447
		3206	Bustos	25,907	34,965	40,865	45,190	48,244
		3207	Calumpit	45,751	59,042	67,892	74,090	78,290
		3209	Guiguinto	27,932	44,532	57,423	68,809	78,175
		3210	Hagonoy	73,654	90,212	102,002	109,795	114,793
		3211	Malolos	96,324	125,178	140,812	150,937	157,296
		3212	Marilao	35,298	56,361	77,370	97,576	115,351
		3213	Meycauayan	84,124	123,982	153,462	177,845	196,885
		3215	Obando	39,877	46,346	57,367	66,482	73,599
		3216	Pandi	22,827	32,648	39,707	45,360	49,661
		3217	Paombong	26,438	32,052	37,793	42,096	45,193
		3218	Plaridel	39,376	52,954	63,966	72,668	79,215
		3219	Pulilan	38,359	48,199	59,027	67,814	74,569
		3224	Santa Maria	59,131	91,468	118,356	142,223	161,937
				800,019	1,086,329	1,323,250	1,516,807	1,667,239
43		3201	Angat	25,006	34,494	40,431	44,816	47,933
		3208	Dona R. Trinidad	4,790	8,614	10,662	12,355	13,678
		3214	Norzagaray	26,202	33,485	39,412	43,835	47,007
		3220	San Ildefonso	45,224	59,598	69,203	76,123	80,935
		3221	San Jose del Monte	91,324	142,047	227,384	325,241	424,039
		3222	San Miguel	73,590	91,124	107,042	118,865	127,308
		3223	San Rafael	37,043	49,528	60,749	69,880	76,917
				303,179	418,890	554,882	691,116	817,816
			NUEVA ECIJA	1,074,028	1,312,610	1,573,549	1,790,525	1,970,612
44		3305	Carrangalan	19,977	26,064	31,104	35,209	38,564
		3306	Cuyapo	39,825	43,103	51,437	58,226	63,773
		3311	Guimba	59,101	73,363	87,086	98,158	107,150
		3314	Licab	14,606	17,202	20,049	22,263	24,022
		3315	Llanera	18,733	23,285	28,772	33,509	37,519
		3316	Lupao	23,150	27,481	32,402	36,321	39,479
		3317	Munoz	43,398	50,356	59,332	66,470	72,219
		3318	Nampicuan	7,630	8,426	9,964	11,195	12,191
		3320	Pantabangan	13,976	18,341	16,183	14,327	12,976

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
		3322	Quezon	20,936	25,574	30,519	34,547	37,839
		3326	San Jose City	64,531	82,836	95,105	104,317	111,496
		3329	Santo Domingo	29,138	35,864	43,340	49,569	54,726
		3330	Talavera	62,493	77,256	98,060	116,743	132,962
		3331	Talugtog	11,785	14,036	16,749	18,961	20,767
				429,279	523,187	620,101	699,815	765,682
	45	3303	Cabanatuan City	138,895	173,065	210,679	242,399	268,860
	46	3301	Aliaga	32,489	40,425	49,269	56,742	62,983
		3312	Jaen	39,233	47,346	56,672	64,314	70,577
		3321	Penaranda	16,825	20,500	23,734	26,211	28,164
		3328	Santa Rosa	32,564	40,439	48,560	55,250	60,754
		3332	Zaragoza	24,523	28,743	34,359	38,950	42,706
				145,634	177,453	212,595	241,468	265,184
	47	3304	Cabiao	38,086	48,850	60,703	71,026	79,814
		3308	Gapan	60,273	70,489	87,583	102,469	115,139
		3324	San Antonio	43,155	51,815	61,903	70,138	76,874
		3325	San Isidro	28,673	34,349	40,990	46,400	50,821
				170,187	205,503	251,178	290,033	322,648
	48	3302	Bongabon	32,591	39,616	47,276	53,516	58,614
		3307	Gabaldon	17,243	21,744	25,361	28,178	30,419
		3309	Gen. M. Natividad	17,463	21,984	26,234	29,697	32,526
		3310	Gen. Tinio (Papaya)	23,507	29,491	34,313	38,049	41,012
		3313	Laur	17,806	21,464	24,206	26,167	27,652
		3319	Palayan City	15,024	20,393	27,896	35,308	42,171
		3323	Rizal	31,543	38,970	45,639	50,875	55,062
				155,177	193,662	230,926	261,789	287,456
	49		PAMPANGA	1,187,772	1,532,682	1,901,915	2,221,999	2,493,252
		3401	Angeles City	189,822	236,685	294,695	345,114	387,877
		3409	Mabalacat	81,390	121,115	155,991	187,800	215,643
		3415	Porac	51,172	68,215	86,237	102,255	116,038
				322,384	426,015	536,924	635,169	719,559
	50	3403	Arayat	57,039	73,189	91,127	106,717	119,941
		3405	Candaba	53,222	68,145	84,848	99,364	111,675
		3411	Magalang	35,022	43,940	54,710	64,070	72,009
		3413	Mexico	53,771	69,441	86,460	101,253	113,798
		3417	San Luis	25,835	31,920	39,743	46,543	52,310
		3419	Santa Ana	25,494	32,540	40,515	47,447	53,326
				250,383	319,175	397,402	465,393	523,059
	51	3402	Apalit	48,505	62,373	79,520	94,943	108,320
		3404	Bacolor	51,209	67,259	83,331	97,194	108,896

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
		3406	Florida Blanca	51,918	66,146	82,548	96,853	109,013
		3407	Guagua	72,989	88,290	108,898	126,553	141,388
		3408	Lubao	77,907	99,705	121,786	140,408	155,905
		3410	Macabebe	46,070	55,505	66,499	75,467	82,777
		3412	Masantol	35,535	41,964	48,598	53,646	57,595
		3414	Minalin	27,557	34,795	43,324	50,735	57,023
		3416	San Fernando	111,471	157,851	195,643	228,261	255,803
		3418	San Simon	23,641	30,851	37,252	42,548	46,901
		3420	Santa Rita	25,126	28,296	34,931	40,623	45,409
		3421	Santo Tomas	25,082	33,309	41,473	48,568	54,587
		3422	Sexmoan	17,995	21,148	23,784	25,636	27,018
				615,005	787,492	967,588	1,121,437	1,250,635
			TARLAC	690,268	859,651	1,001,586	1,112,658	1,198,121
52		3503	Camiling	54,002	62,716	68,501	72,144	74,509
		3508	Mayantoc	17,180	21,170	24,032	26,117	27,638
		3513	San Clemente	7,136	8,873	10,306	11,411	12,252
		3514	San Jose	14,451	20,483	24,474	27,737	30,321
		3516	Santa Ignacia	25,290	30,470	35,388	39,186	42,074
				118,059	143,712	162,702	176,595	186,794
53		3501	Anao	6,536	7,955	9,202	10,157	10,878
		3506	Gerona	50,566	59,486	69,593	77,520	83,616
		3509	Moncada	34,542	41,672	48,691	54,181	58,394
		3510	Paniqui	55,151	64,949	71,997	76,744	80,004
		3511	Pura	14,840	18,032	20,486	22,280	23,590
		3512	Ramos	11,245	13,566	15,469	16,873	17,906
		3515	San Manuel	13,526	17,261	20,047	22,199	23,834
				186,406	222,921	255,485	279,953	298,223
54		3502	Bamban	26,141	35,639	42,706	48,513	53,129
		3504	Capas	46,645	61,205	72,030	80,623	87,289
		3505	Concepcion	80,859	103,146	123,215	139,606	152,587
		3507	La Paz	35,423	41,946	48,728	53,966	57,950
		3517	Tarlac	161,701	208,722	249,400	282,642	308,976
		3518	Victoria	35,034	42,360	47,320	50,759	53,173
				385,803	493,018	583,399	656,109	713,104
			ZAMBALES	445,329	562,992	687,782	788,991	870,309
55		3603	Candelaria	15,732	18,539	22,827	26,313	29,104
		3606	Masinloc	27,816	32,375	41,181	48,748	55,042
		3613	Santa Cruz	35,769	41,273	51,986	61,044	68,498
				79,317	92,187	115,995	136,104	152,644
56		3601	Botolan	27,204	35,604	40,347	43,461	45,615
		3602	Cabangan	11,670	15,337	17,190	18,352	19,127
		3605	Iba	22,857	29,221	36,294	42,135	46,863

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
		3608	Palauig	17,226	21,577	25,818	29,071	31,578
				78,957	101,739	119,650	133,018	143,181
	57	3604	Castillejos	19,210	26,753	32,810	37,695	41,589
		3607	Olongapo City	156,884	193,327	236,518	271,201	298,755
		3609	San Antonio	22,447	26,944	32,761	37,376	41,013
		3610	San Felipe	13,874	15,624	17,181	18,059	18,597
		3611	San Marcelino	25,037	36,598	49,298	61,152	71,604
		3612	San Narciso	19,175	22,891	25,047	26,220	26,918
		3614	Subic	30,428	46,929	58,524	68,165	76,008
				287,055	369,066	452,138	519,868	574,484
REGION IV			AURORA	107,479	139,586	191,017	240,810	286,695
	58	4102	Casiguran	13,968	18,388	25,326	32,080	38,321
		4103	Dilasag	6,737	11,195	15,383	19,449	23,199
		4104	Dinalungan	5,258	6,770	9,304	11,763	14,030
				25,963	36,353	50,013	63,292	75,550
	59	4101	Baler	18,406	24,689	32,435	39,529	45,827
		4105	Dingalan	8,729	14,475	19,323	23,861	27,945
		4106	Dipaculao	15,610	18,951	27,247	35,744	43,875
		4107	Maria Aurora	26,906	28,378	38,995	49,302	58,807
		4108	San Luis	11,865	16,740	23,004	29,083	34,691
				81,516	103,233	141,004	177,518	211,145
	60		BATANGAS	1,166,869	1,476,783	1,764,289	2,000,930	2,193,933
		4203	Balayan	43,214	53,870	64,296	72,844	79,794
		4207	Calaca	36,280	45,377	55,164	63,443	70,309
		4208	Calatagan	27,406	35,543	43,480	50,261	55,922
		4213	Lian	25,928	31,296	36,919	41,430	45,048
		4219	Nasugbu	59,035	75,515	92,018	106,031	117,682
		4234	Tuy	24,913	30,409	36,401	41,340	45,368
				216,776	272,010	328,278	375,350	414,122
	61	4201	Agoncillo	16,042	20,227	24,436	27,960	30,862
		4202	Alitagtag	14,409	16,016	19,717	22,910	25,592
		4206	Bauan	43,288	59,258	70,831	80,344	88,091
		4211	Laurel	17,777	22,099	27,801	32,881	37,239
		4212	Lemery	42,516	53,932	64,540	73,278	80,402
		4216	Mabini	23,489	30,474	36,219	40,892	44,673
		4224	San Luis	17,879	22,143	26,422	29,929	32,778
		4225	San Nicolas	10,445	13,174	16,215	18,837	21,040
		4227	Santa Teresita	11,064	12,005	13,663	14,889	15,826
		4229	Taal	29,514	34,925	40,216	44,249	47,384
		4233	Tingloy	13,297	15,430	18,170	20,358	22,110
				239,720	299,683	358,229	406,527	445,998

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
	62	4204	Balete	8,644	11,678	13,156	14,218	15,017
		4214	Lipa City	120,410	160,117	192,179	218,726	240,442
		4217	Malvar	17,915	24,253	28,940	32,780	35,902
		4218	Mataas na kahoy	11,982	15,240	17,968	20,152	21,903
		4220	Padre Garcia	19,469	25,958	30,530	34,176	37,090
		4228	Santo Tomas	42,741	58,209	70,469	80,770	89,274
		4230	Talisay	19,326	23,153	27,918	31,896	35,166
		4231	Tanauan	73,559	92,754	106,445	116,795	124,800
				314,046	411,362	487,604	549,514	599,594
	63	4205	Batangas City	142,674	184,970	222,969	254,665	280,715
		4209	Cuenca	17,002	20,176	23,563	26,226	28,335
		4210	Ibaan	25,713	31,220	36,862	41,395	45,035
		4221	Rosario	53,913	66,923	80,360	91,495	100,607
		4222	San Jose	28,564	38,680	44,822	49,570	53,292
		4226	San Pascual	26,057	34,629	41,838	47,873	52,845
		4232	Taysan	19,249	22,508	26,857	30,422	33,318
				313,172	399,106	477,270	541,645	594,147
	64	4215	Lobo	24,181	26,881	32,076	36,333	39,793
		4223	San Juan	58,974	67,741	80,832	91,560	100,279
				83,155	94,622	112,908	127,893	140,072
	65		CAVITE	771,165	1,152,534	1,537,216	1,895,244	2,223,098
		4303	Bacoor	90,346	159,685	233,646	309,461	382,828
		4304	Carmona	19,486	28,247	39,832	51,186	61,854
		4305	Cavite City	87,648	91,641	103,541	111,057	116,670
		4306	Dasmaringas	51,884	136,556	196,461	256,645	314,105
		4307	Gen. Alvarez	45,515	65,977	93,034	119,556	144,472
		4310	Imus	59,091	92,125	120,881	146,470	169,102
		4312	Kawit	39,360	47,755	61,945	74,355	85,222
				393,330	621,986	849,339	1,068,731	1,274,253
	66	4309	General Trias	39,737	52,888	70,153	85,758	99,690
		4317	Noveleta	14,457	20,409	25,893	30,524	34,497
		4318	Rosario	33,305	45,405	60,249	73,674	85,663
		4321	Tanza	43,666	61,785	80,875	97,803	112,743
		4323	Trece Martirez City	8,578	15,686	20,006	23,685	26,857
				139,743	196,173	257,176	311,443	359,452
	67	4308	Gen. E. Aguinaldo	9,569	10,954	12,572	13,658	14,490
		4311	Indang	30,971	39,294	49,419	57,843	65,015
		4313	Magallanes	9,689	12,556	16,700	20,461	23,826
		4314	Maragondon	18,014	22,814	30,001	36,417	42,102
		4316	Naic	38,235	51,629	65,437	77,079	87,060
		4322	Temate	9,737	11,981	18,386	25,321	32,289
				116,215	149,228	192,515	230,779	264,781

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
68		4301	Alfonzo	21,976	28,944	36,381	42,562	47,822
		4302	Amadeo	16,231	21,022	25,680	29,355	32,395
		4315	Mendez Nunez	15,041	17,652	20,932	23,353	25,291
		4319	Silang	52,310	93,790	123,789	150,713	174,648
		4320	Tagaytay City	16,319	23,739	31,404	38,308	44,456
				121,877	185,147	238,187	284,291	324,612
69		LAGUNA		974,969	1,370,232	1,745,682	2,073,594	2,356,851
		4403	Binan	83,844	134,553	171,316	202,257	227,930
		4404	Cabuyao	46,375	66,975	84,313	98,624	110,348
		4405	Calamba	121,407	173,453	227,068	274,237	314,538
		4425	San Pedro	74,700	156,486	243,119	337,793	432,006
		4428	Santa Rosa	64,449	94,719	119,864	140,809	158,069
				390,775	626,186	845,679	1,053,720	1,242,891
70		4401	Alaminos	20,655	27,412	32,778	36,764	39,818
		4402	Bay	23,004	32,535	40,881	47,746	53,358
		4406	Calauan	25,307	32,736	37,711	41,032	43,405
		4411	Los Banos	49,650	66,211	83,898	98,665	110,853
		4417	Nagcarlan	30,696	37,696	44,743	49,883	53,775
		4423	Rizal	7,524	9,501	11,961	13,991	15,654
		4424	San Pablo City	131,908	161,630	191,552	213,296	229,713
				288,744	367,721	443,523	501,377	546,578
71		4407	Cavinti	13,247	15,131	17,692	19,486	20,810
		4410	Liliw (Lilio)	17,469	21,911	25,292	27,564	29,196
		4412	Luisiana	12,222	14,241	16,318	17,675	18,634
		4413	Lumban	17,393	19,773	23,826	26,891	29,265
		4415	Magdalena	10,453	13,450	16,931	19,805	22,160
		4416	Majayjay	13,725	15,875	17,892	19,124	19,953
		4419	Pagsanjan	19,526	25,024	31,227	36,268	40,355
		4422	Pila	21,002	27,467	34,578	40,447	45,255
		4426	Santa Cruz	60,737	76,603	93,985	107,656	118,510
		4430	Victoria	16,554	21,847	26,997	31,105	34,396
				202,328	251,322	304,738	346,022	378,534
72		4408	Famy	5,251	7,928	9,632	10,945	11,973
		4409	Kalayaan (Longo)	10,267	13,118	16,513	19,317	21,612
		4414	Mabitac	8,559	11,444	14,406	16,851	18,854
		4418	Paete	16,414	20,579	24,241	26,859	28,816
		4420	Pakil	9,065	13,438	15,475	16,832	17,801
		4421	Pangil	10,539	15,212	18,952	21,982	24,436
		4427	Santa Maria	15,774	20,525	23,871	26,177	27,859
		4429	Siniloan	17,253	22,759	28,651	33,514	37,497
				93,122	125,003	151,740	172,475	188,848
73		QUEZON		1,145,188	1,372,381	1,666,767	1,921,819	2,144,273
		4505	Burdeos	15,098	17,983	20,995	23,361	25,301

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
		4511	General Nakar	12,298	18,323	21,161	23,341	25,107
		4514	Infanta	28,206	35,564	43,194	49,640	55,126
		4515	Jomalig	4,028	4,542	5,075	5,450	5,742
		4524	Panukulan	7,996	9,815	11,316	12,465	13,394
		4525	Patnanungan	7,561	9,447	12,616	15,669	18,480
		4529	Polillo	20,855	23,183	26,638	29,259	31,372
		4531	Real	14,667	20,475	24,734	28,299	31,319
				110,709	139,332	165,729	187,485	205,841
	74	4517	Lucban	26,190	30,130	37,110	43,138	48,331
		4520	Mauban	38,347	43,740	53,124	61,054	67,800
		4532	Sampaloc	9,497	11,132	12,659	13,787	14,686
		4539	Tayabas	42,731	54,355	66,728	77,362	86,497
				116,765	139,357	169,621	195,342	217,313
	75	4507	Candelaria	55,399	69,969	85,308	98,349	109,482
		4509	Dolores	15,568	18,146	22,453	26,200	29,440
		4518	Lucena City	109,400	150,624	191,008	227,396	259,523
		4534	San Antonio	17,950	20,786	25,245	29,014	32,219
		4537	Sariaja	75,193	91,081	111,283	128,516	143,257
		4540	Tiaong	49,291	60,662	73,677	84,674	94,031
				322,801	411,268	508,974	594,149	667,952
	76	4502	Alabat	11,545	11,785	13,855	15,506	16,869
		4503	Atimonan	40,456	46,651	53,758	59,188	63,579
		4522	Padre Burgos	14,276	15,219	17,985	20,212	22,060
		4523	Pagbilao	32,127	41,635	49,166	55,224	60,246
		4526	Perez	7,657	8,609	10,950	13,068	14,944
				106,061	123,899	145,713	163,198	177,698
	77	4501	Agdangan	7,493	8,207	9,215	9,933	10,497
		4510	General Luna	16,759	17,997	21,456	24,288	26,656
		4513	Gumaca	42,737	48,195	56,110	62,298	67,355
		4519	Macalelon	17,409	19,887	24,107	27,658	30,681
		4527	Pitogo	16,048	17,086	20,752	23,850	26,485
		4528	Plaridel	6,476	7,473	8,498	9,256	9,860
		4541	Unisan (Panaon)	18,487	19,851	23,367	26,177	28,499
				125,409	138,696	163,504	183,460	200,035
	78	4506	Calauag	58,723	64,856	75,545	83,908	90,747
		4512	Guinayangan	29,585	32,829	39,050	44,122	48,356
		4516	Lopez	59,245	66,010	77,047	85,720	92,827
		4530	Quezon	10,885	11,345	12,533	13,332	13,944
		4538	Tagkawayan	31,823	40,221	40,365	39,709	39,096
				190,261	215,261	244,540	266,790	284,970
	79	4504	Buenavista	16,475	20,060	24,363	28,000	31,094
		4508	Catanauan	42,714	48,019	57,832	66,008	72,911

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
		4521	Mulanay	32,148	38,606	48,954	58,278	66,509
		4536	San Narciso	29,366	33,025	44,626	55,959	66,494
				120,703	139,710	175,775	208,245	237,008
	80	4533	San Andres	18,073	23,716	29,465	34,498	38,864
		4535	San Francisco (Aurora)	34,406	41,142	63,447	88,653	114,592
				52,479	64,858	92,912	123,151	153,456
			RIZAL	567,347	980,194	1,289,134	1,567,916	1,795,247
	81	4602	Antipolo	70,377	207,842	315,760	425,936	523,789
		4610	Rodriguez (Montalban)	42,749	67,074	82,765	94,176	101,475
		4611	San Mateo	53,014	82,310	100,380	113,127	120,988
				166,140	357,226	498,905	633,240	746,251
	82	4601	Angono	27,136	46,014	63,398	78,944	91,224
		4603	Baras	11,434	16,880	20,794	23,630	25,434
		4604	Binangonan	82,702	127,561	150,583	165,257	173,141
		4605	Cainta	60,280	126,839	204,215	288,898	368,682
		4606	Cardona	25,024	32,962	36,522	38,062	38,315
		4608	Morong	25,387	32,165	32,737	31,839	30,382
		4613	Taytay	76,931	112,403	130,718	141,715	147,078
		4614	Teresa	15,095	20,645	21,823	21,889	21,391
				323,989	515,469	660,790	790,234	895,648
	83	4607	Jala-Jala	12,199	16,318	18,863	20,350	21,041
		4609	Pililla	23,716	32,771	38,619	42,324	44,295
		4612	Tanay	41,303	58,410	71,957	81,768	88,012
				77,218	107,499	129,439	144,442	153,348
REGION V			ALBAY	812,265	903,023	1,077,358	1,225,820	1,360,293
	84	5110	Malinao	28,480	31,349	37,616	42,988	47,858
		5117	Tabaco	72,911	85,697	102,768	117,388	130,641
		5118	Tiwi	28,836	34,658	42,893	50,275	57,080
				130,227	151,704	183,277	210,651	235,578
	85	5107	Libon	52,358	59,910	70,637	79,578	87,616
		5108	Ligao	70,127	72,560	87,201	99,783	111,198
		5112	Oas	52,468	53,061	60,546	66,409	71,619
		5114	Polangui	55,822	61,556	73,670	84,014	93,381
				230,775	247,087	292,055	329,785	363,815
	86	5101	Bacacay	44,603	49,202	58,636	66,638	73,869
		5102	Camalig	46,216	49,975	59,290	67,133	74,205
		5103	Daraga	73,503	83,928	100,900	115,491	128,734
		5104	Guinobatan	53,844	58,926	67,727	74,728	80,960
		5106	Legaspi City	100,147	121,116	144,953	165,306	183,734

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
		5109	Malilipot	23,327	24,160	29,363	33,909	38,058
		5111	Manito	15,475	16,011	19,685	22,947	25,944
		5115	Rapu-Rapu	25,272	26,232	32,431	37,980	43,092
		5116	Sto. Domingo	19,839	22,939	28,038	32,530	36,642
				402,226	452,489	541,022	616,662	685,237
87		5105	Jovellar	15,073	14,884	17,678	20,035	22,161
		5113	Pio Duran	33,964	36,859	43,326	48,688	53,502
				49,037	51,743	61,004	68,722	75,663
88			CAMARINES NORTE	309,208	390,982	486,215	572,345	658,355
		5202	Capalonga	21,803	23,557	28,731	33,264	37,737
		5205	Jose Panganiban	30,376	44,408	51,091	56,397	61,665
		5206	Labo	56,911	70,371	87,894	103,749	119,489
		5208	Paracale	25,407	39,192	50,640	61,454	72,313
		5210	Santa Elana	13,143	20,105	26,623	32,964	39,398
				147,640	197,633	244,979	287,827	330,601
89		5201	Basud	23,132	27,295	34,209	40,494	46,738
		5203	Daet	55,003	66,477	82,841	97,604	112,248
		5206	Mercedes	27,753	34,300	43,053	51,023	58,946
		5208	San Lorenzo Ruiz	8,894	9,286	11,722	13,957	16,181
		5209	San Vicente	6,603	7,321	9,014	10,518	12,004
		5211	Talisay	13,923	16,896	20,634	23,913	27,150
		5212	Vinzons	26,260	31,774	39,762	47,009	54,486
				161,568	193,349	241,236	284,518	327,754
90			CAMARINES SUR	1,102,721	1,305,919	1,615,902	1,896,632	2,158,329
		5307	Cabusao	10,877	15,305	18,879	22,053	24,964
		5312	Del Gallego	13,517	17,047	21,029	24,563	27,806
		5319	Lupi	21,281	24,809	30,697	35,944	40,768
		5330	Ragay	34,998	41,438	50,380	58,154	65,231
		5334	Sipocot	43,639	49,501	61,063	71,325	80,742
				124,312	148,100	182,048	212,038	239,511
91		5311	Curamona	32,759	36,107	44,439	51,812	58,568
		5314	Garchitorena	16,929	19,439	22,436	24,822	26,942
		5317	Lagonoy	34,824	38,163	46,010	52,746	58,850
		5329	Presentacion (Parubcan)	13,285	14,788	17,514	19,789	21,831
				97,797	108,497	130,399	149,168	166,191
92		5308	Calabanga	43,162	54,261	66,676	77,635	87,669
		5315	Goa	36,365	39,888	48,562	56,119	63,003
		5333	San Jose	23,971	27,517	33,945	39,649	44,885
		5335	Siruma	11,649	13,103	16,957	20,594	24,030
		5337	Tinambac	39,743	46,570	57,448	67,102	75,963
				154,890	181,339	223,587	261,098	295,550

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
93	5304		Bombon	8,259	10,874	13,902	16,720	19,361
	5309		Camaligan	11,023	15,436	14,445	13,473	12,818
	5310		Canaman	15,835	20,298	31,758	45,059	59,330
	5313		Gainza	6,231	7,095	8,752	10,223	11,573
	5318		Libmanan	68,623	77,565	93,162	106,475	118,516
	5320		Magarao	13,455	16,623	20,610	24,174	27,454
	5321		Milaor	15,064	18,199	24,652	31,082	37,337
	5322		Minalabac	30,429	35,922	45,262	53,792	61,717
	5324		Naga City	90,991	115,329	142,268	166,176	188,118
	5325		Ocampo	24,870	30,876	38,087	44,489	50,363
	5326		Pamplona	19,711	24,097	29,663	34,589	39,105
	5327		Pasacao	25,381	31,960	42,138	51,971	61,368
	5328		Pili	43,314	52,481	70,309	87,854	104,796
	5332		San Fernando	17,229	20,608	26,633	32,313	37,674
	5336		Tigaon	26,585	33,650	41,509	48,485	54,887
			417,000	511,013	643,150	766,874	884,417	
94	5301		Baao	34,000	39,040	48,159	56,252	63,680
	5302		Balatan	15,238	19,324	23,972	28,130	31,959
	5302		Bato	29,865	35,294	42,625	48,936	54,660
	5305		Buhi	48,774	57,496	72,242	85,660	98,107
	5306		Bula	40,767	48,240	61,895	74,656	86,646
	5316		Iriga City	66,316	74,269	83,376	90,182	96,186
	5323		Nabua	53,459	60,885	76,788	91,330	104,850
	5331		Sagnay	20,303	22,422	27,659	32,308	36,574
			308,722	356,970	436,718	507,454	572,661	
95			SORSOGON	502,648	522,960	645,881	757,248	862,798
	5406		Castilla	34,918	34,702	46,101	57,334	68,359
	5407		Donsol	33,917	33,159	38,860	43,625	48,044
	5413		Pilar	45,758	46,268	55,490	63,481	70,940
			114,593	114,129	140,451	164,440	187,343	
96	5401		Bacon	32,090	32,810	40,519	47,474	54,043
	5405		Casiguran	21,875	22,277	27,572	32,362	36,891
	5408		Gubat	44,038	43,296	53,585	62,896	71,699
	5414		Prieto Diaz	15,664	15,324	18,773	21,853	24,750
	5416		Sorsogon	60,811	72,871	91,024	107,647	123,431
			174,478	186,578	231,474	272,231	310,814	
97	5402		Barcelona	16,126	16,251	19,955	23,273	26,399
	5404		Bulusan	18,121	18,009	21,663	24,844	27,816
	5409		Irosin	35,115	37,887	47,372	56,068	64,329
	5410		Juban	19,737	20,671	25,584	30,029	34,232
	5412		Matnog	24,288	25,957	32,126	37,708	42,985
	5415		Santa Magdalena	13,174	12,274	16,066	19,739	23,315
			126,561	131,049	162,766	191,661	219,076	

Appendix 7.1 FUTURE POPULATION ESTIMATE BY MUNICIPALITY, ZONE AND PROVINCE

Region	Zone No.	Code No.	Province/Municipality	1980	1990	2000	2010	2020
	98	5403	Bulan	61,150	66,450	80,810	93,500	105,406
		5411	Magallanes	25,866	24,754	30,381	35,416	40,158
				87,016	91,204	111,190	128,915	145,565