

3.2 Ambient Air Quality

3.2.1 Monthly Average Concentration

Figures 3.2.1 through 3.2.3 show monthly average concentration of SO₂, NO₂, NO_x, CO, O₃ and HC.

3.2.2 Daily Hourly Average Concentration

Figures 3.2.4 through 3.2.6 show daily hourly average concentration of SO₂, NO₂, NO_x, CO, O₃ and HC.

3.2.3 Probability Distribution of Concentration

Figures 3.2.7 through 3.2.14 show probability distribution curves for hourly mean and daily mean concentrations of SO₂, NO₂, NO_x, CO, O₃ and HC.

□ SO₂ (ppb)

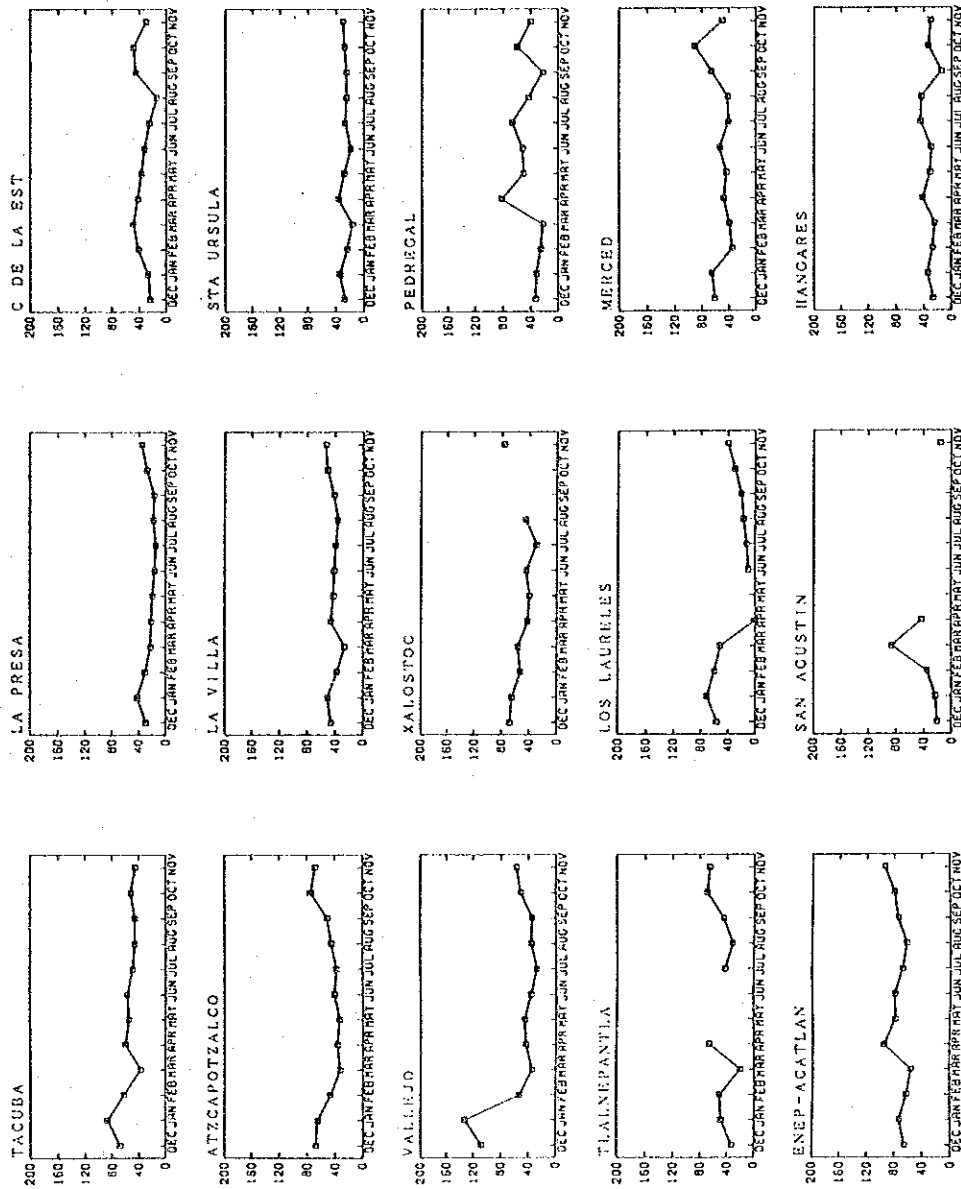


Figure 3.2.1 Monthly Average Concentration (Dec. 1986 ~ Nov. 1987)

□ NO₂ (ppb)
○ CO (ppm)

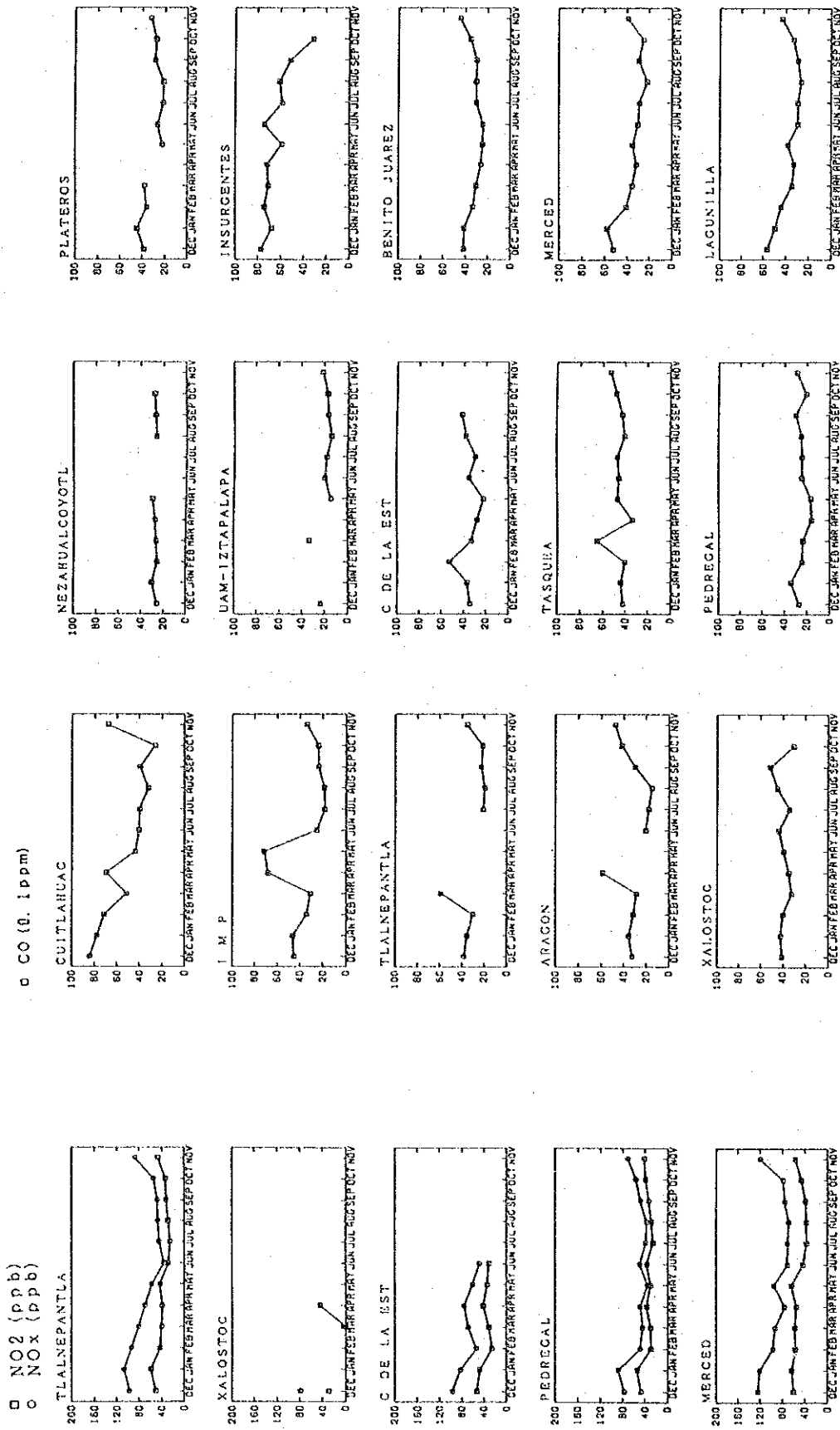


Figure 3.2.2 Monthly Average Concentration (Dec. 1986 - Nov. 1987)

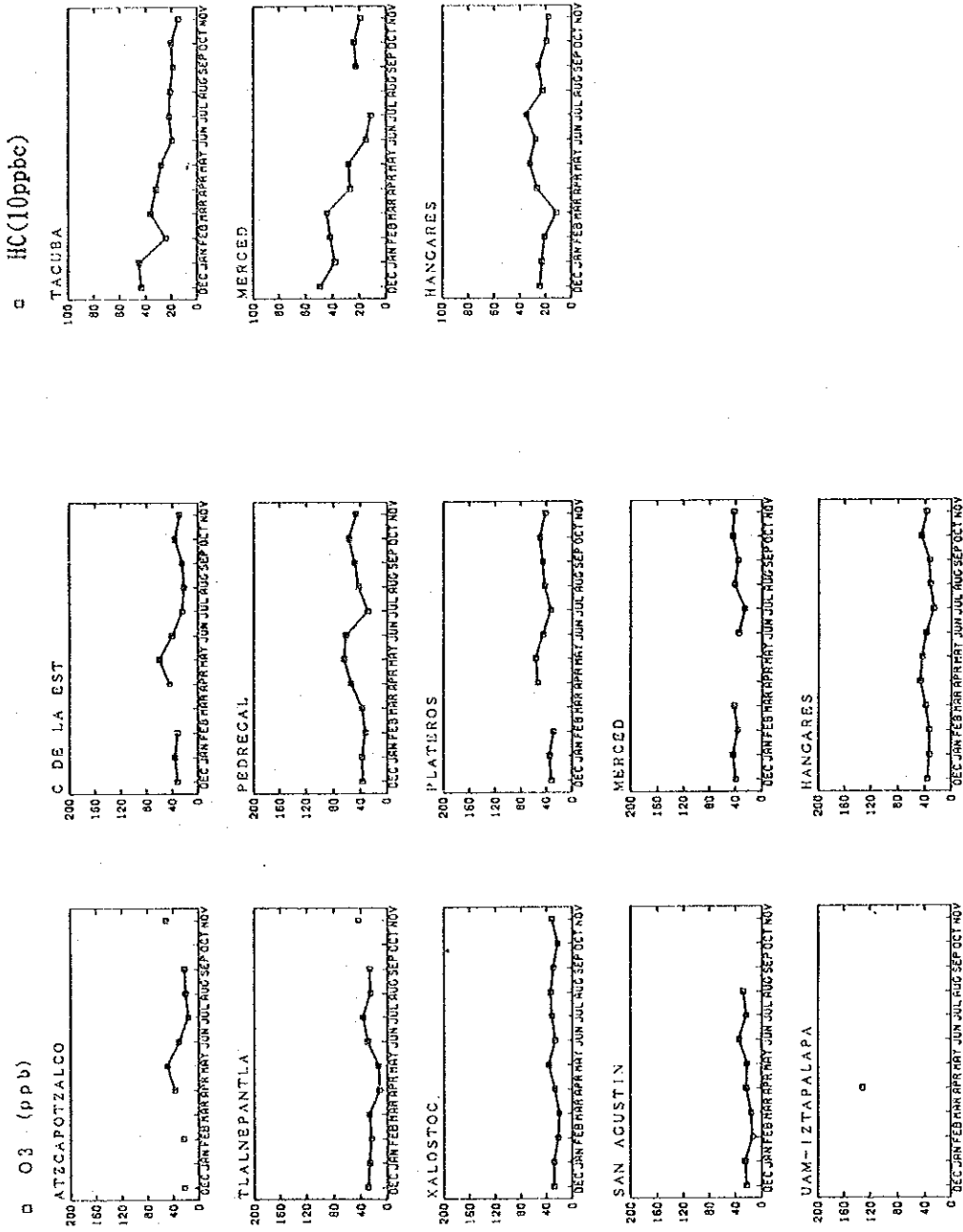


Figure 3.2.3 Monthly Average Concentration (Dec. 1986 - Nov. 1987)

□ SO₂ (ppb)

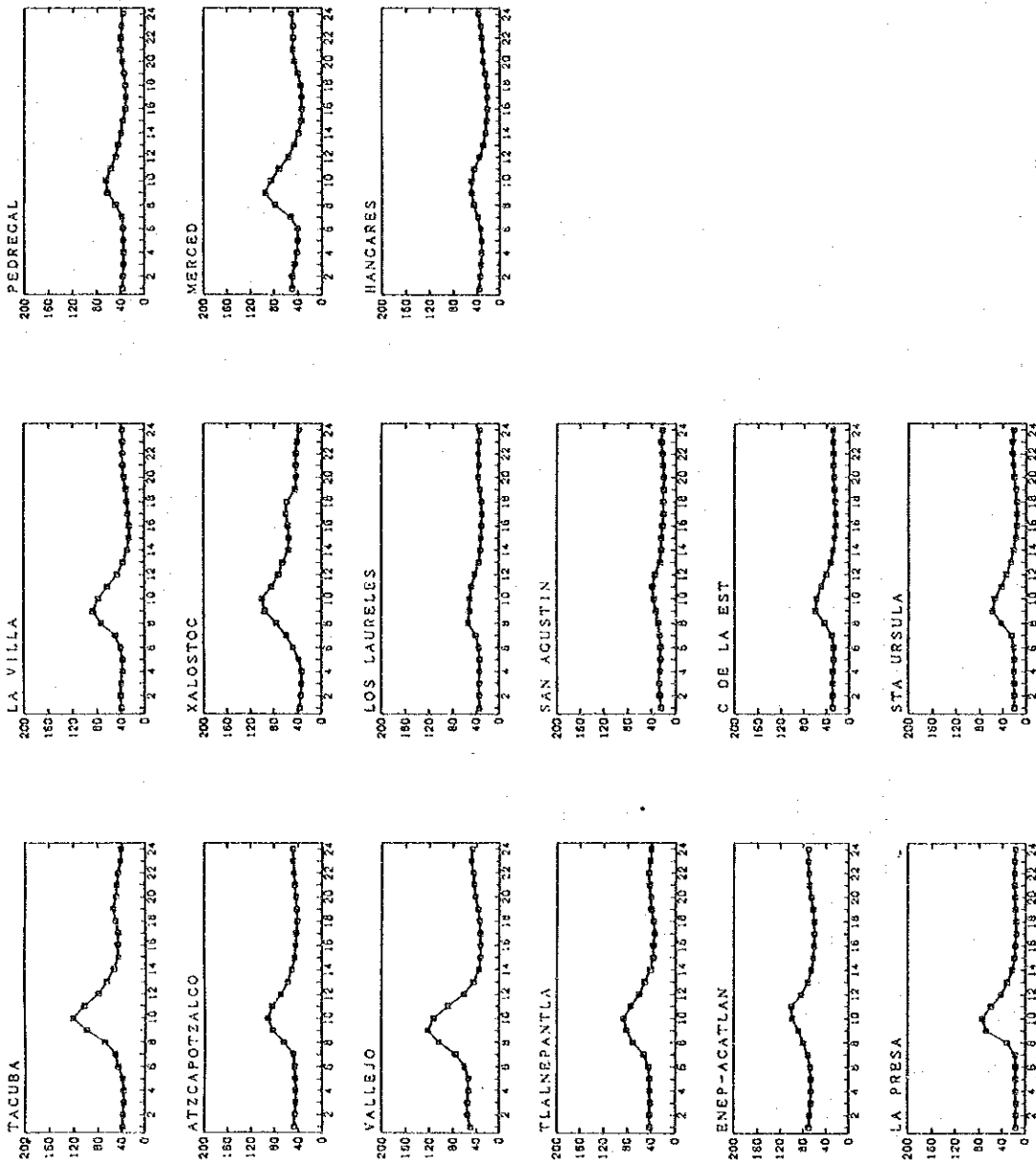


Figure 3.2.4 Time of Day Average Concentration (Dec. 1986 - Nov. 1987)

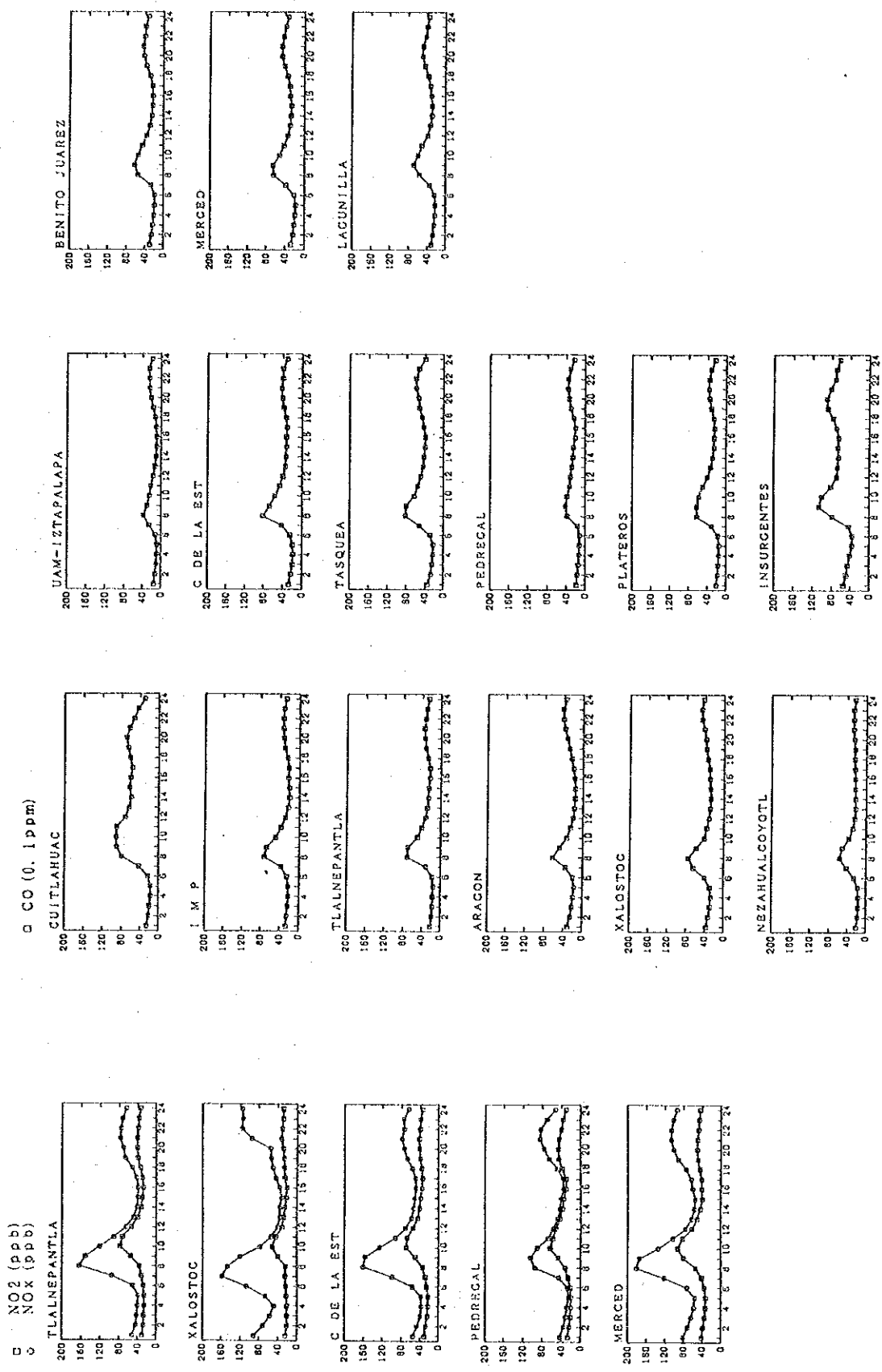


Figure 3.2.5 Time of Day Average Concentration (Dec. 1986 - Nov. 1987)

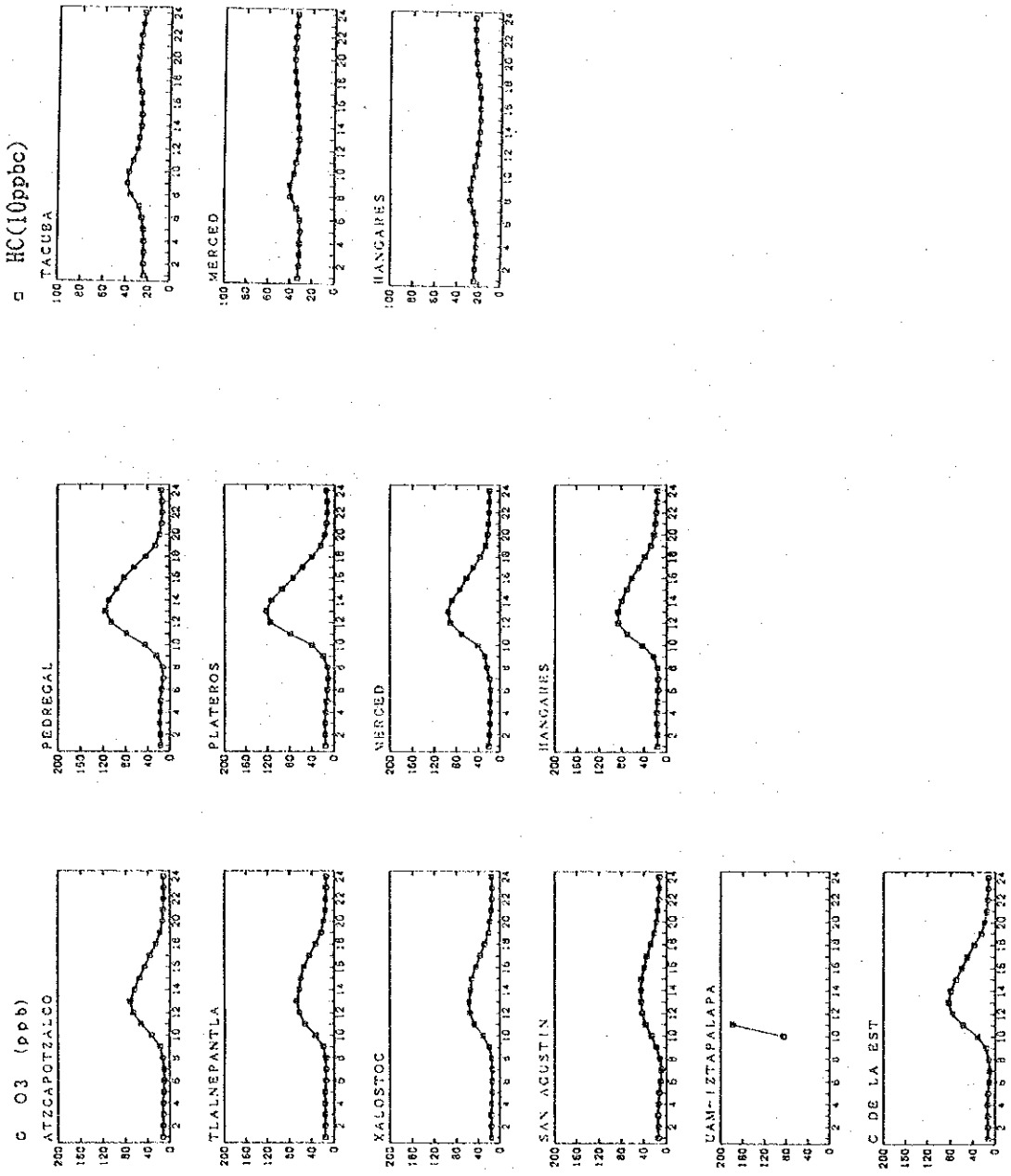


Figure 3.2.6 Time of Day Average Concentration (Dec. 1986 - Nov. 1987)

○ Hourly Mean
 × Daily Mean

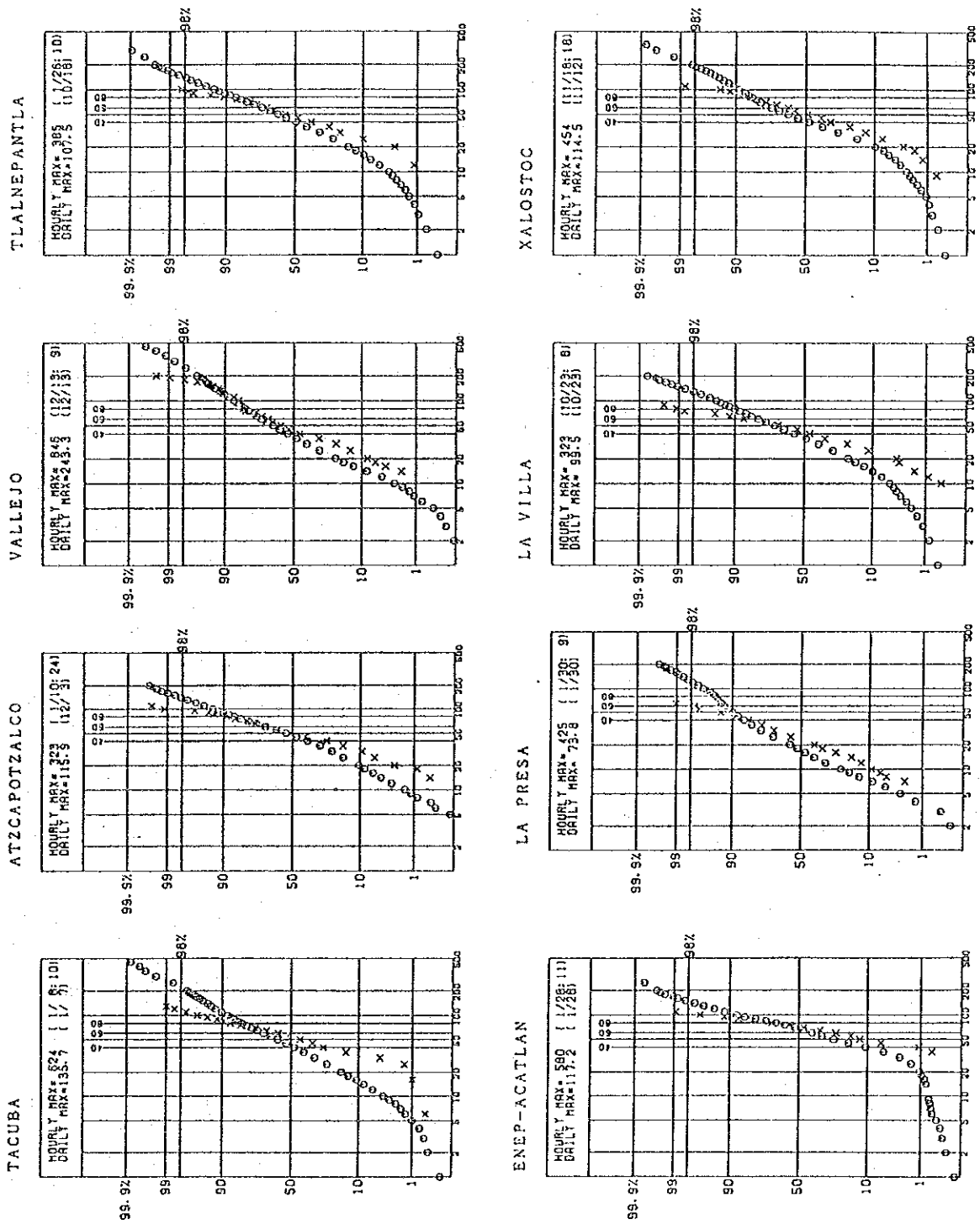


Figure 3.2.7 Probability Distribution Curve (Dec. 1986 - Nov. 1987)

○ Hourly Mean
 × Daily Mean

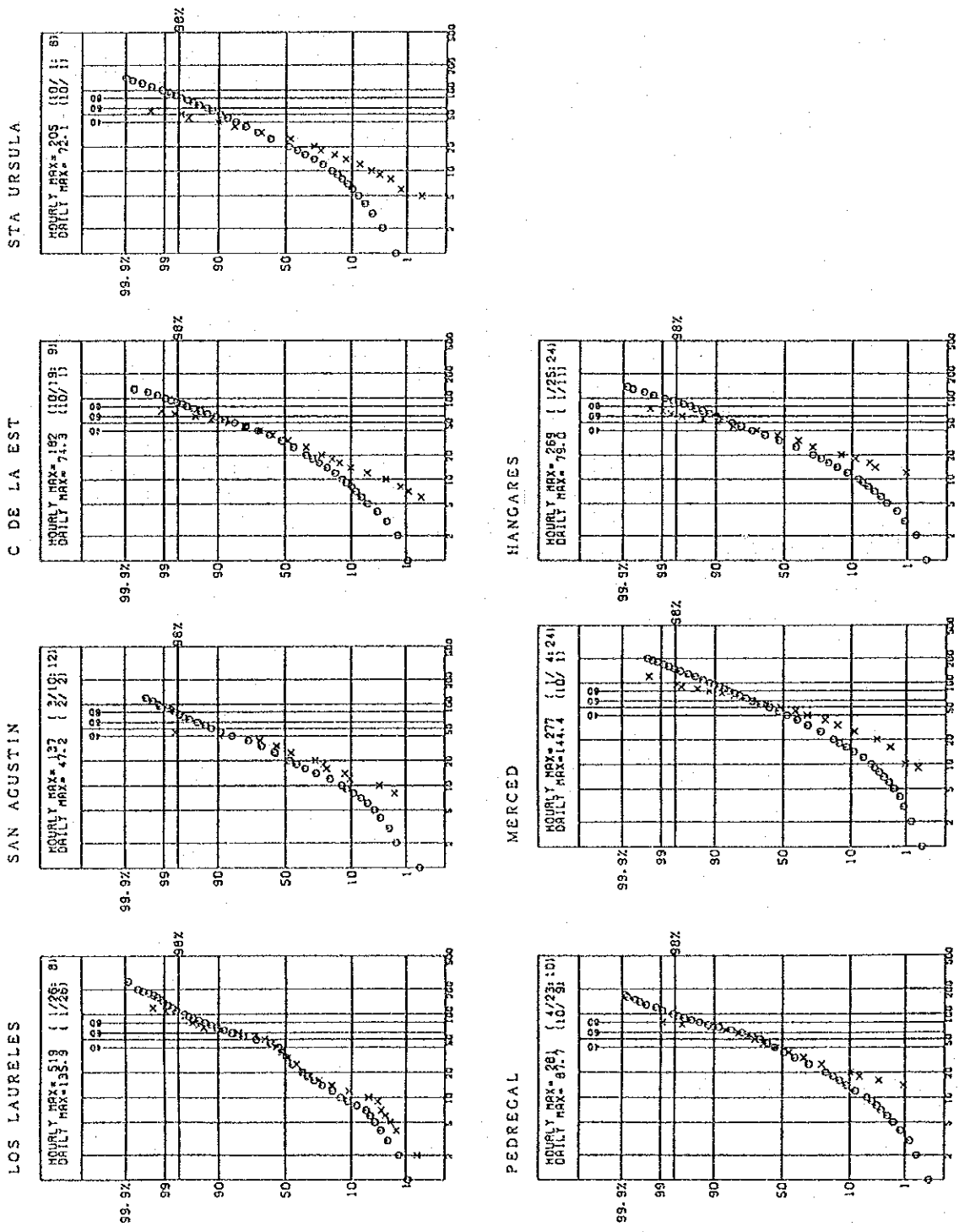


Figure 3.2.8 Probability Distribution Curve (Dec. 1986 - Nov. 1987)

○ Hourly Mean
 × Daily Mean

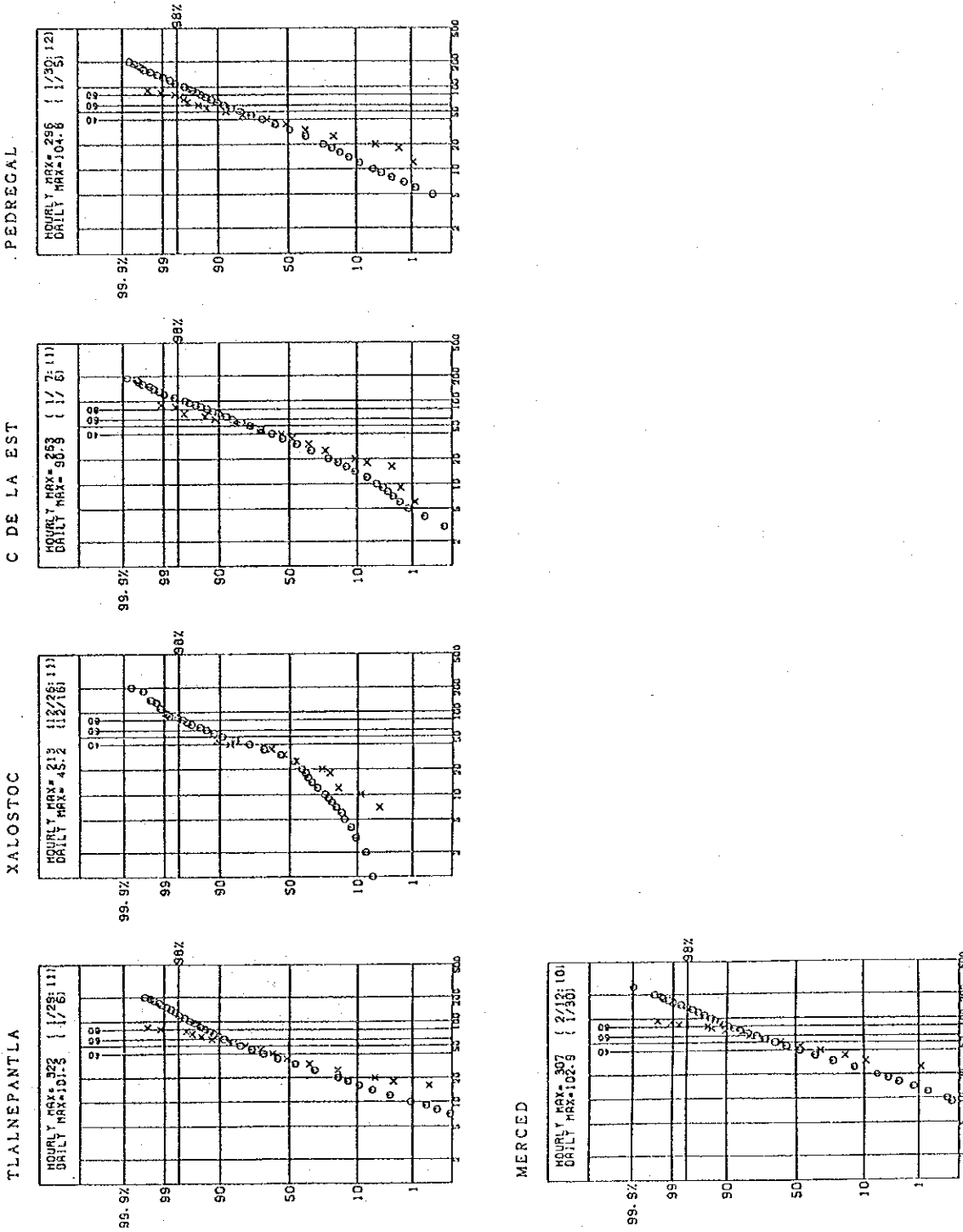


Figure 3.2.9 Probability Distribution Curve (Dec. 1986 - Nov. 1987)

○ Hourly Mean
 × Daily Mean

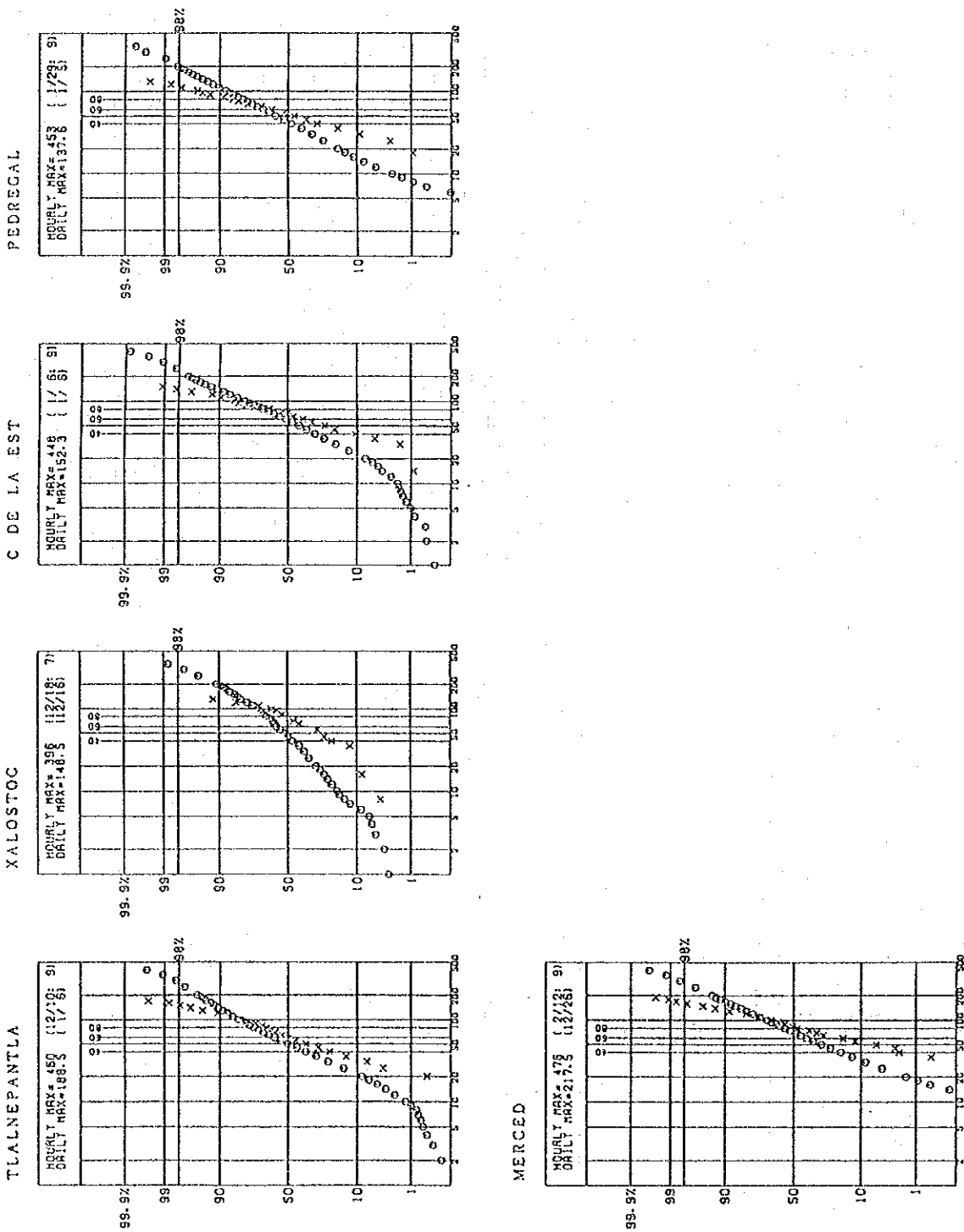


Figure 3.2.10 Probability Distribution Curve (Dec. 1986 - Nov. 1987)

○ Hourly Mean
 × 8 Hours Mean

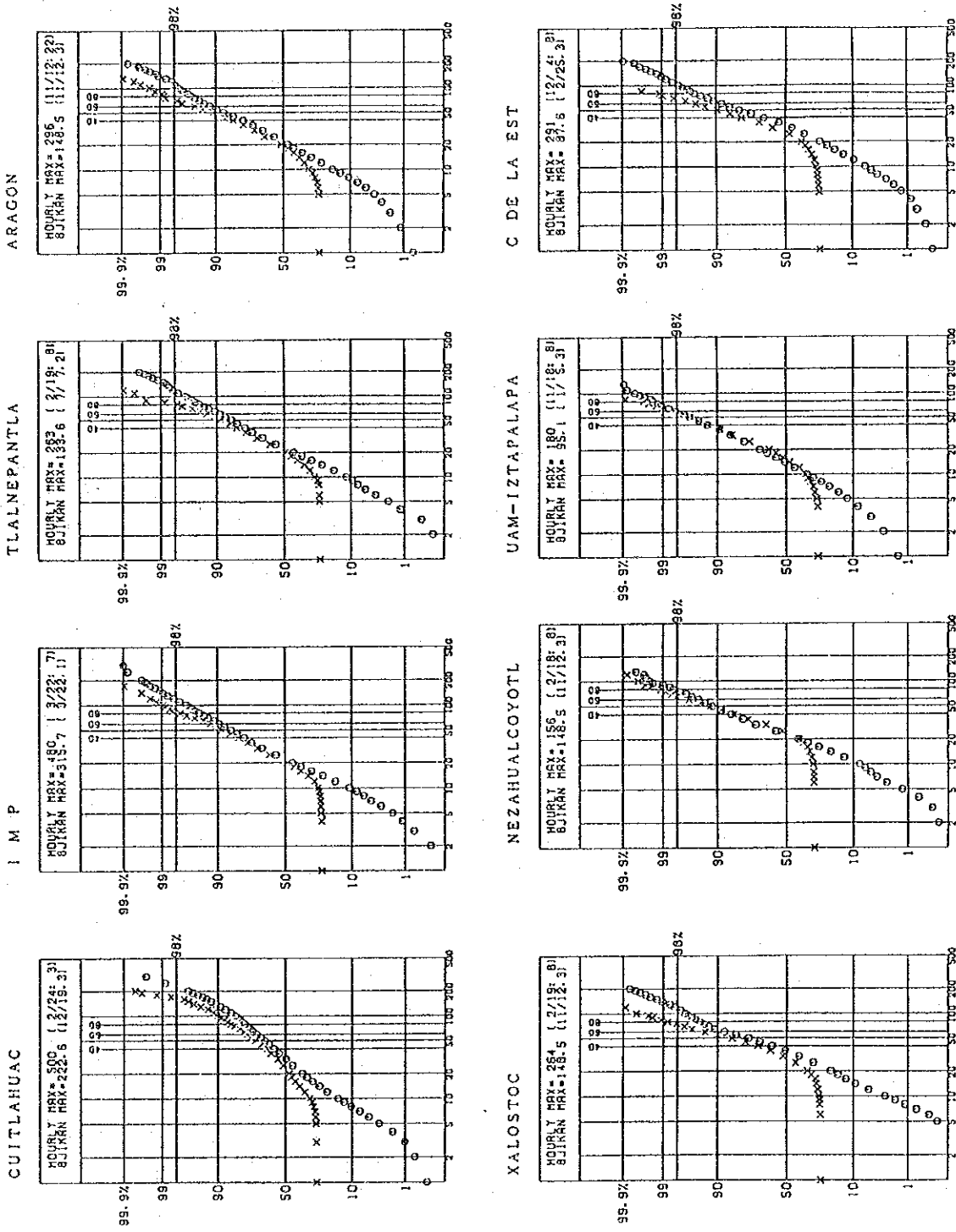


Figure 3.2.11 Probability Distribution Curve (Dec. 1986 - Nov. 1987)

○ Hourly Mean
 × 8 Hours Mean

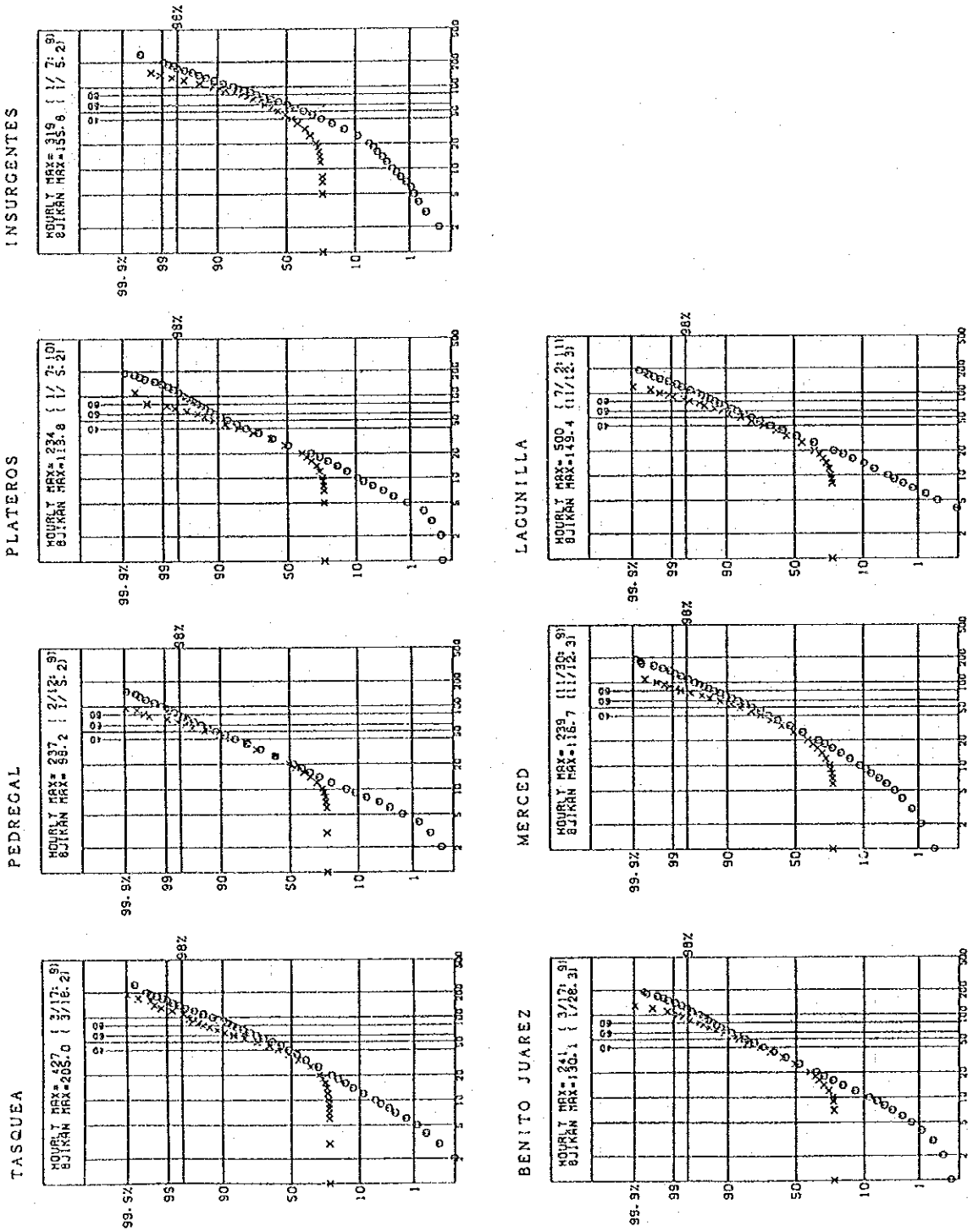


Figure 3.2.12 Probability Distribution Curve (Dec. 1986 - Nov. 1987)

○ Hourly Mean
 × Daily Mean

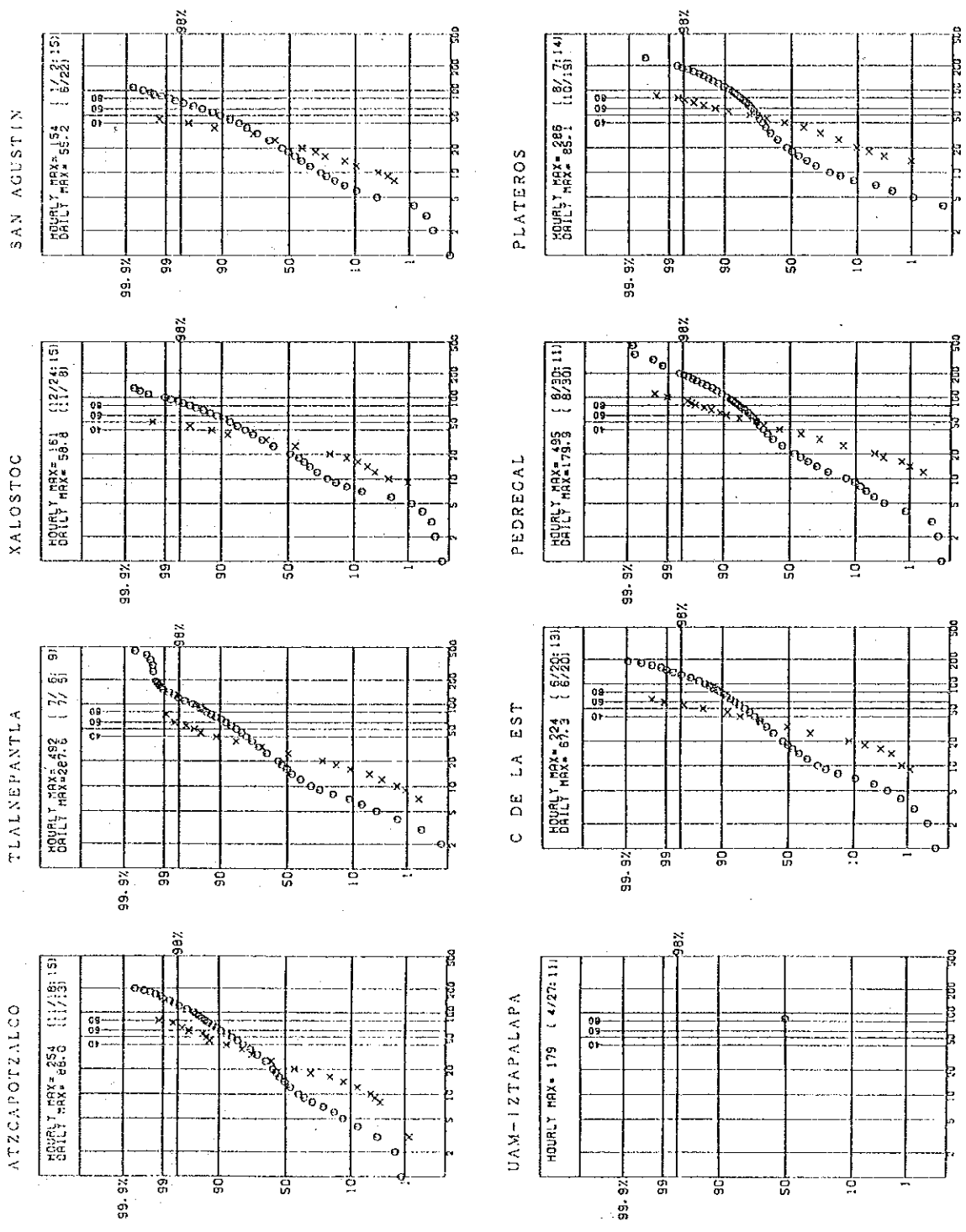
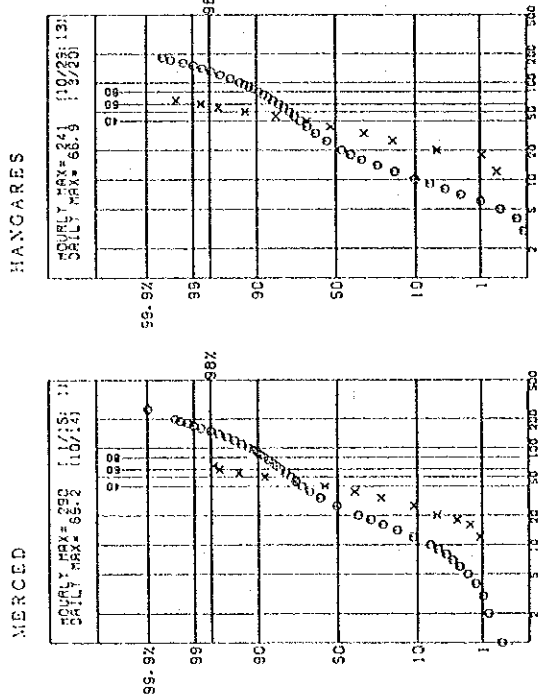


Figure 3.2.13 Probability Distribution Curve (Dec. 1986 - Nov. 1987)

○ Hourly Mean
 × Daily Mean



○ Hourly Mean
 × Daily Mean

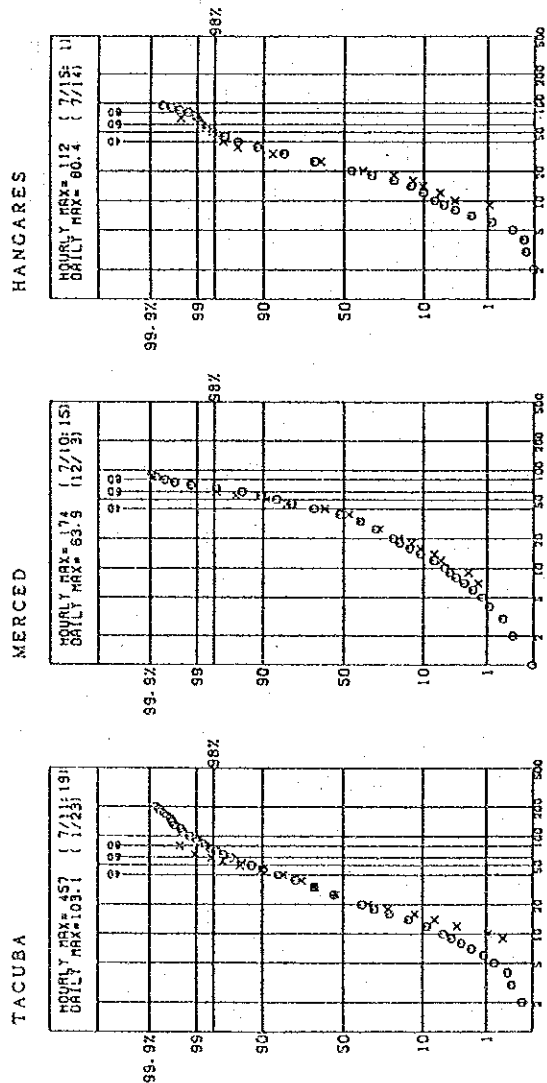


Figure 3.2.14 Probability Distribution Curve (Dec. 1986 - Nov. 1987)

3.3 Relation Between Ambient Air Quality and Meteorology

3.3.1 Air Quality and Wind

Figures 3.3.1 through 3.3.4 show average concentrations of SO₂, NO₂, NO_x, CO, O₃ and HC classified by wind direction.

Figures 3.3.5 through 3.3.8 show average concentration of those classified by wind speed.

3.3.2 Air Quality and Atmospheric Stability

Figures 3.3.9 through 3.3.12 show average concentrations of SO₂, NO₂, NO_x, CO, O₃ and HC classified by atmospheric stability classes.

3.3.3 High Pollutant Concentration and Meteorology

Figures 3.3.13 through 3.3.16 show the time-of-day average concentrations of SO₂, NO₂, CO and O₃ for the days when high concentration occurred.

Figures 3.3.17 and 3.3.18 show wind rose for the days when those high concentrations occurred.

Figures 3.3.19 and 3.3.20 show frequency of occurrence of wind speed classes for the high-concentration days.

Figures 3.3.21 through 3.3.24 show frequency of occurrence of atmospheric stability classes for the high-concentration days.

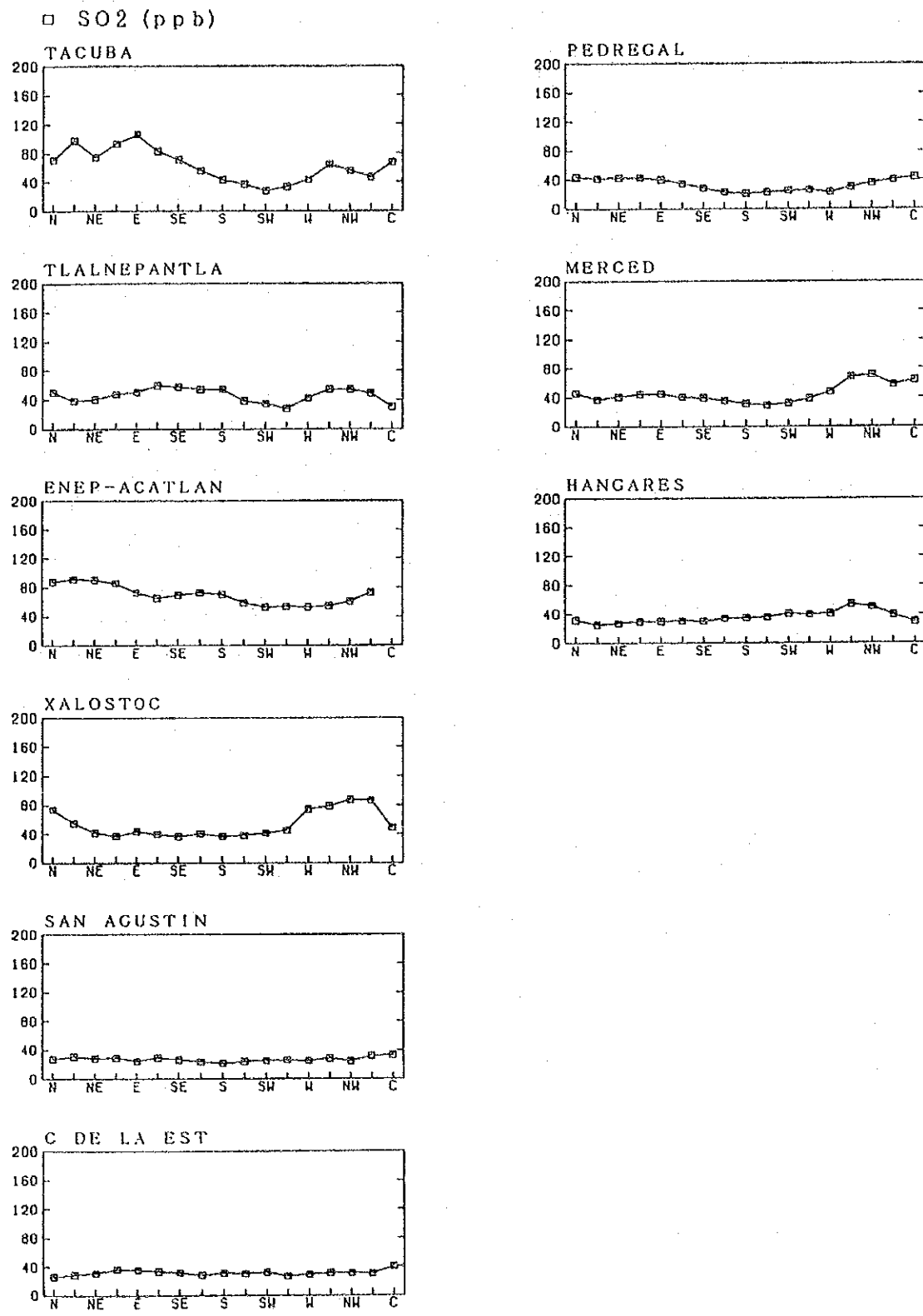


Figure 3.3.1 Average Concentration Classified by Wind Direction (Dec. 1986 - Nov. 1987)

□ NO₂ (ppb)
 ○ NO_x (ppb)

□ CO (0.1 ppm)

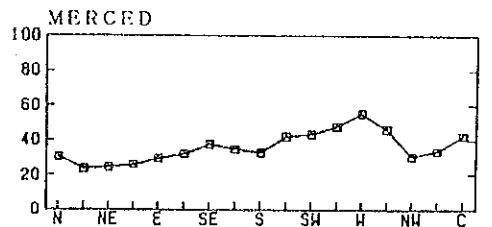
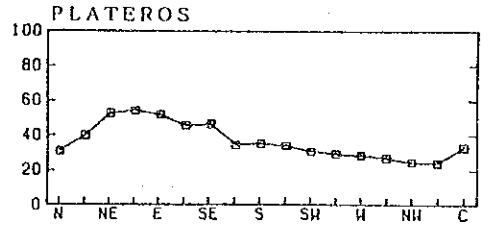
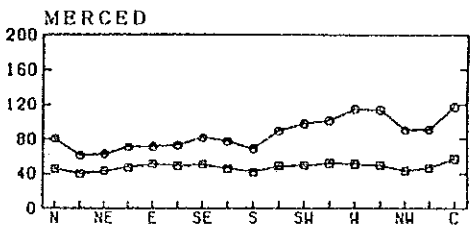
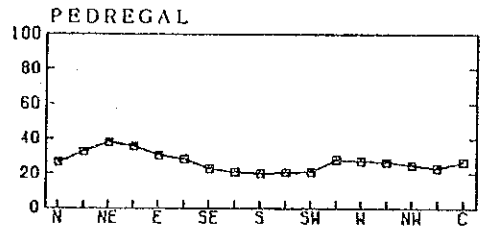
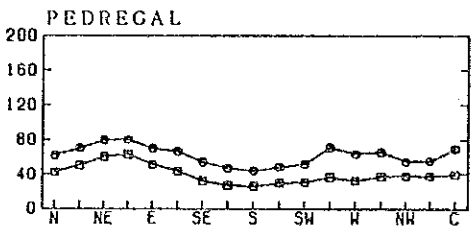
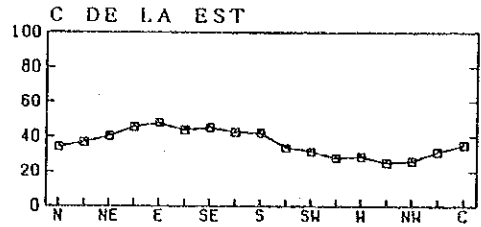
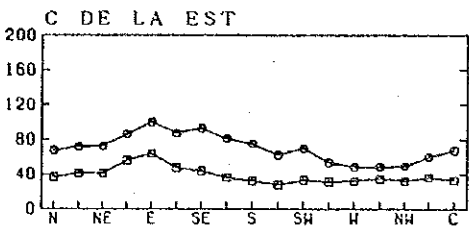
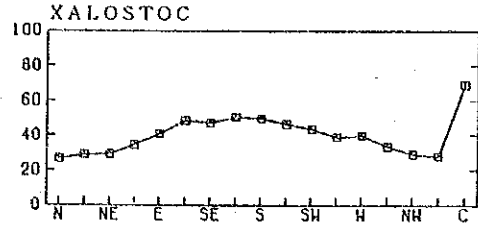
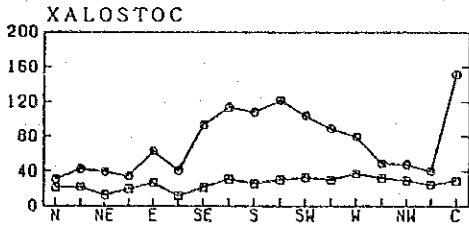
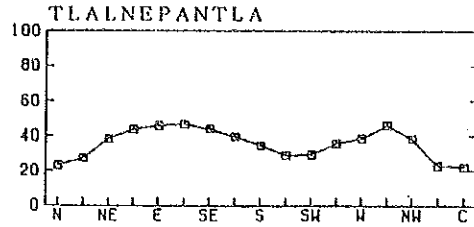
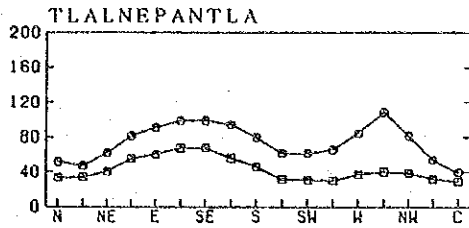


Figure 3.3.2 Average Concentration Classified by Wind Direction (Dec. 1986 - Nov. 1987)

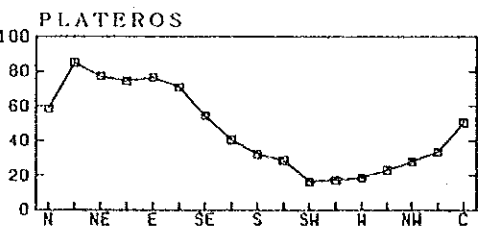
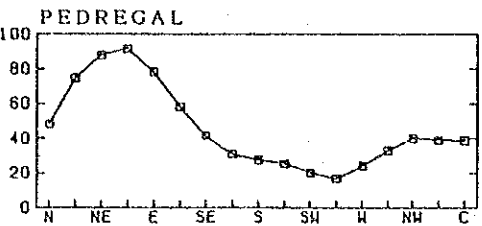
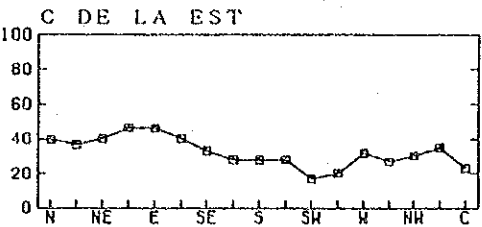
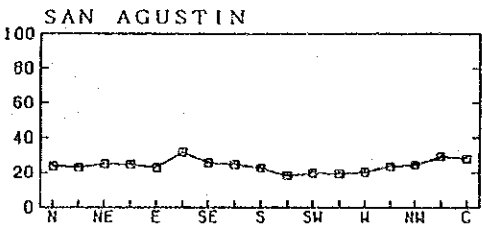
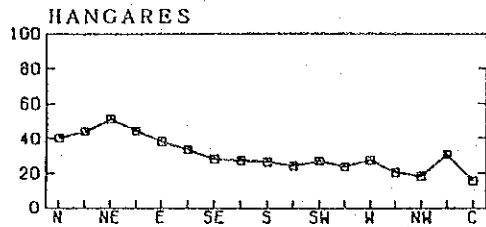
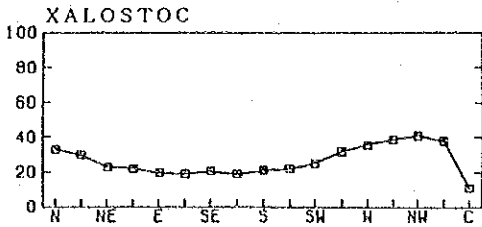
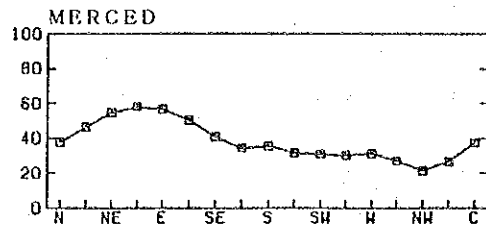
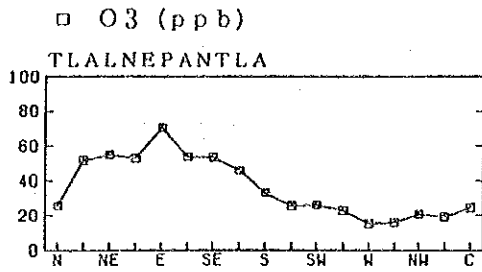


Figure 3.3.3 Average Concentration Classified by Wind Direction (Dec. 1986 - Nov. 1987)

□ HC(10ppbc)

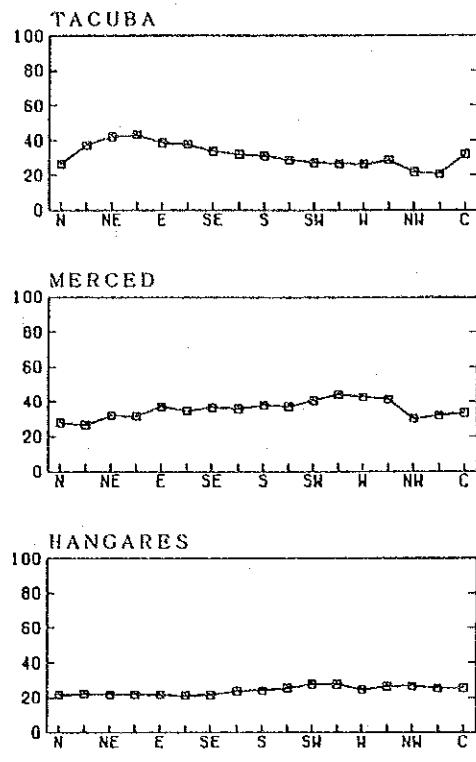


Figure 3.3.4 Average Concentration Classified by Wind Direction (Dec. 1986 - Nov. 1987)

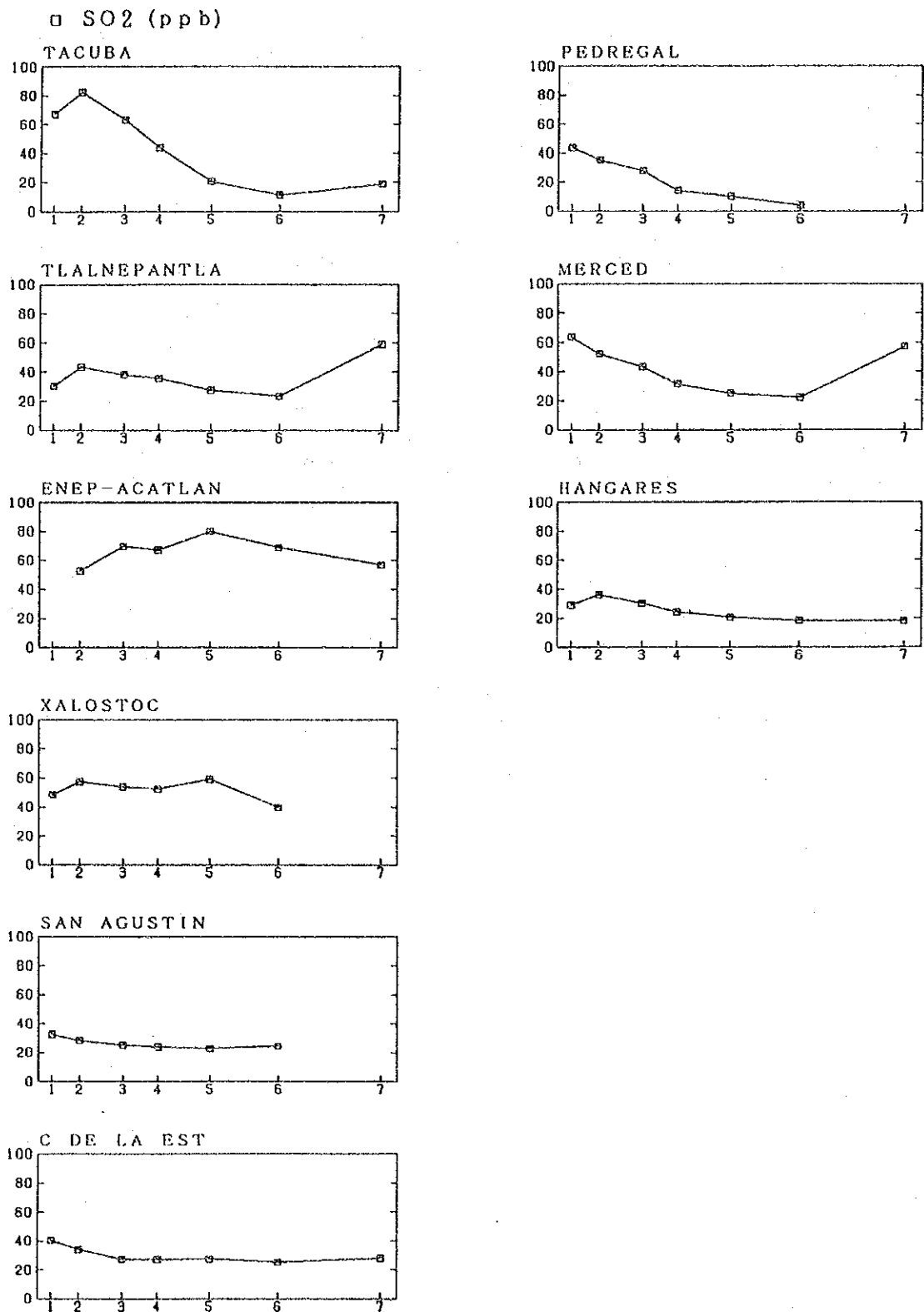
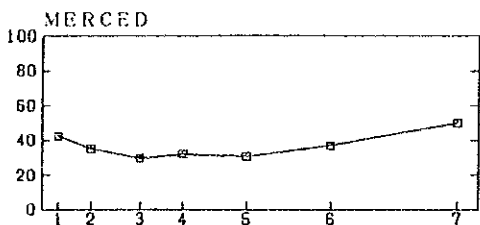
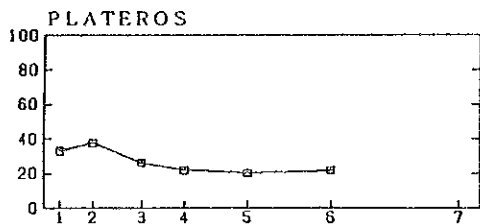
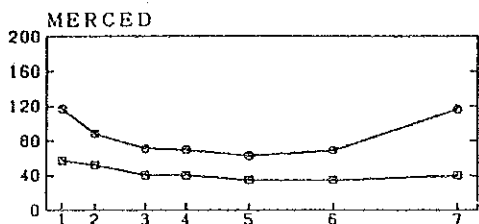
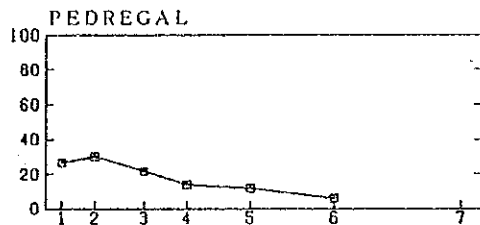
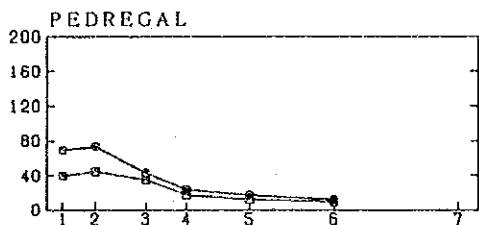
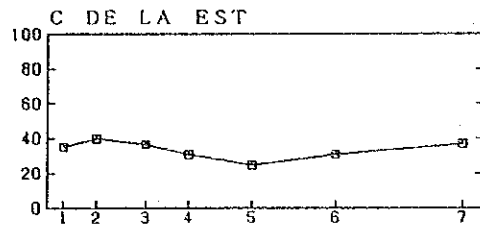
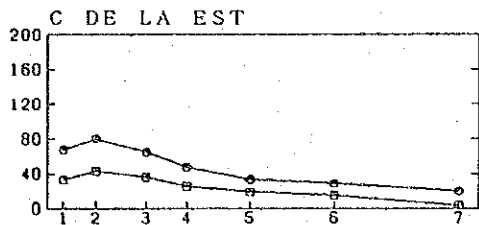
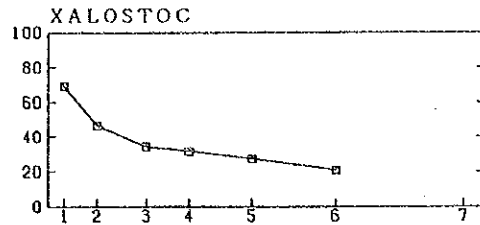
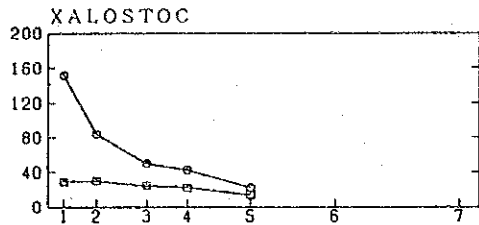
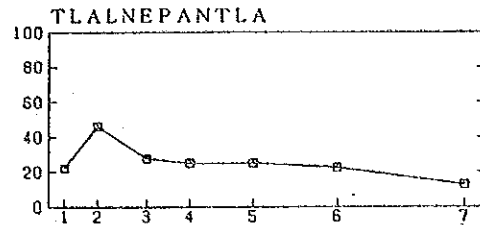
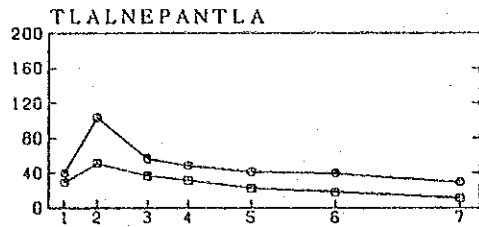


Figure 3.3.5 Average Concentration Classified by Wind Direction (Dec. 1986 - Nov. 1987)

□ NO₂ (ppb)
 ○ NO_x (ppb)

□ CO (0.1 ppm)



Wind Speed Classes(m/s)

- 1 0 ~0.4
- 2 0.5~1.9
- 3 2.0~2.9
- 4 3.0~3.9
- 5 4.0~5.9
- 6 6.0~7.9
- 7 8.0~

Figure 3.3.6 Average Concentration Classified by Wind Direction (Dec. 1986 - Nov. 1987)

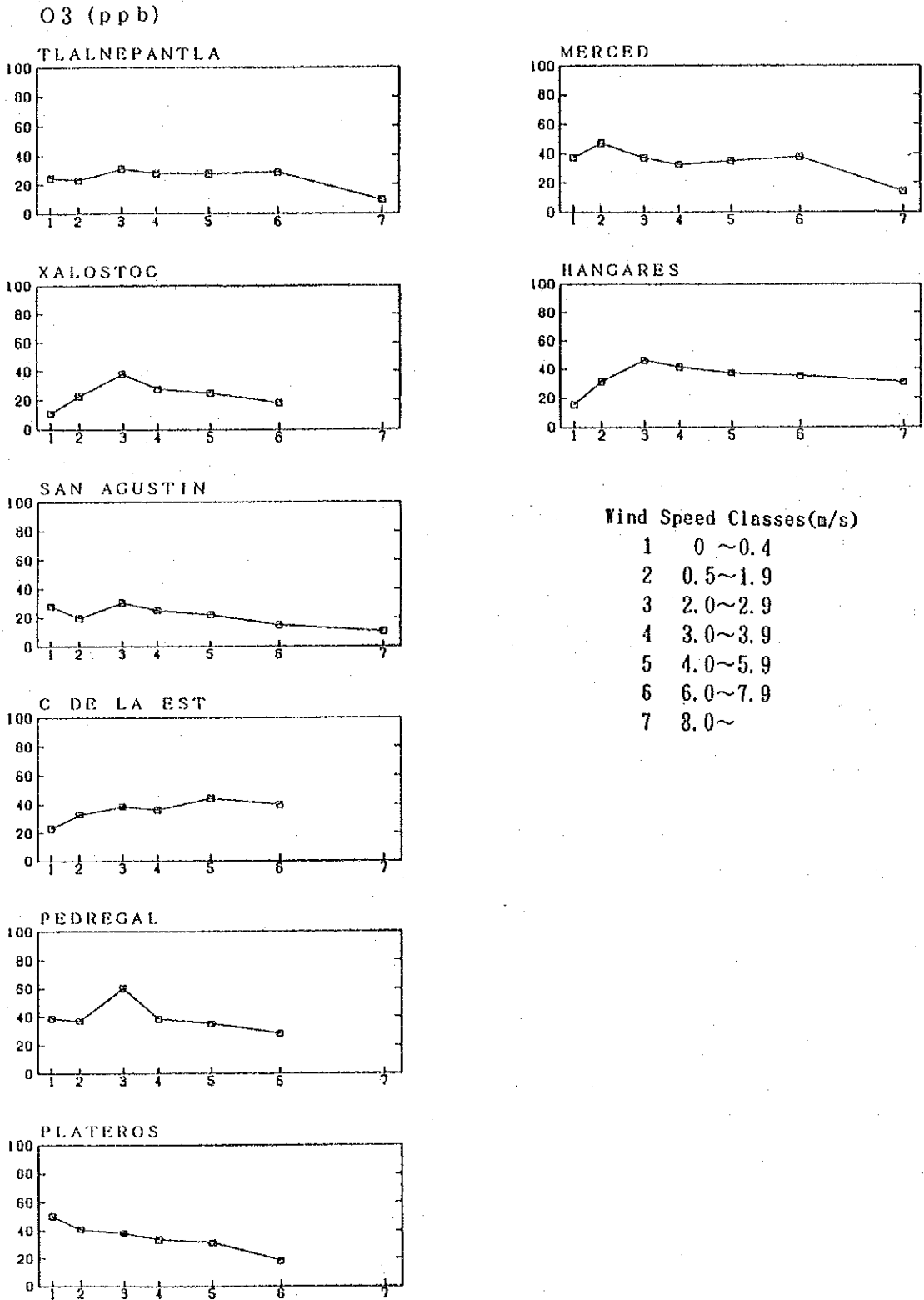
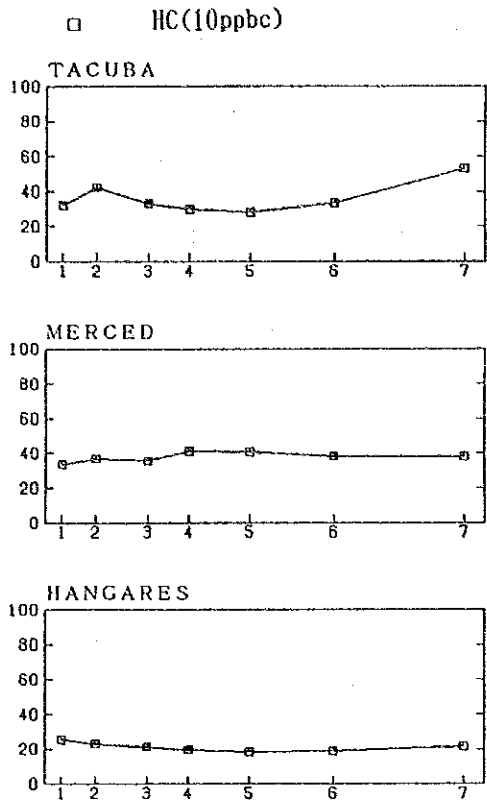


Figure 3.3.7 Average Concentration Classified by Wind Direction (Dec. 1986 - Nov. 1987)



Wind Speed Classes(m/s)

- 1 0 ~0.4
- 2 0.5~1.9
- 3 2.0~2.9
- 4 3.0~3.9
- 5 4.0~5.9
- 6 6.0~7.9
- 7 8.0~

Figure 3.3.8 Average Concentration Classified by Wind Speed
(Dec. 1986 - Nov. 1987)

SO₂ (ppb)

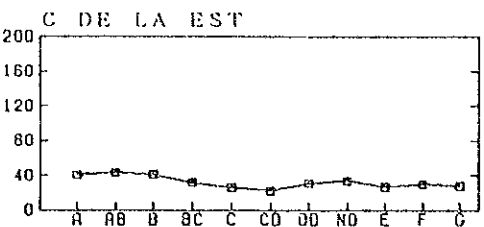
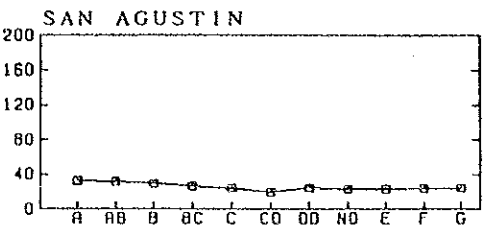
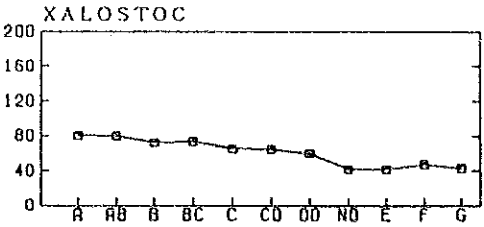
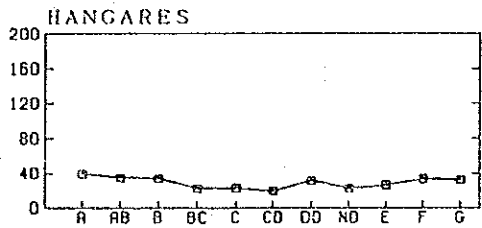
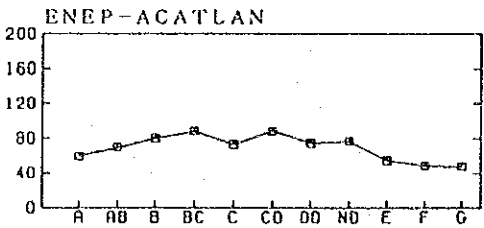
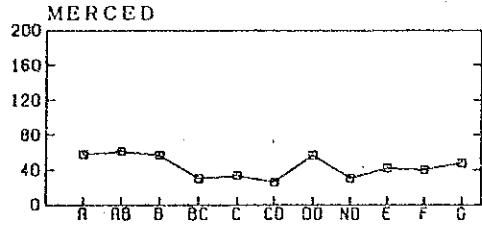
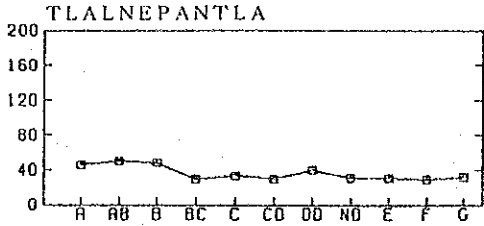
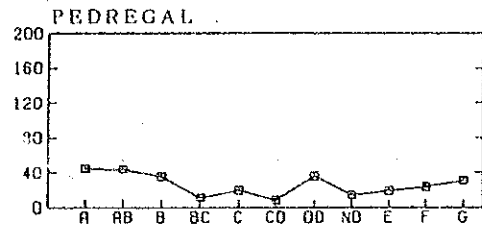
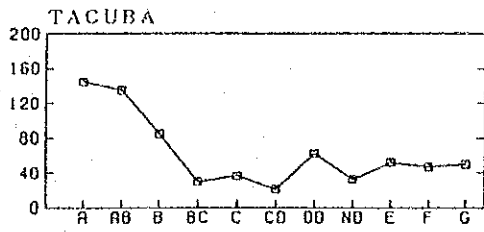


Figure 3.3.9 Average Concentration Classified by Atmospheric Stability (Dec. 1986 - Nov. 1987)

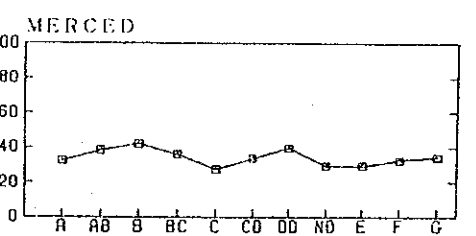
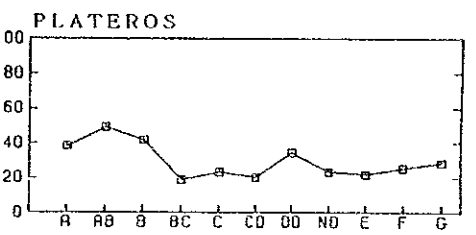
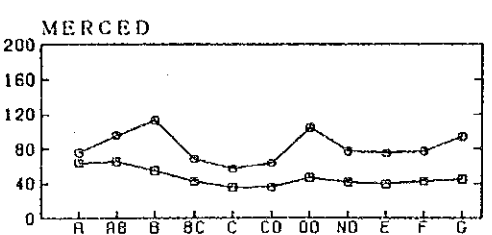
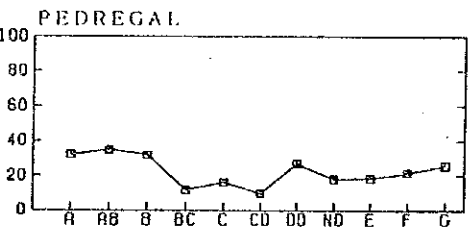
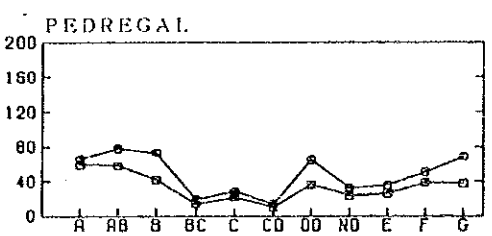
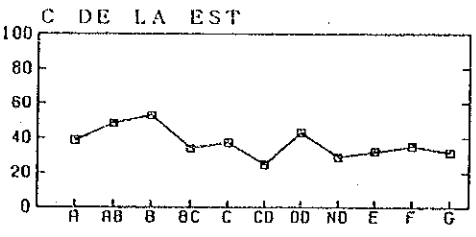
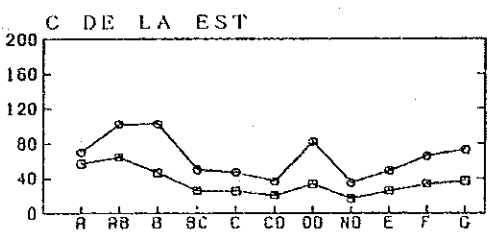
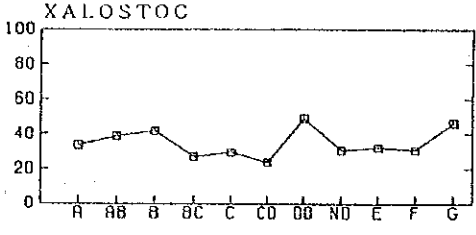
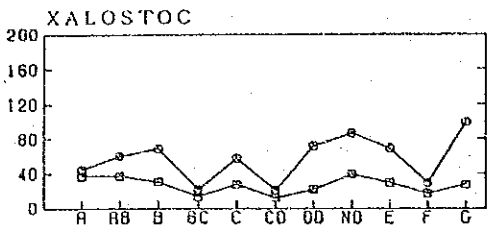
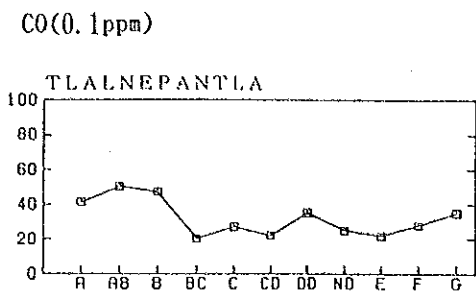
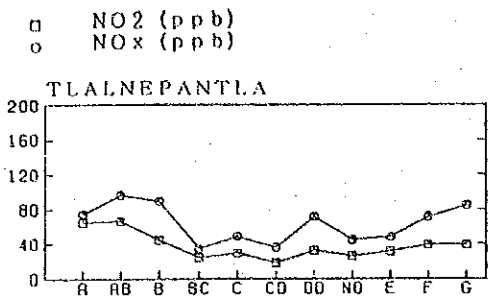


Figure 3.3.10 Average Concentration Classified by Atmospheric Stability (Dec. 1986 - Nov. 1987)

O₃ (ppb)

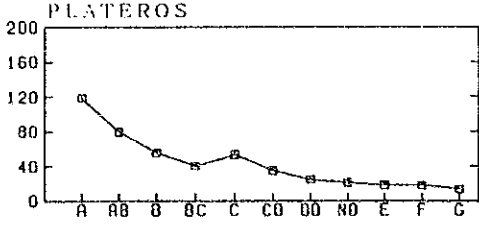
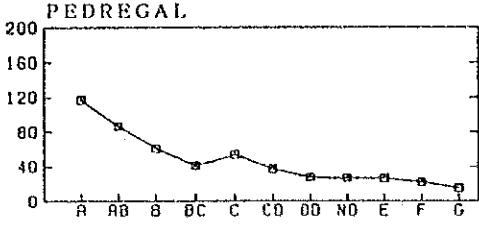
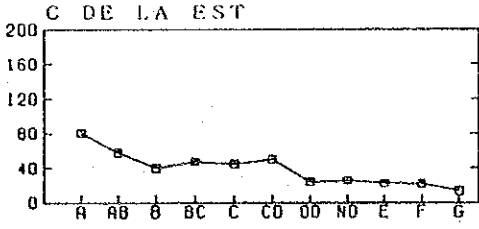
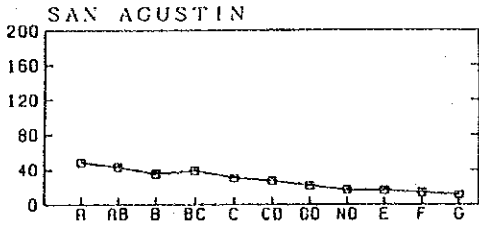
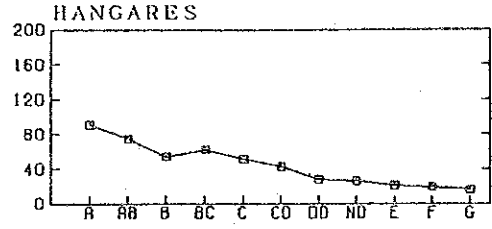
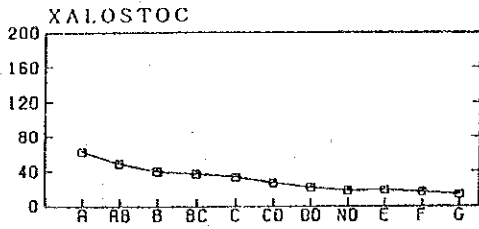
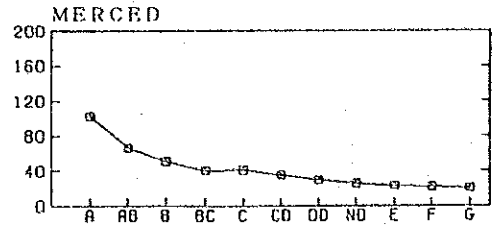
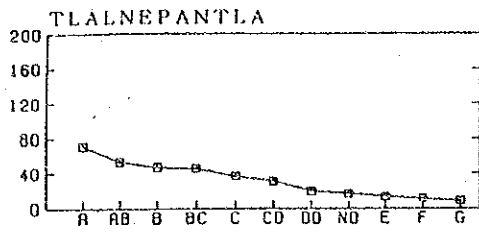


Figure 3.3.11 Average Concentration Classified by Atmospheric Stability (Dec. 1986 - Nov. 1987)

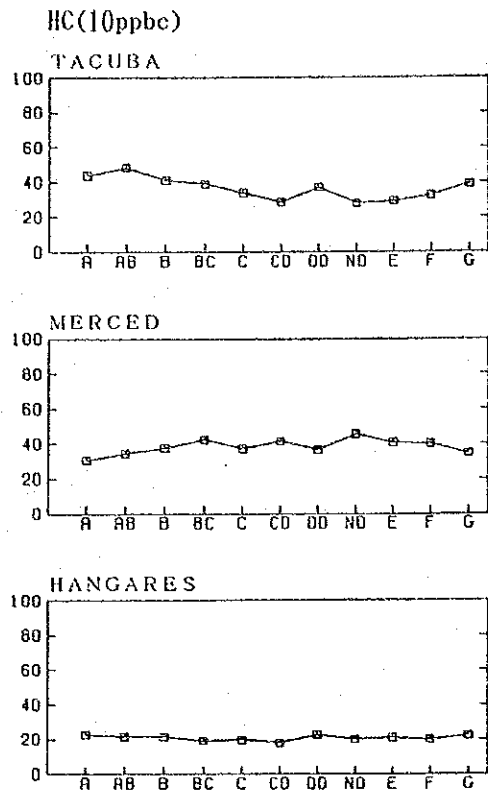


Figure 3.3.12 Average Concentration Classified by Atmospheric Stability
(Dec. 1986 - Nov. 1987)

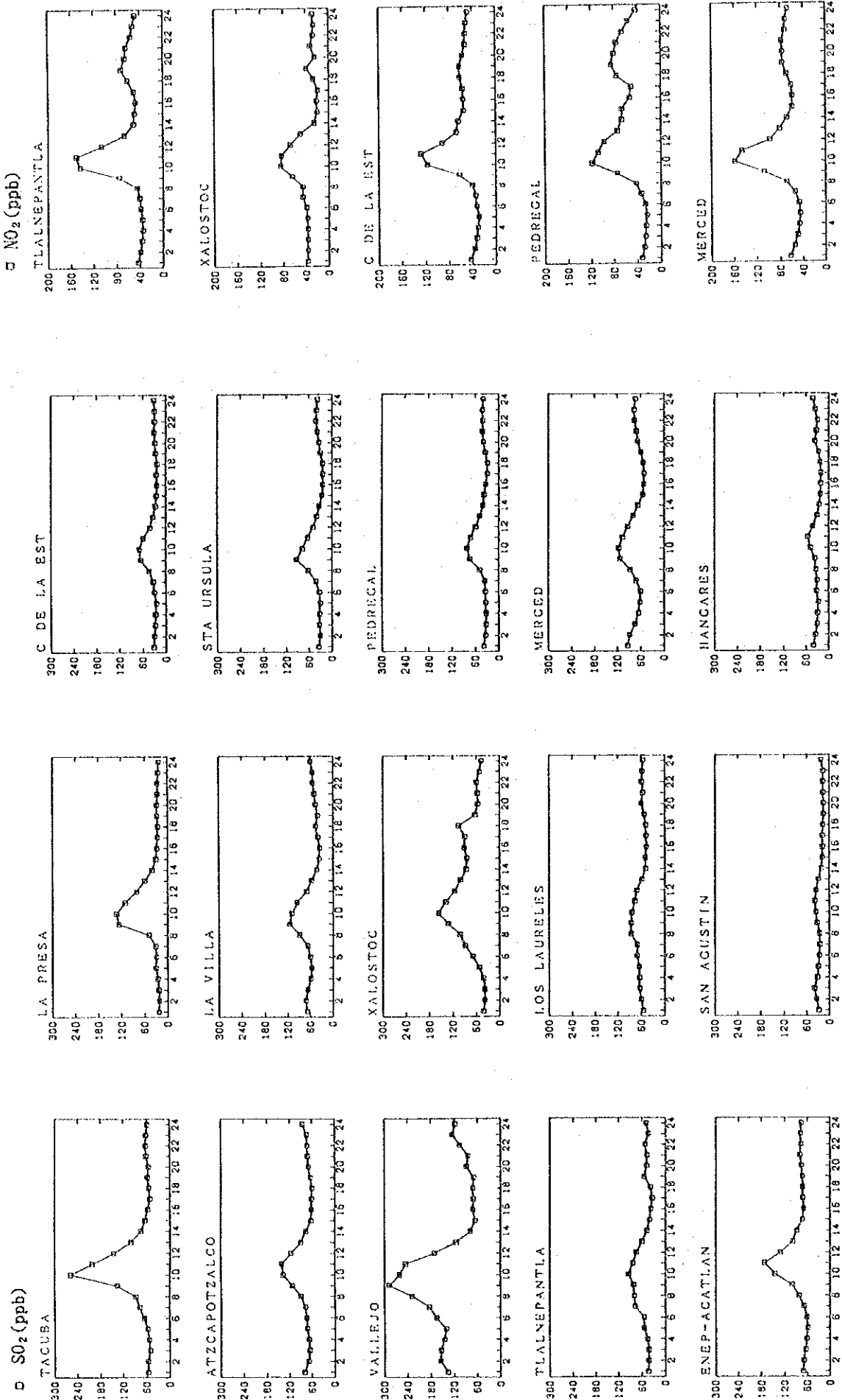


Figure 3.3.13 Time of Day Average Concentration (SO₂ High-concentration Days)

Figure 3.3.14 Time of Day Average Concentration (NO₂ High-concentration Days)

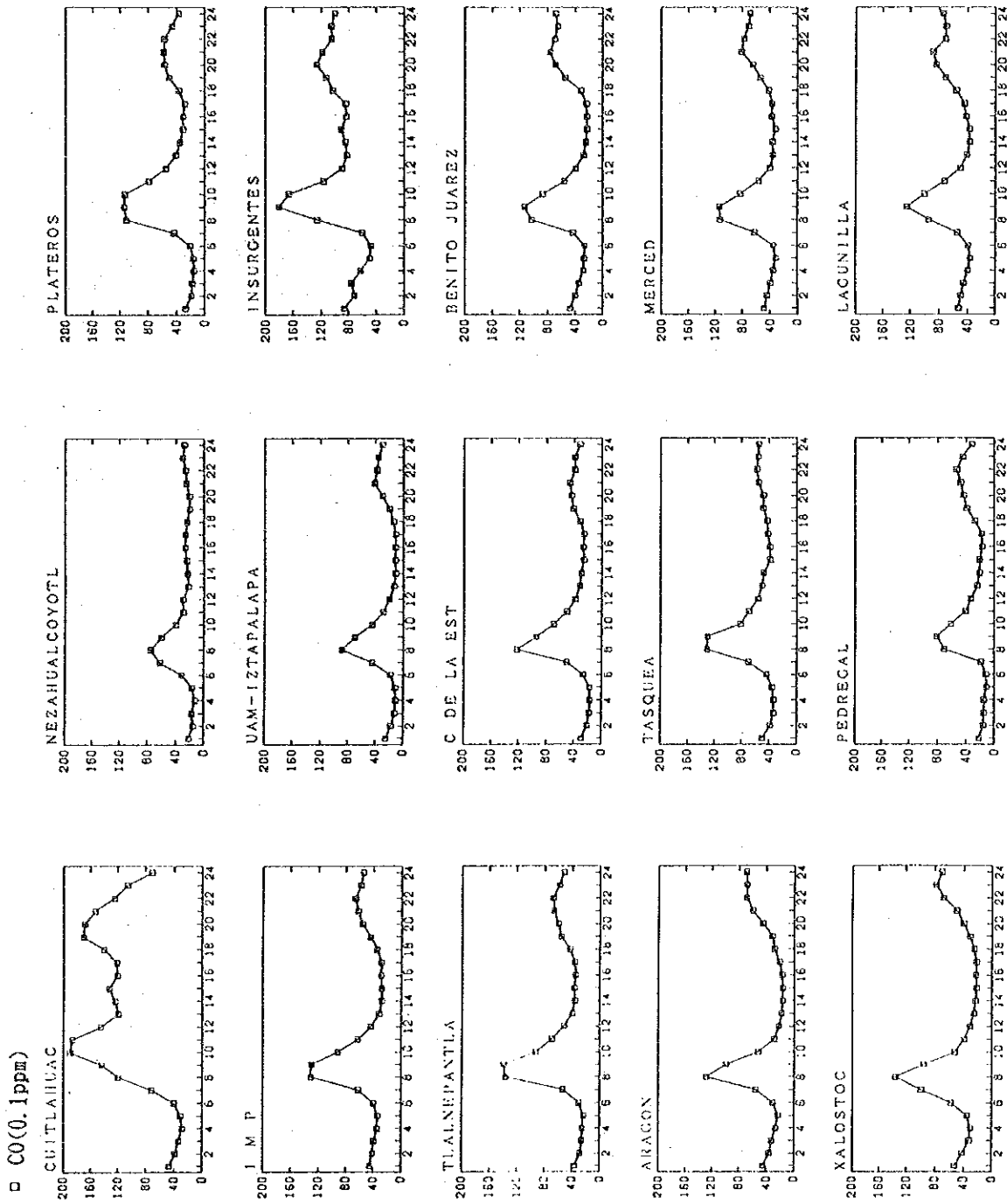


Figure 3.3.15 Time of Day Average Concentration (CO High-concentration Days)

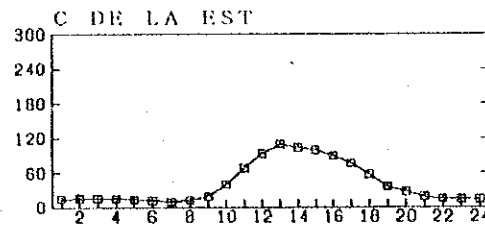
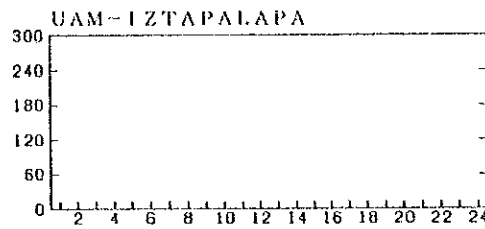
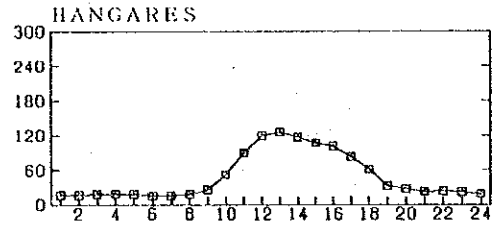
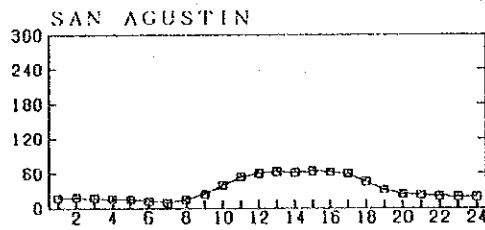
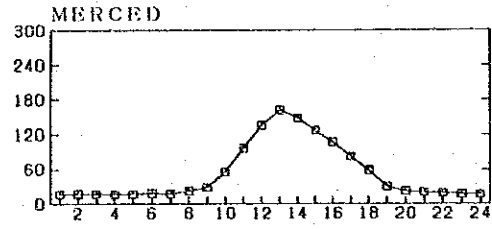
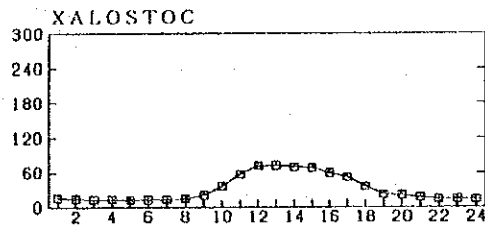
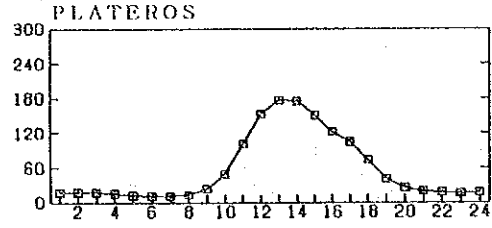
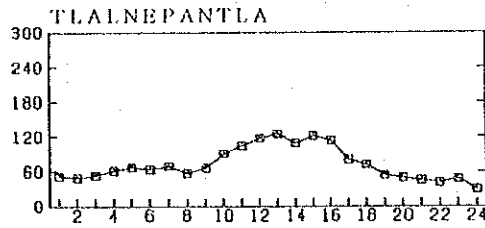
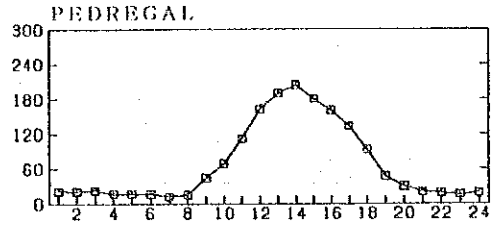
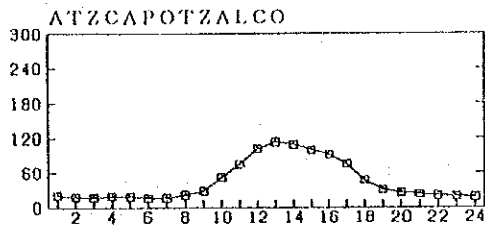
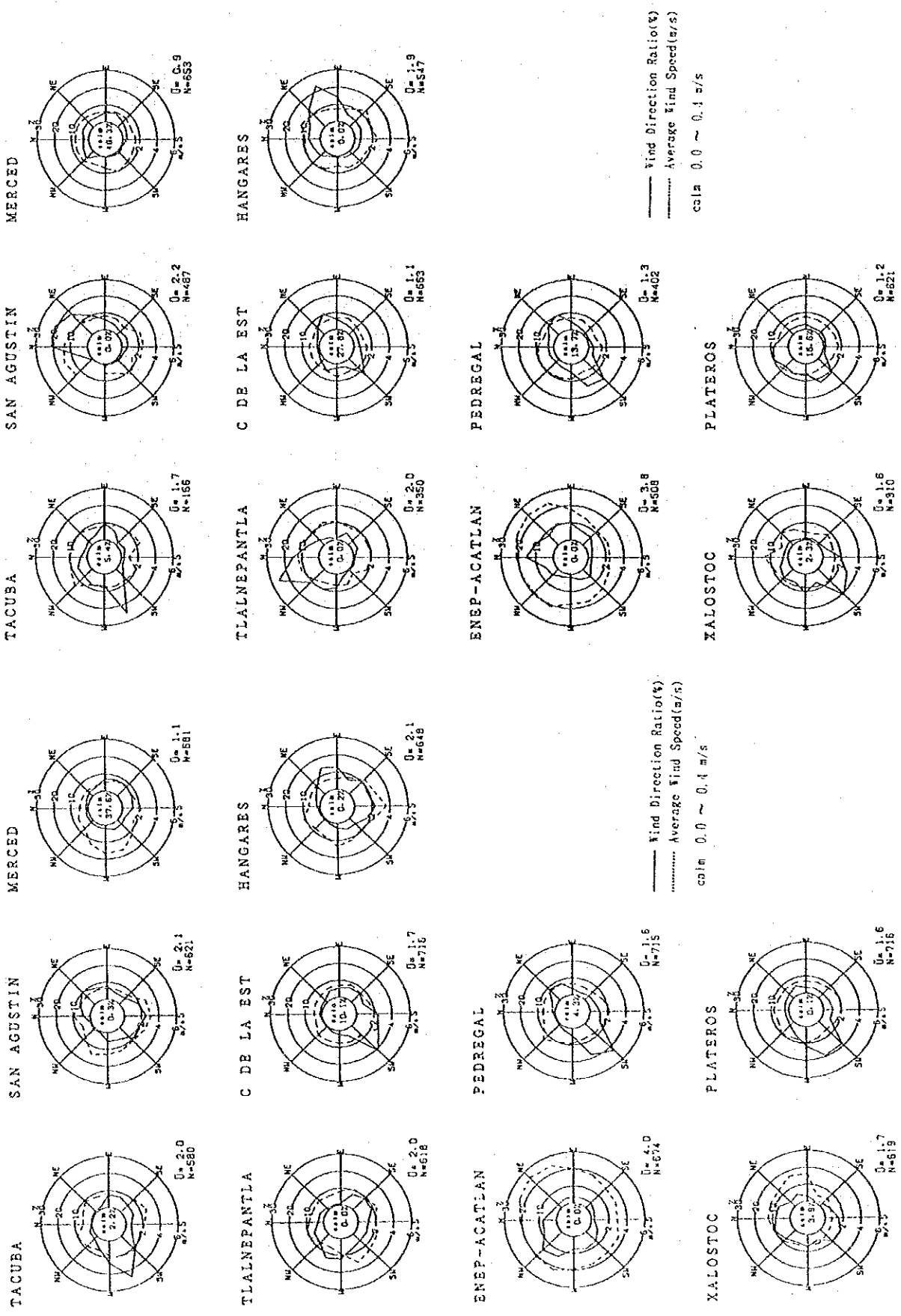
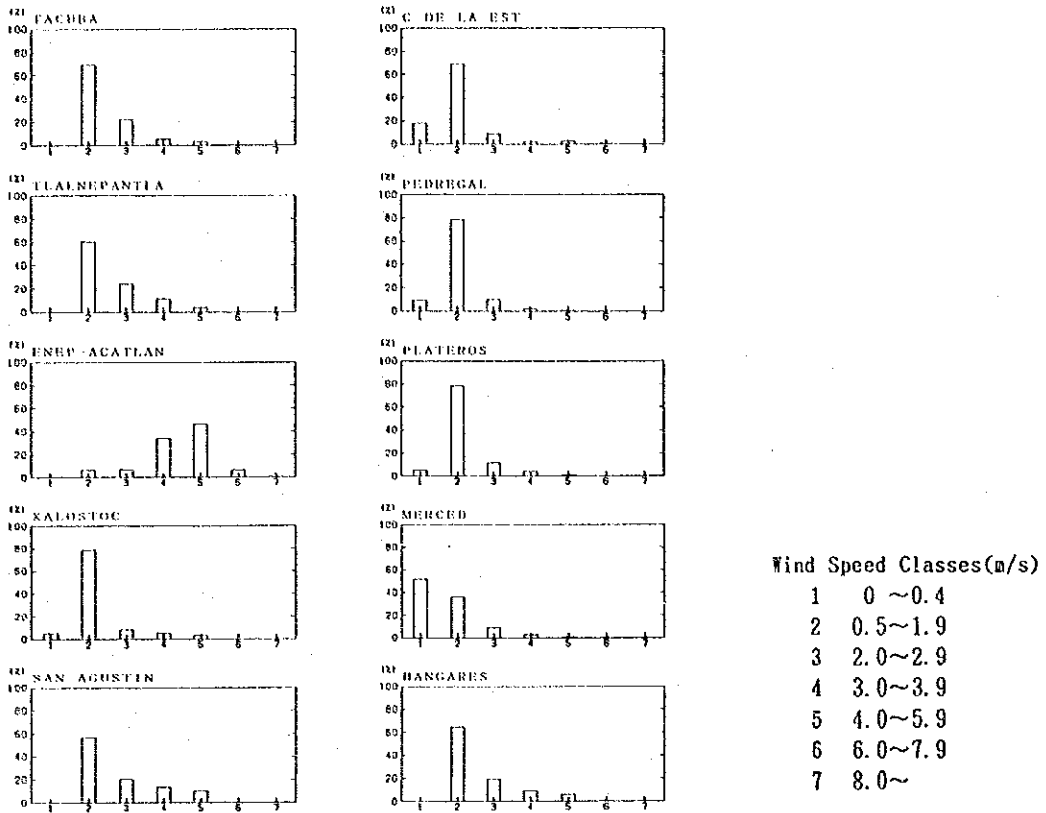


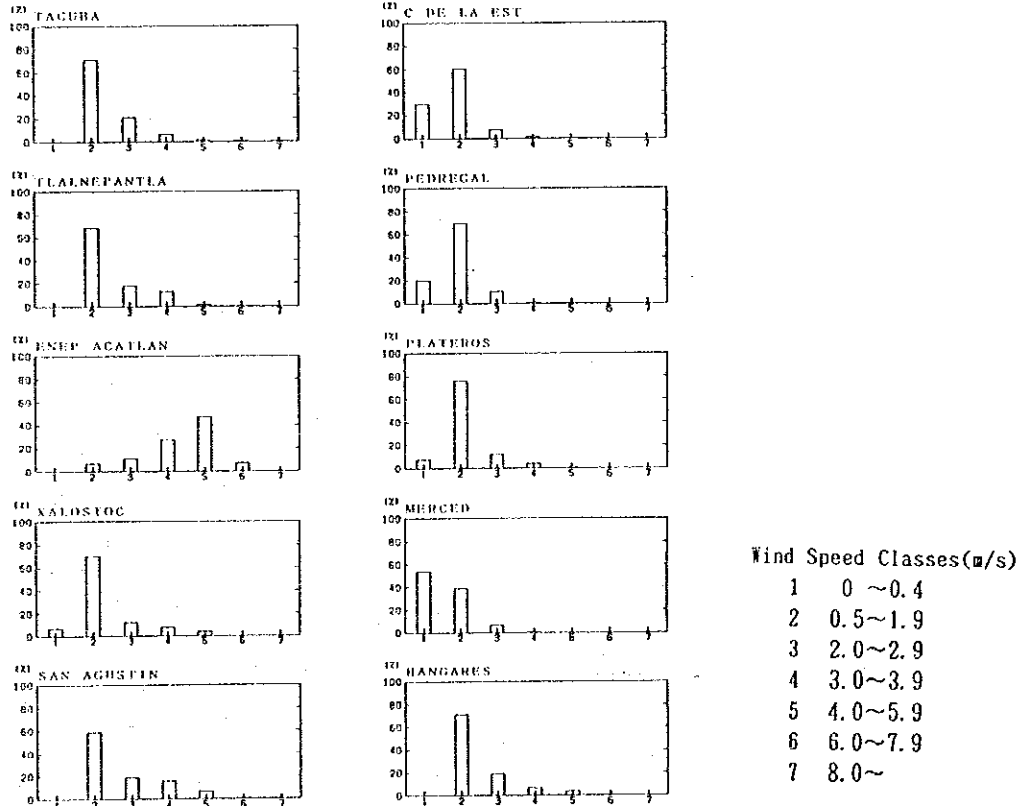
Figure 3.3.16 Time of Day Average Concentration (O_3 High-concentration Days)



Wind Rose of CO High-concentration Days
 Wind Rose of O₃ High-concentration Days
 Figure 3.3.18 Wind Rose for High-Concentration Days

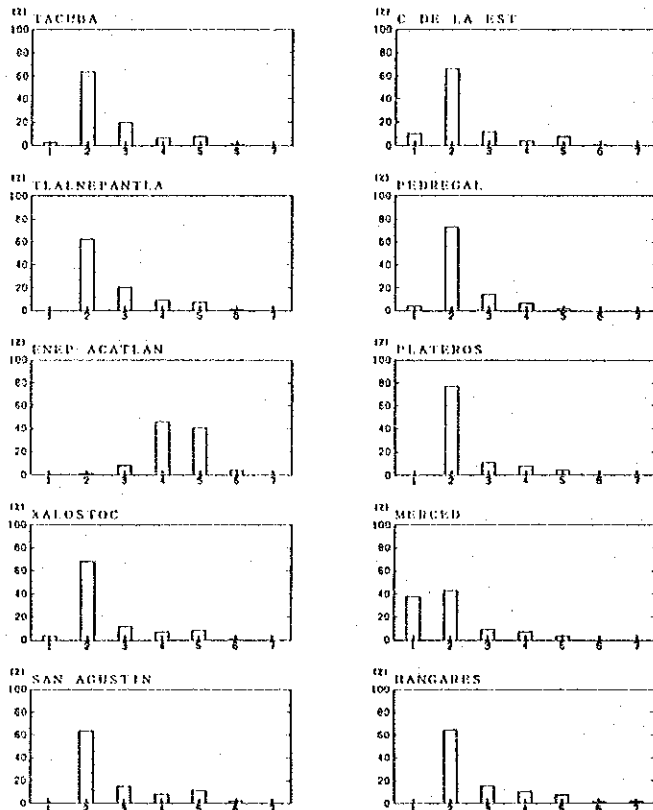


Frequency of Classified Wind Speed (SO₂ High-concentration Days)



Frequency of Classified Wind Speed (NO₂ High-concentration Days)

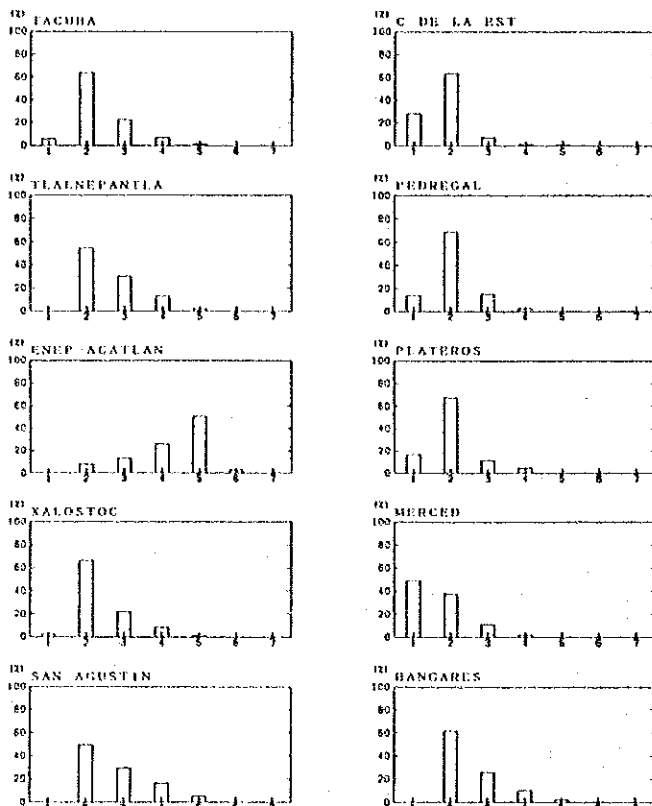
Figure 3.3.19 Frequency of Wind Speed Classes During High-Concentration Days



Wind Speed Classes(m/s)

1	0 ~0.4
2	0.5~1.9
3	2.0~2.9
4	3.0~3.9
5	4.0~5.9
6	6.0~7.9
7	8.0~

Frequency of Classified Wind Speed (CO High-concentration Days)



Wind Speed Classes(m/s)

1	0 ~0.4
2	0.5~1.9
3	2.0~2.9
4	3.0~3.9
5	4.0~5.9
6	6.0~7.9
7	8.0~

Frequency of Classified Wind Speed (O₃ High-concentration Days)

Figure 3.3.20 Frequency of Wind Speed Classes During High-Concentration Days

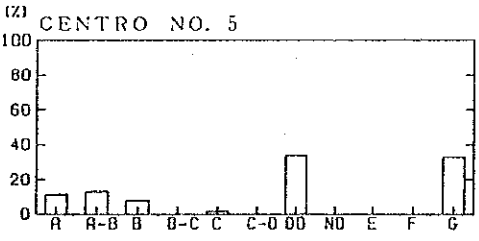
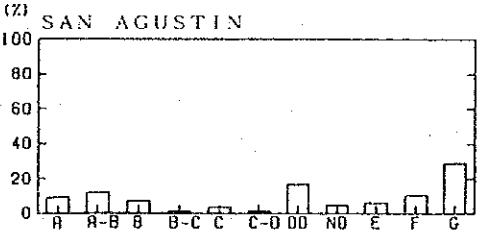
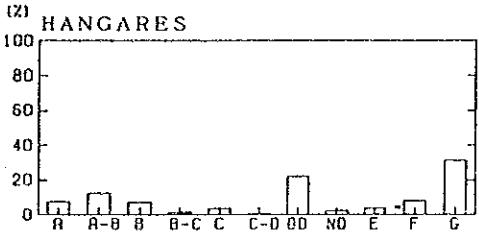
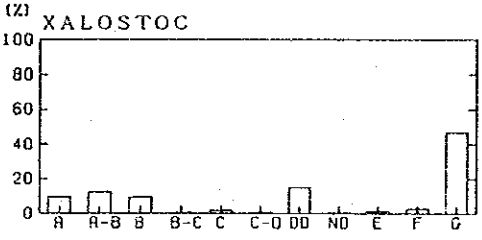
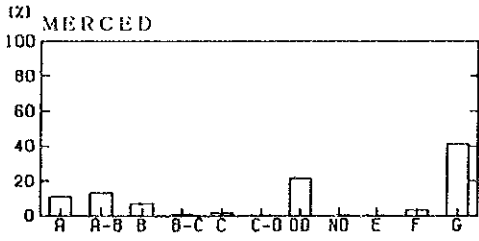
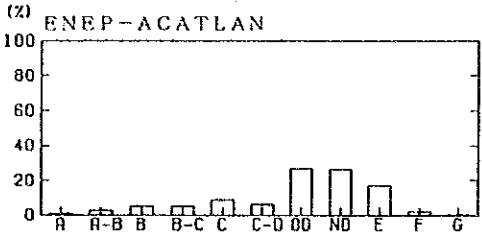
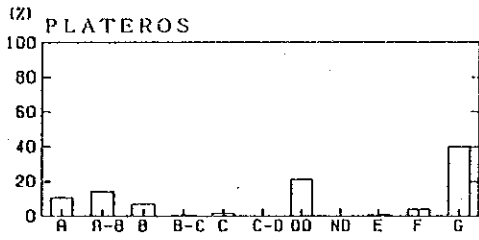
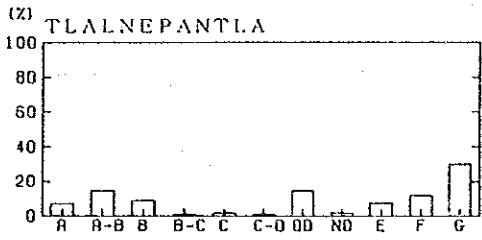
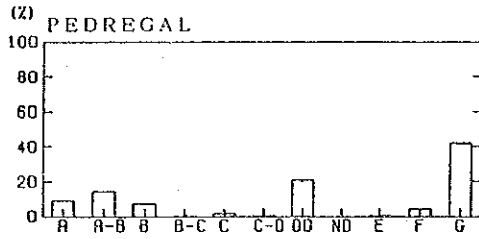
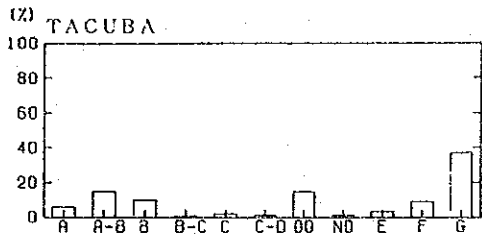
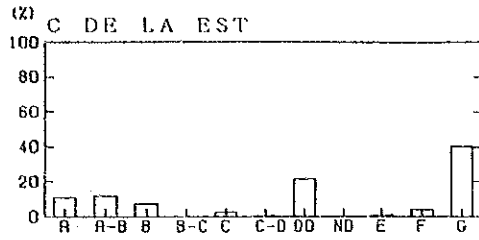
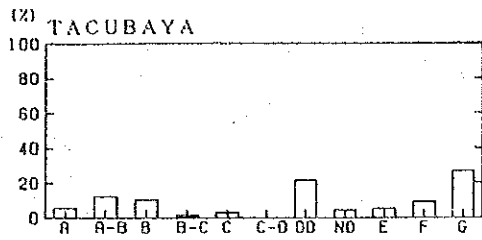


Figure 3.3.21 Frequency of Atmospheric Stability (SO₂ High-concentration Days)

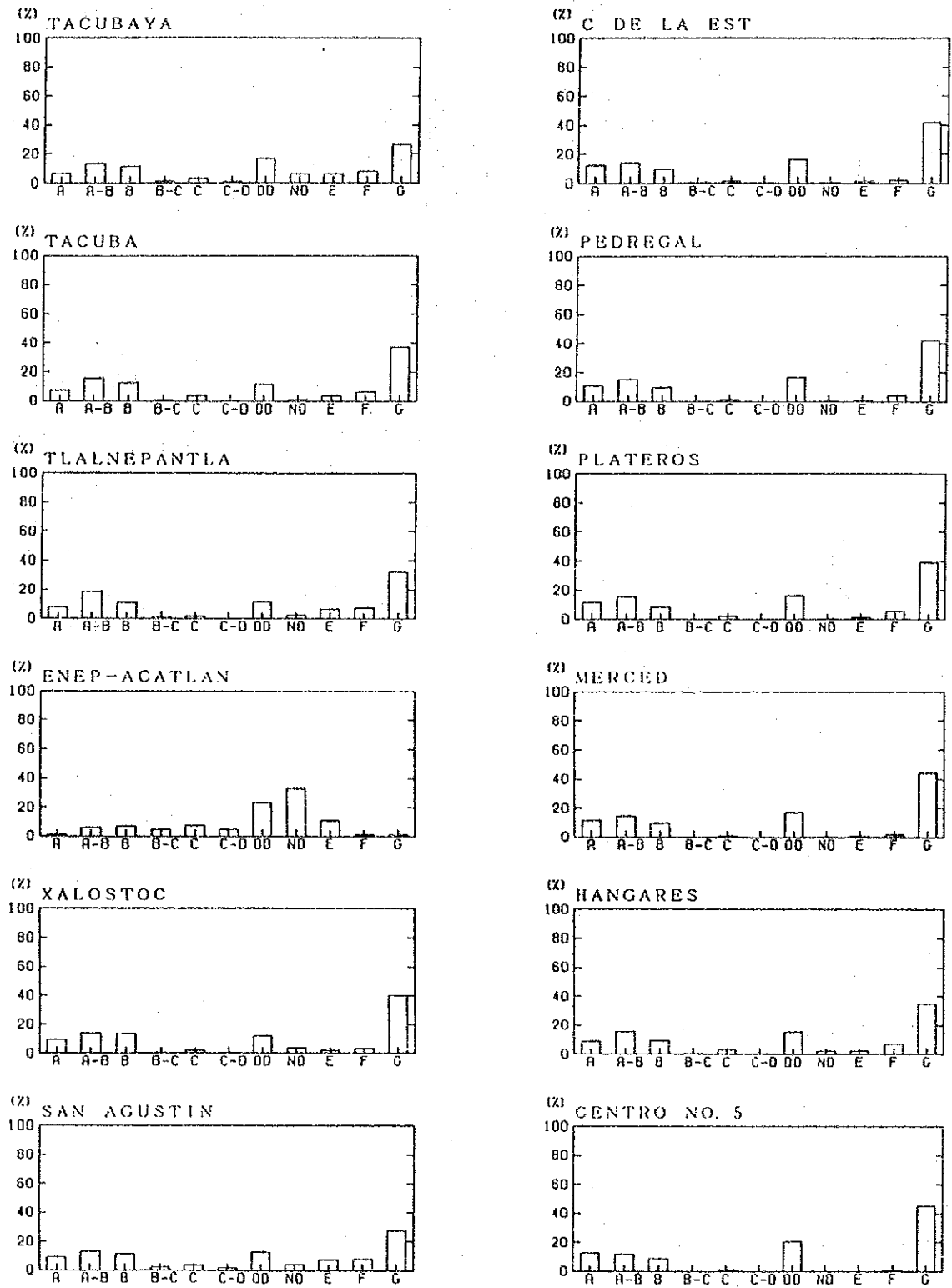


Figure 3.3.22 Frequency of Atmospheric Stability (NO₂ High-concentration Days)

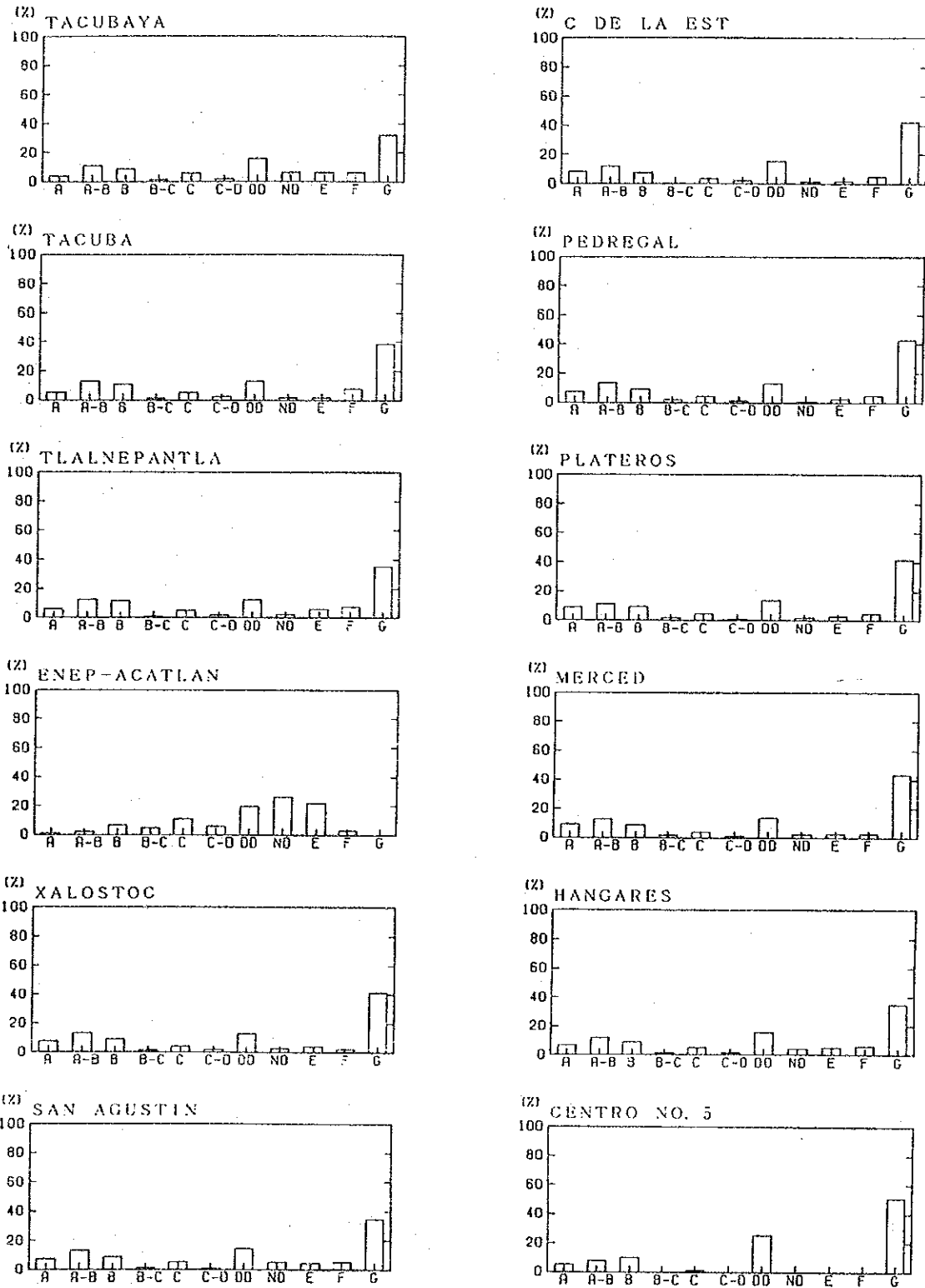


Figure 3.3.23 Frequency of Atmospheric Stability (CO High-concentration Days)

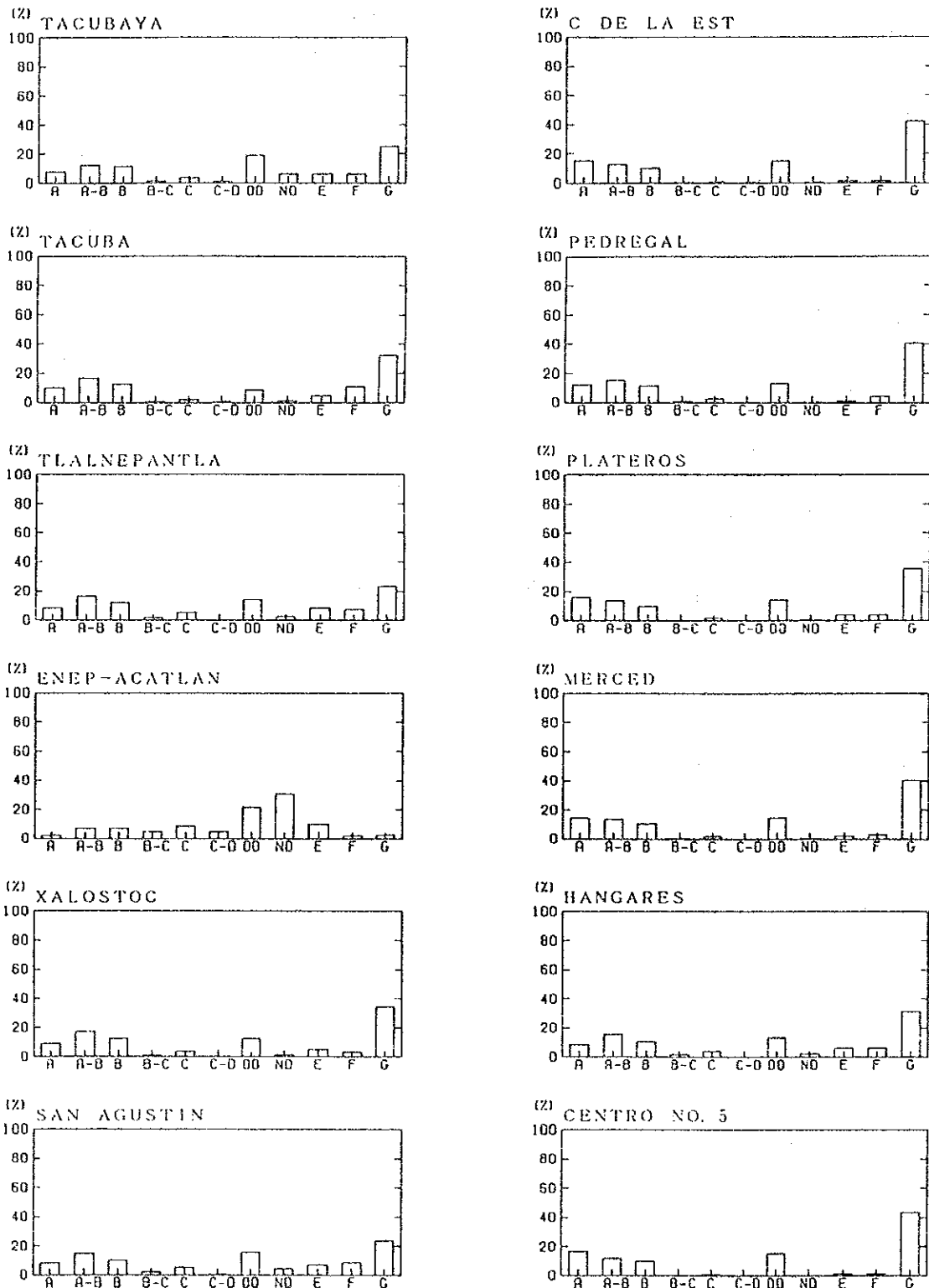


Figure 3.3.24 Frequency of Atmospheric Stability (O_2 High-concentration Days)

PART 4 POLLUTANT SOURCE SURVEY

4.1 Traffic Volume Survey

4.1.1 Location of Traffic Volume Survey

Locations of traffic volume survey by DDF (1986) and JICA (1987) are shown in Figure 4.1.1 and Figure 4.1.2, respectively.

4.1.2 Results of the Traffic Volume Surveys by DDF

From the results of the DDF Survey (1986), traffic volumes measured in one day are shown in Tables 4.1.1 through 4.1.7. And a summary of the traffic volume measurement in a seven-day period is shown in Table 4.1.8.

Results of the traffic volume measurement at the time of the noise survey conducted by DDF in 1984 are shown in Tables 4.1.9 through 4.1.12. In these Tables, names of DELEGACIONES are expressed as follows:

AO: ALVARO OBREGON	MC: MAGDALENA CONTRERAS
AZ: AZCAPOTZALCO	MH: MIGUEL HIDALGO
BJ: BENITO JUAREZ	TH: TLAHUAC
CO: COYOACAN	TL: TALALPAN
CP: CUAJIMALPA	VC: VENUSTIANO CARRANZA
CU: CUAUHTEMOC	XO: XOCHIMILCO
GM: GUSTAVO A. MADERO	MA: MILPA ALTA
IC: IZTACALCO	MS: MEXICO STATE
IP: IZTAPALAPA	



Figure 4.1.1 Location of Traffic Volume Survey by DDF (1986)

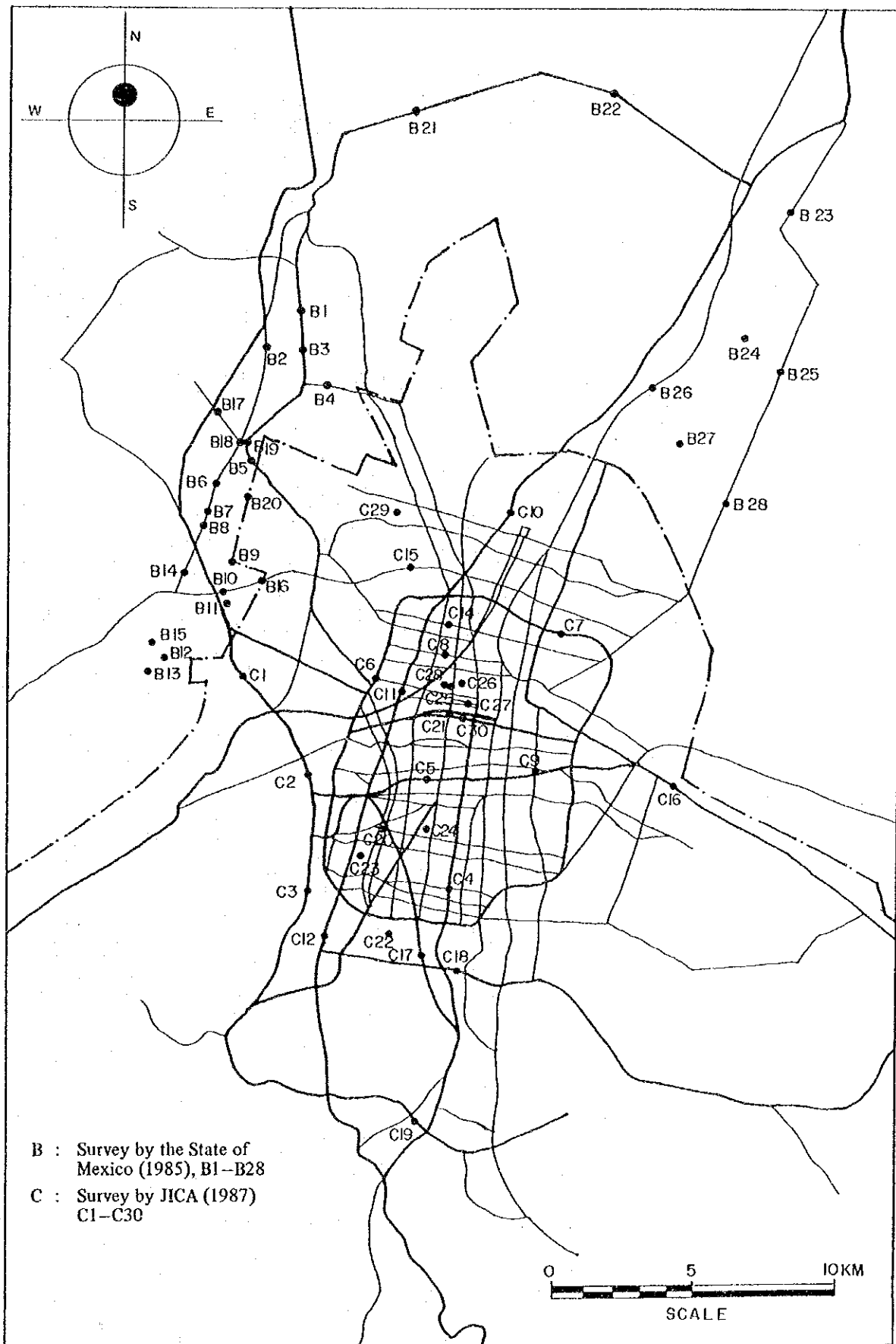


Figure 4.1.2 Location of Traffic Surveys by the State of Mexico (1985) and JICA (1987)

Table 4.1.1 Traffic Volume Measured in One Day in
the DDF Survey (1986) - No. 1 -

Name of Road	Point No.	Code No.	Traffic Volume			
			Daytime	Nighttime	Whole day	Whole day/ Daytime
PERIFERICO	A1	AP1	105,220	41,620	146,840	1.40
	A2	AP2	117,170	42,620	159,790	1.36
	A3	AP3	117,830	46,370	164,200	1.39
	A4	AP4	90,015	34,775	124,790	1.39
	A5	AP5	82,501	27,865	110,366	1.34
	A6	AP6	90,060	29,870	119,930	1.33
	A7	AP7	72,562	21,627	94,189	1.30
	A8	AP8	40,839	10,156	50,995	1.25
VIADUCTO TLALPAN	A9	VT1	72,462	23,931	96,394	1.33
	A10	VT2	101,699	34,378	136,077	1.34
	A11	VT3	164,580	65,530	230,110	1.40
	A12	VT4	155,390	61,380	216,770	1.40
	A13	VT5	89,790	35,520	125,310	1.40
	A14	VT6	18,882	4,587	23,489	1.24
	A15	VT7	32,368	9,892	42,260	1.31
VIADUCTO M. ALEMAN	A16	VMA1	124,650	40,350	163,000	1.31
	A17	VMA2	115,748	45,421	153,161	1.32
	A18	VMA3	86,660	28,830	115,490	1.33
	A19	VMA4	55,280	24,730	80,010	1.45
	A20	VMA5	46,450	15,010	62,260	1.34
CIRCUITO INTERIOR	A21	CI1	87,780	36,880	124,580	1.42
	A22	CI2	92,640	24,140	116,780	1.26
	A23	CI3	90,480	31,990	122,470	1.35
	A24	CI4	88,140	38,220	126,360	1.43
	A25	CI5	118,140	37,370	155,510	1.32
	A26	CI6	139,210	64,050	203,260	1.46
	A27	CI7	72,233	25,053	97,286	1.35
	A28	CI8	54,692	19,710	74,394	1.36
	A29	CI9	44,014	13,966	57,980	1.32
	A30	CI10	25,330	8,250	33,580	1.28
	A31	CI11	66,750	18,390	85,140	1.28
	A32	CI12	87,630	23,890	109,315	1.25

Table 4.1.2 Traffic Volume Measured in One Day in the DDF Survey (1986) - No. 2 -

Name of Road	Point No.	Code No.	Traffic Volume			
			Daytime	Nighttime	Whole day	Whole day/Daytime
RIO DE SN. JOAQUIN	A33	PSJ1	82,010	31,390	109,650	1.34
	A34	PSJ2	66,220	31,530	97,750	1.48
	A35	PSJ3	100,370	32,050	132,420	1.32
RADIAL PARQUE VIA	A36	PRV1	32,509	8,589	41,098	1.26
	A37	PRV2	46,125	14,796	60,921	1.32
	A38	PRV3	56,611	15,544	72,155	1.27
EJE 1 NORTE	A39	E1N1	18,960	3,950	22,910	1.21
	A40	E1N2	29,660	11,910	41,570	1.40
	A41	E1N3	20,690	9,340	30,030	1.45
	A42	E1N4	49,050	15,450	64,500	1.31
EJE 2 NORTE	A43	E2N1	8,323	1,821	10,144	1.22
	A44	E2N2	20,960	5,500	26,460	1.26
	A45	E2N3	23,586	6,073	29,659	1.26
	A46	E2N4	37,380	10,770	48,150	1.29
	A47	E2N5	32,310	11,820	44,130	1.37
EJE 3 NORTE	A48	E3N1	35,090	26,100	61,190	1.74
	A49	E3N2	22,640	7,964	30,604	1.35
	A50	E3N3	20,810	4,270	25,080	1.21
	A51	E3N4	50,068	13,611	63,679	1.27
	A52	E3N5	23,873	7,630	31,503	1.32
	A53	E3N6	27,746	8,322	35,968	1.30
EJE 4 NORTE	A54	E4N1	37,838	10,698	48,536	1.28
	A55	E4N2	21,130	9,950	31,080	1.47
	A56	E4N3	30,840	12,400	43,240	1.40
	A57	E4N4	24,330	10,140	34,470	1.42
EJE 5 NORTE	A58	E5N1	34,120	13,780	47,900	1.40
	A59	E5N2	26,010	9,720	35,730	1.37
	A60	E5N3	32,719	8,984	41,703	1.27
	A61	E5N4	27,090	9,040	36,130	1.33
	A62	E5N5	30,760	6,880	37,640	1.22
	A63	E5N6	13,467	4,450	18,117	1.35

Table 4.1.3 Traffic Volume Measured in One Day in the DDF Survey (1986) - No. 3 -

Name of Road	Point No.	Code No.	Traffic Volume			
			Daytime	Nighttime	Whole day	Whole day/Daytime
EJE CENTRAL LAZARO CARDENAS	A64	ECLC1	26,780	7,540	34,320	1.28
	A65	ECLC2	29,627	9,139	38,766	1.31
	A66	ECLC3	27,280	10,550	37,830	1.39
	A67	ECLC4	72,650	25,680	98,330	1.35
	A68	ECLC5	23,600	11,820	35,420	1.50
EJE 2 SUR Y EJE 2A SUR	A69	E2S1	13,747	3,699	17,446	1.27
	A70	E2S2	8,265	2,649	10,914	1.32
	A71	E2S3	13,635	4,123	17,758	1.30
	A72	E2aS3	9,219	3,882	13,101	1.21
	A73	E2S4	12,882	3,495	15,577	1.21
	A74	E2S5	16,770	7,480	24,250	1.45
EJE 3 SUR	A75	E3S1	34,320	11,400	45,720	1.33
	A76	E3S2	11,207	1,644	12,851	1.15
	A77	E3S6	8,992	2,541	11,533	1.28
EJE 4 SUR	A78	E4S1	3,420	960	4,380	1.28
	A79	E4S2	25,880	10,990	36,870	1.42
	A80	E4S3	16,278	6,036	22,314	1.37
	A81	E4S4	17,080	8,030	25,110	1.47
	A82	E4S5	29,740	13,830	43,570	1.47
	A83	E4S6	24,989	11,197	36,186	1.45
	A84	E4S7	2,256	681	2,937	1.30
EJE 5 SUR	A85	E5S1	5,150	960	6,110	1.19
	A86	E5S2	17,920	4,215	22,135	1.24
	A87	E5S3	30,240	8,320	38,560	1.28
	A88	E5S4	30,554	8,076	38,630	1.26
	A89	E5S5	29,090	7,930	37,020	1.27
	A90	E5S6	26,415	10,266	36,681	1.39
	A91	E5S7	20,770	9,220	29,998	1.44

Table 4.1.4 Traffic Volume Measured in One Day in the DDF Survey (1986) - No. 4 -

Name of Road	Point No.	Code No.	Traffic Volume			
			Daytime	Nighttime	Whole day	Whole day/Daytime
EJE 6 SUR	A92	E6S1	25,070	8,150	33,220	1.33
	A93	E6S2	32,410	10,700	43,110	1.33
	A94	E6S3	19,085	9,991	29,076	1.52
	A95	E6S4	33,420	16,450	49,870	1.49
	A96	E6S5	29,198	14,930	44,120	1.51
	A97	E6S6	4,130	1,788	5,910	1.43
EJE 7 SUR Y EJE 7A SUR	A98	E7S1	19,400	3,460	22,860	1.18
	A99	E7aS1	7,212	2,068	9,280	1.29
	A100	E7S2	22,650	6,540	29,190	1.29
	A101	E7aS2	29,690	10,840	40,530	1.37
	A102	E7S3	42,140	9,410	51,550	1.22
	A103	E7S4	23,500	8,070	31,570	1.34
EJE 8 SUR	A104	E8S1	58,500	20,930	79,430	1.36
	A105	E8S2	38,680	13,470	52,150	1.35
	A106	E8S3	32,620	14,760	47,380	1.45
	A107	E8S4	31,663	13,160	44,823	1.42
	A108	E8S5	66,610	26,420	93,030	1.40
	A109	E8S6	31,117	10,838	41,955	1.35
	A110	E8S7	31,720	11,470	43,190	1.36
EJE 10 SUR	A111	E10S1	50,680	17,840	68,520	1.35
	A112	E10S2	25,880	8,220	34,100	1.32
	A113	E10S3	38,170	13,960	52,130	1.37
EJE 1 PONIENTE	A114	E1P1	49,560	15,080	64,640	1.30
	A115	E1P2	41,380	11,720	53,100	1.28
	A116	E1P3	32,676	9,132	41,808	1.28
	A117	E1P4	24,710	11,150	35,860	1.45
	A118	E1P5	33,802	11,761	45,563	1.35
	A119	E1P6	18,432	4,624	23,056	1.25
	A120	E1P7	27,320	10,560	37,880	1.39

Table 4.1.5 Traffic Volume Measured in One Day in the DDF Survey (1986) - No. 5 -

Name of Road	Point No.	Code No.	Traffic Volume			
			Daytime	Nighttime	Whole day	Whole day/Daytime
EJE 2 PONIENTE	A121	E2P1	17,590	4,350	21,940	1.25
	A122	E2P2	37,321	8,773	46,094	1.24
	A123	E2P3	22,980	8,070	31,050	1.35
	A124	E2P4	33,302	13,758	47,060	1.41
EJE 3 PONIENTE	A125	E3P1	35,940	9,240	45,180	1.26
	A126	E3P2	24,125	8,006	32,131	1.33
	A127	E3P3	13,626	5,342	18,968	1.39
	A128	E3P4	21,370	6,880	28,250	1.32
	A129	E3P5	22,210	6,230	28,440	1.28
EJE 1 ORIENTE	A130	E101	36,650	10,538	47,188	1.29
	A131	E102	12,381	5,372	17,753	1.43
	A132	E103	27,650	5,690	33,340	1.21
	A133	E104	27,980	7,570	35,550	1.27
	A134	E105	24,780	7,390	32,170	1.30
	A135	E106	30,297	10,434	40,731	1.34
	A136	E107	19,992	8,125	28,117	1.41
	A137	E108	16,450	7,270	23,720	1.44
	A138	E109	47,780	20,340	68,120	1.43
	A139	E110	17,110	6,610	23,720	1.39
EJE 2 ORIENTE	A140	E201	21,520	7,330	28,850	1.34
	A141	E202	24,909	7,604	32,513	1.31
	A142	E203	31,773	7,646	39,419	1.24
	A143	E204	36,987	9,626	46,613	1.26
	A144	E205	34,544	12,174	46,718	1.35
	A145	E206	25,850	8,960	34,810	1.35
	A146	E207	22,060	5,860	27,920	1.27
	A147	E208	14,125	7,670	20,195	1.43

Table 4.1.6 Traffic Volume Measured in One Day in the DDF Survey (1986) - No. 6 -

Name of Road	Point No.	Code No.	Traffic Volume			Whole day/Daytime
			Daytime	Nighttime	Whole day	
EJE 3 ORIENTE	A148	E301	40,902	16,211	57,113	1.40
	A149	E302	36,470	9,620	46,090	1.26
	A150	E303	43,710	18,600	62,310	1.43
	A151	E304	47,130	18,470	65,600	1.39
	A152	E305	53,970	19,840	73,810	1.37
	A153	E306	37,728	14,073	51,801	1.37
	A154	E307	44,600	15,230	59,830	1.34
EJE 5 ORIENTE	A155	E501	15,189	4,764	19,953	1.31
	A156	E502	65,093	21,432	86,525	1.33
	A157	E503	30,068	10,732	41,000	1.36
INSURGENTES	A158	INS1	26,268	8,196	34,464	1.31
	A159	INS2	70,240	18,850	89,090	1.27
	A160	INS3	63,060	24,400	87,460	1.39
	A161	INS4	40,440	11,120	51,560	1.27
	A162	INS5	44,840	16,210	61,050	1.36
	A163	INS6	50,830	16,420	67,250	1.32
	A164	INS7	66,457	24,296	90,753	1.37
	A165	INS8	89,036	31,636	120,672	1.36
	A166	INS9	81,772	24,058	105,830	1.29
REFORMA	A167	U N1NS	18,196	4,223	22,419	1.23
		G G1SN	13,333	4,910	18,243	1.37
	A168	U N2NS	27,901	6,615	34,516	1.24
		G G2SN	28,639	12,057	40,696	1.42
	A169	R3	67,890	18,150	86,040	1.27
	A170	R4	37,016	10,172	47,188	1.27
	A171	R5	39,783	11,660	51,443	1.29
	A172	R6	25,680	5,708	31,388	1.22
A173	R7	20,613	5,817	26,430	1.28	
AV. DE LAS PALMAS	A174	PAL1	24,010	7,120	31,130	1.30
	A175	PAL2	32,811	10,285	43,096	1.31

Table 4.1.7 Traffic Volume Measured in One Day in
the DDF Survey (1986) - No. 7 -

Name of Road	Point No.	Code No.	Traffic Volume			
			Daytime	Nighttime	Whole day	Whole day/ Daytime
AV. UNIVER- SIDAD	A176	UNI1	10,454	2,765	13,219	1.26
	A177	UNI2	20,152	6,298	26,450	1.31
	A178	UNI3	30,155	10,117	40,272	1.34
M.A. DE QUEVEDO -TEXQUENA	A179	OT1	17,890	7,120	25,010	1.40
	A180	OT2	37,512	12,284	49,796	1.33
	A181	OT3	43,770	16,186	59,956	1.37
	A182	OT4	24,771	10,395	35,166	1.42
CALZ. I. ZARAGOZA	A183	ZAR1	29,430	12,950	42,380	1.44
	A184	ZAR2	55,680	21,990	77,670	1.39
	A185	ZAR3	114,577	50,208	164,785	1.44
	A186	ZAR4	67,378	25,520	92,898	1.38
AV. CHAPULTEPEC -F. S. T. DE MIER	A187	CHFS1	27,040	9,100	36,140	1.34
	A188	CHFS2	49,714	20,722	70,436	1.42
	A189	CHFS3	36,448	12,880	49,328	1.35

Table 4.1.8 Traffic Volume Measured in Consecutive Seven Days by DDF (1986)

Name of Road	Point No.	Code No.	Survey Day						
			Sep.26 (Fri)	Sep.27 (Sat)	Sep.28 (Sun)	Sep.29 (Mon)	Sep.30 (Tue)	Oct.1 (Wed)	Oct.2 (Thu)
TLALPAN	A190	SVT	147,180 (1.030)	132,360 (0.927)	94,120 (0.659)	145,260 (1.017)	149,060 (1.043)	142,860 (1.000)	117,360 (--)
EJE CENTRAL	A191	SECLC	45,870 (1.021)	43,230 (0.962)	30,140 (0.671)	37,560 (0.836)	45,730 (1.018)	44,940 (1.000)	43,160 (--)
EJE 1 PTE.	A192	SEIP	61,840 (1.006)	48,800 (0.794)	33,810 (0.550)	57,970 (0.943)	60,290 (0.981)	61,460 (1.000)	58,980 (--)
REFORMA	A193	SREF	77,820 (0.948)	55,430 (0.675)	44,660 (0.544)	80,670 (0.983)	82,120 (1.001)	82,070 (1.000)	-- (--)
LAS PALMAS	A194	SPAL	35,619 (0.886)	36,533 (0.910)	28,317 (0.705)	40,493 (1.008)	39,485 (0.983)	40,167 (1.000)	40,914 (--)
AV. CHAPULTEPEC	A195	SCH	55,940 (0.797)	41,630 (0.593)	22,890 (0.326)	44,100 (0.741)	59,510 (0.848)	70,160 (1.000)	64,930 (--)
SN. BERNEBE	A196	SSB	4,667 (0.808)	4,740 (0.820)	3,385 (0.586)	5,412 (0.937)	6,000 (1.038)	5,778 (1.000)	5,705 (--)
PRESA	A197	SPRN	6,540 (0.768)	5,590 (0.656)	4,050 (0.475)	6,220 (0.730)	8,110 (0.952)	8,520 (1.000)	8,390 (--)

- Note 1) Upper: one-day traffic volume (vehicles/day)
Lower: ratio to the traffic volume of Wednesday, Oct. 1.
- 2) Measurement was not made from 18:00 to 24:00 hours on Friday, Oct. 2.

Table 4.1.9 Results of Traffic Volume Measurement in the Noise Survey by DDF (1984) - No. 1 -

DELEGATION	Zone	Major Roads					Narrower Roads					Large Vehicle Ratio(%)	Time of Measurement	
		Number of Points	Total Vehicle	One Point Average	Small Vehicle	Large Vehicle Ratio(%)	Number of Points	Total Vehicles	One Point Average	Small Vehicle	Large Vehicle Ratio(%)			
AO	I	2	4,631	2,316	4,242	389	8.4	10	6,150	615	5,940	210	3.4	Aug.1984
	II	4	1,818	455	1,731	87	4.8	8	2,808	351	2,646	162	5.8	Aug.1984
	III	-	-	-	-	-	-	12	3,555	296	3,069	486	13.7	Aug.1984
	IV	7	9,435	1,348	8,700	735	7.8	5	1,293	259	1,251	42	3.2	Aug.1984
	V	-	-	-	-	-	-	12	6,213	518	5,820	393	6.3	Aug.1984
	VI	-	-	-	-	-	-	12	3,450	288	3,189	261	7.6	Aug.1984
	VII	-	-	-	-	-	-	13	1,560	120	1,504	56	3.6	Aug.1984
AZ	Total	13	15,884	1,222	14,673	1,211	7.6	72	25,029	348	23,419	1,610	6.4	
	I	4	2,026	507	790	1,236	61.0	8	2,076	260	1,584	492	23.7	Jun.1984
	II	-	-	-	-	-	-	12	3,960	330	2,010	1,950	49.2	Jun.1984
	III	-	-	-	-	-	-	12	6,243	520	3,459	2,784	44.6	Jun.1984
	IV	-	-	-	-	-	-	12	3,094	258	1,888	1,206	39.0	Jun.1984
	Total	4	2,026	507	790	1,236	61.0	44	15,373	349	8,941	6,432	41.8	
	I	4	9,741	2,435	9,051	690	7.1	8	1,939	242	1,906	33	1.7	Jun.1984
BJ	II	3	6,957	2,319	6,702	255	3.7	9	3,600	400	3,549	51	1.4	Jun. to Jul.1984
	III	-	-	-	-	-	-	11	2,782	253	2,734	48	1.7	Jul.1984
	IV	1	2,715	2,715	2,439	276	10.2	11	3,912	356	3,813	99	2.5	Jul.1984
	V	3	5,319	1,773	5,226	93	1.7	9	3,386	376	3,338	48	1.4	Jul.1984
	VI	7	16,888	2,413	16,188	700	4.1	5	1,650	330	1,635	15	0.9	Jul.1984
	VII	2	2,931	1,466	2,622	309	10.5	10	1,638	164	1,590	48	2.9	Jun.1984
	Total	20	44,551	2,228	42,228	2,323	5.2	63	18,907	300	18,565	342	1.8	
CO	I	1	2,610	2,610	2,457	153	6.2	14	1,632	117	1,530	102	6.3	Oct.1984
	II	2	4,068	2,034	3,786	282	6.9	10	7,152	715	6,971	181	2.5	Oct.1984
	III	3	5,295	1,765	5,061	234	4.4	6	5,031	839	4,872	159	3.2	Oct.1984
	Total	6	11,973	1,996	11,304	669	5.6	30	13,815	461	13,373	442	3.2	

Table 4.1.10 Results of Traffic Volume Measurement in the Noise Survey by DDF (1984) - No. 2 -

DELEGATION	Zone	Major Roads					Narrower Roads					Time of Measurement		
		Number of Points	Total Vehicle	One Point Average	Small Vehicle	Large Vehicle Ratio(%)	Number of Points	Total Vehicles	One Point Average	Small Vehicle	Large Vehicle Ratio(%)			
CU	I	5	10,917	2,183	9,616	1,301	11.9	7	1,890	270	1,326	564	29.8	May 1984
	II	4	8,466	2,167	7,737	729	8.6	8	984	123	900	84	8.5	May 1984
	III	2	5,518	2,759	5,064	454	8.2	10	8,856	886	8,493	363	4.1	May 1984
	IV	3	10,669	3,556	10,246	423	4.0	9	5,095	566	4,894	201	3.9	May 1984
	V	4	9,027	2,257	8,808	219	2.4	8	4,263	533	4,047	216	5.1	May 1984
	VI	4	10,270	2,568	9,871	399	3.9	11	4,572	416	4,362	210	4.6	May 1984
	Total	22	54,867	2,494	51,342	3,525	6.4	53	25,660	484	24,022	1,638	6.4	
GM	I	-	-	-	-	-	-	12	36	3	36	0	0.0	Jun. 1984
	II	1	3,927	3,927	3,255	672	17.1	11	3,856	351	2,979	877	22.7	Jun. 1984
	III	1	2,460	2,460	2,091	369	15.0	11	3,876	352	3,441	435	11.2	Jun. 1984
	IV	-	-	-	-	-	-	4	504	126	489	15	3.0	Jun. 1984
	V	2	6,309	3,155	5,481	828	13.1	4	1,194	299	1,170	24	2.0	Jun. 1984
	VI	4	8,397	2,099	7,959	438	5.2	8	2,683	335	2,357	326	12.2	Jun. 1984
	VII	3	8,019	2,673	7,014	1,005	12.5	9	885	98	870	15	1.7	Jun. 1984
	VIII	-	-	-	-	-	-	12	3,568	297	3,329	239	6.7	Jun. 1984
	IX	-	-	-	-	-	-	12	4,235	353	3,915	320	7.6	Jun. 1984
	X	2	4,188	2,094	3,513	675	16.1	10	1,113	111	897	216	19.4	Jun. 1984
	XI	-	-	-	-	-	-	8	1,878	235	1,632	246	13.1	Jun. 1984
	Total	13	33,300	2,562	29,313	3,987	12.0	101	23,828	236	21,115	2,713	11.4	
IC	I	2	2,814	1,407	2,583	231	8.2	10	1,944	194	1,878	66	3.4	Sep. 1984
	II	1	525	525	465	60	11.4	11	768	70	702	66	8.6	Sep. 1984
	III	-	-	-	-	-	-	12	5,586	466	5,341	245	4.4	Sep. 1984
	Total	3	3,339	1,113	3,048	291	8.7	33	8,298	251	7,921	377	4.5	

Table 4.1.11 Results of Traffic Volume Measurement in the Noise Survey by DDF (1984) - No. 3 -

DELEGA- TION	Zone	Major Roads						Narrower Roads						Time of Measurement
		Number of Points	Total Vehicle	One Point Average	Small Vehicle	Large Vehicle	Large Vehicle Ratio(%)	Number of Points	Total Vehicles	One Point Average	Small Vehicle	Large Vehicle	Large Vehicle Ratio(%)	
	I	6	12,342	2,057	12,006	336	2.7	6	2,077	335	1,935	72	3.6	Jul.1984
	II	-	-	-	-	-	-	12	1,789	149	1,345	444	24.8	Jul.1984
	III	-	-	-	-	-	-	12	6,477	540	6,090	387	6.0	Jul.1984
IP	IV	1	2,211	2,211	1,791	420	19.0	11	4,680	425	3,975	705	15.1	Jul.1984
	V	-	-	-	-	-	-	12	1,317	110	1,230	87	6.6	Aug.1984
	VI	1	3,261	3,261	2,961	300	9.2	11	1,689	154	1,446	243	14.4	Aug.1984
	VII	-	-	-	-	-	-	12	147	12	141	6	4.1	Aug.1984
	Total	8	17,814	2,227	16,758	1,056	5.9	76	18,106	238	16,162	1,944	10.7	
	I	-	-	-	-	-	-	12	2,187	182	2,118	69	3.2	Oct.1984
MC	II	-	-	-	-	-	-	12	2,298	192	2,190	108	4.7	Oct.1984
	III	-	-	-	-	-	-	12	4,365	364	4,179	186	4.3	Oct.1984
	Total	-	-	-	-	-	-	36	8,850	246	8,487	363	4.1	
	I	1	909	909	687	222	24.4	11	1,144	104	1,057	87	7.6	Jul.1984
	II	-	-	-	-	-	-	11	4,924	448	4,771	153	3.1	Jul.1984
	III	1	981	981	906	75	7.6	11	4,981	453	4,654	327	6.6	Jul.1984
	IV	-	-	-	-	-	-	12	6,675	556	6,648	27	0.4	Jul.1984
MH	V	-	-	-	-	-	-	11	11,346	1,031	11,034	312	2.7	Jul.1984
	VI	4	14,116	3,529	13,183	933	6.6	8	9,633	1,204	9,441	192	2.0	Jul.1984
	VII	1	2,709	2,709	2,676	33	1.2	11	1,227	112	1,221	6	0.5	Jul.1984
	VIII	-	-	-	-	-	-	8	7,427	928	6,049	1,378	18.6	Jul.1984
	Total	6	18,715	3,119	17,452	1,263	6.7	83	47,357	571	44,875	2,482	5.2	
TH	I	3	8,091	2,697	7,470	621	7.7	10	864	86	849	15	1.7	Oct.1984
	Total	3	8,091	2,697	7,470	621	7.7	10	864	86	849	15	1.7	

Table 4.1.12 Results of Traffic Volume Measurement in the Noise Survey by DDF (1984) - No. 4 -

DELEGA- TION	Zone	Major Roads						Narrower Roads						Time of Measurement
		Number of Points	Total Vehicle	One Point Average	Small Vehicle	Large Vehicle	Large Vehicle Ratio(%)	Number of Points	Total Vehicles	One Point Average	Small Vehicle	Large Vehicle	Large Vehicle Ratio(%)	
	I	1	2,513	2,513	2,388	125	5.0	11	2,403	218	2,340	63	2.6	Sep.1984
	II	1	1,479	1,479	1,452	27	1.8	5	2,049	410	1,959	90	4.4	Sep.1984
	III	-	-	-	-	-	-	12	1,497	125	1,353	144	4.6	Sep.1984
TL	IV	2	1,851	926	1,740	111	6.0	4	1,716	429	1,674	42	2.4	Sep.1984
	V	2	3,018	1,509	2,589	429	14.2	10	3,057	306	2,958	99	3.2	Oct.1984
	Total	6	8,861	1,477	8,169	692	7.8	42	10,722	255	10,284	438	4.1	
	I	6	9,478	1,580	8,229	1,249	13.2	6	3,174	529	2,541	633	19.9	Jul.1984
	II	3	6,753	2,251	5,655	1,098	16.3	9	1,593	177	1,530	63	4.0	Aug.1984
VC	III	5	13,006	2,601	12,235	771	5.9	10	6,216	622	5,895	321	5.2	Aug.1984
	IV	4	9,822	2,456	8,223	1,599	16.3	5	1,404	281	1,362	42	3.0	Aug.1984
	Total	18	39,059	2,170	34,342	4,717	12.1	30	12,387	413	11,328	1,059	8.5	
	I	-	-	-	-	-	-	12	4,356	363	4,196	160	3.7	Oct.1984
XO	Total	-	-	-	-	-	-	12	4,356	363	4,196	160	3.7	
Total	70	122	258,480	2,119	236,889	21,591	8.4	685	233,552	341	213,537	20,015	8.6	

Note 1) Vehicle size category is as follows:

Small Vehicle: passenger car, light-duty truck, pick-up, COMBI, others smaller than 3,000 kg

Large Vehicle: heavy-duty truck, Buses, others

2) Measurement was made for one hour during daytime (8:00 a.m. to 4:00 p.m.).

4.1.3 Results of the Traffic Volume Survey by the State of Mexico

The results of the traffic volume survey conducted by the State of Mexico in 1985 are summarized in Table 4.1.13.

4.1.4 Results of the Traffic Volume Survey by JICA

The results of the traffic volume survey conducted by JICA in 1987 are summarized in Table 4.1.14.

4.1.5 Results of Traffic Volume Counting on Aerial Photographs

The area divided into 1 km grid for counting automobiles on the aerial photographs is shown in Figure 4.1.3. Number of the 1 km² squares for which counting was made is shown in Table 4.1.15 classified by DELEGACIONES and land-use categories.

The results of counting is shown in Table 4.1.16.

Table 4.1.13 Summary of Results of Traffic Volume Survey
by the State of Mexico (1985)

Point No.	Traffic Volume				
	Passenger Car	Bus	COMBI	Truck	Total
B1	13,961 (59.7)	2,414 (10.3)	339 (1.6)	6,645 (28.4)	23,359 (100.0)
B2	67,524 (79.9)	3,773 (4.4)	2,170 (2.7)	10,985 (13.0)	84,452 (100.0)
B3	37,665 (68.0)	5,156 (4.3)	5,960 (10.8)	6,580 (11.9)	55,361 (100.0)
B4	30,360 (75.5)	2,666 (6.6)	4,189 (10.4)	3,031 (7.5)	40,246 (100.0)
B5	45,235 (79.0)	2,889 (5.0)	4,270 (7.4)	4,936 (8.6)	57,330 (100.0)
B6	49,631 (81.2)	3,259 (5.3)	3,674 (6.0)	4,557 (7.5)	61,121 (100.0)
B7	169,422 (41.4)	2,496 (1.3)	6,346 (3.4)	7,170 (3.9)	185,434 (100.0)
B8	45,094 (82.7)	1,408 (2.6)	4,022 (7.4)	3,950 (7.3)	54,474 (100.0)
B9	8,901 (68.7)	862 (6.7)	1,234 (9.5)	1,962 (15.1)	12,959 (100.0)
B10	35,768 (76.3)	2,755 (5.9)	854 (1.8)	7,488 (16.0)	46,865 (100.0)
B11	53,170 (75.6)	6,873 (9.8)	4,821 (6.9)	5,377 (7.7)	70,241 (100.0)
B12	26,931 (68.4)	4,650 (11.8)	2,757 (7.0)	5,025 (12.8)	39,363 (100.0)
B13	63,078 (77.5)	5,381 (6.6)	5,686 (7.0)	7,208 (8.9)	81,353 (100.0)
B14	32,459 (70.2)	3,353 (7.2)	3,340 (7.2)	7,124 (15.4)	46,276 (100.0)
B15	27,375 (60.4)	7,879 (17.4)	3,210 (7.10)	6,829 (15.1)	45,293 (100.0)
B16	8,184 (71.4)	1,966 (17.1)	142 (1.2)	1,184 (10.3)	11,476 (100.0)
B17	7,534 (58.9)	138 (1.1)	165 (1.3)	4,952 (38.7)	12,789 (100.0)
B18	4,031 (63.8)	1,010 (16.0)	231 (3.7)	1,039 (16.5)	6,311 (100.0)
B19	2,965 (61.2)	1,098 (22.7)	44 (0.9)	736 (15.2)	4,843 (100.0)
B20	3,074 (57.2)	720 (13.4)	300 (5.6)	1,281 (23.8)	5,357 (100.0)
B21	6,280 (62.0)	398 (3.9)	297 (2.9)	3,164 (31.2)	10,139 (100.0)
B22	12,066 (59.2)	799 (3.9)	474 (2.3)	7,069 (34.6)	20,408 (100.0)
B23	1,500 (64.3)	121 (5.2)	433 (18.6)	278 (11.9)	2,332 (100.0)
B24	18,575 (59.2)	3,150 (10.0)	3,741 (11.9)	5,937 (18.9)	31,403 (100.0)
B25	23,607 (62.5)	1,548 (4.1)	4,626 (12.2)	8,003 (21.2)	37,784 (100.0)
B26	13,804 (52.3)	545 (2.1)	3,786 (14.4)	8,227 (31.2)	26,362 (100.0)
B27	3,206 (64.3)	210 (4.2)	795 (15.9)	776 (15.6)	4,987 (100.0)
B28	2,169 (60.7)	305 (8.5)	610 (17.1)	489 (13.7)	3,573 (100.0)

- Note 1. Unit: Vehicles/16 hrs (6:00 - 22:00)
Percentage is shown in parentheses.
2. Source: July 1987 / Received by ING. SOTO

Table 4.1.14 Summary of Results of Traffic Volume Survey by JICA (1987)

Point No.	Sunday, July 26					Wednesday, July 29				
	Traffic Volume	Vehicle Type Ratio (%)				Traffic Volume	Vehicle Type Ratio (%)			
	(vehicles /12 hrs)	Passen-ger Car	Bus	Truck	COMBI	(vehicles /12 hrs)	Passen-ger Car	Bus	Truck	COMBI
C1	104,688	87.1	1.1	5.3	6.5	152,628	81.3	1.2	11.0	6.5
C2	106,548	89.2	0.5	5.3	5.0	170,956	85.2	0.5	10.0	4.3
C3	83,988	85.2	0.6	6.4	7.8	144,072	84.6	0.6	11.3	3.5
C4	81,384	86.0	0.8	6.0	7.2	155,200	84.5	0.6	7.9	7.0
C5	92,796	93.7	0.1	4.1	2.1	144,644	92.9	0.2	5.3	1.6
C6	81,836	88.3	1.1	7.0	3.6	156,384	83.1	0.9	13.4	2.6
C7	73,912	87.2	0.4	8.8	3.6	113,792	75.0	0.4	21.9	2.7
C8	15,168	81.8	2.4	5.9	9.9	24,776	74.4	2.5	16.1	7.0
C9	37,192	81.6	2.1	6.7	9.6	54,052	75.7	1.8	13.3	9.2
C10	49,324	76.4	3.0	9.4	11.2	90,740	75.7	3.1	16.3	4.9
C11	26,672	86.9	3.0	4.9	5.2	58,812	84.3	3.1	8.5	4.1
C12	30,708	83.2	1.8	6.4	8.6	53,100	86.1	2.0	7.4	4.5
C13	32,208	87.6	2.8	2.5	7.1	81,372	87.2	1.9	5.2	5.7
C14	17,480	86.6	2.4	6.4	4.6	36,520	76.5	3.0	15.4	5.1
C15	26,104	80.5	4.0	7.1	8.4	48,024	71.6	3.0	17.2	8.2
C16	79,000	59.6	9.4	8.0	23.0	107,732	54.9	8.1	14.7	22.3
C17	20,200	86.4	2.2	4.9	6.5	36,456	78.7	1.9	10.5	8.9
C18	48,412	72.7	4.1	4.4	18.8	64,872	75.8	4.2	7.5	12.5
C19	62,060	87.4	1.1	6.8	4.7	95,880	84.7	0.7	10.4	4.2
C20	13,012	86.9	1.2	9.4	2.5	30,880	84.0	1.1	11.7	3.2
C21	20,548	87.5	4.2	6.7	1.6	39,612	83.5	1.6	13.4	1.5
C22	7,652	77.6	2.9	3.7	15.8	13,756	81.3	2.2	6.2	10.3
C23	2,504	98.2	-	1.6	0.2	6,640	96.6	-	3.3	0.1
C24	1,384	93.9	-	5.8	0.3	4,060	89.0	-	10.7	0.3
C25	5,436	91.9	0.3	5.2	2.6	11,312	88.5	0.1	10.8	0.6
C26	11,084	90.4	3.2	4.2	2.2	13,784	85.9	2.5	7.2	4.4
C27	7,784	84.2	3.8	4.7	7.3	10,900	77.2	2.9	10.0	9.9
C28	556	95.7	-	3.6	0.7	2,036	90.8	-	9.2	-
C29	2,572	82.1	5.6	9.5	2.8	11,972	67.1	4.0	25.8	3.1
C30	-	-	-	-	-	44,581	79.9	0.9	14.1	5.1

Table 4.1.15 Number of 1 km² Squares for Counting Automobiles

DELEGACION	Land Use		H1	H2	H4 H8	H2SR H2RS	H4S H4I	H21S H41S	CU	SR SU	C	CS	CB	ES	EA	ED	EP	EM	EC	AV	IA IV	TOTAL
	H01 H05	H02																				
GUSTAVO A. MADERO	-	-	1	2	-	1	-	-	2	-	-	-	-	-	-	-	-	-	1	-	1	8
AZCAPOTZALCO	-	-	2	3	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	1	8
MIGUEL HIDALGO	1	1	1	1	-	-	-	1	2	-	-	-	-	-	-	1	-	-	-	1	1	10
CUAHUTEMOC	-	-	-	9	-	3	-	3	-	-	8	1	2	-	-	-	-	-	-	-	-	26
VENUSTIANO CARRANZA	-	-	-	4	-	1	-	-	-	-	-	-	-	-	-	-	-	-	4	-	1	10
BENITO JUAREZ	-	1	4	3	-	2	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	12
IZTACALCO	-	-	1	3	-	-	-	1	1	-	1	-	-	-	-	1	-	-	-	-	-	8
IZTAPALAPA	-	-	2	2	-	-	2	-	1	-	-	-	-	-	2	-	-	-	-	-	1	10
COYOACAN	-	3	1	2	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	1	9
ALVARO OBREGON	2	1	-	3	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	8
MAGDALENA CONTRERAS	-	1	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	3
TLALPAN	-	1	3	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	6
XOCHIMILCO	-	-	1	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	3
TLAHUAC	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
CUAJIMALPA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
MILPA ALTA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
SUB-TOTAL	3	8	18	33	-	7	3	7	10	2	-	10	3	2	2	2	-	-	5	2	6	123
FUERA DEL D. D.F.																						8
TOTAL																						131

Note: H: dwelling, CU: urban center, SU: urban sub-center, E: urban facility, I: industry

Table 4.1.16 Results of Counting Automobiles on Aerial Photographs

Grid No.	DELEGATION	Land Use	Number of Driving Vehicles				Number of Parked Vehicles		
			Passenger Car	COMBI	Bus	Truck	Total	Total	Passenger Car
02-03	TL	H2	60	6	-	11	77	213	177
02-06	MC	H2	301	12	4	27	344	380	338
02-07	MC	H1	231	10	5	42	288	257	238
02-20	MH	ED	48	4	2	2	56	21	20
03-02	TL	H2	26	4	4	11	45	131	101
03-08	MC	SU	315	20	8	50	393	589	534
03-18	MH	H05	224	13	-	10	247	814	774
03-23	MS	(H2)	139	14	14	46	213	1,113	1,007
04-07	AO	H05	55	2	-	2	59	279	270
04-24	AZ	H2	101	6	4	15	126	829	723
05-10	AO	H05	261	15	9	28	313	404	386
05-13	AO	H4	404	47	16	71	538	841	696
05-15	AO	H4 S	188	13	6	40	247	1,424	1,188
05-19	MH	H1	579	27	6	24	636	2,019	1,963
05-21	MH	H4	169	16	4	12	201	1,310	1,165
05-23	MH	IA	28	1	5	6	40	190	167
06-08	CO	AV	328	26	10	17	381	737	710
06-09	AO	CU	627	76	21	26	750	1,193	1,135
06-10	AO	H1	780	74	26	38	918	2,425	2,329
06-13	BJ	H2	808	95	22	86	1,011	1,851	1,685
06-16	MH	CU	622	60	37	111	830	2,302	2,095
06-18	MH	AV	432	40	13	32	517	403	343
06-22	MH	CU	128	18	20	10	176	1,064	915
06-24	AZ	H4 S	268	32	23	50	373	1,243	1,031
06-25	AZ	CU	198	16	17	40	271	1,314	1,191
06-26	AZ	CU	61	3	5	14	83	574	465
07-14	BJ	H4 S	589	28	28	44	689	1,671	1,517
07-15	BJ	H4 S	936	24	6	37	1,003	3,367	3,268
07-16	CU	H4	721	54	5	69	849	3,476	3,163
07-17	CU	H4	1,133	102	23	165	1,423	3,985	3,482
07-18	CU	CS	1,394	152	27	169	1,742	3,520	3,279
07-19	MH	H2	994	63	7	82	1,146	2,678	2,590
07-20	MH	H4 S	116	13	5	14	148	876	764
08-02	TL	CB	89	16	8	22	135	599	486
08-03	TL	H1	305	29	7	21	362	815	763
08-08	CO	H1	85	23	1	13	122	905	703
08-13	BJ	H1	834	45	8	49	936	1,928	1,865
08-14	BJ	CB	764	49	3	67	883	2,307	2,098
08-15	BJ	H2	821	53	18	54	946	1,687	1,605
08-16	CU	H4	930	64	25	45	1,064	3,102	2,968
08-17	CU	H4	1,094	74	15	115	1,298	3,867	3,587
08-18	CU	CS	2,517	184	38	195	2,934	3,861	3,685
08-19	CU	H4	1,052	61	25	78	1,216	3,939	3,315
08-20	CU	H4 S	245	23	4	14	286	1,675	1,505
08-24	AZ	EC	46	8	7	20	81	903	863
09-06	CO	H4	64	24	2	11	101	730	586
09-10	CO	H1	854	53	9	48	964	1,134	1,079
09-13	BJ	CS	916	92	8	56	1,072	2,297	2,236
09-15	BJ	H2	453	24	7	37	521	3,807	3,458
09-17	CU	H4 S	806	86	14	126	1,032	3,485	3,052
09-18	CU	CS	1,601	182	18	147	1,948	4,400	4,101
09-19	CU	CS	2,063	179	32	99	2,373	3,409	3,271
09-20	CU	CS	390	25	8	17	440	1,835	1,725
09-21	CU	CB	152	8	5	13	178	1,448	1,324
09-25	AZ	IV	81	3	6	31	121	927	763
10-03	CO	H4 S	202	22	4	36	264	286	265
10-08	CO	H2	210	36	7	37	290	980	873
10-12	BJ	H2	250	21	12	53	336	2,297	2,027
10-14	BJ	H4	359	51	4	54	468	2,892	2,668

Table 4.1.16 (continued)

Grid No.	DELEGATION	Land Use	Number of Driving Vehicles					Number of Parked Vehicles	
			Passenger Car	COMBI	Bus	Truck	Total	Total	Passenger Car
10-15	BJ	H4	327	37	14	69	447	3,972	3,631
10-17	CO	H8	584	49	16	96	745	3,295	2,852
10-18	CO	H4S	2,047	178	21	189	2,435	4,196	3,954
10-19	CO	CS	1,254	64	18	53	1,389	3,208	3,098
10-20	CO	CS	321	28	13	27	389	1,453	1,325
10-23	AZ	H4	519	25	45	72	661	2,275	2,064
11-04	CO	H2	105	14	5	5	129	585	539
11-06	CO	IV	338	30	19	31	418	906	815
11-15	BJ	H4	448	42	9	38	537	3,121	2,732
11-17	CU	H8	960	74	14	111	1,159	3,458	3,090
11-18	CU	CS	1,368	177	35	213	1,793	3,098	2,822
11-19	CU	ES	1,130	123	34	57	1,344	1,204	1,142
11-20	CU	CS	457	24	28	28	537	1,697	1,501
11-22	CU	H8	235	12	7	29	283	1,553	1,444
12-02	XO	H4	118	6	4	14	142	718	666
12-09	CO	H1	219	12	8	21	260	988	942
12-12	IP	H4	182	16	9	20	227	982	873
12-13	IC	H2	253	28	8	29	318	1,539	1,420
12-17	CU	H4	487	69	37	148	741	2,391	1,841
12-18	CU	H21S	723	123	34	162	1,042	3,075	2,332
12-19	CU	H21S	600	76	18	143	837	2,508	2,022
12-20	CU	H41S	447	57	28	42	574	1,404	1,244
12-26	GM	H2	216	17	8	27	268	1,392	1,284
13-05	CO	CU	75	6	4	19	104	771	671
13-07	CO	H4	82	23	-	17	122	709	620
13-11	IP	H4	203	45	19	37	304	1,553	1,369
13-15	IC	CS	173	22	10	24	299	966	856
13-17	VC	H4	378	45	10	80	513	2,004	1,754
13-19	VC	H4S	273	30	50	71	424	1,162	926
13-25	GM	CU	261	17	65	31	374	644	567
14-14	IC	H4	188	26	15	31	260	1,052	988
14-15	IC	H4	120	32	10	48	210	1,674	1,456
14-19	VC	EC	150	20	54	20	244	1,116	989
14-20	VC	H4	189	21	9	16	235	1,379	1,262
14-22	GM	H4	183	12	9	12	216	1,994	1,728
14-25	GM	CU	115	13	17	23	168	916	741
15-17	VC	H4	506	58	9	68	641	1,981	1,778
15-24	GM	IV	174	13	18	33	238	428	363
16-07	IP	H21	62	15	1	12	90	280	255
16-11	IP	CU	512	34	33	45	624	639	585
16-12	IP	EA	30	3	1	19	53	40	23
16-13	IP	EA	93	9	2	41	145	14	10
16-16	IC	ED	98	16	-	25	139	442	376
16-18	VC	IV	421	38	23	57	539	1,045	1,023
16-19	VC	EC	314	25	11	58	408	586	372
16-20	VC	H4	536	25	20	34	615	1,826	1,715
16-22	GM	H2	157	15	4	14	190	1,073	1,004
17-12	IP	IV	136	19	4	37	196	212	182
17-19	VC	EC	108	11	1	4	124	359	342
17-20	VC	EC	120	10	51	8	189	704	681
18-05	IP	H2	69	18	3	41	131	256	200
18-13	IP	H21	153	14	3	47	217	373	286
18-17	MS	CU	139	21	7	48	215	730	579
18-25	GM	H4	122	11	7	9	149	1,039	860
19-14	IP	H4	70	16	7	16	109	859	738
19-16	MS	H41S	179	24	26	47	276	756	567
20-03	TH	H2	35	7	3	8	53	134	99
20-04	TH	H41	20	19	5	18	62	239	166
20-16	IP	(H4)	184	23	10	41	258	684	575
20-17	MS	(H4)	135	27	22	41	225	752	616
20-25	MS	(H4)	182	49	11	20	262	1,162	1,072

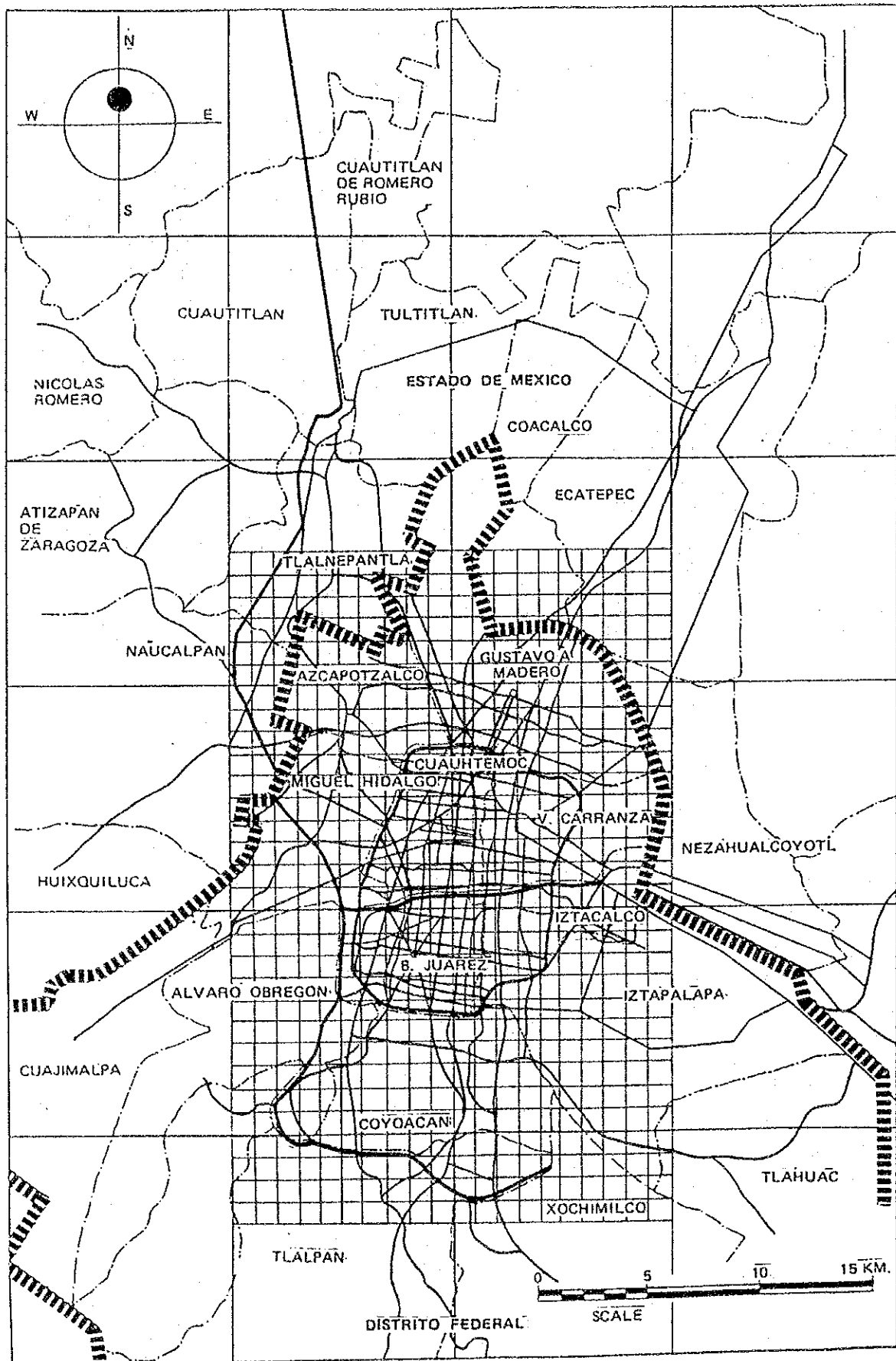


Figure 4.1.3 Grid for Counting Automobiles on Aerial Photographs

4.2 Automobile Driving Test for Average Speed

Driving routes for determination of average speed are shown in Figure 4.2.1 and Table 4.2.1.

Tables 4.2.2 and 4.2.3 show driving modes obtained through the test. Distribution of driving speed is shown in Figure 4.2.2.

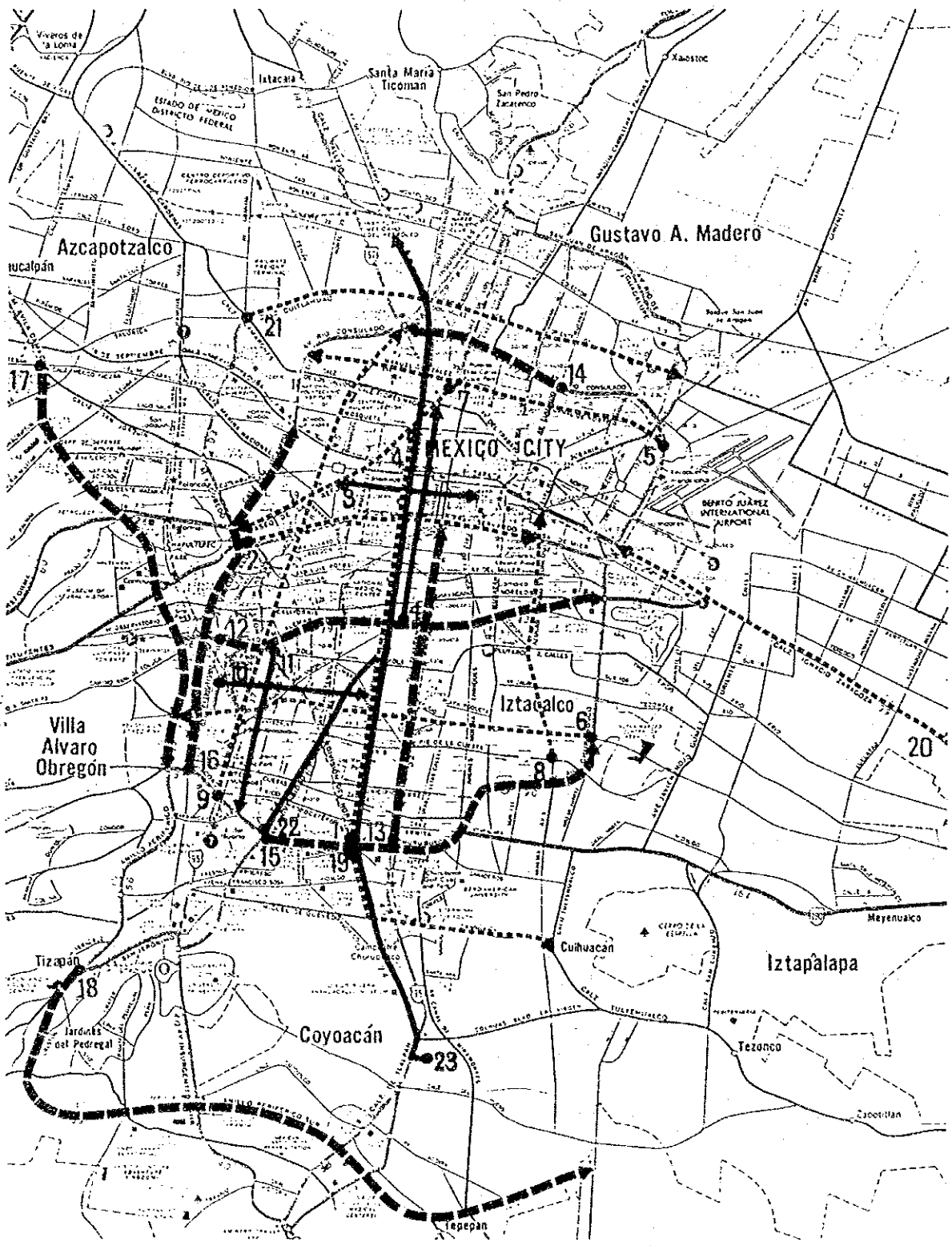


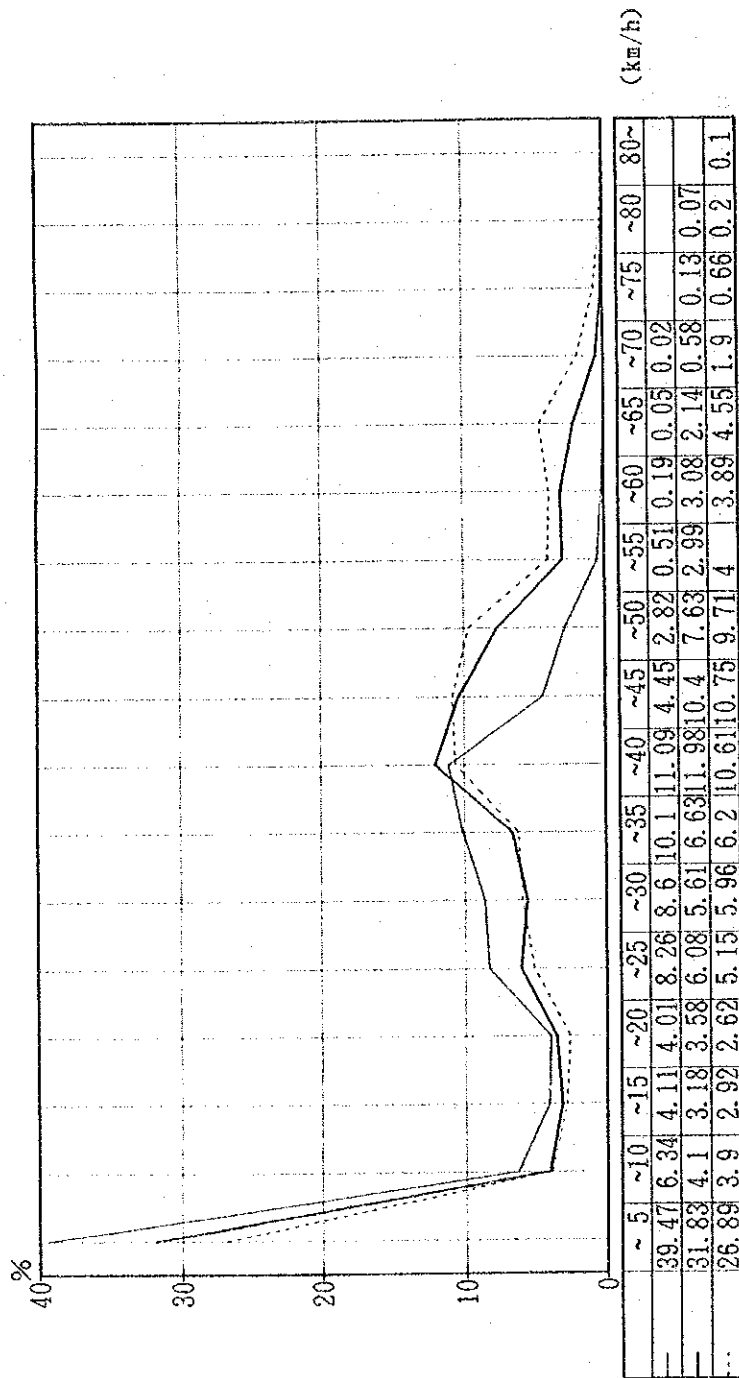
Figure 4.2.1 Driving Route Map

Table 4.2.1 Driving Routes

RUTA	VIALIDADES	PUNTO DE PARTIDA	PUNTO DE TERMINO
1	Eje Central Lázaro Cárdenas (S-N)	Río Churubusco	Paseo de la Reforma
2	Av. Chapultepec-Pray Servando Teresa de Mier (W-E)	el Metro Chapultepec	Eje 3 Oriente Francisco del Paso y Troncoso
3	Ayuntamiento-República del Salvador-Gral (W-E)	Eje 1 Pte. Bucareli	Eje 1 Ote. Circunvalación
4	Isabel la Católica-República de Chile-Comonfort (S-N)	Viaducto Miguel Alemán	Av. Paseo de la Reforma
5	Eje 2 Norte Manuel González (E-W)	Oceania	Río Consulado
6	Eje 5 Sur Eugenia (E-W)	Río Churubusco	Boulevard Adolfo López Mateos
7	Av. Paseo de la Reforma (NE-SW)	Eje 2 Norte Manuel González	Lieja
8	Eje 3 Oriente Francisco del Paso y Troncoso (S-N)	Eje 6 Sur Trabajadores Sociales	Calzada Ignacio Zaragoza
9	Av. Insurgentes (S-N)	Mixcoac	el Monumento a la Raza
10	Torres Adalid-Av. Héroes de Chapultepec-F.-Fernández del Castillo (W-E)	Eje 2 pte. Gabriel Mancera	Av. Plutarco Elias Calles
11	Patricio Saenz-Mosqueta (N-S)	Av. División del Norte	Río Mixcoac
12	Viaducto Miguel Alemán (W-E)	Av. Revolución	Río Churubusco
13	Calzada de Tlalpan (S-N)	Río Churubusco	la estación del Metro San Antonio Abad
14	Av. Río Consulado (Circuito Interior) (E-W)	Av. Eduardo Molina	el Monumento a la Raza
15	Av. Río Churubusco (Circuit Interior) (W-E)	Eje 1 Pte. Av. Cuahémoc	Eje 5 Sur Eugenia
16	Av. Patriotismo-Calzada Melchor Ocampo (Circuito Interior) (S-N)	Río Mixcoac	la Calzada México-Tacuba
17	Periférico Norte (N-S)	el Toro de Cuatro Caminos	Río Mixcoac
18	Periférico Sur (W-E)	Eje 10 Sur San Terónimo	Calzada del Hueso
19	División del Norte-Calzada Taxquena (N-S-E)	Río Churubusco	Calzada Tulyehualco
20	Calzada Ignacio Zaragoza (E-W)	Santa Martha	Boulevard Puerto Aereo
21	Eje 3 Norte Cuiclahuac (W-E)	Calzada Camarones	Av. Oceania
22	Taxi Colectivo Ruta 1 ,Ciudad Universitaria,Eje Central Lázaro Cárdenas,Central Camionera del Norte-Tlalhepantla	Av. Río Churubusco	Eje 5 Norte Montevideo
23	Ruta-100 Ruta 27 ,Espartaco-Reclusorio Norte	Espartaco	Eje 5 Norte Montevideo

Table 4.2.2 Driving Modes

Vialidades	Ruta	Hora	Distance de recorrido (km)	Tiempo horario		Velocidad promedio (km/h)	Funcionamiento en vacio	Composicion de modo (%)	
				minite	segundo			Aceleracion	Disminucion
Dentro del Circuito Interior	Vias Principales	Max	4.4	11	51	22.23	34.79	27.34	26.63
		Nor	4.4	11	27	22.82	31.05	30.04	27.05
	Vias Secundarias	Max	7.1	15	11	28.23	29.07	32.97	28.69
		Nor	6.7	20	19	19.70	31.41	30.05	27.10
	Vias Principales	Max	7.6	16	40	27.46	27.94	33.43	28.09
		Nor	7.8	18	19	25.51	28.60	32.61	29.24
	Vias Secundarias	Max	6.2	15	27	24.00	30.51	30.62	28.19
		Nor	6.2	15	1	24.60	37.99	29.34	26.46
	Vias Principales	Max	2.3	4	44	29.16	23.02	34.62	29.53
		Nor	2.3	6	54	20.21	39.93	28.35	29.69
Vias Secundarias	Max	8.0	17	35	27.36	26.91	34.20	29.70	
	Nor	8.3	25	17	19.76	40.69	27.18	25.04	
Parte Sur	Vias Principales	Promedio	---	---	---	24.25	31.83	30.90	27.62
		Max	2.7	8	59	17.85	38.55	28.64	24.93
	Vias Secundarias	Nor	3.6	22	50	7.89	56.69	20.36	18.10
		Max	5.1	17	13	17.67	39.09	28.54	26.56
	Vias Principales	Nor	5.0	17	34	17.04	39.31	28.69	25.51
		Promedio	---	---	---	15.11	43.41	26.56	23.78
	Vias Secundarias	Max	4.9	9	32	31.12	24.37	35.81	30.66
		Nor	5.0	9	57	30.12	31.30	33.56	24.35
	Vias Principales	Max	9.5	17	1	33.33	22.12	37.96	32.70
		Nor	9.7	19	0	30.56	21.70	36.91	32.05
Vias Secundarias	Max	3.6	7	41	28.06	28.49	34.99	27.95	
	Nor	3.7	6	40	33.07	20.47	35.83	32.08	
Vias Principales	Max	3.9	8	59	26.09	32.99	30.49	28.08	
	Nor	3.9	11	43	19.90	37.17	29.00	26.30	
Vias de Acceso Controlado	Vias Principales	Promedio	---	---	---	29.03	27.33	34.45	29.27
		Max	3.1	8	38	21.48	31.53	30.38	29.70
	Vias Secundarias	Nor	3.1	8	55	21.17	35.29	30.53	27.17
		Max	3.6	11	20	18.92	35.86	32.33	26.30
	Vias Principales	Nor	3.5	13	47	15.37	39.46	29.37	24.65
		Promedio	---	---	---	19.24	35.54	30.65	26.96
	Vias Secundarias	Max	9.4	9	27	59.68	1.32	39.38	33.74
		Nor	9.2	9	56	55.28	1.17	42.33	40.74
	Vias Principales	Max	6.5	9	6	42.67	3.29	42.91	40.81
		Nor	6.3	6	31	58.09	0	41.00	38.95
Vias Secundarias	Max	---	---	---	53.93	1.45	41.41	38.56	
	Nor	---	---	---	---	---	---	---	



- : Vías Secundarias
- : Vías Principales en el Parte Norte dentro del Circuito Interior
- : Vías Principales otros

Figure 4.2.2 Distribution of Speed

4.3 Automobile Emission Factor and Number of Automobiles

4.3.1 Results of Chassis Dynamometer Test

Tables 4.3.1 through 4.3.3 show the results of the test for determination of emission factors and fuel economy conducted in Mexico City.

4.3.2 Data Related to Emission Factor and Fuel Economy

Tables 4.3.4 through 4.3.8 give some of existing data related to automobile emission factor.

Table 4.3.9 and the subsequent sheet are the data related to fuel economy for automobiles.

4.3.3 Data Related to the Number of Automobiles

Tables 4.3.10 through 4.3.14 and the data related to the number of automobiles in Mexico City.

Table 4.3.1 Summary of Exhaust Emissions Test Results at Several Used Cars in Mexico City. Classified by Engine Type and Manufacturing.

Engine Type Manufac.	Model Test No.	M o d e	Exhaust Emissions [gr/Km]			Fuel Economy [Km/ℓ]	Remarks
			HC	CO	NOx		
V-6, 3.8ℓ FORD THUNDERBIRD M/T	'85 JD019	OH	4.77	91.94	0.42	6.56	
		TM	5.42	78.01	0.75	6.34	
		CS	1.45	49.46	0.19	12.41	
V-8, 5.0ℓ FORD FAIRMONT M/T	'78 JD017	OH	3.33	10.45	1.82	8.25	
		TM	4.87	11.81	1.46	6.62	
		CS	3.19	1.50	1.20	13.51	
V-8, 5.9ℓ DODGE MAGNUM M/T	'82 JD014	OH	2.10	36.75	1.36	5.56	
		TM	3.48	94.99	0.98	4.36	
		CS	1.13	20.53	0.87	9.77	
V-8, 5.9ℓ CHRYSLER CORDOBA A/T	'81 JD028	OH	2.44	80.05	0.94	4.69	
		TM	3.52	132.55	0.46	3.94	
		CS	1.53	53.19	0.24	8.81	
V-6, 2.8ℓ G.M. CITATION M/T	'82 JD004	OH	2.04	33.27	0.63	9.18	
		TM	2.02	26.82	0.97	8.16	
		CS	1.12	21.96	0.45	15.65	
L-6, 4.1ℓ G.M. CHEVYNOVA M/T	'77 JD006	OH	2.54	25.62	1.15	7.85	
		TM	3.01	40.46	1.45	6.36	
		CS	1.37	22.53	0.68	12.56	
L-6, 4.2ℓ V.A.M. GREMLIN M/T	'82 JD023	OH	1.64	16.42	1.20	7.86	OIL LEAKAGE
		TM	2.69	28.68	1.18	6.69	
		CS	0.37	2.47	0.83	12.00	
L-6, 4.2ℓ V.A.M. AMERICAN M/T	'81 JD026	OH	2.25	84.91	0.28	6.35	
		TM	2.56	52.73	0.36	5.77	
		CS	1.52	48.73	0.21	9.88	
L-6, 4.2ℓ V.A.M. GREMLIN M/T	'77 JD030	OH	4.32	93.75	0.64	7.16	
		TM	5.38	118.98	0.38	5.80	
		CS	1.94	62.23	0.12	11.98	
L-4, 1.6ℓ NISSAN TSURU M/T	'86 JD024	OH	1.38	21.39	1.20	14.71	
		TM	1.46	19.50	1.13	13.73	
		CS	0.63	18.74	0.74	21.20	

SYMBOL OH — LA-4 HOT MODE
 TM — JAPAN 10 MODE
 CS — CONSTANT SPEED AT 60Km/h
 M/T — TRANSMIT MANUAL
 A/T — TRANSMIT AUTOMATIC

Source: FINAL REPORT OF EXHAUST EMISSION TEST WITH USED CARS FROM THE "DEPARTAMENTO DEL DISTRITO FEDERAL". MEXICAN GOVERNMENT DEPENDENCE. A 28 DE OCTUBRE DE 1987. NISSAN MEXICANA, S.A. DE C.V.

Table 4.3.2 Summary of Exhaust Emissions Test Results at Several Used Cars in Mexico City. Classified by Engine Type and Manufacturing.

Engine Type Manufac.	Model Test No.	M o d e	Exhaust Emissions [gr/Km]			Fuel Economy [Km/l]	Remarks
			HC	CO	NOx		
L-4, 1.6l NISSAN TSURU M/T	'86 JD012	OH	1.37	18.73	1.24	13.88	* 1ST. TEST
		TM	1.38	22.51	1.13	13.17	
		CS	0.57	9.16	1.07	22.25	
L-4, 1.6l NISSAN TSURU M/T	'86 JD027	OH	1.50	21.65	1.15	13.42	* 2ND. TEST
		TM	1.76	32.64	1.03	11.95	AFTER ENGINE
		CS	0.55	8.29	1.09	21.76	TUNE-UP
L-4, 1.6l NISSAN DATSUN M/T	'81 JD001	OH	1.73	16.83	1.05	11.46	
		TM	1.97	18.14	0.88	11.49	
		CS	0.54	6.26	0.58	20.14	
L-4, 1.6l NISSAN DATSUN M/T	'81 JD021	OH	2.36	30.14	0.76	10.72	
		TM	2.64	31.58	0.61	10.84	
		CS	0.82	11.58	0.54	19.15	
L-4, 1.6l NISSAN DATSUN M/T	'76 JD011	OH	2.61	38.25	0.65	10.74	
		TM	2.70	47.03	0.34	10.09	
		CS	0.90	22.14	0.27	18.54	
L-4, 1.5l NISSAN DATSUN M/T	'70 JD018	OH	2.09	16.61	1.29	12.80	
		TM	2.36	12.02	1.40	13.06	
		CS	0.88	8.47	1.06	20.45	
L-4, 1.7l VW CARIBE M/T	'85 JD013	OH	1.62	19.99	0.98	13.34	
		TM	1.85	29.92	0.73	12.02	
		CS	0.65	5.86	1.17	24.28	
L-4, 1.6l VW CARIBE M/T	'81 JD008	OH	1.33	24.75	0.58	10.92	
		TM	2.10	41.79	0.55	10.45	
		CS	0.72	16.16	1.07	19.83	
O-4, 1.6l VW SEDAN M/T	'87 JD002	OH	1.75	16.67	1.35	11.58	
		TM	1.88	19.11	0.32	11.55	
		CS	0.56	4.18	0.86	22.39	
O-4, 1.6l VW SEDAN M/T	'83 JD020	OH	3.69	21.91	1.14	10.62	OIL LEAKAGE
		TM	5.06	27.05	1.48	9.58	ON MUFFLER
		CS	0.63	5.40	1.63	18.31	

Table 4.3.3 Summary of Exhaust Emissions Test Results at Several Used Cars in Mexico City. Classified by Engine Type and Manufacturing.

Engine Type Manufac.	Model Test No.	M o d e	Exhaust Emissions [gr/Km]			Fuel Economy [Km/l]	Remarks
			HC	CO	NOx		
O-4, 1.6l VW SEDAN M/T	'78 JD007	OH	2.95	33.60	1.21	11.07	
		TM	3.49	32.21	1.24	11.13	
		CS	0.65	15.67	0.69	20.85	
O-4, 1.6l VW SEDAN M/T	'76 JD022	OH	3.05	24.08	1.09	11.78	
		TM	3.23	30.70	0.88	10.54	
		CS	0.66	11.84	0.77	21.01	
O-4, 1.6l VW SEDAN M/T	'75 JD003	OH	4.47	25.67	1.00	10.41	
		TM	6.88	32.54	0.68	9.81	
		CS	0.59	5.90	0.59	21.23	
L-4, 2.3l FORD TOPAZ M/T	'84 JD016	OH	1.98	29.42	1.59	10.89	
		TM	2.20	33.98	0.80	9.41	
		CS	1.17	26.83	0.84	16.41	
L-6, 3.7l PICK UP DODGE M/T	'86 JD005	OH	4.71	97.72	0.16	5.36	
		TM	6.39	128.80	0.48	4.00	
		CS	1.45	48.56	0.45	9.57	
L-6, 3.7l PICK UP DODGE M/T	'84 JD009	OH	12.12	62.49	0.85	6.75	** 1ST. TEST
		TM	22.42	57.57	0.97	5.59	
		CS	5.93	33.48	0.71	11.51	
L-6, 3.7l PICK UP DODGE M/T	'84 JD029	OH	3.37	76.84	0.50	7.07	** 2ND. TEST
		TM	3.86	79.63	0.49	5.86	AFTER ENGINE
		CS	1.04	48.97	0.36	10.51	TUNE-UP
L-6, 3.7l PICK UP DODGE M/T	'79 JD025	OH	3.04	29.01	0.73	7.61	
		TM	3.23	36.14	1.69	6.28	
		CS	0.85	8.21	0.76	12.28	
O-4, 1.6l VW COMBI M/T	'85 JD010	OH	2.54	31.11	1.94	7.97	
		TM	2.97	20.71	2.73	8.73	
		CS	0.68	4.89	2.12	16.55	
O-4, 1.6l VW COMBI M/T	'75 JD015	OH	6.48	63.24	1.82	7.08	
		TM	9.08	34.51	2.33	7.89	
		CS	0.96	20.16	1.09	15.27	

Table 4.3.4 An Example of Emission Testing for Light-Duty Diesel Cars at High Altitude

	HYDROCARBONS (HC)	CARBON MONOXIDE (CO)	OXIDES OF NITROGEN (NO _x)	PARTICULATES	MILES/ GALLON
FLEET \bar{x}	.94	2.34	1.30	.739	24.18

^a Source: Testing of 35 In-Use Diesel Vehicles in Denver, EPA, 1981.

Source: Colorado Department of Health, Light Duty Diesel Vehicle Emissions at High Altitude, For Presentation at the 76th Annual Meeting of Air Pollution Control Association, Atlanta, Georgia June 19-24, 1983

Table 4.3.5 An Example of Emissions Testing for Light-Duty Diesel Cars at Sea Level

Make	Exhaust Emissions (g/Mile)			Number of Test Cars
	HC	CO	NOx	
GM	0.65	1.69	1.71	6
VW	0.29	1.11	0.97	5
MB	0.28	1.25	1.58	4

Source: New York State Dept, Analysis of Particulate and Gaseous Emissions Data from In-Use Diesel Passenger Cars, SAE Technical Paper Series 820772

Table 4.3.6 Average Emission Factors for Light-Duty Diesel Cars at Sea Level

(g/km)		
HC	CO	NOx
0.43	1.31	1.43

Note: Those values are calculated from Table

Table 4.3.7 Correction Factors for Diesel Cars for High Altitude

HC	CO	NOx
2.19	1.79	0.91

Note: Those values are calculated from Table and Table

Table 4.3.8 Emission Factors of Heavy Truck in U.S.A.

Location	Model year	Carbon monoxide		Exhaust hydrocarbons		Nitrogen oxides	
		g/mi	g/km	g/mi	g/km	g/mi	g/km
All areas except high altitude and California	Pre-1970 ^a	140	87	17	11	9.4	5.8
	1970 through 1973 ^b	130	81	16	9.9	9.2	5.7
	Post-1973 ^c	130	81	13	8.1	9.2	5.7
High altitude only ^d	Pre-1970 ^a	210	130	19	12	5.0	3.1
	1970 through 1973 ^b	190	120	18	11	4.9	3.0
	Post-1973 ^c	190	120	15	9.3	4.9	3.0
California only	Pre-1970 ^a	140	87	17	11	9.4	5.8
	1970 through 1971 ^b	130	81	16	9.9	9.2	5.7
	1972 ^e	130	81	13	8.1	9.2	5.7
	1973 through 1974 ^c	130	81	13	8.1	9.2	5.7
	1975 ^a	81	50	4.1	2.5	2.8	1.7

^aData from References 1 through 3.

^bData from References 1 through 7.

^cReferences 5 and 7.

^dBased on light-duty emissions at high altitude compared with light-duty emissions at low altitude.

^eBased on applicable emission standards and Reference 7. These are low mileage emission rates.

Note: The values underlined were adopted

Source: Compilation of Air Pollutant Emission Factors
(Second Edition) EPA, March, 1975

Table 4.3.9 Baseline Fuel Usage Data, MPGB (e,c)

Class	GVW range, lb	Miles/gallon	
		Gasoline	Diesel
1	6,000 and less	<u>10.35</u>	13.80
2	6,001 - 10,000	9.20	13.80
3	10,001 - 14,000	6.90	10.35
4	14,001 - 16,000	5.75	9.20
5	16,001 - 19,500	5.18	8.05
6	19,501 - 26,000	<u>4.60</u>	6.90
7	26,001 - 33,000	4.05	5.75
8	over 33,000	3.45	4.60

Note: Values underlined were used.

Source: An Emission and Fuel Usage Computer
Model for Trucks and Buses
SAE PAPER 780630

CONSUMO DE COMBUSTIBLE Y KILOMETROS RECORRIDOS DIARIAMENTE --
POR LOS AUTOBUSES DE R-100.

- Mediante un muestreo de 170 rutas de un total de 220, se tiene que cada autobus de R-100 recorre en promedio:

262.3 Km/día.

- El parque vehicular para principios de 1987 es de 7,200- unidades (incluyendo 200 nuevas adquiridas durante 1986), de las cuales se encuentran en servicio un promedio de -- 5,646 de lunes a viernes y 2,581, los sabados y domingos.
- Utilizando la información anterior, se obtiene como dato aproximado del total de kilómetros recorridos por todos- los autobuses de:

1,480,946 Km/día de lunes a viernes.

676,996 Km/día sabados y domingos.

- El consumo de diesel promedio es de :

1.7 Litros/Km/Unidad.

- Utilizando los datos de kilómetros recorridos/día de to- das las unidades y el promedio de consumo de combustible por unidad, obtenemos el dato del consumo aproximado de- combustible de todos los autobuses de R-100 diariamente:

2,517,608 Litros/diesel/día .
Lunes a viernes.

1,150,893 Litros/diesel/día.
Sabados y domingos.

FUENTES: COORDINACION GENERAL DEL TRANSPORTE.
AUTOTRANSPORTES URBANOS DE PASAJEROS R-100.

Table 4.3.10 Distribution of Models of Vehicles Registered in Mexico City

Año	88	87	86	85	84	83	82	81	80	79	78	77	76	75	74
Automobiles	0	12182	26405	33940	27030	24549	42487	44034	36754	26772	21297	16905	22978	23015	19770
Camiones	3	1108	2275	3282	2415	2009	5082	4465	2748	1641	1394	960	1606	1399	993
Remolques	0	0	0	8	0	2	10	35	2	0	0	2	0	0	0
Diversos	0	13	4	9	9	2	27	146	69	47	35	6	14	27	15

Año	73	72	71	70	69	68	67	66	65	64	63	62	61	60	59
Automobiles	15632	12172	9280	8111	6774	5715	4442	4053	3885	3144	2050	1505	1104	1024	798
Camiones	968	600	461	446	431	479	316	172	259	212	98	36	69	71	64
Remolques	2	0	5	0	0	0	0	0	0	0	0	2	0	0	0
Diversos	16	8	0	22	2	10	0	0	0	2	2	2	2	2	0

Año	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44
Automobiles	464	567	565	377	354	449	432	590	298	179	127	188	139	0	2
Camiones	18	41	40	15	13	6	32	18	9	8	0	4	0	0	0
Remolques	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diversos	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0

Note: The values above were calculated from the number of cars registered in October 1987 in Alvaro Obregon, Azcapotzalco, Benito Juarez, Coyoacan and Cuajimalpa.

Table 4.3.11 Distribution of Models of Vehicles Registered in Mexico City

Año	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29
Automobiles	0	21	85	60	28	13	31	26	14	11	7	5	20	33	19
Camiones	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Remolques	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diversos	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Año	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14
Automobiles	12	0	0	0	0	0	0	0	0	0	0	2	0	0	0
Camiones	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Remolques	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Diversos	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Año	13	12	11	10	9	8	7	6	5	4	3	2	1	0	Total
Automobiles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	462925
Camiones	0	0	0	0	0	2	0	0	0	0	0	0	3	0	36273
Remolques	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68
Diversos	0	0	0	0	0	0	0	0	0	0	0	0	0	0	495

Table 4.3.12 Sales of Trucks in Mexico
1972 - 1986

Categorías	1972	1973	1974	1975	1976	1977	1978	1979
Comerciales	33287	43634	50597	58836	55374	56102	80415	90860
Ligeros	14836	15309	18635	20637	21365	18977	28424	32491
Medianos	1453	1336	1560	979	758	459	565	187
Pesados	14424	16386	18431	23615	19069	12538	16414	23186
Tractocamiones	1400	1726	2715	2747	2015	1169	2102	4375
Total	65400	78391	91938	106814	98581	89245	127920	151099

Categorías	1980	1981	1982	1983	1984	1985	1986
Comerciales	101800	139253	120100	57513	78353	101396	72046
Ligeros	28111	35192	30738	13100	17609	25605	18731
Medianos	-	-	-	-	-	546	373
Pesados	34267	41319	20344	7031	10526	13902	3582
Tractocamiones	6671	8002	3611	451	1376	3600	1298
Total	170849	223766	174793	78095	17864	145049	96030

Source: Asociación Mexicana de la Industria Automotriz, a.c.

Table 4.3.13 Sales of Automobiles in Mexico

Año	Numero de Cilindros		Total
	4	6,8	
1970	58,900	73,982	132,882
1971	74,406	74,120	148,526
1972	85,162	78,516	163,678
1973	95,981	82,210	178,191
1974	127,473	106,750	234,223
1975	124,563	106,545	231,108
1976	105,304	93,833	199,137
1977	96,938	97,533	194,471
1978	107,249	119,338	226,587
1979	133,779	133,127	266,906
1980	152,480	133,561	286,041
1981	179,852	160,511	340,363
1982	214,312	82,445	296,757
1983	143,105	48,947	192,052
1984	234,716	40,314	275,030
1985	208,265	33,922	242,187
1986	144,246	16,424	160,670

Note: The values above were estimated from the Data of Asociación Mexicana de la Industria Automotoriz, a.c.

Table 4.3.14 The Ratio of Automobiles Registered in Mexico City (Number of Cylinders and Model Year)

Numero de Cilindros	Año de Model		
	Post-1984	1980-1983	Pre-1979
4	0.186	0.197	0.238
6,8	0.029	0.122	0.228

Note: The values above were obtained from Tables 4.3.10, 4.3.11 and 4.3.13.

4.4 Factory Questionnaire Survey

4.4.1 Factory Questionnaire Form

The questionnaire forms used for the investigation of pollutant emissions from medium to large scale factories are shown in Tables 4.4.1 (1) and 4.4.1 (2).

4.4.2 Quantity of Pollutant Emissions from Factories

Tables 4.4.2 (1) through 4.4.2 (8) show the quantity of emission of SO_x, NO_x and particulate matter (smoke and soot) for each factory surveyed.

4.4.3 Air Pollution Control Devices Installed in Factories

Table 4.4.3 shows the present situation in installation of air pollution control devices in the factories surveyed.

Table 4.4.2 (1) Quantity of Pollutant Emission by Factory (No. 1)

NAME OF FACTORY	SOX,NOX		NM3/H
	PARTICULATE SOX	NOX	KG/H PARTI CULATE
10010 ACEROS CORSA, S.A. DE C.V.	0.0	1.2	0.2
10020 ANYL-MEX, S.A. DE C.V.	0.0	0.0	0.0
10030 AUTOMANUFACTURAS S.A. DE C.V.	0.0	0.0	1.1
10040 AUTOMETALES S.A.	0.0	0.1	0.0
10050 BIK GILDEN S.A. DE C.V.	0.0	0.0	0.0
10060 CASTING MEXICO S.A. DE C.V.	0.0	0.0	0.1
10070 CBS COLUMBIA INTERNACIONAL S.A.	2.4	0.4	0.3
10080 COMPANIA HULERA GOODYEAR OXO, S.A.	0.0	0.4	0.0
10090 CUPROQUIM S.A. DE C.V.	0.0	5.1	1.5
10100 EMBOTELLADORA METROPOLITANA	5.5	0.9	0.7
10130 FAB. DE ACEITES LA CENTRAL SUC, MEXICO	8.5	1.1	0.9
10150 FUNDICIONES ARTISTICAS S.A. DE C.V.	0.1	0.2	0.1
10160 FUNDICIONES DE HIERRO, S.A. DE C.V.	0.0	0.4	1.8
10170 FUNDIDORA DE TENAYUCA, S.A.	0.1	0.0	0.1
10180 GANADEROS PRODUCTORES DE LECHE PURA S.A.	4.6	0.8	0.6
10220 LINGO BRONCE S.A.	0.0	0.0	0.0
10230 MANUFACTURAS MEXICANA DE PARTES AUTOMOTRICES	0.0	0.2	0.0
10240 MERCK MEXICO S.A. DE C.V.	0.1	0.1	0.0
10250 NIL, S.A. DE C.V.	0.1	0.1	0.0
10260 PAPELERIA IRUNA, S.A. DE C.V.	12.7	2.0	1.6
10270 PRODUCTOS DE ZINC Y PLOMO S.A.	0.0	1.5	0.7
10280 PURINA S.A. DE C.V.	0.0	0.1	0.0
10290 QUIMICA SIMEX S.A.	1.2	0.8	0.6
10300 RAY-O-VAC DE MEXICO S.A. DE C.V.	0.0	0.4	0.6
10310 REYNOLDS ALUMINIO S.A. DE C.V.	0.0	1.0	0.1
10320 T, F VICTOR S.A. DE C.V.	0.1	0.2	0.1
10330 TEXLAMEX S.A. DE C.V.	6.0	0.9	0.7
10340 UNICARB INDUSTRIAL, S.A. DE C.V.	1.9	0.3	0.2
10350 VIDRIERIA LOS REYES S.A.	0.0	7.1	15.8
10 3 M DE MEXICO, S.A. DE C.V.	5.7	0.3	0.7
20 ABEX INDUSTRIAL, S.A. DE C.V.	0.0	0.1	0.0
30 ABRASIVOS AUSTROMEX, S.A. DE C.V.	0.0	0.0	0.0
40 ACABADOS NEWARK STAHL, S.A. DE C.V.	0.1	0.0	0.0
50 ACEITES INDUSTRIALES EL ZAPOTE, S.A. DE C.V.	0.0	0.7	0.0
60 ACEITES Y JABONES, S.A.	0.9	0.8	0.4
70 ACEROS AHUEHUETES, S.A.	0.4	0.0	0.0
80 ACEROS ESPECIALES, S.A.	0.0	0.1	0.0
85 ACEROS Y METALES NO FERROSOS, S.A.	0.2	0.2	1.4
90 ACOJINAMIENTOS SELTHER S.A.	0.0	0.0	0.0
100 ACOJINAMIENTOS SINTETICOS, S.A.	6.2	3.6	1.8
130 ALMEXA ALUMINIO S.A. DE C.V.	0.0	0.0	0.0
140 ALTA LANA SA	0.0	0.2	0.1
145 ANYL MEXICANA S.A.	0.1	0.6	0.0
147 ARGOS QUIMICA MEXICANA, S.A.	0.3	0.0	0.0
150 AROMATICOS PETROQUIMICOS DE S.R.L. DE C.V.	0.6	0.6	0.2
160 ARTE FINO, S.A.	0.0	0.0	0.0
170 ARTEFACTOS DE VIDRIO, S.A. DE C.V.	0.0	0.0	0.0
180 ASBESTOS DE MEXICO, S.A. DE C.V.	0.0	0.8	0.1
190 AUROMEX, S.A.	0.0	0.0	0.0
210 BALATAS BAL-MEX S.A.	0.0	0.0	0.0

Table 4.4.2 (2) Quantity of Pollutant Emission by Factory (No. 2)

NAME OF FACTORY	SOX, NOX		NM3/H KG/H PARTI CULATE
	PARTICULATE SOX	NOX	
220 BALATAS EAGLE, S.A.	0.0	0.0	0.0
230 BASF MEXICANA, S.A. DE C.V.	0.0	2.4	0.0
240 BAYER DE MEXICO S.A. DE C.V. PLANTA POLIETERE	0.0	0.0	0.0
250 BAYER DE MEXICO, S.A. DE C.V. (1)	3.3	0.6	0.4
260 BAYER DE MEXICO, S.A. DE C.V. (2)	0.0	0.0	0.0
290 BRONCES DE MEXICO, S.A.	0.0	0.0	0.0
300 BRONCES MEXICANOS, S.A.	0.1	0.0	0.0
303 BYK GULDEN	0.0	0.1	0.0
306 CASTINGS DE MEXICO S.A.	0.8	0.3	0.2
310 CASTINGS MEXICO, S.A.	0.1	0.0	0.0
320 CATALIZADORES MEXICANOS, S.A.	0.0	0.0	0.0
325 CBS	3.6	0.6	0.2
330 CELANESE MEXICANA S.A.	0.0	0.1	0.1
335 CEMENTOS ANAHUAC S.A.	377.7	58.4	45.8
360 CERVECERIA MODELO, S.A DE C.V.	0.1	0.1	0.0
370 CIA. CAUCHERA ATLAS, S.A.	0.0	0.0	0.0
380 CIA. ESTANADORA S.A.	0.2	0.0	0.0
390 CIA. HULERA AGUILA S.A. DE C.V.	0.3	0.0	0.0
395 CIA. HULERA EL CENTENARIO	0.0	0.6	0.1
400 CIA. HULERA EUZKADI	0.0	0.0	0.0
410 CIA. HULERA TORNEL, S.A. DE C.V.	0.4	0.1	0.1
420 CIA. LANERA DE MEXICO, S.A.	2.7	0.1	0.2
430 CIA. PAPELERA EL FENIX, S.A.	7.7	7.6	2.9
450 CIBA GEIGY MEXICANA, S.A. DE C.V.	0.0	0.0	0.0
460 CLARIFICANTES MEXICANOS, S.A. DE C.V.	0.0	0.2	0.0
470 COLGATE PALMOLIVE, S.A. DE C.V.	0.0	3.4	0.3
480 COLIN Y LOSANO S. DE R.L.	0.0	0.0	0.0
500 COMERCIAL MEXICANA DE PINTURAS, S.A. DE C.V.	0.1	0.0	0.0
510 COMPANIA CERILLERA "LA CENTRAL" S.A. DE C.V.	0.3	0.1	0.1
520 COMPANIA HUELERA EUZCADI S.A. (PLANTA NO.3)	0.0	0.4	0.0
530 COMPANIA INDUSTRIAL MARGOLI	0.0	0.0	0.0
540 COMPANIA MEXICANA DE PINTURAS INTERNACIONAL,	0.0	0.0	0.0
550 COMPANIA QUIMICA AMEYAL S.A.	0.3	0.2	0.1
560 COMPANIA QUIMICA AMEYAL S.A. DE C.V.	0.3	0.4	0.2
565 CONASUPO	53.8	0.2	2.4
570 COSMOCEL S.A.	0.0	0.0	0.0
590 CRISTALES INASTILLABLES DE MEXICO, S.A. (CRIN	0.0	0.4	0.1
600 CROMAR, S.A.	6.8	1.2	1.9
610 DERIVADOS MACROQUIMICOS, S.A.	0.0	0.1	0.0
630 DOW QUIMICA MEXICANA, S.A.	0.1	0.0	0.0
640 DUPONT S.A. DE C.V. (1)	0.0	0.0	0.0
670 ELECTRODOS INERA S.A.	0.0	0.0	0.0
680 ELECTROQUIMICA MEXICANA, S.A. DE C.V.	0.0	0.5	2.5
690 ELEMENTOS AUTOMOTRICES FUNDIDOS, S.A.	0.0	0.1	0.0
695 EMBOTELLADORA METROPOLITANA S.A. DE C.V.	1.8	0.2	0.0
700 EMPACADO DE CARNES FRIAS DE INDUSTRIAL DE ABA	0.0	0.0	0.0
710 EMPAQUES DE CARTON UNITED, S.A. DE C.V.	2.8	0.1	0.5
712 EMPAQUES MODERNOS SAN PABLO	0.0	0.0	0.0
720 EMULSIONES Y RESINAS, S.A. DE C.V.	0.0	0.0	0.0
730 ENVASES PRIMO CUEVAS, S.A. DE C.V.	2.3	0.1	0.9

Table 4.4.2 (3) Quantity of Pollutant Emission by Factory (No. 3)

NAME OF FACTORY	SOX, NOX		NM3/H KG/H PARTI CULATE
	PARTICULATE SOX	NOX	
740 EXTRACTORA SANTA CLARA, S.A.	1.3	0.0	0.1
750 FABRICA DE ACEITES LA ROSA, S.A.	0.0	0.2	0.0
760 FABRICA DE ARTICULOS METALICOS, S.A.	0.0	0.0	0.0
780 FABRICA DE JABON LA CORONA S.A. DE C.V.	0.0	2.7	1.5
790 FABRICA DE LOZA EL ANFORA, S.A. DE C.V.	0.0	1.8	0.5
800 FABRICA DE PAPEL MEXICO, S.A.	79.8	2.6	9.9
810 FABRICA DE PAPEL SAN JOSE	8.3	0.2	0.9
820 FABRICA NACIONAL DE MALTA, S.A.	0.0	0.0	0.0
830 FERRO MEXICANA, S.A. DE C.V.	0.0	3.4	0.3
832 FIBRAS SINTETICAS S.A.	23.1	15.5	3.8
840 FUMETAL, S.A. DE C.V.	0.0	0.0	0.0
850 FUNDENTES Y METALES S.A.	0.4	0.1	0.0
860 FUNDICION ADAME, S.A.	0.4	0.1	0.6
870 FUNDICION AZTECA	0.0	0.0	0.0
880 FUNDICION CASTRO	0.0	0.0	0.0
890 FUNDICION GUTIERREZ, S.A.	0.0	0.0	0.0
900 FUNDICION JOSE SAMANO	0.1	0.0	0.1
910 FUNDICION NARDO, S.A.	0.0	0.0	0.0
920 FUNDICION PANTITLAN, S.A. DE C.V.	0.2	0.0	0.3
930 FUNDICION PENA	0.0	0.0	0.0
940 FUNDICION RUIZ, S.A.	0.0	0.0	0.0
950 FUNDICION VALLEJO, S.A.	0.0	0.0	0.0
960 FUNDICION Y MOLDEO PERMANENTE, S.A.	19.2	23.0	11.8
980 FUNDICION Y TALLER DE MODELOS S.A.	0.0	0.0	0.0
990 FUNDICION Y TALLERES ANAHUAC, S.A.	0.1	0.0	0.1
995 FUNDICIONES DE HIERRO Y ACERO	0.1	0.8	0.0
1000 FUNDICIONES MECANICAS S.A. DE C.V.	0.9	0.0	0.1
1020 FUNDIDORA DE METALES INDUSTRIALES S.A.	2.3	0.4	0.7
1030 FUNDIDORA Y LAMINADORA ANAHUAC	0.0	0.0	0.0
1040 GASOCRETE DE MEXICO, S.A.	0.0	0.0	0.0
1050 GEMISA, S.A. DE C.V.	0.0	0.1	0.0
1052 GENERAL POPO, S.A.	0.0	0.0	1.8
1054 GENERAL POPO, S.A. DE C.V.	0.0	0.0	0.0
1056 GENERAL PRODUCTS COMPANY, S.A.	0.0	0.3	0.1
1060 GENERAL PRODUCTS COMPANY, S.A. DE C.V.	0.0	7.4	4.1
1070 GLAXO DE MEXICO, S.A. DE C.V.	0.0	0.0	0.0
1080 GRUPO PRIMEX, S.A. DE C.V.	1.1	0.6	0.3
1090 GRUPO SOLTEC, S.A.	0.0	0.0	0.0
1100 HAKO MEXICANA S.A.	23.6	0.5	1.1
1110 HARINAS Y GRASAS XALOSTOC, S.A.	0.7	0.3	0.3
1120 HERD S DE R.L.	0.1	0.1	0.0
1125 HIDROGENADORA NACIONAL	0.0	0.4	0.1
1130 HIDROGENADORA NACIONAL, S.A. DE C.V.	0.0	0.0	0.0
1140 HIERRO DUCTIL, S.A.	0.0	0.0	1.0
1150 HULERA EL CENTERNARIO S.A.	0.0	0.5	0.3
1160 HULERA HERCULES S.A.	0.1	0.0	0.1
1170 HULERA JOYMA, S.A. DE C.V.	0.0	0.0	0.0
1180 HURVA, S.A. DE C.V.	17.2	20.0	8.3
1190 I C I DE MEXICO S.A. DE C.V.	0.1	0.0	0.0
1200 IDEAL STANDARD, S.A. DE C.V.	0.0	2.5	1.4

Table 4.4.2 (4) Quantity of Pollutant Emission by Factory (No. 4)

NAME OF FACTORY	SOX, NOX		NM3/H
	PARTICULATE SOX	NOX	KG/H PARTI CULATE
1230 INDUSTRIAL DE ALIMENTOS, S.A.	0.0	0.0	0.0
1240 INDUSTRIAL DE PINTURAS ECATEPEC, S.A.	0.0	0.0	0.0
1250 INDUSTRIAL HULMEX	0.0	0.0	0.0
1280 INDUSTRIAS ASCON, S.A.	0.0	0.0	0.0
1290 INDUSTRIAS DE HULE GALGO S.A. DE C.V.	0.0	0.0	0.0
1300 INDUSTRIAS INVET, S.A. DE C.V.	0.0	0.0	0.0
1310 INDUSTRIAS NYLBO, S.A.(1)	0.0	0.3	0.2
1311 INDUSTRIAS NYLBO, S.A.(2)	0.0	1.0	34.6
1320 INDUSTRIAS PLASTICAS INTERNACIONALES, S.A.	0.1	0.0	0.0
1340 INDUSTRIAS RESISTOL S.A. (PLANTA LECHERIA)	0.0	0.9	0.1
1350 INMONT DE MEXICO, S.A. DE C.V.	0.1	0.0	0.0
1360 ISOMEX, S.A. DE C.V.	0.3	0.2	0.1
1370 J.T. BAKER, S.A. DE C.V.	0.2	0.1	0.1
1380 JABON EL PILAR, S.A.	0.0	0.0	0.0
1400 JOHNSON Y JOHNSON, S.A. DE C.V.	14.8	0.5	1.8
1410 JUGOS DEL VALLE, S.A. DE C.V.	0.4	0.6	0.3
1420 KENDALL DE MEXICO, S.A. DE C.V.	0.0	0.1	0.0
1430 KIMBERLEY-CLARK DE MEXICO, S.A. DE C.V.	0.0	0.5	0.1
1440 KIMEX S.A.	15.1	2.7	1.6
1450 KRAFT, S.A.	1.2	1.3	0.5
1460 L.B. RUSSELL CHEMICALS DE MEXICO, S.A.	0.0	0.0	0.0
1480 LAMINADORA DE METALES, S.A.	0.0	0.1	0.0
1490 LANAS FILTEX (ABSORBIO A LA EMPRESA ADJUNTA L	0.5	0.4	0.2
1495 LAVAMEX S.A.	2.9	5.2	1.0
1500 LEVIATAN Y FLOR, S.A. DE C.V.	0.6	0.2	0.1
1510 LIBERTY MEXICANA, S.A. DE C.V.	0.3	0.1	0.4
1515 LLANTERA ATLAS, S.A. DE C.V.	0.6	0.1	0.1
1520 LOSETAS ASFALTICAS, S.A. DE C.V.	0.1	0.0	0.0
1530 LOYD'S LONDON, S.A. DE C.V.	0.1	0.0	0.0
1540 MALLINCKRODT, S.A. DE C.V.	0.1	0.0	0.0
1550 MANUFACTURAS CARGO S.A. DE C.V.	0.0	0.0	0.0
1560 MANUFACTURERA FAIBRANKS MORSE S.A. DE C.V.	0.0	0.0	0.3
1570 MANUFACTURERA MEXICANA DE PARTES DE AUTOMOVIL	0.0	0.1	0.0
1573 MANUFACTURERA MEXICANA DE PARTES S.A. DE C.V.	0.0	0.2	0.0
1580 MAQUINARIA Y FUNDICION ABC S.A. DE C.V.	0.3	0.1	0.4
1590 MAX FACTOR Y CIA.	0.0	0.0	0.0
1595 MERCK DE MEXICO, S.A.	0.3	0.1	0.0
1600 METALES AGUILA, S.A.	0.0	0.0	0.0
1610 METALIZACION INDUSTRIAL, S.A.	0.0	0.0	0.0
1620 METALURGICA ALMENA, S.A.	0.0	0.0	0.0
1630 MEX MET. S.A. DE C.V.	0.0	0.0	0.0
1640 MEXICANA DE LAMINACION, S.A. DE C.V.	0.2	0.1	0.1
1650 MICRO S.A.	0.0	0.0	0.0
1660 MILYON, S.A. DE C.V. (1)	0.9	0.1	0.2
1670 MILYON, S.A. DE C.V. (2)	4.0	0.4	0.8
1680 MINERALES NO METALICOS, S.A.	0.7	0.1	0.2
1700 MUNECA ELIZABETH S.A. DE C.V.	0.0	0.0	0.0
1710 NACIONAL DE RESINAS S.A. DE C.V.	0.2	0.1	0.0
1730 ORAL B LABORATORIOS, S.A. DE C.V.	0.0	0.0	0.0
1740 ORGANDA MEXICANA, S.A.	0.0	0.0	0.0

Table 4.4.2 (5) Quantity of Pollutant Emission by Factory (No. 5)

NAME OF FACTORY	SOX, NOX		NM3/H KG/H PARTI CULATE
	PARTICULATE SOX	NOX	
1750 ORGANIZACION QUIMICA MEXICANA, S.A.	0.2	0.2	0.1
1760 PAPELERA ATLAS S.A. DE C.V.	18.3	3.2	1.9
1765 PAPELERA IRUNA, S.A.	5.2	1.0	0.5
1770 PARAFINAS NACIONALES, S.A.	0.1	0.1	0.0
1780 PEGAMENTOS Y APRESTOS, S.A.	0.0	0.0	0.0
1790 PENWALT, S.A.	0.0	0.2	0.0
1800 PERFUMERIA VERSAILLES, S.A.	0.0	0.0	0.0
1810 PETRO DERIVADOS, S.A. DE C.V.	0.0	1.0	0.1
1820 PIAVICOM S.A. DE C.V.	6.7	2.4	1.4
1850 PINTURAS AZTECA S.A. DE C.V.	0.0	0.0	0.0
1860 PINTURAS AZTLAN, S.A.	0.0	0.0	0.0
1870 PINTURAS COLORAMA, S.A. DE C.V.	0.1	0.0	0.0
1880 PINTURAS CONTIMEX, S.A. DE C.V.	0.0	0.0	0.0
1890 PINTURAS DIA S.A.	0.0	0.0	0.0
1900 PINTURAS DIAMEX	0.0	0.0	0.0
1910 PINTURAS PARA MEXICO S.A.	0.0	0.0	0.0
1930 PINTURAS PITTSBURGH DE MEXICO S.A. DE C.V.	0.0	0.0	0.0
1960 PLANTA DE ASFALTO DEL D.D.F.	1.9	0.3	0.1
1980 PLASTICOS PLYMOUTH DE MEXICO S.A. DE C.V.	0.0	0.2	0.0
1990 POLAQUIMIA, S.A. DE C.V.	0.0	0.0	0.0
2000 POLI RESINAS HUTENES-ALBERTOS S.A. DE C.V.	0.7	0.2	0.1
2005 POLICID S.A.	0.0	0.7	0.2
2010 POLICYD S.A. DE C.V.	0.0	0.0	0.0
2020 POLIFOS S.A. DE C.V.	0.0	2.0	0.3
2030 POLIOLES, S.A. DE C.V.	0.0	0.0	0.0
2050 PORCELANITE, S.A. DE C.V.	0.0	0.2	0.1
2070 PROCTER Y GAMBLE, S.A. DE C.V.	0.0	0.0	0.0
2090 PRODUCTORA QUIMICA MEXICANA S.A.	0.0	0.3	0.0
2100 PRODUCTOS BASICOS NACIONALES, S.A.	0.0	1.7	0.1
2120 PRODUCTOS INDUSTRIALES Y METALURGICOS, S.A. D	0.8	0.0	1.4
2130 PRODUCTOS KELITE, S.A. DE C.V.	0.0	0.0	0.0
2140 PRODUCTOS NUTRICIONALES S.A. DE C.V.	12.3	2.6	0.8
2150 PRODUCTOS QUIMICOS BORDEN S.A. DE C.V.	0.0	0.2	0.0
2160 PRODUCTOS QUIMICOS Y PINTURAS, S.A.	0.0	0.1	0.0
2180 PROMOTORA TECNICA INDUSTRIAL S.A. DE C.V.	0.0	0.0	0.0
2190 QUIMICA BLANTEX, S.A. DE C.V.	0.0	0.0	0.0
2200 QUIMICA HERCULES, S.A. DE C.V.	0.3	0.0	0.0
2210 QUIMICA HETEROCICLICA MEXICANA S.A. DE C.V.	0.2	0.1	0.0
2220 QUIMICA INTERAMERICANA, S.A.	0.0	0.1	0.0
2230 QUIMICA LUCAVA S.A. DE C.V.	0.5	0.3	0.1
2240 QUIMICA MEXIBRAS, S.A.	0.0	0.0	0.0
2265 QUINONAS DE MEXICO	0.6	0.1	0.1
2270 QUINONAS DE MEXICO, S.A. DE C.V.	0.2	0.1	0.1
2275 RAY-O-VAC DE MEXICO S.A.	1.7	15.5	4.0
2280 REBESA QUIMICA S.A. DE C.V.	0.2	0.2	0.1
2290 REFACCIONARIA DE MOLINOS, S.A.	0.1	0.0	0.1
2300 REPRESENTACIONES UNIVERSALES DE ESPECIALIDADE	0.0	0.0	0.0
2310 S.C. JOHNSON Y SON, S.A. DE C.V.	0.2	0.1	0.0
2320 SALEM OIL AND GREASE DE MEXICO, S.A.	0.0	0.0	0.0
2330 SALES INDUSTRIALES DE MEXICO, S.A.	0.1	0.0	0.0

Table 4.4.2 (6) Quantity of Pollutant Emission by Factory (No. 6)

NAME OF FACTORY	SOX, NOX		NM3/H KG/H PARTI CULATE
	SOX	NOX	
2340 SALICILATOS DE MEXICO, S.A.	0.1	0.1	0.0
2350 SALMAT, S.A. DE C.V.	0.0	0.1	0.0
2360 SAMUEL SMIOT CHEMICAL DE MEXICO S.A. DE C.V.	0.0	0.0	0.0
2370 SHELL MEXICO, S.A. DE C.V.	0.0	0.0	0.0
2400 SILICATO Y DERIVADO, S.A.	0.0	1.4	0.1
2440 SOSA TEXCOCO, S.A.	0.0	0.1	0.1
2450 STAFFORD DE MEXICO, S.A. DE C.V.	0.1	0.0	0.0
2460 STANHOME DE MEXICO, S.A. DE C.V.	0.0	0.0	0.0
2470 SUTSA PRINT DE MEXICO, S.A. DE C.V.	0.2	0.1	0.1
2480 SYNTORGAN, S.A.	0.0	0.0	0.0
2490 TECNICA HULERA IGAR	0.0	0.0	0.0
2500 TECNICA QUIMICA	0.1	0.0	0.0
2510 TENERIA TEMOLA, S.A. DE C.V.	2.3	0.1	0.3
2530 THERMO ENVASES S.A. DE C.V.	6.3	0.2	0.6
2540 TRANSFORMADORA DE ACERO, S.A.	5.8	4.6	1.8
2550 U S M MEXICANA S.A. DE C.V.	0.1	0.1	0.0
2557 UNION CARBIDE S.A.	3.0	0.3	0.2
2560 UNIROYAL S.A. DE C.V.	11.2	0.4	1.4
2570 UP JOHN, A.S. DE C.V.	0.1	0.0	0.0
2580 VALEZZI S.A. DE C.V.	0.0	0.0	0.0
2590 VIDRIERA ORIENTAL, S.A. DE C.V.	66.3	1.8	6.9
2600 VIDRIERIA MEXICO, S.A.	0.0	0.2	0.2
2610 VIDRIO PLANO DE MEXICO, S.A.	0.0	6.6	0.8
2620 VINCI DE MEXICO S.A. DE C.V.	0.0	0.0	0.0
2630 VITREO ESMALTE, S.A. DE C.V.	0.0	0.0	0.0
2640 VITRO FIBRAS	0.0	0.8	0.1
2660 WYN DE MEXICO PRODUCTOS QUIMICOS, S.A. DE C.V.	0.0	0.0	0.0
2670 YESO EL TIGRE, S.A. DE C.V.	2.4	0.1	0.3
2680 YESO PANAMERICANO, S.A. DE C.V.	0.0	0.1	0.0
2690 ZINC Y SUS DERIVADOS S.A.	0.2	0.1	0.0
45 ACCESORIOS ELECTRONICOS S.A. DE C.V.	0.0	0.0	0.0
112 AGA DE MEXICO, S.A. DE C.V.	0.0	0.5	0.0
116 AIHSA S.A.	0.0	0.0	0.0
142 AMERICAN TEXTIL, S.A. DE C.V.	1.1	0.6	0.3
144 ANDERSON CLAYTON Y COMPANIA, S.A.	0.1	0.0	0.0
305 CARTON Y PAPEL DE MEXICO, S.A. DE C.V.	0.0	0.2	0.0
435 CIA. PAPELERA MARMO S.A.	0.0	0.0	0.0
505 COMERCIAL ROSHERANS DE MEXICO, S.A.	0.0	0.0	0.0
515 COMPANIA GENERAL DE LUBRICANTES, S.A.	0.0	0.0	0.0
566 CONVERTIDORA DE FIBRAS S.A.	0.0	0.1	0.0
613 DESTILACIONES QUIMICAS, S.A.	1.1	0.8	0.3
616 DISCOS MEXICANOS S.A.	0.0	0.0	0.0
641 DUPONT S.A. DE C.V. (2)	0.0	0.3	0.0
705 EMPAQUES DE CARTON TITAN, S.A.	0.9	0.4	0.4
713 EMPAQUES MODERNOS SAN PABLO, S.A. DE C.V.	0.0	6.6	0.4
716 EMPAQUES Y CARTON CORRUGADO, S.A.	0.7	0.3	0.3
734 ESPECIALIDADES INDUSTRIALES Y QUIMICAS S.A. D	0.1	0.0	0.0
811 FABRICA DE PAPEL SANTA CLARA, S.A. DE C.V.	9.5	3.7	3.8
813 FABRICA DE VELADORAS LOS NINOS DE DIOS, S.A.	0.0	0.0	0.0
815 FABRICA NACIONAL DE LIJA S.A. DE C.V. (PLANTA	0.1	0.0	0.0

Table 4.4.2 (7) Quantity of Pollutant Emission by Factory (No. 7)

NAME OF FACTORY	SOX, NOX		NM3/H KG/H PARTI CULATE
	PARTICULATE SOX	NOX	
816 FABRICA NACIONAL DE LIJA S.A. DE C.V. (PLANTA	0.1	0.0	0.0
817 FABRICA NACIONAL DE LIJA S.A. DE C.V. (PLANTA	0.1	0.0	0.0
833 FIBRO TAMBOR S.A. DE C.V.	0.0	0.0	0.0
836 FIS FIBER INDUSTRIES S.A. DE C.V.	0.0	0.0	0.0
1146 HILOS OMEGA S.A. DE C.V.	0.1	0.0	0.0
1175 HULES Y DERIVADOS CONTINENTAL S.A.	0.0	0.0	0.0
1185 HYSOL INDAEL DE MEXICO S.A. DE C.V.	0.0	0.0	0.0
1215 INDUSTRIA NOTESA S.A. DE C.V.	0.0	0.0	0.0
1245 INDUSTRIAL DE RESINAS S.A.	0.0	0.0	0.0
1305 INDUSTRIAS KRIOLIT S.A.	0.0	0.0	0.0
1313 INDUSTRIAS ORSA	0.0	0.0	0.0
1316 INDUSTRIAS OXYMETAL, S.A. DE C.V.	0.1	0.0	0.0
1395 JIFFI, S.A.	0.0	0.0	0.0
1514 LITOLAMINAS, S.A.	0.0	0.0	0.0
1686 MOORE BUSINESS FORMS DE MEXICO, S.A. DE C.V.	0.1	0.0	0.0
1702 MUNI-MEX, S. DE R.L.	0.0	0.0	0.0
1704 NABISCO FAMOSA S.A. DE C.V.	0.0	0.0	0.0
1714 NACOBRE, S.A. DE C.V.	0.0	0.1	0.0
1755 PANIFICADORA VERACRUZ	0.0	0.0	0.0
1775 PASTAS CORA S.A. DE C.V.	0.0	0.0	0.0
1843 PINTURAS ATLAS MARLUX, S.A.	0.0	0.0	0.0
1982 PLASTICOS Y GOMAS S.A. DE R.L.	0.0	0.0	0.0
2106 PRODUCTOS ELECTROQUIMICOS, S.A.	0.0	0.0	0.0
2184 PROVEEDORES TECNICOS S.A. DE C.V.	0.0	0.0	0.0
2215 QUIMICA HOECHST DE MEXICO S.A. DE C.V.	0.0	0.0	0.0
2245 QUIMICA MONSAYER, S.A.	0.0	0.0	0.0
2276 RAYO DE MEXICO, S.A.	0.0	0.0	0.0
2304 RID PASTELERIA Y REPOSTERIA, S.A. DE C.V.	0.0	0.0	0.0
2308 ROYCO, S.A. DE C.V.	0.0	0.0	0.0
2362 SANCHEZ, S.A. DE C.V.	0.5	0.1	0.0
2366 SEALED POWER DE MEXICO S.A. DE C.V. (CONDUMEX	0.0	0.0	0.0
2375 SHERWIN WILLIAMS S.A.	0.0	0.0	0.0
2486 TANATEX MEXICANA S.A. DE C.V.	0.0	0.0	0.0
2488 TAYLOR INSTRUMENTS	0.0	0.0	0.0
2665 XONOCO DE MEXICO, S.A.	0.0	0.0	0.0
50001 TERMOELECTRICA VALLE DE MEXICO	1207.4	552.4	60.9
50002 TERMOELECTRICA JORGE LUQUE	978.8	249.5	40.0
60001 REFINERIA DE AZCAPOTZALCO	191.8	214.5	129.7
118 ALCOHOLES DESNATURALIZADOS Y DILUENTES S.A. D	0.0	0.0	0.0
141 AMERCOAT MEXICANA. S.A. DE C.V.	0.1	0.0	0.0
185 ATLAS COPCO MEXICANA S.A. DE C.V.	0.0	0.0	0.0
265 BHEMMER S.A. DE C.V.	0.0	0.0	0.0
355 CERRAJERA MEXICANA S.A. DE C.V.	0.1	0.0	0.0
495 COMERCIAL IMPORTADORA S.A.	0.1	0.0	0.0
738 ETAL S.A. DE C.V.	0.0	0.1	0.1
825 FERMIC, S.A. DE C.V.	25.1	0.7	2.6
945 FUNDICION SORCHINI ROYG S.A.	0.0	0.0	0.0
1051 GENERAL PAINT CO. DE MEXICO S.A. DE C.V.	0.1	0.1	0.0
1073 GRAFINAL S.A.	0.0	0.0	0.0
1115 HENKEL MEXICANA, S.A. DE C.V.	0.0	0.0	0.0

Table 4.4.2 (8) Quantity of Pollutant Emission by Factory (No. 8)

NAME OF FACTORY	SOX, NOX -----		NM3/H
	SOX	NOX	KG/H
			PARTI CULATE
1117 HERRAMIENTAS TRUPER, S.A. DE C.V.	0.0	1.5	0.2
1225 INDUSTRIAS C.H., S.A.	0.0	4.5	1.1
1445 K. J. QUINN S.A. DE C.V.	0.1	0.1	0.0
1643 MEXICANA DE RESINAS S.A.	0.2	0.1	0.1
1687 MORTON THIOKOL S.A. DE C.V.	0.0	0.0	0.0
2035 POLIPLAS S.A.	0.0	0.0	0.0
2196 QUIMICA ESTEROIDAL S.A. DE .C.V.	2.1	0.3	0.3
2305 R. L. MEXICANA, S.A. DE C.V.	0.2	0.1	0.1
2363 SANDVIK S.A. DE C.V.	0.0	0.0	0.0
2475 SYNTEX S.A. DE C.V.	0.2	0.1	0.1
2485 TALLERES Y RODILLOS HERNANDEZ, S.A. DE C.V.	0.0	0.0	0.0

Table 4.4.3 Number of Air Pollution Control Devices Installed in Factories

CH01	CS02	CO3	ELO4	FB05	FF07	LS12	LV13	LC14	PE18	SA20	TB21	TE22	SM24	Others	None	Total
8	12	4	2	90	8	13	3	26	1	2	1	10	1	5	1008	1194

C O D I G O	E Q U I P O
CH01	Capuchón humedo de dos etapas.
CS02	Ciclón seco de media y alta eficiencia
CO3	Condensadores
ELO4	Eliminadores de niebla
FB05	Filtro de bolsa
FCA6	Filtro de carbón activado
FF07	Filtro de fibra de vidrio
FF08	Filtro de fibra de coco
FG09	Filtro de grava
IC10	Incineradores de cámara simple y doble
IH11	Inhibidores
LS12	Lavador tipo SCRUBER
LV13	Lavador tipo VENTURI
LC14	Lavador tipo Ciclón
MT15	Multiciclón
PO16	Paraflón
PT17	Postquemador
PE18	Precipitador electrostático
RO19	Rotociclón
SA20	Sistema de aspersión
TB21	Tanque de burbujeo
TE22	Torres empacadas
CS23	Cámaras de Sedimentación
SM24	Sistema cerrado de manejo de sólidos
SE25	Sistema de control de emisiones vehiculares
SD26	Sistema de recuperación de disolventes