

## **A 4.1.5 Results of OD Interview Survey**

Note:

These OD matrixes are expanded and adjusted as AADT





























Table 4.1.9 OD Matrix by vehicle Type by Survey Station (14/23)

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total		
1. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
22. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
23. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
24. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
26. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
27. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
28. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
29. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
30. N. Main	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0





Table 4.1.9 OD Matrix by vehicle Type by Survey Station (16/23)

Origin	Destination																														Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
1 N. State 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 N. State 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 N. State 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 N. State 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 N. State 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 S. State 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 S. State 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 S. State 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 S. State 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 W. Post Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 W. Junction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 W. Bay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Dunwoody	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 E. Dunwoody	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 N. Atlantic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Quinlan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 Crane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 Kuff Pt. Sub	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 N. Atlantic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Alderman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 Nelson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22 Western Center	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 Road 60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 Apple	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 New Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Glen Ridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27 Arden	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Arden	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 Trilite	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 Apple	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0







Table 4.1.9 OD Matrix by vehicle Type by Survey Station (20/23)

Origin	Heavy Truck										Total
	1	2	3	4	5	6	7	8	9	10	
1	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Origin	Unit: Vehicles										Total
	1	2	3	4	5	6	7	8	9	10	
1	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0

Table 4.1.9 OD Matrix by vehicle Type by Survey Station (21/23)

O-D Matrix	Shift										Passenger Car										Unit Vehicles																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Origin	Destination																																							
1	1																																							
2	2																																							
3	3																																							
4	4																																							
5	5																																							
6	6																																							
7	7																																							
8	8																																							
9	9																																							
10	10																																							
11	11																																							
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18	18																																							
19	19																																							
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25	25																																							
26	26																																							
27	27																																							
28	28																																							
29	29																																							
30	30																																							
Total	Total																																							

O-D Matrix	Shift										Van										Unit Vehicles																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Origin	Destination																																							
1	1																																							
2	2																																							
3	3																																							
4	4																																							
5	5																																							
6	6																																							
7	7																																							
8	8																																							
9	9																																							
10	10																																							
11	11																																							
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26	26																																							
27	27																																							
28	28																																							
29	29																																							
30	30																																							
Total	Total																																							







## A 4.1.6 Results of Traffic Time Survey of the Vehicles Crossing the Suez Canal

Note:

Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (c-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)+(e-c)
1	2		3	4	5	6	7			

- 1 The serial numbers of the ferry crossing in survey period.
- 2 As same as that in Table 4.1.2
- 3 The time of the vehicle arrived the ferry station
- 4 The time of the vehicle boarded on the ferry
- 5 The time of departure of the ferry from one side.
- 6 The time of the ferry arrived the other side.
- 7 The time of the vehicle left the ferry.

Table 4.1.10 Crossing Time of Each Vehicle (1/22)

Qantara West to East			Non Convoy					Workday		
Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (c-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)(e-c)
1	5	560	11:10	11:30	11:33	11:37	11:39	0:23	0:06	0:29
	1	762	11:18	11:32	11:33	11:37	11:39	0:15	0:06	0:21
	2	1392	11:16	11:30	11:33	11:37	11:39	0:17	0:06	0:23
	2	4204	11:09	11:31	11:33	11:37	11:39	0:24	0:06	0:30
	6	5025	11:15	11:32	11:33	11:37	11:39	0:18	0:06	0:24
	4	6960	11:01	11:29	11:33	11:37	11:39	0:32	0:06	0:38
	6	6975	11:04	11:29	11:33	11:37	11:39	0:29	0:06	0:35
	6	61201	11:06	11:30	11:33	11:37	11:39	0:27	0:06	0:33
	1	402824	11:09	11:29	11:33	11:37	11:39	0:24	0:06	0:30
	1	705128	11:18	11:32	11:33	11:37	11:39	0:15	0:06	0:21
2	1	607	11:20	11:43	11:44	11:50	11:51	0:24	0:07	0:31
	2	1169	11:36	11:43	11:44	11:50	11:51	0:08	0:07	0:15
	4	3037	11:18	11:42	11:44	11:50	11:51	0:26	0:07	0:33
	2	3164	11:19	11:43	11:44	11:50	11:51	0:25	0:07	0:32
	1	14650	11:30	11:43	11:44	11:50	11:51	0:14	0:07	0:21
	1	25576	11:17	11:40	11:44	11:50	11:51	0:27	0:07	0:34
	2	30332	11:30	11:43	11:44	11:50	11:51	0:14	0:07	0:21
	2	40493	11:32	11:43	11:44	11:50	11:51	0:12	0:07	0:19
	3	73687	11:33	11:43	11:44	11:50	11:51	0:11	0:07	0:18
	1	76094	11:17	11:40	11:44	11:50	11:51	0:27	0:07	0:34
	4	309684	11:34	11:41	11:44	11:50	11:51	0:10	0:07	0:17
	1	521993	11:20	11:42	11:44	11:50	11:51	0:24	0:07	0:31
	3	2	3	11:44	11:54	11:55	12:00	12:01	0:11	0:06
4		525	11:49	11:52	11:55	12:00	12:01	0:06	0:06	0:12
1		646	11:48	11:53	11:55	12:00	12:01	0:07	0:06	0:13
2		1409	11:51	11:54	11:55	12:00	12:01	0:04	0:06	0:10
2		1442	11:48	11:53	11:55	12:00	12:01	0:07	0:06	0:13
2		1492	11:48	11:52	11:55	12:00	12:01	0:07	0:06	0:13
1		2020	11:45	11:51	11:55	12:00	12:01	0:10	0:06	0:16
6		3133	11:50	11:52	11:55	12:00	12:01	0:05	0:06	0:11
4		3716	11:46	11:52	11:55	12:00	12:01	0:09	0:06	0:15
4		4742	11:53	11:54	11:55	12:00	12:01	0:02	0:06	0:08
3		52347	11:35	11:51	11:55	12:00	12:01	0:20	0:06	0:26
4	155805	11:36	11:51	11:55	12:00	12:01	0:19	0:06	0:25	
4	4	435	12:02	12:07	12:08	12:12	12:14	0:06	0:06	0:12
	2	1445	11:55	12:01	12:08	12:12	12:14	0:13	0:06	0:19
	6	2829	12:02	12:06	12:08	12:12	12:14	0:06	0:06	0:12
	1	3348	12:01	12:06	12:08	12:12	12:14	0:07	0:06	0:13
	2	4020	11:55	12:01	12:08	12:12	12:14	0:13	0:06	0:19
	2	4048	12:00	12:01	12:08	12:12	12:14	0:08	0:06	0:14
	2	4071	11:55	12:02	12:08	12:12	12:14	0:13	0:06	0:19
	4	5195	12:03	12:07	12:08	12:12	12:14	0:05	0:06	0:11
	4	5291	11:57	12:03	12:08	12:12	12:14	0:11	0:06	0:17
	6	6078	11:58	12:06	12:08	12:12	12:14	0:10	0:06	0:16
	1	30282	11:57	12:02	12:08	12:12	12:14	0:11	0:06	0:17
	4	30429	12:02	12:07	12:08	12:12	12:14	0:06	0:06	0:12
	6	155024	11:48	12:00	12:08	12:12	12:14	0:20	0:06	0:26
1	252402	12:04	12:07	12:08	12:12	12:14	0:04	0:06	0:10	
5	6	727	12:10	12:13	12:15	12:25	12:26	0:05	0:11	0:16
	2	1217	12:10	12:14	12:15	12:25	12:26	0:05	0:11	0:16
	2	1529	12:07	12:13	12:15	12:25	12:26	0:08	0:11	0:19
	2	1660	12:12	12:13	12:15	12:25	12:26	0:03	0:11	0:14
	1	3546	12:11	12:13	12:15	12:25	12:26	0:04	0:11	0:15
	4	30637	12:06	12:13	12:15	12:25	12:26	0:09	0:11	0:20

**Table 4.1.10 Crossing Time of Each Vehicle (2/22)**

6	2	26	17:10	17:24	17:30	17:34	17:35	0:20	0:05	0:25
	1	127	17:15	17:25	17:30	17:34	17:35	0:15	0:05	0:20
	4	203	17:11	17:22	17:30	17:34	17:35	0:19	0:05	0:24
	4	469	17:19	17:23	17:30	17:34	17:35	0:11	0:05	0:16
	2	887	17:17	17:28	17:30	17:34	17:35	0:13	0:05	0:18
	2	1405	17:13	17:23	17:30	17:34	17:35	0:17	0:05	0:22
	4	3690	17:20	17:27	17:30	17:34	17:35	0:10	0:05	0:15
	6	4239	17:13	17:24	17:30	17:34	17:35	0:17	0:05	0:22
	4	5093	17:09	17:22	17:30	17:34	17:35	0:21	0:05	0:26
	4	5491	17:19	17:27	17:30	17:34	17:35	0:11	0:05	0:16
	4	7475	17:18	17:27	17:30	17:34	17:35	0:12	0:05	0:17
	1	30462	17:14	17:28	17:30	17:34	17:35	0:16	0:05	0:21
1	50688	17:15	17:25	17:30	17:34	17:35	0:15	0:05	0:20	
6	775934	17:16	17:22	17:30	17:34	17:35	0:14	0:05	0:19	
7	1	1897	17:27	17:27	17:30	17:36	17:37	0:03	0:07	0:10
	1	10429	17:25	17:28	17:30	17:36	17:37	0:05	0:07	0:12
	1	30459	17:20	17:24	17:30	17:36	17:37	0:10	0:07	0:17
	6	32553	17:21	17:27	17:30	17:36	17:37	0:09	0:07	0:16
	1	37491	17:27	17:28	17:30	17:36	17:37	0:03	0:07	0:10
	6	72651	17:24	17:25	17:30	17:36	17:37	0:06	0:07	0:13
8	2	726	17:33	17:48	17:53	17:59	18:00	0:20	0:07	0:27
	2	1011	17:30	17:48	17:53	17:59	18:00	0:23	0:07	0:30
	4	1150	17:33	17:48	17:53	17:59	18:00	0:20	0:07	0:27
	4	5028	17:38	17:49	17:53	17:59	18:00	0:15	0:07	0:22
	4	5079	17:44	17:50	17:53	17:59	18:00	0:09	0:07	0:16
	4	5552	17:31	17:48	17:53	17:59	18:00	0:22	0:07	0:29
	4	30140	17:32	17:49	17:53	17:59	18:00	0:21	0:07	0:28
	4	45837	17:42	17:49	17:53	17:59	18:00	0:11	0:07	0:18
9	5	126	17:21	17:48	17:54	17:59	18:00	0:33	0:06	0:39
	2	1389	17:48	17:51	17:54	17:59	18:00	0:06	0:06	0:12
	3	3665	17:40	17:49	17:54	17:59	18:00	0:14	0:06	0:20
	4	4295	17:44	17:49	17:54	17:59	18:00	0:10	0:06	0:16
	6	7057	17:32	17:52	17:54	17:59	18:00	0:22	0:06	0:28
	6	16640	17:39	17:49	17:54	17:59	18:00	0:15	0:06	0:21
	6	16964	17:31	17:48	17:54	17:59	18:00	0:23	0:06	0:29
	4	31146	17:42	17:50	17:54	17:59	18:00	0:12	0:06	0:18
	6	61177	17:45	17:50	17:54	17:59	18:00	0:09	0:06	0:15
	1	801312	17:35	17:49	17:54	17:59	18:00	0:19	0:06	0:25
10	4	7272	17:10	18:02	18:06	18:12	18:14	0:56	0:08	1:04
	2	1633	17:15	18:02	18:06	18:12	18:14	0:51	0:08	0:59
	4	5103	17:17	18:03	18:06	18:12	18:14	0:49	0:08	0:57
	1	2020	17:20	18:02	18:06	18:12	18:14	0:46	0:08	0:54
							Average	0:16	0:06	0:22

Note:  
 Survey Duration: 16:00 to 18:00  
 No of Ferries: 2  
 No of Crossings: 10

**Table 4.1.10 Crossing Time of Each Vehicle (3/22)**

Qantara West to East			Convoy					Workday		
Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)-(e-c)
1	5	224	16:10	16:15	16:20	16:24	16:25	0:10	0:05	0:15
	2	1417	16:06	16:17	16:20	16:24	16:25	0:14	0:05	0:19
	1	2897	16:01	16:14	16:20	16:24	16:25	0:19	0:05	0:24
	3	4579	16:02	16:15	16:20	16:24	16:25	0:18	0:05	0:23
	1	86160	16:02	16:16	16:20	16:24	16:25	0:18	0:05	0:23
	1	328839	16:02	16:20	16:20	16:24	16:25	0:18	0:05	0:23
2	2	381	16:12	16:34	16:39	16:44	16:45	0:27	0:06	0:33
	2	428	16:16	16:38	16:39	16:44	16:45	0:23	0:06	0:29
	1	480	16:16	16:34	16:39	16:44	16:45	0:23	0:06	0:29
	2	1110	16:35	16:38	16:39	16:44	16:45	0:04	0:06	0:10
	2	1615	16:08	16:38	16:39	16:44	16:45	0:31	0:06	0:37
	4	1800	16:07	16:35	16:39	16:44	16:45	0:32	0:06	0:38
	3	3697	16:18	16:36	16:39	16:44	16:45	0:21	0:06	0:27
	6	4213	16:30	16:37	16:39	16:44	16:45	0:09	0:06	0:15
	4	5229	16:03	16:36	16:39	16:44	16:45	0:36	0:06	0:42
	4	5292	16:21	16:35	16:39	16:44	16:45	0:18	0:06	0:24
	1	5625	16:16	16:36	16:39	16:44	16:45	0:23	0:06	0:29
	4	31630	16:34	16:37	16:39	16:44	16:45	0:05	0:06	0:11
	4	39297	16:06	16:35	16:39	16:44	16:45	0:33	0:06	0:39
	4	117189	16:19	16:37	16:39	16:44	16:45	0:20	0:06	0:26
1	153927	16:06	16:34	16:39	16:44	16:45	0:33	0:06	0:39	
1	210823	16:31	16:37	16:39	16:44	16:45	0:08	0:06	0:14	
3	4	3706	16:31	16:41	16:43	16:58	16:59	0:12	0:16	0:28
	2	4794	16:40	16:41	16:43	16:58	16:59	0:03	0:16	0:19
	4	10151	16:29	16:40	16:43	16:58	16:59	0:14	0:16	0:30
	4	41401	16:36	16:41	16:43	16:58	16:59	0:07	0:16	0:23
	6	45625	16:29	16:41	16:43	16:58	16:59	0:14	0:16	0:30
	6	57537	16:35	16:42	16:43	16:58	16:59	0:08	0:16	0:24
	4	61820	16:21	16:40	16:43	16:58	16:59	0:22	0:16	0:38
	1	782824	16:40	16:42	16:43	16:58	16:59	0:03	0:16	0:19
4	5	9	16:44	16:57	17:07	17:12	17:13	0:23	0:06	0:29
	5	82	16:53	17:02	17:07	17:12	17:13	0:14	0:06	0:20
	2	91	16:50	17:02	17:07	17:12	17:13	0:17	0:06	0:23
	2	96	16:54	16:59	17:07	17:12	17:13	0:13	0:06	0:19
	2	897	16:47	16:58	17:07	17:12	17:13	0:20	0:06	0:26
	1	1932	16:56	16:58	17:07	17:12	17:13	0:11	0:06	0:17
	1	2239	16:55	16:59	17:07	17:12	17:13	0:12	0:06	0:18
	4	3717	16:45	16:57	17:07	17:12	17:13	0:22	0:06	0:28
	2	4563	16:50	16:58	17:07	17:12	17:13	0:17	0:06	0:23
	4	16337	16:50	16:58	17:07	17:12	17:13	0:17	0:06	0:23
	4	30541	16:53	16:59	17:07	17:12	17:13	0:14	0:06	0:20
5	4	1023	17:05	17:08	17:08	17:14	17:15	0:03	0:07	0:10
	2	1442	17:00	17:08	17:08	17:14	17:15	0:08	0:07	0:15
	2	1612	16:58	17:08	17:08	17:14	17:15	0:10	0:07	0:17
	4	3310	16:53	17:07	17:08	17:14	17:15	0:15	0:07	0:22
	1	7454	17:01	17:08	17:08	17:14	17:15	0:07	0:07	0:14
	1	12111	17:01	17:07	17:08	17:14	17:15	0:07	0:07	0:14
	1	21693	16:57	17:07	17:08	17:14	17:15	0:11	0:07	0:18
	1	123272	17:04	17:08	17:08	17:14	17:15	0:04	0:07	0:11
	4	156362	16:54	17:07	17:08	17:14	17:15	0:14	0:07	0:21

**Table 4.1.10 Crossing Time of Each Vehicle (4/22)**

6	4	376	12:25	12:26	12:31	12:34	12:35	0:06	0:04	0:10
	2	1560	12:19	12:25	12:31	12:34	12:35	0:12	0:04	0:16
	2	3738	12:17	12:19	12:31	12:34	12:35	0:14	0:04	0:18
	2	4631	12:26	12:27	12:31	12:34	12:35	0:05	0:04	0:09
	2	30063	12:26	12:27	12:31	12:34	12:35	0:05	0:04	0:09
	4	30263	12:16	12:18	12:31	12:34	12:35	0:15	0:04	0:19
	1	30293	12:20	12:26	12:31	12:34	12:35	0:11	0:04	0:15
	4	30354	12:21	12:26	12:31	12:34	12:35	0:10	0:04	0:14
	4	30520	12:16	12:18	12:31	12:34	12:35	0:15	0:04	0:19
	1	41049	12:21	12:25	12:31	12:34	12:35	0:10	0:04	0:14
4	114871	12:26	12:28	12:31	12:34	12:35	0:05	0:04	0:09	
7	2	221	12:37	12:39	12:44	12:49	12:50	0:07	0:06	0:13
	1	1388	12:35	12:36	12:44	12:49	12:50	0:09	0:06	0:15
	4	2062	12:41	12:43	12:44	12:49	12:50	0:03	0:06	0:09
	1	2429	12:40	12:41	12:44	12:49	12:50	0:04	0:06	0:10
	2	4014	12:36	12:38	12:44	12:49	12:50	0:08	0:06	0:14
	4	5036	12:40	12:42	12:44	12:49	12:50	0:04	0:06	0:10
	4	6732	12:40	12:44	12:44	12:49	12:50	0:04	0:06	0:10
	4	10464	12:42	12:42	12:44	12:49	12:50	0:02	0:06	0:08
	4	60164	12:31	12:36	12:44	12:49	12:50	0:13	0:06	0:19
	1	355791	12:35	12:36	12:44	12:49	12:50	0:09	0:06	0:15
8	2	522	12:50	12:52	12:52	12:56	12:57	0:02	0:05	0:07
	2	829	12:46	12:51	12:52	12:56	12:57	0:06	0:05	0:11
	6	4174	12:47	12:51	12:52	12:56	12:57	0:05	0:05	0:10
	2	4819	12:48	12:50	12:52	12:56	12:57	0:04	0:05	0:09
	1	11733	12:43	12:50	12:52	12:56	12:57	0:09	0:05	0:14
	4	29885	12:44	12:52	12:52	12:56	12:57	0:08	0:05	0:13
	4	36047	12:50	12:51	12:52	12:56	12:57	0:02	0:05	0:07
	1	41311	12:47	12:51	12:52	12:56	12:57	0:05	0:05	0:10
	1	113177	12:51	12:52	12:52	12:56	12:57	0:01	0:05	0:06
9	2	4153	12:54	13:09	13:12	13:17	13:18	0:18	0:06	0:24
	4	5536	12:58	13:10	13:12	13:17	13:18	0:14	0:06	0:20
	1	9900	12:59	13:12	13:12	13:17	13:18	0:13	0:06	0:19
	3	25005	12:53	13:09	13:12	13:17	13:18	0:19	0:06	0:25
	1	212864	12:55	13:09	13:12	13:17	13:18	0:17	0:06	0:23
							Average	0:11	0:06	0:17

Note:

Survey Duration: 11:00 to 13:00

No of Ferries: 2

No of Crossings: 9

**Table 4.1.10 Crossing Time of Each Vehicle (5/22)**

Qantara	Fast to West		Non Convoy					Workday			
	Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)/(e-c)
1	3	7		11:02	11:06	11:11	11:16	11:17	0.09	0.06	0.15
	1	801840		11:06	11:08	11:11	11:16	11:17	0.05	0.06	0.11
	4	71492		11:06	11:09	11:11	11:16	11:17	0.05	0.06	0.11
	4	2062		11:07	11:08	11:11	11:16	11:17	0.04	0.06	0.10
	4	4040		11:08	11:09	11:11	11:16	11:17	0.03	0.06	0.09
	1	4014		11:09	11:10	11:11	11:16	11:17	0.02	0.06	0.08
2	1	38270		11:10	11:10	11:11	11:16	11:17	0.01	0.06	0.07
	4	30140		11:14	11:18	11:22	11:26	11:27	0.08	0.05	0.13
	1	4317		11:14	11:17	11:22	11:26	11:27	0.08	0.05	0.13
	6	51772		11:16	11:18	11:22	11:26	11:27	0.06	0.05	0.11
	1	1312		11:17	11:20	11:22	11:26	11:27	0.05	0.05	0.10
	1	12		11:17	11:19	11:22	11:26	11:27	0.05	0.05	0.10
3	6	70139		11:18	11:20	11:22	11:26	11:27	0.04	0.05	0.09
	6	5074		11:18	11:20	11:22	11:26	11:27	0.04	0.05	0.09
	1	34616		11:21	11:29	11:35	11:38	11:40	0.14	0.05	0.19
	1	720201		11:24	11:29	11:35	11:38	11:40	0.11	0.05	0.16
	1	3502		11:25	11:29	11:35	11:38	11:40	0.10	0.05	0.15
	5	220		11:26	11:30	11:35	11:38	11:40	0.09	0.05	0.14
	4	6829		11:27	11:30	11:35	11:38	11:40	0.08	0.05	0.13
	1	9		11:28	11:35	11:35	11:38	11:40	0.07	0.05	0.12
	4	5047		11:28	11:30	11:35	11:38	11:40	0.07	0.05	0.12
	1	30457		11:28	11:31	11:35	11:38	11:40	0.07	0.05	0.12
4	4	10518		11:30	11:32	11:35	11:38	11:40	0.05	0.05	0.10
	4	29885		11:30	11:32	11:35	11:38	11:40	0.05	0.05	0.10
	4	120		11:31	11:33	11:35	11:38	11:40	0.04	0.05	0.09
	1	3625		11:31	11:34	11:35	11:38	11:40	0.04	0.05	0.09
	1	292183		11:32	11:34	11:35	11:38	11:40	0.03	0.05	0.08
	1	183		11:32	11:39	11:44	11:50	11:51	0.12	0.07	0.19
	1	3727		11:32	11:39	11:44	11:50	11:51	0.12	0.07	0.19
	4	30041		11:33	11:39	11:44	11:50	11:51	0.11	0.07	0.18
	6	3910		11:35	11:40	11:44	11:50	11:51	0.09	0.07	0.16
	1	1397		11:36	11:40	11:44	11:50	11:51	0.08	0.07	0.15
5	4	154872		11:37	11:39	11:44	11:50	11:51	0.07	0.07	0.14
	2	30216		11:39	11:41	11:44	11:50	11:51	0.05	0.07	0.12
	6	70330		11:40	11:42	11:44	11:50	11:51	0.04	0.07	0.11
	1	1470		11:41	11:43	11:44	11:50	11:51	0.03	0.07	0.10
	3	221		11:43	11:44	11:44	11:50	11:51	0.01	0.07	0.08
	4	90003		11:43	11:44	11:44	11:50	11:51	0.01	0.07	0.08
	1	3673		11:45	11:52	11:53	11:59	12:00	0.08	0.07	0.15
	2	297		11:45	11:52	11:53	11:59	12:00	0.08	0.07	0.15
	6	7617		11:45	11:52	11:53	11:59	12:00	0.08	0.07	0.15
	6	7562		11:45	11:52	11:53	11:59	12:00	0.08	0.07	0.15
6	1	11251		11:46	11:53	11:53	11:59	12:00	0.07	0.07	0.14
	3	3697		11:47	11:52	11:53	11:59	12:00	0.06	0.07	0.13
	1	319343		11:48	11:53	11:53	11:59	12:00	0.05	0.07	0.12
	4	60668		11:49	11:53	11:53	11:59	12:00	0.04	0.07	0.11
	4	52785		11:51	11:53	11:53	11:59	12:00	0.02	0.07	0.09
	3	3446		11:51	11:54	12:05	12:11	12:13	0.14	0.08	0.22
	1	4344		11:52	11:54	12:05	12:11	12:13	0.13	0.08	0.21
	1	1328		11:52	11:54	12:05	12:11	12:13	0.13	0.08	0.21
7	4	5552		11:53	12:01	12:05	12:11	12:13	0.12	0.08	0.20
	2	11103		11:57	12:02	12:05	12:11	12:13	0.08	0.08	0.16
	2	1405		11:57	12:01	12:05	12:11	12:13	0.08	0.08	0.16
	1	8429		12:00	12:02	12:05	12:11	12:13	0.05	0.08	0.13
	4	5669		12:00	12:01	12:05	12:11	12:13	0.05	0.08	0.13
	1	30145		12:01	12:03	12:05	12:11	12:13	0.04	0.08	0.12
	1	129165		12:01	12:02	12:05	12:11	12:13	0.04	0.08	0.12
	3	51		12:01	12:03	12:05	12:11	12:13	0.04	0.08	0.12
	3	30023		12:01	12:04	12:05	12:11	12:13	0.04	0.08	0.12
	4	6287		12:02	12:05	12:05	12:11	12:13	0.03	0.08	0.11

**Table 4.1.10 Crossing Time of Each Vehicle (6/22)**

6	4	3823	12:02	12:04	12:05	12:11	12:13	0:03	0:08	0:11
	4	5057	12:03	12:05	12:05	12:11	12:13	0:02	0:08	0:10
	2	393	12:03	12:05	12:05	12:11	12:13	0:02	0:08	0:10
	4	30612	12:02	12:03	12:05	12:11	12:13	0:03	0:08	0:11
7	4	7561	12:03	12:13	12:18	12:23	12:25	0:15	0:07	0:22
	5	228	12:04	12:17	12:18	12:23	12:25	0:14	0:07	0:21
	1	1827	12:05	12:13	12:18	12:23	12:25	0:13	0:07	0:20
	4	13583	12:06	12:15	12:18	12:23	12:25	0:12	0:07	0:19
	2	1626	12:07	12:13	12:18	12:23	12:25	0:11	0:07	0:18
	1	30128	12:07	12:14	12:18	12:23	12:25	0:11	0:07	0:18
	1	30379	12:11	12:15	12:18	12:23	12:25	0:07	0:07	0:14
	4	61336	12:11	12:14	12:18	12:23	12:25	0:07	0:07	0:14
	6	17	12:12	12:15	12:18	12:23	12:25	0:06	0:07	0:13
	4	6464	12:13	12:17	12:18	12:23	12:25	0:05	0:07	0:12
8	4	10464	12:16	12:17	12:18	12:23	12:25	0:02	0:07	0:09
	1	8370	12:17	12:27	12:30	12:35	12:36	0:13	0:06	0:19
	4	30429	12:19	12:28	12:30	12:35	12:36	0:11	0:06	0:17
	4	61457	12:21	12:27	12:30	12:35	12:36	0:09	0:06	0:15
	4	30678	12:21	12:28	12:30	12:35	12:36	0:09	0:06	0:15
	4	30248	12:21	12:27	12:30	12:35	12:36	0:09	0:06	0:15
	1	2188	12:23	12:26	12:30	12:35	12:36	0:07	0:06	0:13
	2	1085	12:24	12:27	12:30	12:35	12:36	0:06	0:06	0:12
	1	974	12:24	12:27	12:30	12:35	12:36	0:06	0:06	0:12
	1	87	12:25	12:28	12:30	12:35	12:36	0:05	0:06	0:11
	2	258	12:26	12:29	12:30	12:35	12:36	0:04	0:06	0:10
	4	26	12:26	12:28	12:30	12:35	12:36	0:04	0:06	0:10
	1	646	12:27	12:28	12:30	12:35	12:36	0:03	0:06	0:09
	4	5469	12:28	12:29	12:30	12:35	12:36	0:02	0:06	0:08
9	2	887	12:28	12:36	12:43	12:48	12:49	0:15	0:06	0:21
	2	1500	12:28	12:37	12:43	12:48	12:49	0:15	0:06	0:21
	4	30149	12:29	12:38	12:43	12:48	12:49	0:14	0:06	0:20
	6	1705	12:29	12:36	12:43	12:48	12:49	0:14	0:06	0:20
	2	1945	12:29	12:39	12:43	12:48	12:49	0:14	0:06	0:20
	4	3625	12:32	12:39	12:43	12:48	12:49	0:11	0:06	0:17
	4	84270	12:32	12:39	12:43	12:48	12:49	0:11	0:06	0:17
	6	327	12:33	12:39	12:43	12:48	12:49	0:10	0:06	0:16
	4	488	12:33	12:41	12:43	12:48	12:49	0:10	0:06	0:16
	6	7124	12:35	12:39	12:43	12:48	12:49	0:08	0:06	0:14
	2	4194	12:36	12:40	12:43	12:48	12:49	0:07	0:06	0:13
	6	7472	12:38	12:43	12:43	12:48	12:49	0:05	0:06	0:11
10	4	15954	12:41	13:00	13:03	13:06	13:07	0:22	0:04	0:26
	6	4243	12:42	12:59	13:03	13:06	13:07	0:21	0:04	0:25
	1	6505	12:43	12:58	13:03	13:06	13:07	0:20	0:04	0:24
	5	66	12:44	12:59	13:03	13:06	13:07	0:19	0:04	0:23
	4	162	12:45	13:01	13:03	13:06	13:07	0:18	0:04	0:22
	4	5028	12:45	13:03	13:03	13:06	13:07	0:18	0:04	0:22
	1	79076	12:47	13:03	13:03	13:06	13:07	0:16	0:04	0:20
	6	5025	12:47	13:19	13:23	13:29	13:30	0:36	0:07	0:43
	1	14678	12:48	12:59	13:03	13:06	13:07	0:15	0:04	0:19
	1	853999	12:48	12:59	13:03	13:06	13:07	0:15	0:04	0:19
	2	6	12:49	12:59	13:03	13:06	13:07	0:14	0:04	0:18
	1	10419	12:50	13:02	13:03	13:06	13:07	0:13	0:04	0:17
	3	18	12:52	13:02	13:03	13:06	13:07	0:11	0:04	0:15
	4	42	12:54	13:03	13:03	13:06	13:07	0:09	0:04	0:13
Average								0:08	0:06	0:14

Note:

Survey Duration: 11:00 to 13:00

No of Ferries: 2

No of Crossings: 10

**Table 4.1.10 Crossing Time of Each Vehicle (7/22)**

Qantara	East to West		Convoy					Workday			
	Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)-(e-c)
1	4		60023	16:04	16:49	16:50	16:58	16:59	0:46	0:09	0:55
	1		8269	16:13	16:50	16:50	16:58	16:59	0:37	0:09	0:46
	4		2062	16:14	16:50	16:50	16:58	16:59	0:36	0:09	0:45
	4		30700	16:14	16:49	16:50	16:58	16:59	0:36	0:09	0:45
2	1		30402	16:08	17:00	17:01	17:06	17:07	0:53	0:06	0:59
	6		160058	16:08	17:00	17:01	17:06	17:07	0:53	0:06	0:59
	1		668261	16:44	17:00	17:01	17:06	17:07	0:17	0:06	0:23
3	4		5216	16:06	16:52	17:17	17:21	17:22	1:11	0:05	1:16
	1		14577	16:07	16:52	17:17	17:21	17:22	1:10	0:05	1:15
	2		30261	16:10	17:15	17:17	17:21	17:22	1:07	0:05	1:12
	2		4233	16:13	17:16	17:17	17:21	17:22	1:04	0:05	1:09
	4		445	16:13	17:15	17:17	17:21	17:22	1:04	0:05	1:09
	4		5076	16:13	16:51	17:17	17:21	17:22	1:04	0:05	1:09
	1		661516	16:14	16:52	17:17	17:21	17:22	1:03	0:05	1:08
	1		159858	16:14	16:52	17:17	17:21	17:22	1:03	0:05	1:08
	4		30099	16:14	16:51	17:17	17:21	17:22	1:03	0:05	1:08
	1		4678	16:19	17:15	17:17	17:21	17:22	0:58	0:05	1:03
	1		30267	16:20	17:16	17:17	17:21	17:22	0:57	0:05	1:02
	4		30263	16:29	17:16	17:17	17:21	17:22	0:48	0:05	0:53
	4		5135	16:30	17:15	17:17	17:21	17:22	0:47	0:05	0:52
1		2278	16:30	17:16	17:17	17:21	17:22	0:47	0:05	0:52	
2		687	16:55	17:16	17:17	17:21	17:22	0:22	0:05	0:27	
4	2		4071	16:05	17:15	17:16	17:23	17:24	1:11	0:08	1:19
	6		160852	16:11	17:15	17:16	17:23	17:24	1:05	0:08	1:13
	3		1595	16:11	17:16	17:16	17:23	17:24	1:05	0:08	1:13
	6		158282	16:12	17:15	17:16	17:23	17:24	1:04	0:08	1:12
	2		84429	16:15	17:15	17:16	17:23	17:24	1:01	0:08	1:09
	4		6960	16:25	17:16	17:16	17:23	17:24	0:51	0:08	0:59
	1		2735	16:25	17:17	17:41	17:46	17:47	1:16	0:06	1:22
5	5		574	16:25	17:17	17:41	17:46	17:47	1:16	0:06	1:22
	1		338462	16:32	17:35	17:41	17:46	17:47	1:09	0:06	1:15
	4		980	16:48	17:35	17:41	17:46	17:47	0:53	0:06	0:59
	6		37830	16:52	17:35	17:41	17:46	17:47	0:49	0:06	0:55
	4		4273	16:52	17:41	17:41	17:46	17:47	0:49	0:06	0:55
	2		5	16:53	17:38	17:41	17:46	17:47	0:48	0:06	0:54
	6		30403	16:54	17:35	17:41	17:46	17:47	0:47	0:06	0:53
	1		4376	16:55	17:35	17:41	17:46	17:47	0:46	0:06	0:52
	2		1585	17:04	17:38	17:41	17:46	17:47	0:37	0:06	0:43
6	6		4121	16:27	17:36	17:42	17:48	17:49	1:15	0:07	1:22
	4		9312	16:32	17:38	17:42	17:48	17:49	1:10	0:07	1:17
	1		822101	16:33	17:40	17:42	17:48	17:49	1:09	0:07	1:16
	1		2429	16:35	17:39	17:42	17:48	17:49	1:07	0:07	1:14
	4		74938	16:37	17:40	17:42	17:48	17:49	1:05	0:07	1:12
	2		4071	16:39	17:40	17:42	17:48	17:49	1:03	0:07	1:10
	2		1	16:40	17:40	17:42	17:48	17:49	1:02	0:07	1:09
	2		109	16:42	17:41	17:42	17:48	17:49	1:00	0:07	1:07
	5		1104	16:51	17:41	17:42	17:48	17:49	0:51	0:07	0:58
2		1507	17:18	17:40	17:42	17:48	17:49	0:24	0:07	0:31	
7	1		2282	17:04	18:01	18:06	18:10	18:11	1:02	0:05	1:07
	4		79171	17:08	18:02	18:06	18:10	18:11	0:58	0:05	1:03
	2		1660	17:15	18:04	18:06	18:10	18:11	0:51	0:05	0:56
	4		2061	17:16	18:02	18:06	18:10	18:11	0:50	0:05	0:55



**Table 4.1.10 Crossing Time of Each Vehicle (8/22)**

8	1	31623	16:55	18:01	18:06	18:12	18:14	1:11	0:08	1:19	
	6	117588	16:57	18:00	18:06	18:12	18:14	1:09	0:08	1:17	
	1	9082	17:00	18:03	18:06	18:12	18:14	1:06	0:08	1:14	
	1	1994	17:00	18:03	18:06	18:12	18:14	1:06	0:08	1:14	
	1	72007	17:04	18:02	18:06	18:12	18:14	1:02	0:08	1:10	
	2	3718	17:05	18:01	18:06	18:12	18:14	1:01	0:08	1:09	
	4	41410	17:06	18:04	18:06	18:12	18:14	1:00	0:08	1:08	
	5	27	17:08	18:03	18:06	18:12	18:14	0:58	0:08	1:06	
	4	30097	17:08	18:03	18:06	18:12	18:14	0:58	0:08	1:06	
	4	7272	17:10	18:02	18:06	18:12	18:14	0:56	0:08	1:04	
	2	1633	17:15	18:02	18:06	18:12	18:14	0:51	0:08	0:59	
	4	5103	17:17	18:03	18:06	18:12	18:14	0:49	0:08	0:57	
	1	2020	17:20	18:02	18:06	18:12	18:14	0:46	0:08	0:54	
	9	1	792	17:19	18:22	18:29	18:35	18:36	1:10	0:07	1:17
6		52247	17:24	18:22	18:29	18:35	18:36	1:05	0:07	1:12	
1		675787	17:24	18:23	18:29	18:35	18:36	1:05	0:07	1:12	
4		5225	17:29	18:23	18:29	18:35	18:36	1:00	0:07	1:07	
1		40677	17:30	18:23	18:29	18:35	18:36	0:59	0:07	1:06	
4		8182	17:31	18:22	18:29	18:35	18:36	0:58	0:07	1:05	
3		26337	17:31	18:22	18:29	18:35	18:36	0:58	0:07	1:05	
6		46170	17:33	18:26	18:29	18:35	18:36	0:56	0:07	1:03	
2		3738	17:35	18:25	18:29	18:35	18:36	0:54	0:07	1:01	
1		403050	17:37	18:25	18:29	18:35	18:36	0:52	0:07	0:59	
4		30871	17:39	18:25	18:29	18:35	18:36	0:50	0:07	0:57	
4	120149	17:40	18:24	18:29	18:35	18:36	0:49	0:07	0:56		
								Average	0:56	0:06	1:03

Note:

Survey Duration: 16:00 to 18:00

No of Ferries: 2

No of Crossings: 9

**Table 4.1.10 Crossing Time of Each Vehicle (9/22)**

Ferdan			West to East					Non Convoy			Workday		
Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)+(e-c)			
1	7	300917	10:03	10:19	10:20	10:26	10:28	0:17	0:08	0:25			
	4	71034	10:11	10:18	10:20	10:26	10:28	0:09	0:08	0:17			
2	1	1093	10:15	10:37	10:38	10:42	10:44	0:23	0:06	0:29			
3	7	1202	10:14	10:42	10:44	10:46	10:47	0:30	0:03	0:33			
	7	210	10:28	10:43	10:44	10:46	10:47	0:16	0:03	0:19			
4	7	7387	10:01	10:58	11:00	11:03	11:04	0:59	0:04	1:03			
	7	239	10:11	10:57	11:00	11:03	11:04	0:49	0:04	0:53			
	7	347	10:41	10:58	11:00	11:03	11:04	0:19	0:04	0:23			
	7	2491	10:45	11:00	11:00	11:03	11:04	0:15	0:04	0:19			
5	7	1554	10:33	11:04	11:06	11:09	11:10	0:33	0:04	0:37			
	7	1515	10:36	11:04	11:06	11:09	11:10	0:30	0:04	0:34			
	4	6322	10:55	11:05	11:06	11:09	11:10	0:11	0:04	0:15			
	1	3621	10:58	11:04	11:06	11:09	11:10	0:08	0:04	0:12			
	6	1398	11:03	11:06	11:06	11:09	11:10	0:03	0:04	0:07			
6	7	3588	11:03	11:06	11:06	11:09	11:10	0:03	0:04	0:07			
	7	13329	10:52	11:16	11:16	11:20	11:20	0:24	0:04	0:28			
7	7	1248	11:11	11:16	11:16	11:20	11:20	0:05	0:04	0:09			
	4	12552	11:17	11:25	11:25	11:27	11:28	0:08	0:03	0:11			
	7	90055	11:17	11:25	11:25	11:27	11:28	0:08	0:03	0:11			
8	7	1241	11:21	11:25	11:25	11:27	11:28	0:04	0:03	0:07			
	7	8848	11:28	11:34	11:37	11:45	11:46	0:09	0:09	0:18			
	7	90349	11:31	11:34	11:37	11:45	11:46	0:06	0:09	0:15			
	6	3553	11:35	11:35	11:37	11:45	11:46	0:02	0:09	0:11			
9	7	70112	11:36	11:36	11:37	11:45	11:46	0:01	0:09	0:10			
	4	5282	11:40	11:52	11:59	12:03	12:04	0:19	0:05	0:24			
	1	785	11:51	11:52	11:59	12:03	12:04	0:08	0:05	0:13			
	7	576	11:55	11:56	11:59	12:03	12:04	0:04	0:05	0:09			
	7	53744	11:56	11:57	11:59	12:03	12:04	0:03	0:05	0:08			
								Average	0:14	0:05	0:19		

Note:

Survey Duration: 10:00 to 12:00

No of Ferries: 2

No of Crossings: 9

**Table 4.1.10 Crossing Time of Each Vehicle (10/22)**

Ferdan		West to East			Convoy			Workday			
Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)+(e-c)	
1	7	12865	15:23	15:32	15:39	15:42	15:43	0:16	0:04	0:20	
	7	12997	15:23	15:32	15:39	15:42	15:43	0:16	0:04	0:20	
	7	56388	15:27	15:33	15:39	15:42	15:43	0:12	0:04	0:16	
	7	1354	15:31	15:37	15:39	15:42	15:43	0:08	0:04	0:12	
2	7	158697	10:25	15:49	15:50	15:56	15:57	5:25	0:07	5:32	
	7	55827	15:29	15:49	15:50	15:56	15:57	0:21	0:07	0:28	
3	7	152422	15:53	16:06	16:08	16:14	16:15	0:15	0:07	0:22	
	3	3748	15:55	16:06	16:08	16:14	16:15	0:13	0:07	0:20	
	7	775924	16:01	16:06	16:08	16:14	16:15	0:07	0:07	0:14	
4	2	8	16:17	16:27	16:28	16:32	16:31	0:11	0:03	0:14	
	7	61463	15:58	16:27	16:28	16:32	16:32	0:30	0:04	0:34	
	7	774	15:53	16:28	16:28	16:32	16:32	0:35	0:04	0:39	
5	7	11209	16:18	16:29	16:29	16:33	16:34	0:11	0:05	0:16	
	4	1199	16:20	16:29	16:29	16:33	16:34	0:09	0:05	0:14	
6	7	16708	16:24	16:39	16:41	16:44	16:45	0:17	0:04	0:21	
	7	56761	16:24	16:39	16:41	16:44	16:45	0:17	0:04	0:21	
	7	328	16:28	16:40	16:41	16:44	16:45	0:13	0:04	0:17	
	7	32282	16:36	16:40	16:41	16:44	16:45	0:05	0:04	0:09	
	7	31782	16:37	16:40	16:41	16:44	16:45	0:04	0:04	0:08	
7	7	15100	16:47	16:54	16:56	16:59	17:00	0:09	0:04	0:13	
	4	1548	16:48	16:55	16:56	16:59	17:00	0:08	0:04	0:12	
8	7	305771	16:55	17:05	17:13	17:17	17:17	0:18	0:04	0:22	
	7	77216	17:07	17:12	17:13	17:17	17:17	0:06	0:04	0:10	
	7	302871	17:07	17:09	17:13	17:17	17:17	0:06	0:04	0:10	
	7	305749	17:07	17:09	17:13	17:17	17:17	0:06	0:04	0:10	
	7	309082	17:07	17:09	17:13	17:17	17:17	0:06	0:04	0:10	
9	1	1932	17:12	17:12	17:13	17:17	17:17	0:01	0:04	0:05	
	7	1714	17:20	17:28	17:39	17:42	17:42	0:19	0:03	0:22	
	7	4895	17:27	17:30	17:39	17:42	17:42	0:12	0:03	0:15	
	7	4895	17:27	17:30	17:39	17:42	17:42	0:12	0:03	0:15	
Note:								Average	0:15	0:05	0:20

Survey Duration: 15:30 to 17:30  
 No of Ferries: 2  
 No of Crossings: 9

**Table 4.1.10 Crossing Time of Each Vehicle (11/22)**

Ferdan			East to West			Non Convoy			Workday		
Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-a)	Vehicle Crossing Time (e-a) (e-c)	
1	7	1248	10:00	10:13	10:14	10:17	10:17	0:14	0:03	0:17	
	7	116339	10:00	10:13	10:14	10:17	10:17	0:14	0:03	0:17	
2	7	115	10:17	10:28	10:30	10:34	10:35	0:13	0:05	0:18	
	7	935	10:20	10:28	10:30	10:34	10:35	0:10	0:05	0:15	
	7	1492	10:24	10:29	10:30	10:34	10:35	0:06	0:05	0:11	
3	7	307163	10:25	10:29	10:30	10:34	10:35	0:05	0:05	0:10	
	7	542	10:31	10:47	10:49	10:52	10:52	0:18	0:03	0:21	
4	7	1725	10:40	10:47	10:49	10:52	10:52	0:09	0:03	0:12	
	6	52836	10:46	11:00	11:00	11:03	11:03	0:14	0:03	0:17	
5	7	4300	11:00	11:11	11:12	11:15	11:16	0:12	0:04	0:16	
	7	40674	11:01	11:11	11:12	11:15	11:16	0:11	0:04	0:15	
	6	339	11:04	11:12	11:12	11:15	11:16	0:08	0:04	0:12	
6	7	7203	11:10	11:21	11:21	11:24	11:25	0:11	0:04	0:15	
	7	57777	11:17	11:21	11:21	11:24	11:25	0:04	0:04	0:08	
7	7	60114	11:24	11:30	11:30	11:33	11:33	0:06	0:03	0:09	
	7	60614	11:33	11:46	11:47	11:50	11:51	0:14	0:04	0:18	
8	4	2037	11:42	11:46	11:47	11:50	11:51	0:05	0:04	0:09	
	7	257	11:45	11:46	11:47	11:50	11:51	0:02	0:04	0:06	
	1	1840	11:45	11:46	11:47	11:50	11:51	0:02	0:04	0:06	
9	1	321	11:52	12:03	12:08	12:11	12:11	0:16	0:03	0:19	
	1	1841	11:52	12:03	12:08	12:11	12:11	0:16	0:03	0:19	
	1	24805	11:52	12:03	12:08	12:11	12:11	0:16	0:03	0:19	
	1	705406	11:52	12:03	12:08	12:11	12:11	0:16	0:03	0:19	
Average								0:10	0:04	0:14	

Note:

Survey Duration: 10.00 to 12.00

No of Ferries: 2

No of Crossings: 9

**Table 4.1.10 Crossing Time of Each Vehicle (12/22)**

Ferry Crossing No	East to West		Convoy					Workday		
	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (c-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)-(e-c)
1	4	1306	17:01	17:18	17:18	17:23	17:24	0:17	0:06	0:23
2	7	2763	16:07	17:58	17:59	18:10	18:11	1:52	0:12	2:04
	7	6211	16:10	17:58	17:59	18:10	18:11	1:49	0:12	2:01
3	7	53462	15:51	18:14	18:16	18:21	18:22	2:25	0:06	2:31
	7	5393	15:55	18:14	18:16	18:21	18:22	2:21	0:06	2:27
	7	160780	15:56	18:15	18:16	18:21	18:22	2:20	0:06	2:26
	7	10074	16:10	18:16	18:16	18:21	18:22	2:06	0:06	2:12
4	7	53291	16:10	18:20	18:23	18:30	18:32	2:13	0:09	2:22
	7	44083	16:16	18:21	18:23	18:30	18:32	2:07	0:09	2:16
	7	5530	16:28	18:21	18:23	18:30	18:32	1:55	0:09	2:04
	6	23473	16:35	18:21	18:23	18:30	18:32	1:48	0:09	1:57
5	7	50396	16:27	18:45	18:46	18:56	18:57	2:19	0:11	2:30
	7	52984	17:23	18:45	18:46	18:56	18:57	1:23	0:11	1:34
6	7	4001	16:28	18:55	18:58	19:00	19:02	2:30	0:04	2:34
	7	79390	16:48	18:56	18:58	19:00	19:02	2:10	0:04	2:14
	4	4087	17:05	18:56	18:58	19:00	19:02	1:53	0:04	1:57
7	7	4504	16:50	19:04	19:05	19:10	19:11	2:15	0:06	2:21
	7	10837	17:16	19:04	19:05	19:10	19:11	1:49	0:06	1:55
8	7	61462	16:15	19:07	19:10	19:14	19:15	2:55	0:05	3:00
	7	243	17:10	19:07	19:10	19:14	19:15	2:00	0:05	2:05
9	7	46462	17:15	19:15	19:16	19:22	19:23	2:01	0:07	2:08
	7	32464	17:16	19:15	19:16	19:22	19:23	2:00	0:07	2:07
	7	33355	17:25	19:16	19:16	19:22	19:23	1:51	0:07	1:58
Average								2:06	0:07	2:13

Note:

Survey Duration: 15.00 to 17.00

No of Ferries: 2

No of Crossings: 9

Table 4.1.10 Crossing Time of Each Vehicle (13/22)

No.6	West to East		Non Convoy					Workday			
	Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a):(e-c)
1		1	120	10:00	10:03	10:06	10:12	10:14	0:06	0:08	0:14
		4	820	10:01	10:05	10:06	10:12	10:14	0:05	0:08	0:13
		1	8330	10:02	10:04	10:06	10:12	10:14	0:04	0:08	0:12
		4	90027	10:02	10:03	10:06	10:12	10:14	0:04	0:08	0:12
		8	6009	10:04	10:04	10:06	10:12	10:14	0:02	0:08	0:10
		8	50932	10:04	10:04	10:06	10:12	10:14	0:02	0:08	0:10
2		5	22	10:05	10:28	10:34	10:40	10:42	0:29	0:08	0:37
		4	51800	10:06	10:27	10:34	10:40	10:42	0:28	0:08	0:36
		1	11002	10:09	10:27	10:34	10:40	10:42	0:25	0:08	0:33
		2	3517	10:11	10:28	10:34	10:40	10:42	0:23	0:08	0:31
		1	1191	10:15	10:27	10:34	10:40	10:42	0:19	0:08	0:27
		1	242796	10:16	10:28	10:34	10:40	10:42	0:18	0:08	0:26
		1	9966	10:24	10:28	10:34	10:40	10:42	0:10	0:08	0:18
		1	68	10:25	10:28	10:34	10:40	10:42	0:09	0:08	0:17
		1	8531	10:25	10:28	10:34	10:40	10:42	0:09	0:08	0:17
		3	34485	10:30	10:31	10:34	10:40	10:42	0:04	0:08	0:12
	1	10134	10:32	10:32	10:34	10:40	10:42	0:02	0:08	0:10	
3		1	4347	10:35	10:53	10:57	11:03	11:04	0:22	0:07	0:29
		4	13999	10:35	10:52	10:57	11:03	11:04	0:22	0:07	0:29
		3	300399	10:36	10:53	10:57	11:03	11:04	0:21	0:07	0:28
		3	315689	10:36	10:53	10:57	11:03	11:04	0:21	0:07	0:28
		3	315696	10:36	10:54	10:57	11:03	11:04	0:21	0:07	0:28
		1	134327	10:39	10:54	10:57	11:03	11:04	0:18	0:07	0:25
		4	72482	10:45	10:54	10:57	11:03	11:04	0:12	0:07	0:19
		1	103582	10:45	10:53	10:57	11:03	11:04	0:12	0:07	0:19
		1	139092	10:45	10:53	10:57	11:03	11:04	0:12	0:07	0:19
		4	14795	10:46	10:56	10:57	11:03	11:04	0:11	0:07	0:18
4		4	4217	10:47	11:12	11:26	11:35	11:36	0:39	0:10	0:49
		4	270	10:50	11:12	11:26	11:35	11:36	0:36	0:10	0:46
		1	670495	10:50	11:12	11:26	11:35	11:36	0:36	0:10	0:46
		4	6509	10:54	11:12	11:26	11:35	11:36	0:32	0:10	0:42
		1	37	10:55	11:12	11:26	11:35	11:36	0:31	0:10	0:41
		4	2740	11:00	11:13	11:26	11:35	11:36	0:26	0:10	0:36
		1	1937	11:03	11:13	11:26	11:35	11:36	0:23	0:10	0:33
		1	113404	11:03	11:13	11:26	11:35	11:36	0:23	0:10	0:33
		1	717021	11:09	11:13	11:26	11:35	11:36	0:17	0:10	0:27
		1	1381	11:12	11:13	11:26	11:35	11:36	0:14	0:10	0:24
	1	119063	11:12	11:13	11:26	11:35	11:36	0:14	0:10	0:24	
5		1	3879	11:15	11:50	11:57	12:04	12:05	0:42	0:08	0:50
		2	61455	11:20	11:50	11:57	12:04	12:05	0:37	0:08	0:45
		1	7881	11:23	11:50	11:57	12:04	12:05	0:34	0:08	0:42
		4	2460	11:25	11:52	11:57	12:04	12:05	0:32	0:08	0:40
		1	779	11:26	11:53	11:57	12:04	12:05	0:31	0:08	0:39
		1	8235	11:28	11:52	11:57	12:04	12:05	0:29	0:08	0:37
		4	56739	11:28	11:53	11:57	12:04	12:05	0:29	0:08	0:37
		5	717	11:32	11:51	11:57	12:04	12:05	0:25	0:08	0:33
		4	6846	11:42	11:54	11:57	12:04	12:05	0:15	0:08	0:23
		1	7067	11:42	11:55	11:57	12:04	12:05	0:15	0:08	0:23
	1	2355	11:43	11:54	11:57	12:04	12:05	0:14	0:08	0:22	
Average								0:19	0:08	0:27	

Note:  
 Survey Duration: 10.00 to 12.00  
 No of Ferries: 1  
 No of Crossings: 5

**Table 4.1.10 Crossing Time of Each Vehicle (14/22)**

No.6 West to East			Convoy					Workday		
Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)-(e-c)
1	2	4100	15:07	15:20	15:28	15:35	15:36	0:21	0:08	0:29
	4	81110	15:19	15:20	15:28	15:35	15:36	0:09	0:08	0:17
	1	4489	15:26	15:27	15:28	15:35	15:36	0:02	0:08	0:10
2	1	3669	15:47	15:52	16:04	16:09	16:10	0:17	0:06	0:23
	1	15291	15:54	15:54	16:04	16:09	16:10	0:10	0:06	0:16
	6	3369	16:03	16:03	16:04	16:09	16:10	0:01	0:06	0:07
3	4	52832	16:09	16:19	16:26	16:31	16:32	0:17	0:06	0:23
	4	62	16:12	16:19	16:26	16:31	16:32	0:14	0:06	0:20
	4	60072	16:17	16:20	16:26	16:31	16:32	0:09	0:06	0:15
	2	428	16:25	16:26	16:26	16:31	16:32	0:01	0:06	0:07
4	1	8277	16:35	16:45	16:48	16:54	16:55	0:13	0:07	0:20
	4	76	16:36	16:45	16:48	16:54	16:55	0:12	0:07	0:19
	4	416	16:40	16:46	16:48	16:54	16:55	0:08	0:07	0:15
	4	1257	16:40	16:45	16:48	16:54	16:55	0:08	0:07	0:15
	4	7014	16:47	16:48	16:48	16:54	16:55	0:01	0:07	0:08
	4	61064	16:47	16:48	16:48	16:54	16:55	0:01	0:07	0:08
Average								0:09	0:06	0:15

Note:

Survey Duration: 15:00 to 17:00

No of Ferries: 1

No of Crossings: 4

**Table 4.1.10 Crossing Time of Each Vehicle (15/22)**

No.6		East to West		Non Convoy					Workday		
Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)-(e-c)	
1	4	119872	10:01	10:14	10:19	10:25	10:26	0:18	0:07	0:25	
	1	1937	10:03	10:15	10:19	10:25	10:26	0:16	0:07	0:23	
	6	43100	10:07	10:15	10:19	10:25	10:26	0:12	0:07	0:19	
	2	4770	10:11	10:16	10:19	10:25	10:26	0:08	0:07	0:15	
2	4	31148	10:18	10:42	10:46	10:52	10:52	0:28	0:06	0:34	
	6	57584	10:38	10:42	10:46	10:52	10:52	0:08	0:06	0:14	
	4	5261	10:39	10:43	10:46	10:52	10:52	0:07	0:06	0:13	
	4	90713	10:42	10:43	10:46	10:52	10:52	0:04	0:06	0:10	
	4	56739	10:43	10:44	10:46	10:52	10:52	0:03	0:06	0:09	
3	2	1239	10:49	11:05	11:07	11:12	11:12	0:18	0:05	0:23	
4	4	72482	11:22	11:40	11:43	11:48	11:50	0:21	0:07	0:28	
	1	8330	11:24	11:39	11:43	11:48	11:50	0:19	0:07	0:26	
	5	428326	11:24	11:40	11:43	11:48	11:50	0:19	0:07	0:26	
	5	428808	11:24	11:42	11:43	11:48	11:50	0:19	0:07	0:26	
	2	2080	11:29	11:30	11:43	11:48	11:50	0:14	0:07	0:21	
	4	959	11:36	11:41	11:43	11:48	11:50	0:07	0:07	0:14	
5	2	3170	11:40	12:06	12:09	12:15	12:16	0:29	0:07	0:36	
	3	90027	11:42	12:06	12:09	12:15	12:16	0:27	0:07	0:34	
	3	936	11:44	12:06	12:09	12:15	12:16	0:25	0:07	0:32	
	4	12027	11:44	12:07	12:09	12:15	12:16	0:25	0:07	0:32	
	4	2046	11:53	12:07	12:09	12:15	12:16	0:11	0:07	0:18	
								Average	0:16	0:06	0:22

Note:

Survey Duration: 10.00 to 12.00

No of Ferries: 1

No of Crossings: 5



**Table 4.1.10 Crossing Time of Each Vehicle (16/22)**

No.6		East to West		Convoy				Workday		
Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)-(e-c)
1	1	7067	15:05	15:11	15:13	15:19	15:20	0:08	0:07	0:15
2	4	76	15:09	15:38	15:43	15:51	15:52	0:34	0:09	0:43
	1	177957	15:10	15:38	15:43	15:51	15:52	0:33	0:09	0:42
	4	60072	15:11	15:42	15:43	15:51	15:52	0:32	0:09	0:41
	2	3951	15:12	15:42	15:43	15:51	15:52	0:31	0:09	0:40
	4	2740	15:13	15:42	15:43	15:51	15:52	0:30	0:09	0:39
3	3	25878	15:23	15:41	15:43	15:51	15:52	0:20	0:09	0:29
	4	1527	15:14	16:11	16:16	16:44	16:45	1:02	0:29	1:31
	3	403694	15:15	16:12	16:16	16:44	16:45	1:01	0:29	1:30
	4	44498	15:16	16:12	16:16	16:44	16:45	1:00	0:29	1:29
	4	5207	15:17	16:13	16:16	16:44	16:45	0:59	0:29	1:28
	6	3886	15:19	16:13	16:16	16:44	16:45	0:57	0:29	1:26
	2	401	15:20	16:14	16:16	16:44	16:45	0:56	0:29	1:25
	1	242796	15:22	16:15	16:16	16:44	16:45	0:54	0:29	1:23
	4	1422	15:25	16:15	16:16	16:44	16:45	0:51	0:29	1:20
	1	10134	15:26	16:15	16:16	16:44	16:45	0:50	0:29	1:19
4	7	559	15:28	16:15	16:16	16:44	16:45	0:48	0:29	1:17
	1	111334	15:30	16:33	16:39	16:44	16:45	1:09	0:06	1:15
	1	1937	15:35	16:33	16:39	16:44	16:45	1:04	0:06	1:10
	4	44577	15:36	16:33	16:39	16:44	16:45	1:03	0:06	1:09
	2	1398	15:37	16:33	16:39	16:44	16:45	1:02	0:06	1:08
	4	51216	15:38	16:33	16:39	16:44	16:45	1:01	0:06	1:07
	1	1877	15:39	16:34	16:39	16:44	16:45	1:00	0:06	1:06
	2	2309	15:39	16:34	16:39	16:44	16:45	1:00	0:06	1:06
	4	160109	15:40	16:35	16:39	16:44	16:45	0:59	0:06	1:05
	6	15864	15:41	16:34	16:39	16:44	16:45	0:58	0:06	1:04
	4	3237	15:42	16:35	16:39	16:44	16:45	0:57	0:06	1:03
5	1	327979	16:34	16:34	16:39	16:44	16:45	0:05	0:06	0:11
	1	860440	15:43	16:54	17:01	17:07	17:08	1:18	0:07	1:25
	1	1556	15:46	16:54	17:01	17:07	17:08	1:15	0:07	1:22
	1	9070	16:05	16:54	17:01	17:07	17:08	0:56	0:07	1:03
	1	6779	16:09	16:54	17:01	17:07	17:08	0:52	0:07	0:59
	4	6422	16:14	16:54	17:01	17:07	17:08	0:47	0:07	0:54
	4	3346	16:16	16:55	17:01	17:07	17:08	0:45	0:07	0:52
	2	4631	16:18	16:55	17:01	17:07	17:08	0:43	0:07	0:50
	1	7078	16:19	16:55	17:01	17:07	17:08	0:42	0:07	0:49
	4	2345	16:21	16:56	17:01	17:07	17:08	0:40	0:07	0:47
	4	2870	16:24	16:56	17:01	17:07	17:08	0:37	0:07	0:44
								Average	0.49	0.12

Note:  
 Survey Duration: 15.00 to 17.00  
 No of Ferries: 1  
 No of Crossings: 5

**Table 4.1.10 Crossing Time of Each Vehicle (17/22)**

Srabulom		West to East			Non Convoy			Workday			
Ferry Crossing No	Vehicle Type	Plato No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a):(e-c)	
1	4	90467	16:07	16:14	16:16	16:21	16:22	0:09	0:06	0:15	
	4	90561	16:11	16:14	16:16	16:21	16:22	0:05	0:06	0:11	
	4	30216	16:13	16:14	16:16	16:21	16:22	0:03	0:06	0:09	
	4	4859	16:14	16:15	16:16	16:21	16:22	0:02	0:06	0:08	
2	4	90672	16:15	16:15	16:16	16:21	16:22	0:01	0:06	0:07	
	4	90441	16:18	16:22	16:23	16:27	16:28	0:05	0:05	0:10	
	4	11895	16:20	16:22	16:23	16:27	16:28	0:03	0:05	0:08	
	4	51853	16:21	16:22	16:23	16:27	16:28	0:02	0:05	0:07	
3	4	90448	16:30	16:31	16:35	16:41	16:49	0:05	0:14	0:19	
	4	90189	16:31	16:32	16:35	16:41	16:49	0:04	0:14	0:18	
	7	2463	16:34	16:34	16:35	16:41	16:49	0:01	0:14	0:15	
4	4	60251	16:46	16:50	17:01	17:04	17:05	0:15	0:04	0:19	
	7	1728	16:48	16:50	17:01	17:04	17:05	0:13	0:04	0:17	
	4	1113	16:52	16:52	17:01	17:04	17:05	0:09	0:04	0:13	
	4	5297	16:55	16:56	17:01	17:04	17:05	0:06	0:04	0:10	
5	7	47915	16:59	16:59	17:01	17:04	17:05	0:02	0:04	0:06	
	2	5203	17:02	17:17	17:29	17:34	17:36	0:27	0:07	0:34	
	4	90739	17:04	17:17	17:29	17:34	17:36	0:25	0:07	0:32	
	4	41106	17:05	17:18	17:29	17:34	17:36	0:24	0:07	0:31	
	2	60468	17:07	17:18	17:29	17:34	17:36	0:22	0:07	0:29	
	4	90804	17:15	17:18	17:29	17:34	17:36	0:14	0:07	0:21	
6	7	2565	17:19	17:21	17:29	17:34	17:36	0:10	0:07	0:17	
	4	90810	17:19	17:20	17:29	17:34	17:36	0:10	0:07	0:17	
	4	6322	17:25	17:29	17:29	17:34	17:36	0:04	0:07	0:11	
	6	28565	17:33	17:45	17:47	17:57	17:57	0:14	0:10	0:24	
	6	90128	17:38	17:45	17:47	17:57	17:57	0:09	0:10	0:19	
	7	311941	17:38	17:45	17:47	17:57	17:57	0:09	0:10	0:19	
7	4	40856	17:43	17:46	17:47	17:57	17:57	0:04	0:10	0:14	
	4	484	17:45	17:46	17:47	17:57	17:57	0:02	0:10	0:12	
	4	90020	17:51	18:04	18:05	18:11	18:12	0:14	0:07	0:21	
7	4	90263	17:53	18:04	18:05	18:11	18:12	0:12	0:07	0:19	
	4	30903	17:55	18:04	18:05	18:11	18:12	0:10	0:07	0:17	
								Average	0.09	0.07	0.16

Note:

Survey Duration: 16:00 to 18:00

No of Ferries: 2

No of Crossings: 7

**Table 4.1.10 Crossing Time of Each Vehicle (18/22)**

Ferry Crossing No	West to East		Convoy					Workday		
	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)+(e-c)
1	7	3126	11:03	11:11	11:13	11:18	11:20	0:10	0:07	0:17
	1	187778	11:04	11:11	11:13	11:18	11:20	0:09	0:07	0:16
	1	759875	11:10	11:11	11:13	11:18	11:20	0:03	0:07	0:10
	4	90189	11:11	11:12	11:13	11:18	11:20	0:02	0:07	0:09
	1	565418	11:11	11:13	11:13	11:18	11:20	0:02	0:07	0:03
2	6	300712	11:11	11:31	11:38	11:44	11:46	0:27	0:08	0:35
	6	1410	11:14	11:31	11:38	11:44	11:46	0:24	0:08	0:32
	1	4000	11:15	11:32	11:38	11:44	11:46	0:23	0:08	0:31
	4	90581	11:15	11:33	11:38	11:44	11:46	0:23	0:08	0:31
	1	10198	11:22	11:31	11:38	11:44	11:46	0:16	0:08	0:24
	2	30286	11:22	11:33	11:38	11:44	11:46	0:16	0:08	0:24
	2	2459	11:23	11:34	11:38	11:44	11:46	0:15	0:08	0:23
1	860440	11:24	11:34	11:38	11:44	11:46	0:14	0:08	0:22	
3	7	39647	11:23	11:58	12:00	12:07	12:08	0:37	0:08	0:45
	4	30012	11:24	11:58	12:00	12:07	12:08	0:36	0:08	0:44
	4	7256	11:26	12:00	12:00	12:07	12:08	0:34	0:08	0:42
	4	10541	11:30	11:58	12:00	12:07	12:08	0:30	0:08	0:38
	4	90025	11:41	11:58	12:00	12:07	12:08	0:19	0:08	0:27
	4	90043	11:44	12:00	12:00	12:07	12:08	0:16	0:08	0:24
	1	315247	11:45	11:59	12:00	12:07	12:08	0:15	0:08	0:23
	4	1527	11:48	11:59	12:00	12:07	12:08	0:12	0:08	0:20
4	90354	11:50	12:00	12:00	12:07	12:08	0:10	0:08	0:18	
8	5699	11:53	11:59	12:00	12:07	12:08	0:07	0:08	0:15	
4	7	90157	11:35	12:17	12:21	12:25	12:26	0:46	0:05	0:51
	4	8148	11:55	12:19	12:21	12:25	12:26	0:26	0:05	0:31
	4	4551	11:56	12:19	12:21	12:25	12:26	0:25	0:05	0:30
	4	5590	12:06	12:19	12:21	12:25	12:26	0:15	0:05	0:20
	4	1371	12:12	12:19	12:21	12:25	12:26	0:09	0:05	0:14
	1	2218	12:19	12:20	12:21	12:25	12:26	0:02	0:05	0:07
	4	7067	12:20	12:20	12:21	12:25	12:26	0:01	0:05	0:06
5	4	90441	12:20	12:37	12:40	12:44	12:45	0:20	0:05	0:25
	7	90128	12:20	12:36	12:40	12:44	12:45	0:20	0:05	0:25
	1	190285	12:21	12:36	12:40	12:44	12:45	0:19	0:05	0:24
	4	90263	12:25	12:37	12:40	12:44	12:45	0:15	0:05	0:20
	4	3094	12:32	12:38	12:40	12:44	12:45	0:08	0:05	0:13
	2	1267	12:37	12:37	12:40	12:44	12:45	0:03	0:05	0:08
	1	2169	12:37	12:39	12:40	12:44	12:45	0:03	0:05	0:08
4	200	12:39	12:39	12:40	12:44	12:45	0:01	0:05	0:06	
6	7	90360	12:30	12:55	12:56	13:01	13:03	0:26	0:07	0:33
	4	2488	12:40	12:55	12:56	13:01	13:03	0:16	0:07	0:23
	4	1964	12:46	12:55	12:56	13:01	13:03	0:10	0:07	0:17
	4	7145	12:46	12:55	12:56	13:01	13:03	0:10	0:07	0:17
	7	30477	12:54	12:54	12:56	13:01	13:03	0:02	0:07	0:09
	4	90739	12:55	12:56	12:56	13:01	13:03	0:01	0:07	0:08
	4	90561	12:56	12:56	12:56	13:01	13:03	0:01	0:07	0:08
Average								0:15	0:06	0:21

Note:  
 Survey Duration: 11:00 to 13:00  
 No of Ferries: 2  
 No of Crossings: 6

**Table 4.1.10 Crossing Time of Each Vehicle (19/22)**

Ferry Crossing No	East to West		Non Convoy					Workday			
	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-g)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-g)/(e-c)	
1	7	1728	16:00	16:23	16:26	16:30	16:31	0:26	0:05	0:31	
	4	90413	16:01	16:24	16:26	16:30	16:31	0:25	0:05	0:30	
	4	3065	16:13	16:25	16:26	16:30	16:31	0:13	0:05	0:18	
	4	1113	16:18	16:25	16:26	16:30	16:31	0:08	0:05	0:13	
2	4	40856	16:19	16:29	16:30	16:37	16:38	0:11	0:08	0:19	
	7	3651	16:24	16:29	16:30	16:37	16:38	0:06	0:08	0:14	
	4	5297	16:25	16:29	16:30	16:37	16:38	0:05	0:08	0:13	
3	1	766582	16:25	16:40	16:44	16:47	16:49	0:19	0:05	0:24	
	4	1964	16:28	16:41	16:44	16:47	16:49	0:16	0:05	0:21	
	4	6383	16:31	16:41	16:44	16:47	16:49	0:13	0:05	0:18	
	4	90810	16:32	16:41	16:44	16:47	16:49	0:12	0:05	0:17	
	1	30796	16:33	16:42	16:44	16:47	16:49	0:11	0:05	0:16	
	7	90140	16:37	16:41	16:44	16:47	16:49	0:07	0:05	0:12	
	4	1365	16:43	16:43	16:44	16:47	16:49	0:01	0:05	0:06	
4	4	90561	16:44	16:44	16:44	16:47	16:49	0:00	0:05	0:05	
	4	90692	16:45	16:48	16:55	17:01	17:01	0:10	0:06	0:16	
	4	3838	16:46	16:49	16:55	17:01	17:01	0:09	0:06	0:15	
	4	90547	16:48	16:49	16:55	17:01	17:01	0:07	0:06	0:13	
	4	6200	16:49	16:50	16:55	17:01	17:01	0:06	0:06	0:12	
	4	90708	16:49	16:49	16:55	17:01	17:01	0:06	0:06	0:12	
	4	90813	16:52	16:53	16:55	17:01	17:01	0:03	0:06	0:09	
5	4	90026	16:56	17:06	17:09	17:14	17:16	0:13	0:07	0:20	
	4	90018	16:57	17:07	17:09	17:14	17:16	0:12	0:07	0:19	
	7	300712	17:01	17:06	17:09	17:14	17:16	0:03	0:07	0:15	
	4	7067	17:03	17:07	17:09	17:14	17:16	0:06	0:07	0:13	
6	4	71099	17:04	17:34	17:37	17:42	17:43	0:33	0:06	0:39	
	4	44432	17:10	17:34	17:37	17:42	17:43	0:27	0:06	0:33	
	6	7437	17:11	17:35	17:37	17:42	17:43	0:26	0:06	0:32	
	7	43442	17:12	17:34	17:37	17:42	17:43	0:25	0:06	0:31	
	4	90441	17:12	17:35	17:37	17:42	17:43	0:25	0:06	0:31	
7	4	90477	17:13	17:36	17:37	17:42	17:43	0:24	0:06	0:30	
	7	1259	17:13	17:51	17:57	18:01	18:02	0:44	0:05	0:49	
	4	2699	17:25	17:54	17:57	18:01	18:02	0:32	0:05	0:37	
	4	90189	17:26	17:54	17:57	18:01	18:02	0:31	0:05	0:36	
8	4	2431	17:27	17:57	17:57	18:01	18:02	0:30	0:05	0:35	
	7	90802	17:18	18:12	18:14	18:20	18:21	0:56	0:07	1:03	
	4	90467	17:30	18:13	18:14	18:20	18:21	0:44	0:07	0:51	
	4	90672	17:30	18:13	18:14	18:20	18:21	0:44	0:07	0:51	
	4	90208	17:32	18:13	18:14	18:20	18:21	0:42	0:07	0:49	
	4	90613	17:35	18:13	18:14	18:20	18:21	0:39	0:07	0:46	
	4	2238	17:44	18:13	18:14	18:20	18:21	0:30	0:07	0:37	
Average	4	90376	17:49	18:14	18:14	18:20	18:21	0:25	0:07	0:32	
	4	4257	17:50	18:14	18:14	18:20	18:21	0:24	0:07	0:31	
								Average	0.19	0.06	0.25

Note:

Survey Duration: 16:00 to 18:00

No of Ferries: 2

No of Crossings: 8

**Table 4.1.10 Crossing Time of Each Vehicle (20/22)**

Ferry Crossing No	Fast to West		Convoy					Workday		
	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing time (e-c)	Vehicle Crossing Time (e-a)/(e-c)
1	3	802787	11:00	11:01	11:04	11:08	11:10	0:01	0:06	0:10
	4	4827	11:03	11:04	11:04	11:08	11:10	0:01	0:06	0:07
2	4	11895	11:04	11:19	11:23	11:29	11:30	0:19	0:07	0:26
	4	2986	11:10	11:20	11:23	11:29	11:30	0:13	0:07	0:20
	4	4114	11:11	11:20	11:23	11:29	11:30	0:12	0:07	0:19
	4	203	11:12	11:21	11:23	11:29	11:30	0:11	0:07	0:18
	3	236	11:14	11:19	11:23	11:29	11:30	0:03	0:07	0:16
3	7	75630	11:05	11:46	11:49	11:57	11:57	0:44	0:08	0:52
	7	90735	11:26	11:46	11:49	11:57	11:57	0:23	0:08	0:31
	4	416605	11:44	11:46	11:49	11:57	11:57	0:05	0:08	0:13
4	1	744540	11:50	12:09	12:11	12:16	12:17	0:21	0:06	0:27
	4	90189	11:51	12:10	12:11	12:16	12:17	0:20	0:06	0:26
	4	8757	11:52	12:11	12:11	12:16	12:17	0:19	0:06	0:25
	1	627879	11:52	12:11	12:11	12:16	12:17	0:19	0:06	0:25
	6	1410	12:05	12:09	12:11	12:16	12:17	0:06	0:06	0:12
5	4	6200	11:53	12:28	12:29	12:34	12:35	0:36	0:06	0:42
	4	90547	11:53	12:28	12:29	12:34	12:35	0:36	0:06	0:42
	4	2699	11:54	12:28	12:29	12:34	12:35	0:35	0:06	0:41
	3	127749	11:56	12:28	12:29	12:34	12:35	0:33	0:06	0:39
	4	90078	11:59	12:29	12:29	12:34	12:35	0:30	0:06	0:36
	4	314876	12:09	12:27	12:29	12:34	12:35	0:20	0:06	0:26
	4	314899	12:09	12:27	12:29	12:34	12:35	0:20	0:06	0:26
	4	314907	12:09	12:27	12:29	12:34	12:35	0:20	0:06	0:26
6	1	3085	12:22	12:26	12:29	12:34	12:35	0:07	0:06	0:13
	4	314874	12:09	12:45	12:47	12:52	12:54	0:38	0:07	0:45
	4	314878	12:09	12:45	12:47	12:52	12:54	0:38	0:07	0:45
	4	314910	12:09	12:45	12:47	12:52	12:54	0:38	0:07	0:45
	4	312617	12:10	12:45	12:47	12:52	12:54	0:37	0:07	0:44
	1	158701	12:11	12:46	12:47	12:52	12:54	0:36	0:07	0:43
	4	159523	12:15	12:46	12:47	12:52	12:54	0:32	0:07	0:39
	1	9132	12:29	12:46	12:47	12:52	12:54	0:18	0:07	0:25
7	4	13993	12:31	12:46	12:47	12:52	12:54	0:16	0:07	0:23
	4	1715	12:36	12:47	12:47	12:52	12:54	0:11	0:07	0:18
	7	312665	12:09	13:03	13:05	13:10	13:12	0:56	0:07	1:03
	4	312642	12:10	13:04	13:05	13:10	13:12	0:55	0:07	1:02
	7	312660	12:10	13:03	13:05	13:10	13:12	0:55	0:07	1:02
	4	314906	12:10	13:03	13:05	13:10	13:12	0:55	0:07	1:02
	4	3929	12:37	13:04	13:05	13:10	13:12	0:28	0:07	0:35
7	2483	12:55	13:04	13:05	13:10	13:12	0:10	0:07	0:17	
Average								0.25	0.06	0.31

Note:

Survey Duration: 11:00 to 13:00

No of Ferries: 2

No of Crossings: 7

**Table 4.1.10 Crossing Time of Each Vehicle (21/22)**

Shatt		West to East			Non Convoy			Workday		
Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)/(e-c)
1	7	2907	11:30	11:38	11:39	11:45	11:46	0:09	0:07	0:16
	7	56	11:32	11:55	11:56	12:01	12:02	0:24	0:06	0:30
2	7	11093	11:44	11:56	11:56	12:01	12:02	0:12	0:06	0:18
	7	33290	11:52	11:55	11:56	12:01	12:02	0:04	0:06	0:10
3	7	51355	11:55	12:10	12:12	12:17	12:18	0:17	0:06	0:23
	7	28572	11:57	12:11	12:12	12:17	12:18	0:15	0:06	0:21
	7	134	11:59	12:10	12:12	12:17	12:18	0:13	0:06	0:19
	4	4413	12:01	12:12	12:12	12:17	12:18	0:11	0:06	0:17
4	6	506	12:04	12:11	12:12	12:17	12:18	0:08	0:06	0:14
	1	761	12:16	12:26	12:29	12:33	12:34	0:13	0:05	0:18
	4	101779	12:16	12:27	12:29	12:33	12:34	0:13	0:05	0:18
	7	3642	12:18	12:27	12:29	12:33	12:34	0:11	0:05	0:16
5	1	358978	12:21	12:28	12:29	12:33	12:34	0:08	0:05	0:13
	7	355404	12:22	12:27	12:29	12:33	12:34	0:07	0:05	0:12
	7	421938	11:58	12:41	12:43	12:48	12:49	0:45	0:06	0:51
	7	10012	12:24	12:40	12:43	12:48	12:49	0:19	0:06	0:25
6	4	1884	12:36	12:42	12:43	12:48	12:49	0:07	0:06	0:13
	7	37959	12:36	12:41	12:43	12:48	12:49	0:07	0:06	0:13
	7	421945	11:58	12:57	12:58	13:04	13:04	1:00	0:06	1:06
7	7	2825	12:26	12:57	12:58	13:04	13:04	0:32	0:06	0:38
	7	359280	12:49	12:58	12:58	13:04	13:04	0:09	0:06	0:15
	7	407	12:53	12:58	12:58	13:04	13:04	0:05	0:06	0:11
8	7	556	12:37	13:11	13:12	13:18	13:19	0:35	0:07	0:42
	7	68158	12:54	13:12	13:12	13:18	13:19	0:18	0:07	0:25
	7	751	13:06	13:11	13:12	13:18	13:19	0:06	0:07	0:13
9	7	1370	13:00	13:32	13:34	13:40	13:41	0:34	0:07	0:41
	7	43233	13:13	13:33	13:34	13:40	13:41	0:21	0:07	0:28
	7	13217	13:16	13:33	13:34	13:40	13:41	0:18	0:07	0:25
	1	350048	13:21	13:33	13:34	13:40	13:41	0:13	0:07	0:20
10	7	359904	13:25	13:32	13:34	13:40	13:41	0:09	0:07	0:16
								Average	0:16	0:06

Note:  
 Survey Duration: 11:30 to 13:30  
 No of Ferries: 2  
 No of Crossings: 7

Shatt		West to East			Convoy			Workday		
Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)/(e-c)
1	7	648	8:42	8:44	8:49	8:53	8:54	0:07	0:05	0:12
2	7	52472	8:46	9:07	9:08	9:14	9:14	0:22	0:06	0:28
3	7	359285	9:10	9:21	9:25	9:29	9:30	0:15	0:05	0:20
	7	294	9:20	9:21	9:25	9:29	9:30	0:05	0:05	0:10
4	7	3563	9:24	9:24	9:25	9:29	9:30	0:01	0:05	0:06
	7	31730	9:28	9:42	9:50	9:54	9:55	0:22	0:05	0:27
5	7	1771	9:36	9:43	9:50	9:54	9:55	0:14	0:05	0:19
	7	760	9:38	9:44	9:50	9:54	9:55	0:12	0:05	0:17
6	7	8825	10:00	10:09	10:10	10:15	10:16	0:10	0:06	0:16
	7	17277	10:09	10:09	10:10	10:15	10:16	0:01	0:06	0:07
7	7	355426	10:16	10:27	10:30	10:36	10:40	0:14	0:10	0:24
	7	17733	10:17	10:26	10:30	10:36	10:40	0:13	0:10	0:23
8	7	30859	10:24	10:25	10:30	10:36	10:40	0:06	0:10	0:16
								Average	0:10	0:06

Note:  
 Survey Duration: 8:40 to 10:40  
 No of Ferries: 1  
 No of Crossings: 6

**Table 4.1.10 Crossing Time of Each Vehicle (22/22)**

Shall		East to West		Non Convoy				Workday		
Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)-(e-c)
1	7	153343	11:34	11:47	11:49	11:53	11:54	0:15	0:05	0:20
	7	14908	11:40	11:47	11:49	11:53	11:54	0:09	0:05	0:14
2	7	20103	11:51	12:02	12:03	12:08	12:09	0:12	0:06	0:18
	3	685	11:55	12:03	12:03	12:08	12:09	0:08	0:06	0:14
3	7	13153	12:07	12:19	12:20	12:25	12:25	0:13	0:05	0:18
	7	31226	12:17	12:18	12:20	12:25	12:25	0:03	0:05	0:08
4	4	73834	12:25	12:35	12:35	12:40	12:40	0:10	0:05	0:15
5	7	11265	12:44	12:50	12:51	12:56	12:56	0:07	0:05	0:12
	7	17869	12:47	12:51	12:51	12:56	12:56	0:04	0:05	0:09
6	7	506	13:02	13:05	13:06	13:10	13:11	0:04	0:05	0:09
	7	551	13:02	13:05	13:06	13:10	13:11	0:04	0:05	0:09
	7	12078	13:03	13:04	13:06	13:10	13:11	0:03	0:05	0:08
7	7	742	13:10	13:20	13:25	13:30	13:32	0:15	0:07	0:22
	7	6288	13:10	13:20	13:25	13:30	13:32	0:15	0:07	0:22
	7	46003	13:13	13:22	13:25	13:30	13:32	0:12	0:07	0:19
	7	1393	13:17	13:20	13:25	13:30	13:32	0:03	0:07	0:15
	7	156628	13:17	13:21	13:25	13:30	13:32	0:08	0:07	0:15
Average								0:08	0:05	0:14

Note:

Survey Duration: 11:30 to 13:30

No of Ferries: 2

No of Crossings: 7

East to West		Convoy				Workday				
Ferry Crossing No	Vehicle Type	Plate No	Arrival Time a	Boarding Time b	Departure Time c	Arrival Time d	Leaving Time e	Vehicle Waiting Time (e-a)	Ferry Crossing Time (e-c)	Vehicle Crossing Time (e-a)-(e-c)
1	7	12	9:02	9:14	9:15	9:19	9:20	0:13	0:05	0:18
2	4	4432	9:17	9:31	9:36	9:40	9:41	0:19	0:05	0:24
	7	33290	9:28	9:31	9:36	9:40	9:41	0:08	0:05	0:13
3	7	16715	9:28	9:57	10:02	10:06	10:08	0:34	0:06	0:40
4	7	377	9:41	10:17	10:19	10:24	10:25	0:38	0:06	0:44
	7	407	9:56	10:18	10:19	10:24	10:25	0:23	0:06	0:29
5	7	23967	10:25	10:41	10:42	10:47	10:48	0:17	0:06	0:23
	4	3839	10:30	10:42	10:42	10:47	10:48	0:12	0:06	0:18
Average								0:20	0:05	0:26

Note:

Survey Duration: 8:40 to 10:40

No of Ferries: 1

No of Crossings: 5

**Table 4.1.11 Average Crossing Time of All the Vehicle  
(by Direction, by Ferry Station)**

Unit: minutes

Station	Direction	Time	Average vehicle waiting time	Average ferry crossing time	Average vehicle crossing time
Qantara	W to E	Non convoy	11'	6'	17'
		Convoy	15'	7'	22'
	E to W	Non convoy	8'	6'	14'
		Convoy	57'	7'	64'
Ferdan	W to E	Non convoy	15'	5'	20'
		Convoy	16'	5'	21'
	E to W	Non convoy	10'	4'	14'
		Convoy	125'	7'	132'
No.6	W to E	Non convoy	19'	8'	27'
		Convoy	9'	7'	16'
	E to W	Non convoy	16'	6'	22'
		Convoy	50'	13'	63'
Srabuim	W to E	Non convoy	9'	7'	16'
		Convoy	15'	6'	21'
	E to W	Non convoy	19'	6'	25'
		Convoy	25'	6'	31'
Shatt	W to E	Non convoy	16'	6'	22'
		Convoy	12'	6'	18'
	E to W	Non convoy	12'	6'	14'
		Convoy	20'	6'	26'



## A 4.2 Traffic Projection

This appendix prepared the following contents to supplement Chapter 4 Traffic Demand Projection in the Draft Final Report.

- Explanation and some key issues about OD matrices used in this study.
- Explanation about road network data used traffic assignment in this study

### A 4.2.1 OD Matrices

#### (1) General

The following kinds of OD matrices were built up in this study to estimate the traffic volume according to the various cases.

**Table 4.2.1 Kinds of OD Matrices**

No.	S. Framework	Kinds	Code No.
1	1995	1995 OD	
2	Case 1	2002 OD	
3		2007 OD	
4		2017 OD	
5	Case 2	2002 OD	
6		2007 OD	
7		2017 OD	
8	Revised Case 3	2002 OD	
9		2007 OD	
10		2017 OD	

Note: :All OD matrices are compiled by type.  
(Passenger car, Taxi, Bus, Truck and Total)

#### (2) Characteristics of the OD matrices

- 1995 OD matrices were made up by revising the 1992 OD matrices compiled by NRTS which has been implemented by JICA in 1992 and the results of the traffic OD survey are taken advantage to finalize this OD matrices. The 30 zoning system is applied by aggregation of NRTS zoning system to cope with the purpose of the Study. The detailed zoning system are described in the main report.
- The OD matrices in the year 2002, 2007 and 2017 in each case were made up based on the future socio-economic framework.

- The five types of vehicle OD matrices, passenger car, taxi, bus, truck and total were prepared in every case of OD matrices.
- With regard to the case of socio-economic framework, the detailed explanation is mentioned in Chapter 2 Socio Economic Conditions in the main report.

(3) **Generation and Attraction of Trip-Ends**

The generation and attraction of the trip-ends of each OD matrices are tabulated in Table 4.2.2.





Table 4.2.2 (3) OD Matrices in 1995

ALL VEHICLES ON TABLE FOR CASE 1 IN 1995

ZONE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 TOTAL		
1	0	0	0	0	0	0	0	0	0	58	370	62	57	20	94	88	347	15	23	17	7	0	3	0	0	0	0	0	0	0	1253	
2	0	0	0	0	0	0	0	0	0	0	13	10	1	2	6	1	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38
3	0	0	0	0	0	0	0	0	0	0	2	10	0	0	3	1	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
4	22	0	0	0	0	0	0	0	0	0	15	147	3	0	3	6	87	0	5	14	0	0	3	1	0	0	0	0	0	0	0	375
5	16	0	0	0	0	0	0	0	0	4	11	47	15	3	10	63	1	4	15	4	15	4	0	4	0	0	0	0	0	0	0	329
6	29	0	2	13	0	0	0	0	0	0	15	96	16	0	14	149	0	6	9	3	3	0	3	4	0	0	0	0	0	0	407	
7	0	0	0	0	0	0	0	0	0	8	20	5	0	3	7	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	78	
8	0	0	0	0	0	0	0	0	0	24	563	18	45	4	39	18	74	6	0	0	0	0	0	0	0	0	0	0	0	0	0	820
9	0	0	0	0	0	0	0	0	0	0	763	18	45	4	39	18	74	6	0	0	0	0	0	0	0	0	0	0	0	0	0	820
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 TOTAL	1283	54	71	375	231	407	76	100	50	8006	6505	5863	12508	18064	6537	24785	55550	18711	30489	78234	7382	4016	871	4608	108	2	49	22	1366	0	241239	



Table 4.2.2 (5) OD Matrices for Case 1 in 2002

ZONE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 TOTAL	
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	520	
2	17	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	
3	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	
4	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	137	
5	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	122	
6	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82	
7	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	82	
8	72	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	262	
9	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	
10	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	249	
11	17	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	258	
12	17	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	280	
13	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	757	
14	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	757	
15	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	365	
16	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1611	
17	101	2	4	17	13	16	11	24	6	37	64	81	137	100	85	50	565	84	220	96	80	9	15	157	3	8	4	4	16	0	3433
18	17	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1133	
19	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	613	
20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1422	
21	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1554	
22	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	206	
23	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	206
24	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2176
25	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2176	
26	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44
27	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
28	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18
29	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112
30 TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17515

TRACK 00 TABLE FOR CASE 1 IN 2002

ZONE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 TOTAL		
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3116
3	46	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	136
4	176	4	7	17	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	749
5	155	3	3	53	106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	869
6	163	2	2	2	3	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1663
7	377	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1668	
8	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	219	
9	100	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	219	
10	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2737	
11	86	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2737	
12	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5618	
13	47	1	1	10	7	13	10	28	2	30	42	59	78	10	5	176	641	624	630	630	231	63	17	620	1	1	0	0	0	0	0	7377
14	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4103	
15	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1435	
16	309	6	8	18	51	182	40	168	15	220	337	279	661	946	717	4943	2094	2094	2094	1129	909	102	1418	1	1	0	0	0	0	0	18455	
17	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10891	
18	151	6	6	18	53	120	29	114	10	230	228	177	738	1114	656	4862	2181	2181	2181	2094	4059	326	326	1551	2	1	0	0	0	0	16568	
19	39	4	4	5	10	8	13	19	69	7	207	630	600	259	1129	2094	2094	2094	1745	2126	0	944	658	1903	2	0	0	0	0	0	13761	
20	128	5	6	61	45	75																										

Table 4.2.2 (6) OD Matrices for Case 1 in 2002

ZONE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 TOTAL		
1	0	191	94	224	458	325	395	696	32	205	285	104	94	49	103	370	1444	91	298	116	312	67	49	49	209	0	64	33	19	14	0	8219
2	101	0	3	6	6	9	1	3	0	4	4	16	2	2	2	10	38	6	17	12	12	2	2	2	11	0	1	0	0	0	0	27
3	294	3	0	0	0	0	7	5	27	25	76	172	18	17	32	154	245	17	31	22	120	24	17	17	40	0	6	4	4	5	0	1497
4	458	6	13	29	0	175	6	18	6	26	28	45	18	13	23	96	158	20	28	31	129	18	21	34	1	15	10	14	9	9	0	1450
5	325	6	6	102	176	0	9	35	8	43	62	84	25	20	38	142	246	27	43	46	185	29	37	45	1	8	8	10	9	9	0	1765
6	395	9	21	7	6	10	0	66	21	51	37	21	20	9	19	68	103	25	38	39	138	7	4	24	0	2	2	1	1	0	657	
7	696	0	3	19	19	31	68	0	10	140	219	157	56	28	88	323	726	94	191	129	145	21	15	14	1	5	4	2	0	0	3494	
8	32	205	285	104	94	49	103	370	1444	91	298	116	312	67	49	209	1444	91	298	116	312	67	49	49	209	0	64	33	19	14	0	8219
9	101	0	3	6	6	9	1	3	0	4	4	16	2	2	2	10	38	6	17	12	12	2	2	2	11	0	1	0	0	0	0	27
10	294	3	0	0	0	0	7	5	27	25	76	172	18	17	32	154	245	17	31	22	120	24	17	17	40	0	6	4	4	5	0	1497
11	458	6	13	29	0	175	6	18	6	26	28	45	18	13	23	96	158	20	28	31	129	18	21	34	1	15	10	14	9	9	0	1450
12	325	6	6	102	176	0	9	35	8	43	62	84	25	20	38	142	246	27	43	46	185	29	37	45	1	8	8	10	9	9	0	1765
13	395	9	21	7	6	10	0	66	21	51	37	21	20	9	19	68	103	25	38	39	138	7	4	24	0	2	2	1	1	0	0	657
14	696	0	3	19	19	31	68	0	10	140	219	157	56	28	88	323	726	94	191	129	145	21	15	14	1	5	4	2	0	0	3494	
15	32	205	285	104	94	49	103	370	1444	91	298	116	312	67	49	209	1444	91	298	116	312	67	49	49	209	0	64	33	19	14	0	8219
16	101	0	3	6	6	9	1	3	0	4	4	16	2	2	2	10	38	6	17	12	12	2	2	2	11	0	1	0	0	0	0	27
17	294	3	0	0	0	0	7	5	27	25	76	172	18	17	32	154	245	17	31	22	120	24	17	17	40	0	6	4	4	5	0	1497
18	458	6	13	29	0	175	6	18	6	26	28	45	18	13	23	96	158	20	28	31	129	18	21	34	1	15	10	14	9	9	0	1450
19	325	6	6	102	176	0	9	35	8	43	62	84	25	20	38	142	246	27	43	46	185	29	37	45	1	8	8	10	9	9	0	1765
20	395	9	21	7	6	10	0	66	21	51	37	21	20	9	19	68	103	25	38	39	138	7	4	24	0	2	2	1	1	0	0	657
21	696	0	3	19	19	31	68	0	10	140	219	157	56	28	88	323	726	94	191	129	145	21	15	14	1	5	4	2	0	0	3494	
22	32	205	285	104	94	49	103	370	1444	91	298	116	312	67	49	209	1444	91	298	116	312	67	49	49	209	0	64	33	19	14	0	8219
23	101	0	3	6	6	9	1	3	0	4	4	16	2	2	2	10	38	6	17	12	12	2	2	2	11	0	1	0	0	0	0	27
24	294	3	0	0	0	0	7	5	27	25	76	172	18	17	32	154	245	17	31	22	120	24	17	17	40	0	6	4	4	5	0	1497
25	458	6	13	29	0	175	6	18	6	26	28	45	18	13	23	96	158	20	28	31	129	18	21	34	1	15	10	14	9	9	0	1450
26	325	6	6	102	176	0	9	35	8	43	62	84	25	20	38	142	246	27	43	46	185	29	37	45	1	8	8	10	9	9	0	1765
27	395	9	21	7	6	10	0	66	21	51	37	21	20	9	19	68	103	25	38	39	138	7	4	24	0	2	2	1	1	0	0	657
28	696	0	3	19	19	31	68	0	10	140	219	157	56	28	88	323	726	94	191	129	145	21	15	14	1	5	4	2	0	0	3494	
29	32	205	285	104	94	49	103	370	1444	91	298	116	312	67	49	209	1444	91	298	116	312	67	49	49	209	0	64	33	19	14	0	8219
30	101	0	3	6	6	9	1	3	0	4	4	16	2	2	2	10	38	6	17	12	12	2	2	2	11	0	1	0	0	0	0	27
TOTAL	6224	332	273	1501	1450	1761	949	3306	333	5772	5951	5778	12655	15444	8944	35322	75166	24878	37911	31414	33846	4998	3787	47246	363	507	286	201	1939	0	364978	









Table 4.2.2 (10) OD Matrices for Case 1 in 2017

ZONE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 TOTAL	
1	0	106	45	115	199	152	148	433	9	96	129	63	85	21	41	174	907	44	142	129	181	98	46	141	0	73	40	23	4	3505	
2	106	0	2	3	3	2	2	2	1	1	1	5	0	0	1	1	5	20	2	5	14	6	2	2	4	0	1	1	1	4	0
3	45	2	0	7	7	3	1	4	1	2	3	3	1	1	2	2	30	4	6	18	18	3	2	4	0	2	1	1	0	194	
4	115	3	7	0	19	62	7	68	25	21	56	192	13	8	16	90	183	9	18	28	79	37	17	42	1	0	0	0	0	181	
5	199	3	7	20	0	72	4	15	2	2	18	29	13	18	14	58	139	14	22	47	103	11	25	13	0	24	17	17	2	904	
6	152	2	3	6	3	0	4	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	64	
7	148	4	7	4	4	0	102	4	0	37	25	15	16	3	9	36	98	12	22	42	20	34	4	20	0	13	1	1	0	44	
8	433	9	9	101	18	21	101	0	9	132	259	204	56	17	67	284	681	62	133	148	100	34	14	83	0	11	7	4	4	2044	
9	9	96	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	1	0	0	0	171	
10	129	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	504	
11	181	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	3699	
12	46	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	4036	
13	98	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	0	0	0	0	0	9776	
14	141	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	5492	
15	20	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	0	0	0	0	0	2404	
16	171	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	0	0	0	0	0	171	
17	504	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	0	0	0	0	0	504	
18	3699	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	0	0	0	0	0	3699	
19	4036	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	0	0	0	0	0	4036	
20	9776	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	0	0	0	0	0	9776	
21	5492	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	0	0	0	0	0	5492	
22	2404	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	0	0	0	0	0	2404	
23	171	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	0	0	0	0	0	171	
24	504	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	0	0	0	0	0	504	
25	3699	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	0	0	0	0	0	3699	
26	4036	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	0	0	0	0	0	4036	
27	9776	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	0	0	0	0	0	9776	
28	5492	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	0	0	0	0	0	5492	
29	2404	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0	0	0	0	0	2404	
30	171	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	0	0	0	0	0	171	
TOTAL	3567	196	181	1144	902	965	642	2943	169	3659	3537	4437	8778	9470	5469	24947	58522	15209	25649	30698	20796	3978	2676	33785	137	773	463	306	799	261545	

TAXI OD TABLE FOR CASE 1 IN 2017

ZONE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 TOTAL
1	0	111	52	122	240	160	168	498	7	60	106	50	44	16	31	135	602	31	101	85	127	65	27	124	1	13	7	3	3016	
2	111	0	2	1	1	1	1	1	1	1	1	3	2	1	1	3	2	2	2	2	8	4	1	0	0	0	0	0	0	166
3	52	2	0	3	3	3	3	3	3	3	3	6	5	2	5	12	6	6	6	6	12	6	2	7	0	0	0	0	0	166
4	122	1	3	0	0	0	0	0	0	0	0	1	1	1	1	3	2	2	2	2	8	4	1	0	0	0	0	0	0	166
5	240	3	3	3	3	3	3	3	3	3	3	6	5	2	5	12	6	6	6	6	12	6	2	7	0	0	0	0	0	166
6	160	1	3	3	3	3	3	3	3	3	3	6	5	2	5	12	6	6	6	6	12	6	2	7	0	0	0	0	0	166
7	498	0	7	7	7	7	7	7	7	7	7	14	12	7	12	48	108	11	18	18	37	64	18	22	23	1	2	1	11	649
8	60	1	1	1	1	1	1	1	1	1	1	3	2	1	1	3	2	2	2	2	8	4	1	0	0	0	0	0	0	166
9	106	1	1	1	1	1	1	1	1	1	1	3	2	1	1	3	2	2	2	2	8	4	1	0	0	0	0	0	0	166
10	3659	7	7	7	7	7	7	7	7	7	7	14	12	7	12	48	108	11	18	18	37	64	18	22	23	1	2	1	11	649
11	3537	10	10	10	10	10	10	10	10	10	10	20	17	10	20	79	177	9	17	17	30	57	17	16	16	1	0	0	0	649
12	4437	11	11	11	11	11	11	11	11	11	11	22	18	11	22	86	198	13	24	24	43	10	13	13	13	1	0	0	0	649
13	8778	12	12	12	12	12	12	12	12	12	12	24	19	12	24	94	216	15	30	30	54	15	19	19	19	1	0	0	0	649
14	9470	13	13	13	13	13	13	13	13	13	13	26	20	13	26	103	246	16	32	32	57	16	20	20	20	1	0	0	0	649
15	5469	14	14	14	14	14	14	14	14	14	14	28	21	14	28	110	274	17	34	34	60	17	21	21	21	1	0	0	0	649
16	24947	15	15	15	15	15	15	15	15	15	15	30	23	15	30	124	306	18	36	36	66	18	23	23	23	1	0	0	0	649
17	58522	16	16	16	16	16	16	16	16	16	16	32	24	16	32	130	330	19	38	38	70	19	24							



Table 4.2.2 (12) OD Matrices for Case I in 2017

ALL VEHICLES OD MATRIX FOR CASE I IN 2017

ZONE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 TOTAL		
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1329	
2	410	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	766
3	204	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	766
4	597	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4485
5	1062	17	33	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3551
6	599	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3762
7	643	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1211
8	203	11	11	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1876
9	49	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
10	382	10	10	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
11	525	14	14	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
12	249	21	21	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
13	213	3	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
14	91	3	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
15	195	7	7	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
16	786	3135	3135	6270	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
17	3135	6270	6270	12540	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
18	158	158	158	316	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
19	565	565	565	1130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
20	347	347	347	694	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
21	569	569	569	1138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
22	216	216	216	432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
23	94	94	94	188	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
24	447	447	447	894	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
26	98	98	98	196	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
27	55	55	55	110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
28	79	79	79	158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
29	24	24	24	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1396
30 TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96391













Table 4.2.2 (18) OD Matrices for Case 2 in 2007

ALL VEHICLES OD TABLE FOR CASE 2 IN 2007

ZONE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 TOTAL									
1	0	122	75	102	400	312	316	441	29	212	292	196	96	47	101	360	1573	86	299	137	336	71	40	197	2	69	33	16	14	0	5988								
2	162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	230							
3	76	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
4	183	2	5	0	20	76	4	35	15	34	68	174	19	11	29	146	239	17	24	24	113	24	15	39	0	6	3	2	4	0	0	1300							
5	400	0	10	19	0	144	6	12	3	31	32	64	29	16	24	106	187	20	33	37	140	16	21	38	1	13	12	16	6	0	0	1426							
6	313	3	3	76	144	0	4	25	5	47	55	100	31	21	38	146	290	29	45	56	199	33	33	47	2	8	8	9	6	0	0	1778							
7	317	1	1	6	6	7	0	61	1	66	44	24	26	10	20	84	208	27	45	56	47	10	13	26	1	3	1	2	2	0	0	1104							
8	462	0	0	4	12	4	52	6	6	120	155	45	47	21	72	276	689	76	162	115	175	5	12	26	1	2	4	6	5	0	0	2096							
9	462	0	0	4	12	4	52	6	6	120	155	45	47	21	72	276	689	76	162	115	175	5	12	26	1	2	4	6	5	0	0	2096							
10	212	0	4	33	31	47	65	119	0	0	254	135	153	439	169	600	1258	364	629	632	298	77	29	989	0	15	9	9	20	0	0	7783							
11	293	4	6	67	32	54	45	184	11	254	0	376	308	225	179	990	2237	223	529	386	362	64	28	853	2	9	9	4	13	0	0	8065							
12	12	1096	8	174	174	100	25	145	34	1	1850	306	199	0	0	181	132	219	424	420	508	76	47	1274	2	13	11	6	20	0	0	17838							
13	13	98	1	20	20	23	10	23	1	439	226	181	2009	0	0	1896	2528	1387	2001	2018	619	203	58	2150	4	36	22	11	6	62	0	0	21648						
14	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1734						
15	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108157					
16	1573	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32858				
17	86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51377				
18	299	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48944				
19	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48944				
20	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48944				
21	336	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48944		
22	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48944	
23	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48944
24	197	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48944
25	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48944
26	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48944
27	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48944
28	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48944
29	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48944
30 TOTAL	0	5988	292	241	1432	1774	1103	2688	271	7780	7773	8301	17542	21646	11727	46861	16156	32862	51575	46847	45002	7130	5248	45290	615	633	376	202	2419	0	565744								





Table 4.2.2 (21) OD Matrices for Case 2 in 2017

ALL VEHICLES 00 TABLE FOR CASE 2 IN 2017

ZONE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 TOTAL	
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10500
2	204	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	483
3	134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	473
4	346	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2614
5	743	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2607
6	441	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2747
7	552	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3046
8	889	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	428
9	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	628
10	245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14003
11	325	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13413
12	485	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16559
13	181	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32650
14	294	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20234
15	161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8153
16	78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20234
17	2710	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8153
18	164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14785
19	485	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14785
20	300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10209
21	512	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	124073
22	173	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1360
23	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1560
24	374	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1560
25	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1560
26	82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1560
27	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1560
28	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1560
29	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1560
30 TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	962896





Table 4.2.2 (23) OD Matrices for Revised Case 3 in 2002

MS OD TABLE FOR REVISED CASE 3 IN 2002

ZONE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 TOTAL								
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	276							
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30 TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	260	23	10	48	65	77	33	66	9	263	266	269	695	794	412	1693	3000	1184	1830	1485	1625	210	165	2275	43	41	25	15	114	0	17512	0	0	0	0	0	0	

TRUCK OD TABLE FOR REVISED CASE 3 IN 2002

ZONE NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 TOTAL									
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0																																		

















## A 4.2.2 Road Network Data

### (1) General

#### 1) Methodology of Traffic Assignment

Traffic assignment to estimate the future traffic volume on crossing structures was carried out under the condition to combine various cases of locations of crossing structures, road network and OD matrices. The locations of crossing structures and relevant road network conditions in Egypt depending on the future road improvement and construction in the year of 2002, 2007 and 2012 were presented as road network data for traffic assignment.

This future road network conditions in Egypt were built up in cooperation with GARB taking advantage of the outcome of NRTS. The detailed contents of the future plan of road network is described in the main report.

Table 4.2.3 shows the road network case used in this Study.

**Table 4.2.3 Road Network Case**

No.	Case	Crossing structure	Remarks
1	1995 Net		
2	2002 Net	Port Said	
3	2002 Net	Ras El Esh	
4	2002 Net	Qantara	
5	2002 Net	Ferdan	
6	2002 Net	Ismailiya	
7	2002 Net	Srabuion	
8	2007 Net	Port Said	
9	2007 Net	Ras El Esh	
10	2007 Net	Qantara	
11	2007 Net	Ferdan	
12	2007 Net	Ismailiya	
13	2007 Net	Srabuion	
14	2012 Net	Port Said	
15	2012 Net	Ras El Esh	
16	2012 Net	Qantara	
17	2012 Net	Ferdan	
18	2012 Net	Ismailiya	
19	2012 Net	Srabuion	

## 2) Traffic Assignment

### a Basic Conditions

The traffic assignment was executed under the following basic conditions.

- The software of TRAN PLAN was used for the traffic assignment.
- The traffic assignment was carried out to assign the OD traffic onto road network
- One tenth of OD traffic was assigned at one time onto road network and so called incremental method were adopted for traffic assignment.
- Crossing time over the Suez Canal by ferry for the road network condition is set up according to the results of the traffic survey. However, as this crossing time includes no waiting time additional waiting time is added to this crossing time of road network condition according to the results of the traffic survey.

### b Traffic Assignment Case

The traffic assignment cases consist of the following conditions.

- Seven crossing location alternatives
- Year (2002, 2007 and 2017)
- OD matrices depending on socio-economic framework cases (Case 1, Case 2 and Revised Case 3)

The detailed traffic assignment cases are shown in Table 4.2.4. Also traffic flow band for assignment cases are shown in Fig. 4.2.1.

**Table 4.2.4 Traffic Assignment Case**

No.	Crossing Location	OD (Framework)	Year	No.	Crossing Location	OD (Framework)	Year
1	No Structure	Case 1	2002	37	Ferdan	Case 1	2002
2			2007	38			2007
3			2017	39			2017
4		Case 2	2002	40		Case 2	2002
5			2007	41			2007
6			2017	42			2017
7		Revised Case 3	2002	43		Revised Case 3	2002
8			2007	44			2007
9			2017	45			2017
10	Port Said	Case 1	2002	46	Ismailiya	Case 1	2002
11			2007	47			2007
12			2017	48			2017
13		Case 2	2002	49		Case 2	2002
14			2007	50			2007
15			2017	51			2017
16		Revised Case 3	2002	52		Revised Case 3	2002
17			2007	53			2007
18			2017	54			2017
19	Ras El Esh	Case 1	2002	55	Srabuion	Case 1	2002
20			2007	56			2007
21			2017	57			2017
22		Case 2	2002	58		Case 2	2002
23			2007	59			2007
24			2017	60			2017
25		Revised Case 3	2002	61		Revised Case 3	2002
26			2007	62			2007
27			2017	63			2017
28	Qantara	Case 1	2002				
29			2007				
30			2017				
31		Case 2	2002				
32			2007				
33			2017				
34		Revised Case 3	2002				
35			2007				
36			2017				



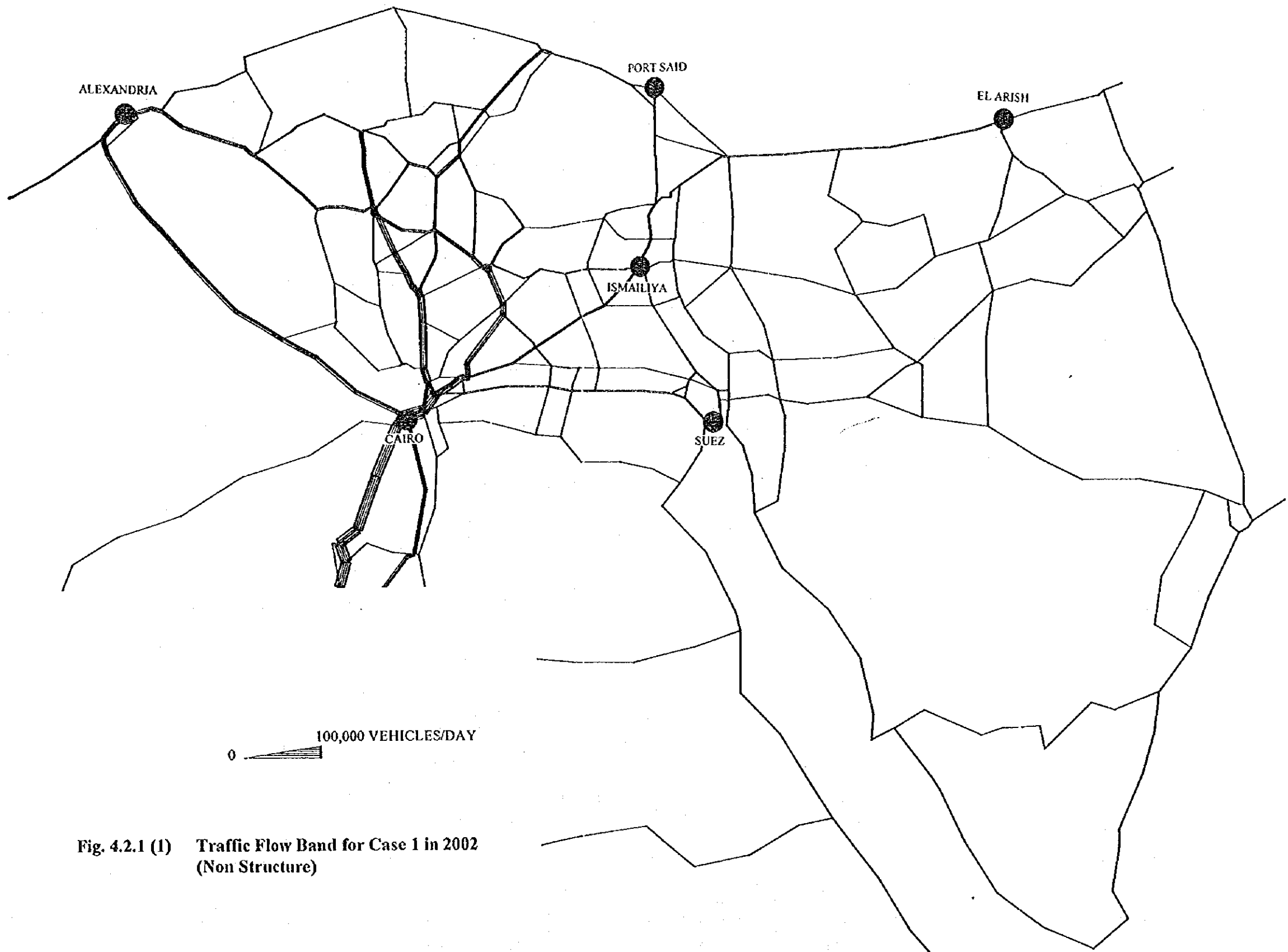


Fig. 4.2.1 (1) Traffic Flow Band for Case 1 in 2002  
(Non Structure)

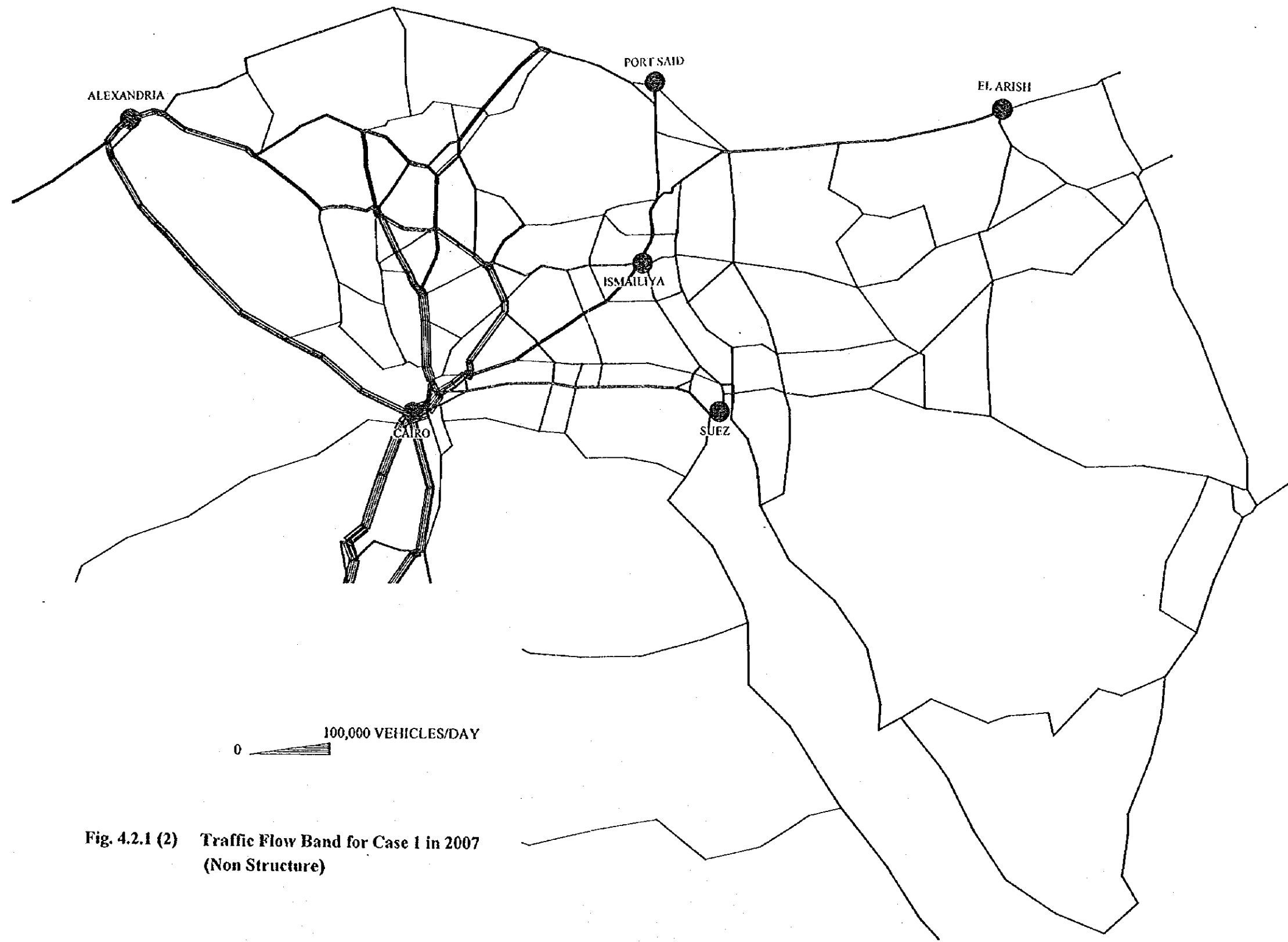


Fig. 4.2.1 (2) Traffic Flow Band for Case 1 in 2007  
(Non Structure)

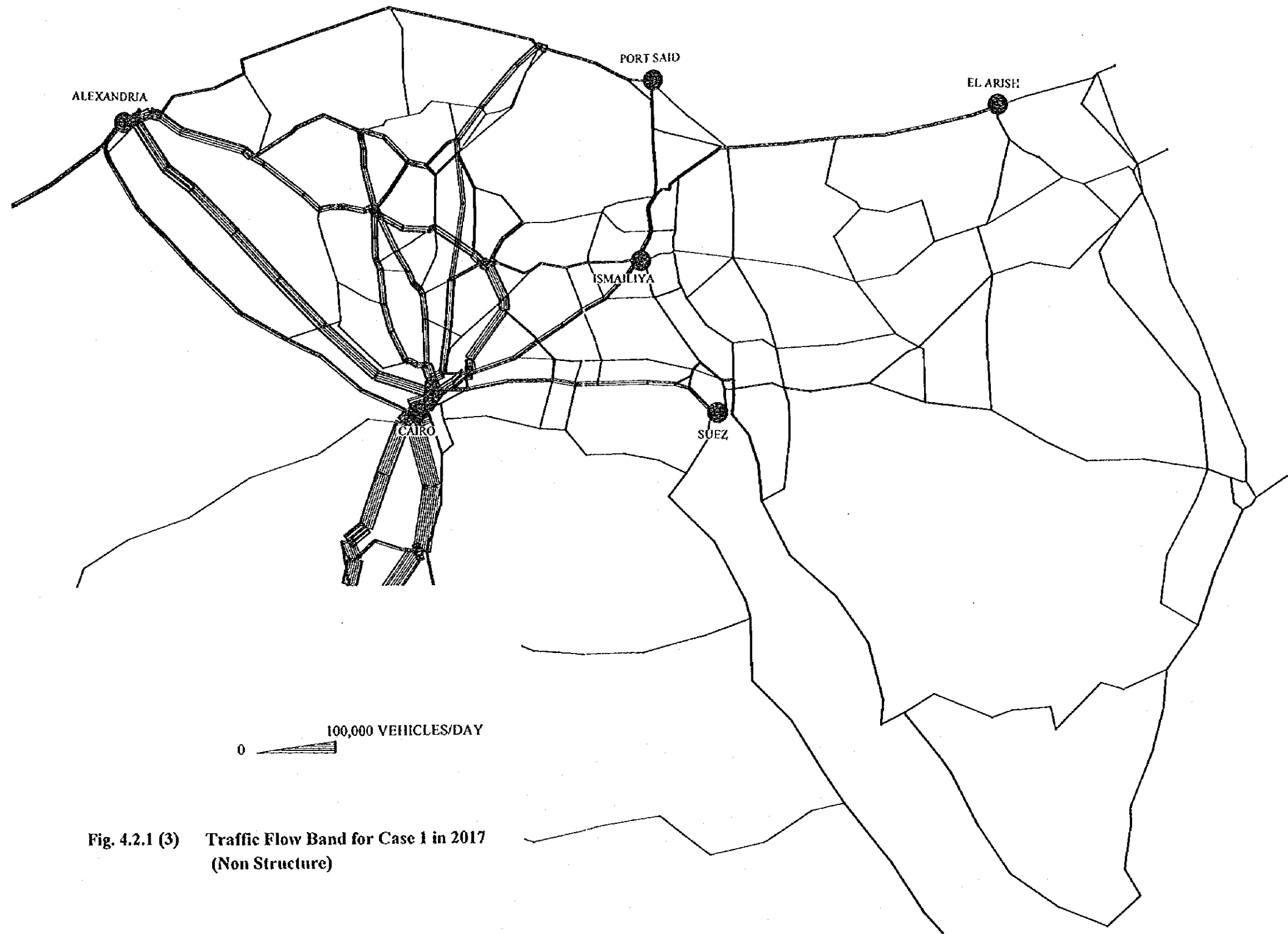


Fig. 4.2.1 (3) Traffic Flow Band for Case 1 in 2017  
(Non Structure)

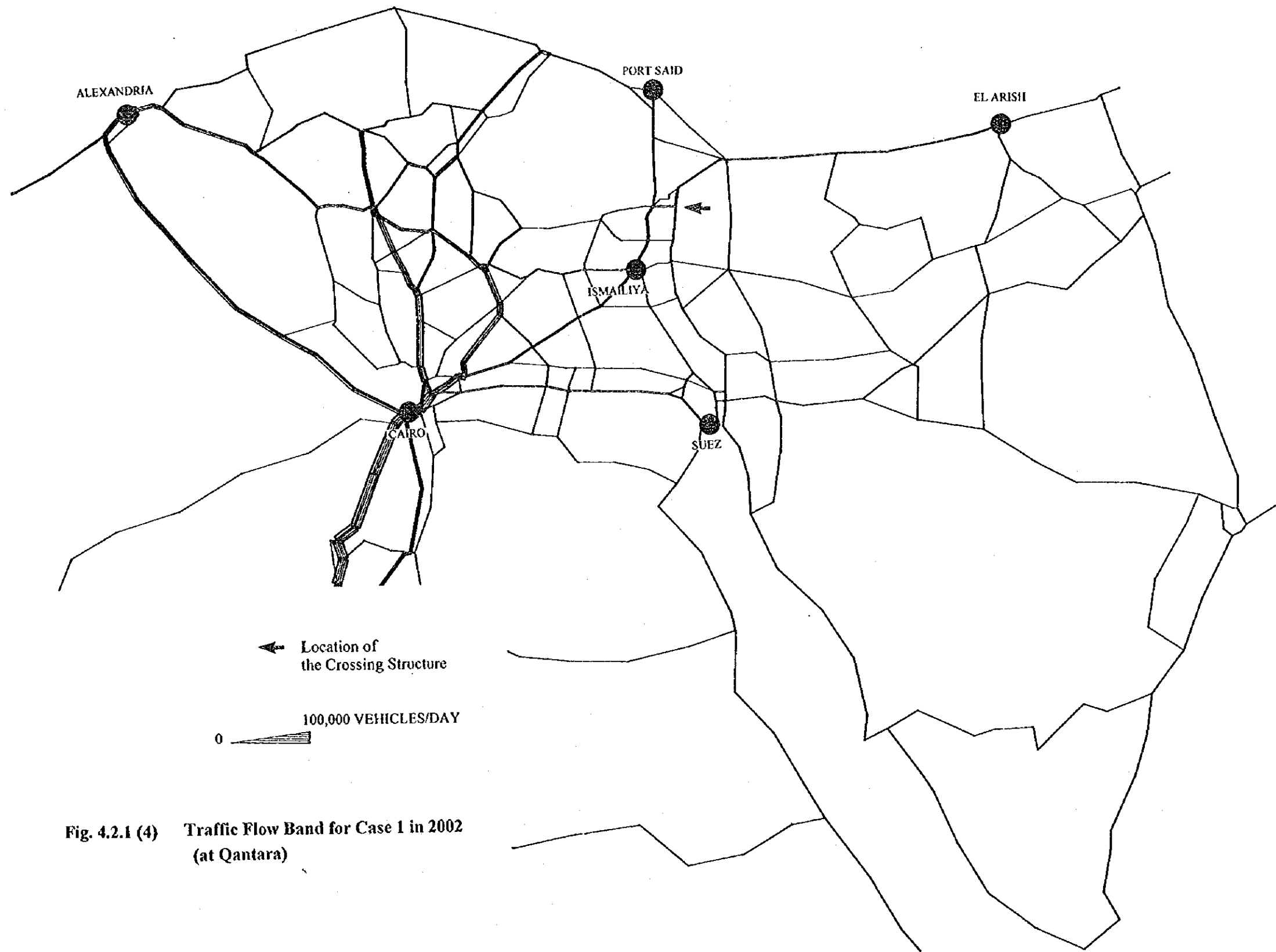


Fig. 4.2.1 (4) Traffic Flow Band for Case 1 in 2002  
(at Qantara)



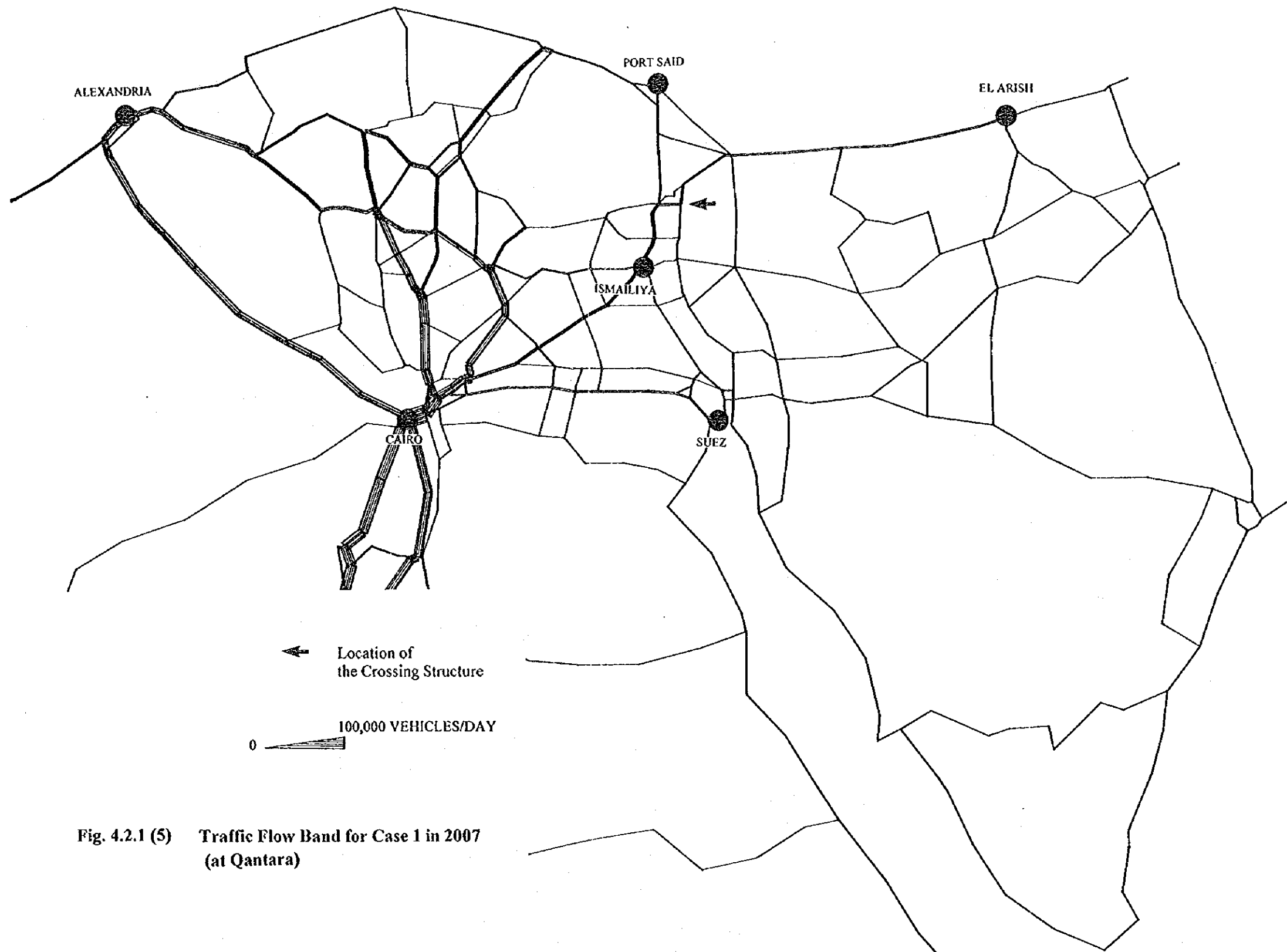


Fig. 4.2.1 (5) Traffic Flow Band for Case 1 in 2007  
(at Qantara)

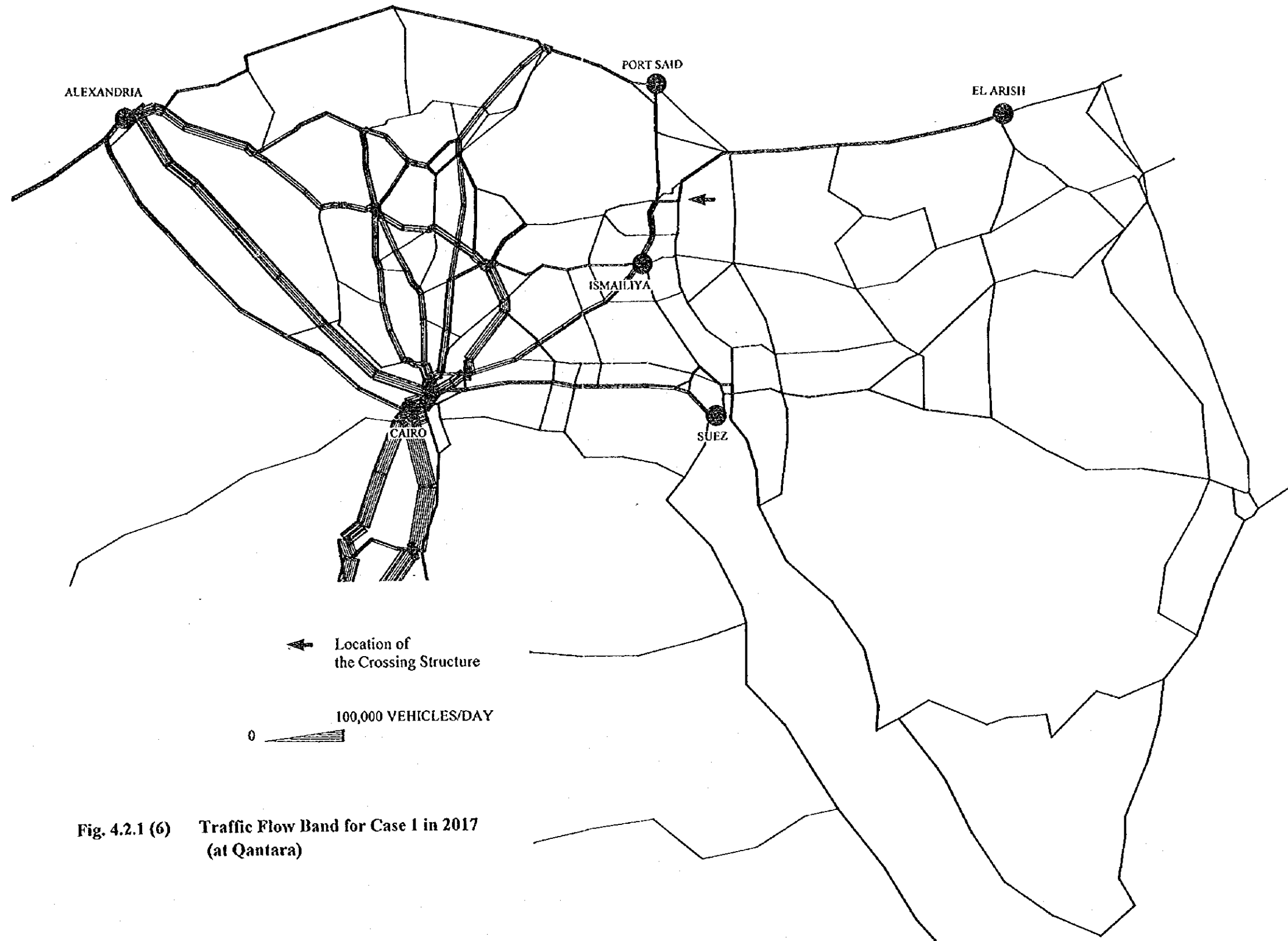


Fig. 4.2.1 (6) Traffic Flow Band for Case 1 in 2017  
(at Qantara)

## **Chapter 6 Crossing Structure Alternatives**

CHAPTER 6 DESIGN REQUIREMENTS

A6.1 Current Design Standards / Codes in Egypt

Table A6.1.1 Monthly Wind Table in Ismailiya ( Frequency of Wind Velocity )

Month	Wind Speed (knts)							
	01-03	04-06	07-10	11-16	17-21	22-27	28-33	34-40
Jan.	1,506	1,438	1,202	763	163	44	8	0
Feb.	1,177	1,496	1,214	845	188	104	8	1
Mar.	1,186	1,618	1,607	1,002	164	57	11	4
Apr.	1,226	1,568	1,754	927	113	28	1	0
May	1,130	1,783	1,901	883	76	23	2	0
June	1,117	1,648	1,808	757	24	5	0	0
July	1,431	1,725	1,929	629	13	2	0	0
Aug.	1,526	1,900	1,815	408	5	2	1	0
Sep.	1,535	1,671	1,616	386	2	0	0	0
Oct.	1,576	1,711	1,402	386	37	30	0	0
Nov.	1,747	1,418	983	425	52	17	0	0
Dec.	1,503	1,410	957	684	114	28	2	0
Total	16,660	19,386	18,188	8,095	950	340	33	5

Source : Egyptian Meteorological Authority, from 1883 to 1992

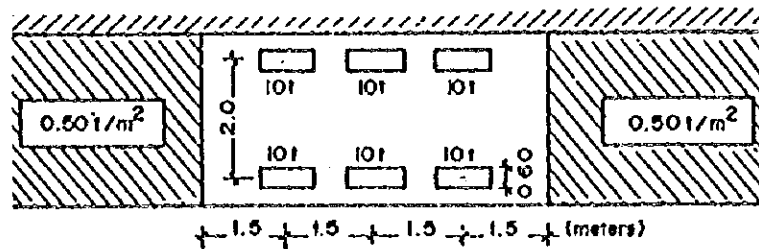
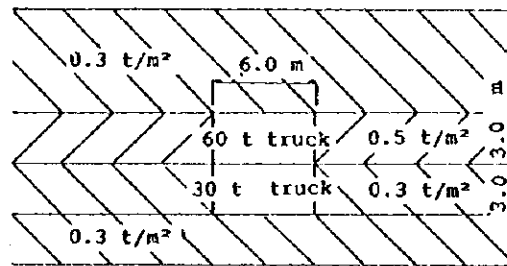


Fig. A6.1.1 Vehicle Load

## **A6.2 Design Standards and Criteria Adopted**

### **A6.2.1 Definitions and Terminology Used for Roads**

The Study Team has adopted the following definitions and terminology for the road crossing the Suez Canal. These definitions are shown in Fig. A6.2.1 and Fig. A6.2.2.

### **A6.2.2 Comparison of Design Criteria**

The Study Team has studied the geometric design criteria for the road crossing the Suez Canal in this phase. The results of the comparison of the different geometric design criteria of the Egyptian and Japanese standards are shown in Table A6.2.1.

### **A6.2.3 Lane Widths**

#### **(1) General**

The Study Team has examined and proposed the lane widths of the road crossing in this phase.

#### **(2) Comparison of Options**

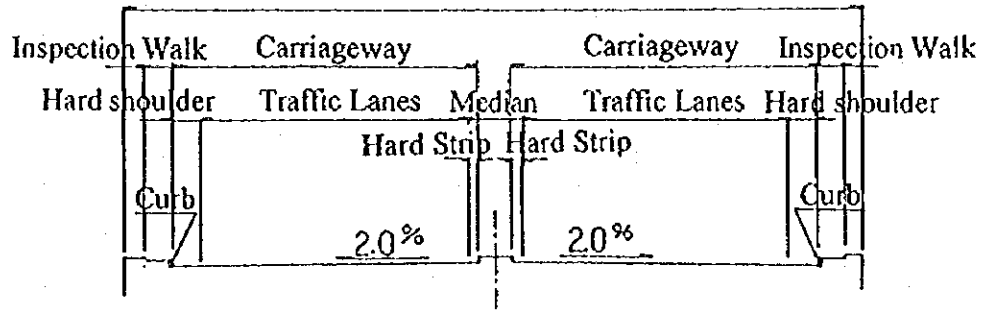
The Study Team compared the merits of the following three lane width options. These options are shown in Fig. A6.2.3 to Fig. A6.2.7 Alternative Cross Sections.

- Option 1 : lane width of 3.65 m based on the Study Team proposal
- Option 2 : lane width of 3.75 m based on the Egyptian standards
- Option 3 : lane width of 3.65 m based on the American standards ( AASHTO )
- Option 4 : lane width of 3.50 m based on the Japanese standard
- Option 5 : lane width of 3.65 m based on the British standard ( BS )

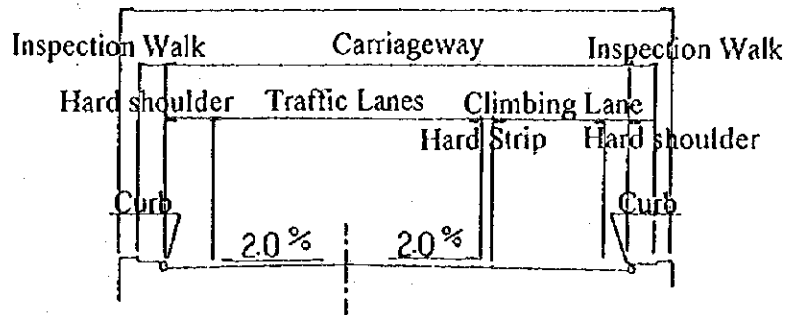
The five options for 4 , 2 and 3 lane road combinations have been compared for each alternative.

#### **(3) Discussion**

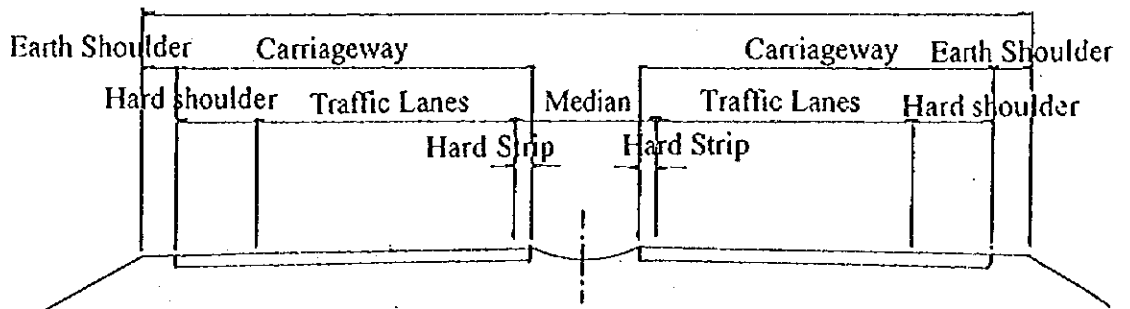
Option 2 has been used on Egyptian roads. The traffic lane widths include hard strips and shoulders, and the carriageway width of this option is narrower than the other options, except for Option 5. This new road crossing of the Suez Canal will become a part of an international highway in the future. Hence, the Study Team proposed the option shown in Fig. A6.2.3 based on AASHTO standards.



**4 Lane Bridge Section**



**3 Lane Bridge Section**



**4 Lane Earthwork Section**

Fig. A6.2.1

**Definitions and Road Terminology**  
 ( Cross Sections )

*THE FEASIBILITY STUDY  
 ON A BRIDGE OVER NORTHERN  
 PART OF THE SUEZ CANAL*

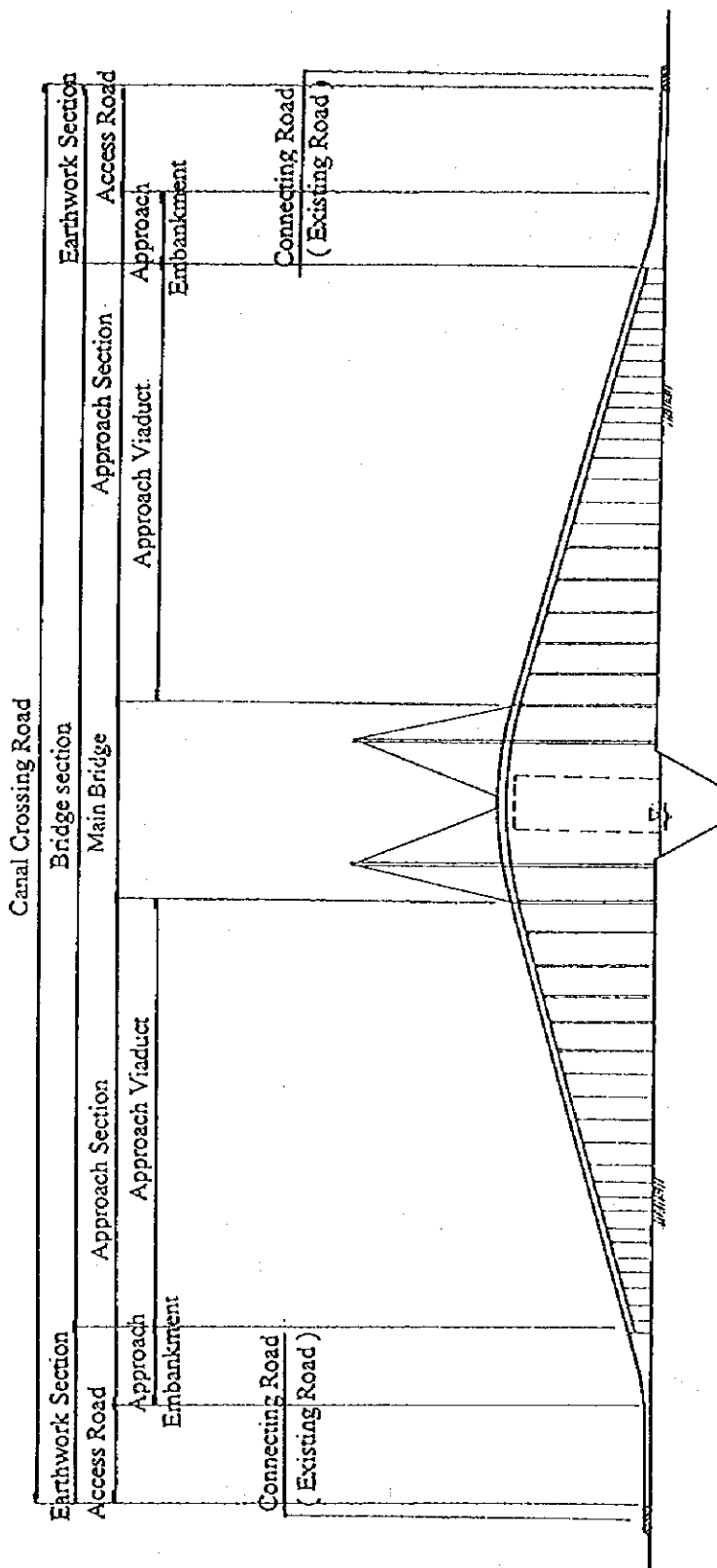


Fig. A6.2.2 Definitions and Road Terminology ( Profile )

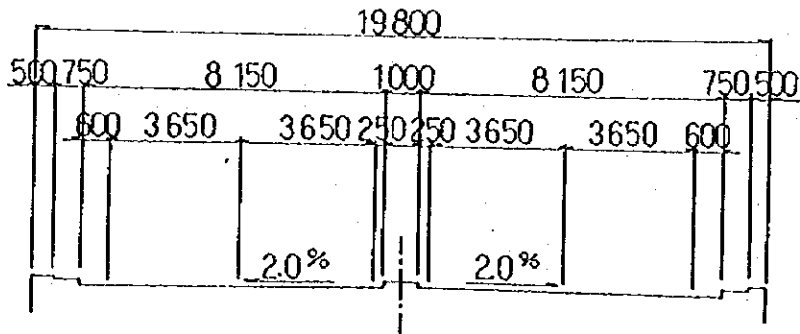
THE FEASIBILITY STUDY  
ON A BRIDGE OVER NORTHERN  
PART OF THE SUEZ CANAL

Table A6.2.1 Comparison of Design Criteria

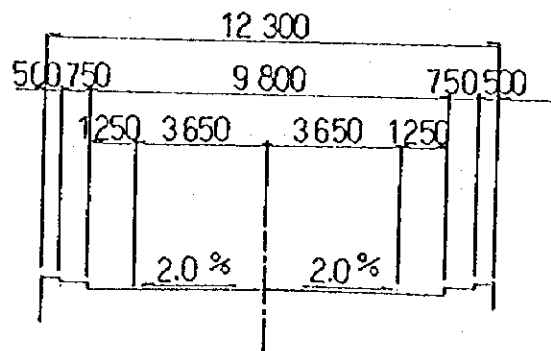
Item	Unit	Design Criteria						Value	Remarks	
		100		80		60				50
Design Speed	Km/hr									
Design Standards		Egyptian	Japanese	Egyptian	Japanese	Egyptian	Japanese	Egyptian	Japanese	Primary Rolling Desert Road
Lane Widths for ;										
1) Traffic Lane	m	3.75	3.50	3.75	3.50	3.75	3.25	3.75	3.00	
2) Additional Lane	m	-	3.00	-	3.00	-	3.00	-	3.00	Climbing Lane
Shoulder Widths for ;										
1) Bridge or Tunnel section : 4 Lanes	m	* 0.00	1.75	* 0.00	0.75	* 0.00	0.50	* 0.00	0.50	* : Egyptian Requirement
2) Bridge or Tunnel section : 2 Lanes	m	* 0.00	1.75	* 0.00	1.25	* 0.00	0.50	* 0.00	0.50	* : Egyptian Requirement
3) Earthwork Section : Elevated	m	* 1.25	2.50	* 1.25	1.25	* 1.25	0.75	* 1.25	0.75	* : Egyptian Requirement For Approach Embankment
4) Earthwork Section : Level	m	2.25	2.50	2.25	1.25	2.25	0.75	2.25	0.75	For Access Road
Strip Width	m	-	0.75	-	0.25	-	0.25	-	0.25	
Median Width	m	3.00	3.00	3.00	1.00	3.00	1.00	3.00	1.00	
Crossfall	%	-	2.0	-	2.0	-	2.0	-	2.0	
Maximum Superelevation	%	-	10.0	-	10.5	-	10.5	-	11.5	
Maximum Vertical Grade	%	4.0	3.0	5.0	4.0	6.0	5.0	7.0	6.0	Rolling Desert Road
Stopping Sight Distance	m	165	160	100	110	75	75	60	55	
Minimum Horizontal Curve Radius	m	350	460	250	280	120	150	80	100	
Minimum Horizontal Curve Radius not Requiring Transition Curve	m	-	3,000	-	2,000	-	1,000	-	700	
Minimum Vertical Curve Radius for :										
1) Crest Curve	m	-	6,500	-	3,000	-	1,400	-	800	
2) Sag Curve	m	-	3,000	-	2,000	-	1,000	-	700	



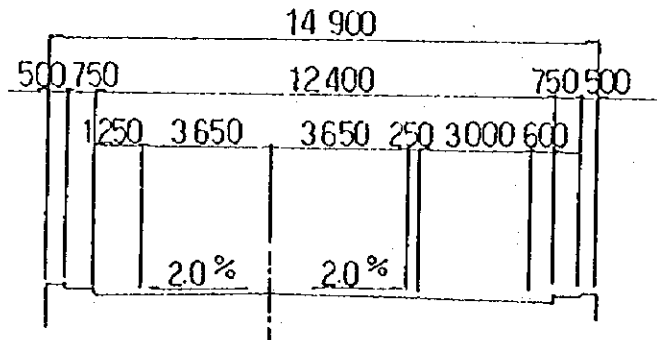
**Option 1**



**4 Lanes for Main Bridge**



**2 Lanes for Main Bridge**

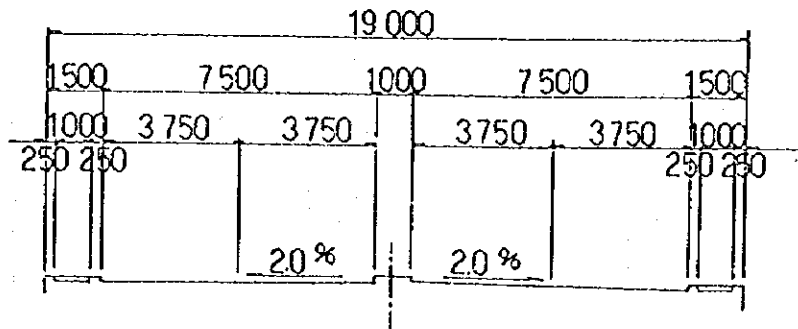


**2 Lanes and 1 Additional Lane for Main Bridge**

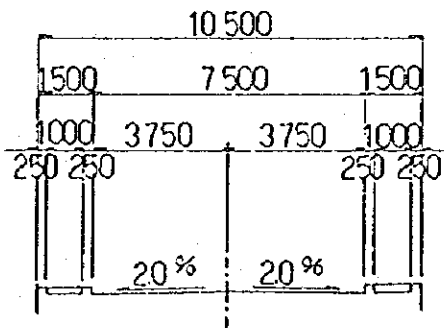
**Alternative Cross Sections**  
**Fig. A6.2.3** of the Main Bridge  
 ( Provisional Proposal of JICA Study Team )

*THE FEASIBILITY STUDY  
 ON A BRIDGE OVER NORTHERN  
 PART OF THE SUEZ CANAL*

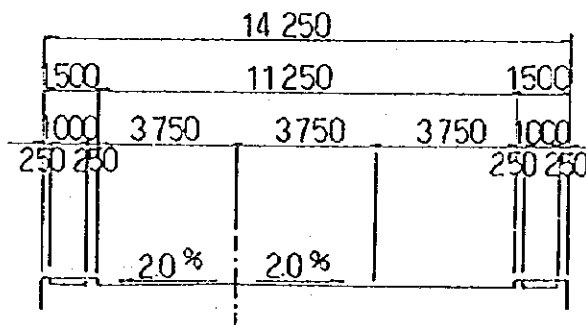
**Option 2**



**4 Lanes for Main Bridge**



**2 Lanes for Main Bridge**

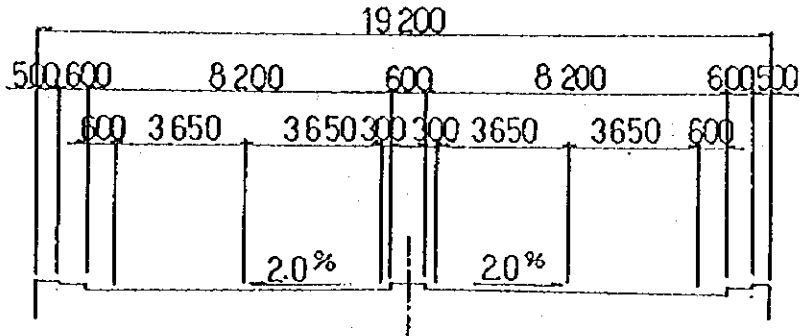


**2 Lanes and 1 Additional Lane for Main Bridge**

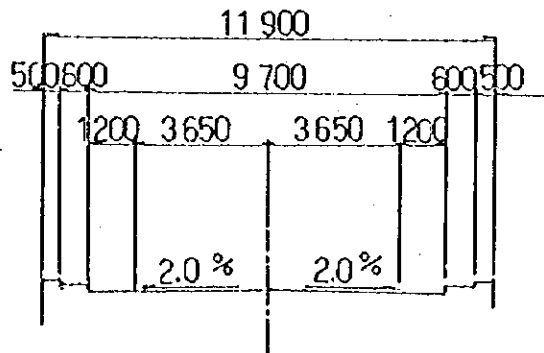
**Alternative Cross Sections**  
**Fig. A6.2.4** of the Main Bridge  
 ( The Requirement of the Egyptian Team )

*THE FEASIBILITY STUDY  
 ON A BRIDGE OVER NORTHERN  
 PART OF THE SUEZ CANAL*

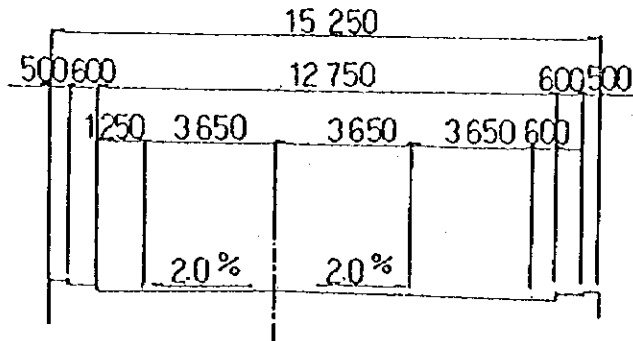
Option 3



4 Lanes for Main Bridge



2 Lanes for Main Bridge

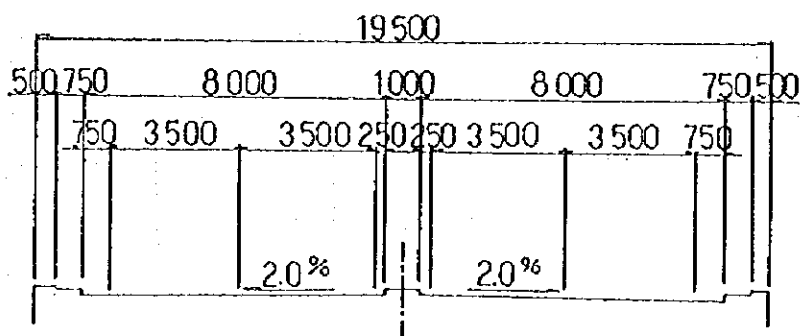


2 Lanes and 1 Additional Lane for Main Bridge

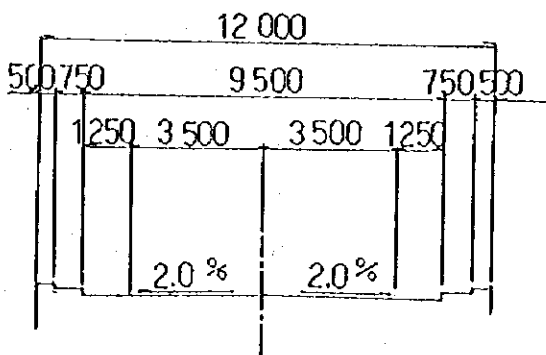
Alternative Cross Sections  
 Fig. A6.2.5 of the Main Bridge  
 ( Based on the American Standard )

THE FEASIBILITY STUDY  
 ON A BRIDGE OVER NORTHERN  
 PART OF THE SUEZ CANAL

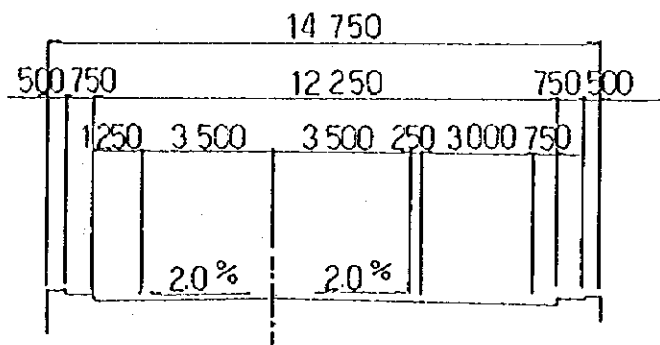
Option 4



4 Lanes for Main Bridge



2 Lanes for Main Bridge



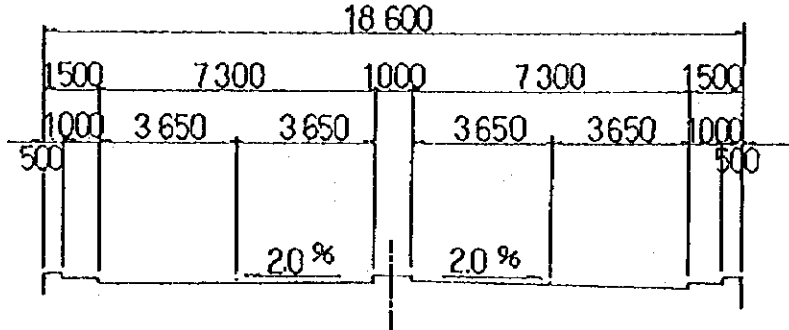
2 Lanes and 1 Additional Lane for Main Bridge

Fig. A6.2.6

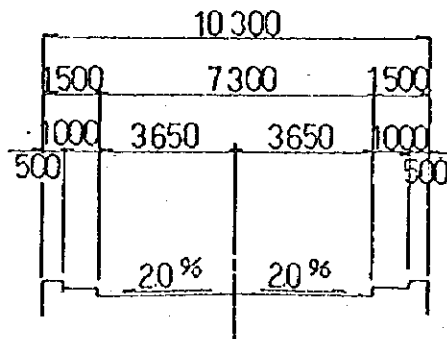
Alternative Cross Sections  
of the Main Bridge  
(Based on the Japanese Standard)

THE FEASIBILITY STUDY  
ON A BRIDGE OVER NORTHERN  
PART OF THE SUEZ CANAL

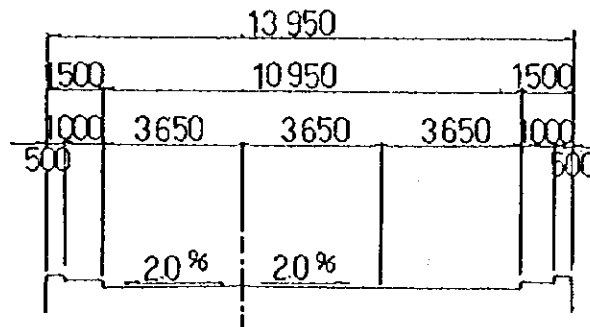
Option 5



4 Lanes for Main Bridge



2 Lanes for Main Bridge



2 Lanes and 1 Additional Lane for Main Bridge

Alternative Cross Sections  
 Fig. A6.2.7 of the Main Bridge  
 ( Based on the British Standard )

THE FEASIBILITY STUDY  
 ON A BRIDGE OVER NORTHERN  
 PART OF THE SUEZ CANAL

#### **A6.2.4 Arrangement of Traffic Lanes**

##### **(1) General**

The Study Team has examined the combinations and the number of lanes of the proposed road crossing in this phase. This comparison of the number of lanes is shown in Table A6.2.2.

##### **(2) Comparison of Options**

The Study Team compared the merits of the following six traffic lane arrangements. These arrangements are shown in Fig. A6.2.8 to Fig. A6.2.13.

- Option 1 : 4 lanes for main bridge and approach viaducts
- Option 2 : 2 lanes for main bridge and approach viaducts
- Option 3 : 4 lanes for main bridge and 2 lanes for approach viaducts
- Option 4 : 4 lanes for main bridge and 3 lanes for approach viaducts
- Option 5 : 2 lanes for main bridge and 3 lanes for approach viaducts
- Option 6 : 3 lanes for main bridge and approach viaducts

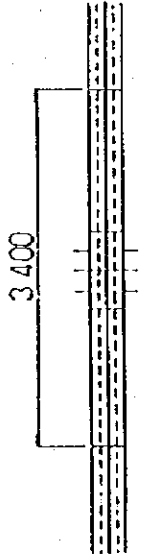
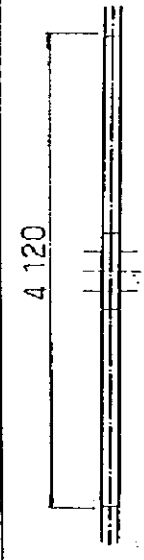
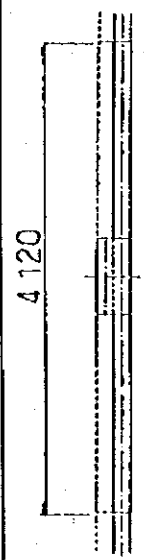
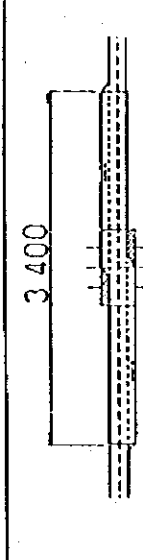
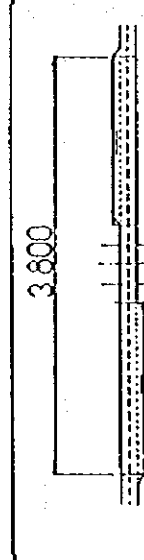
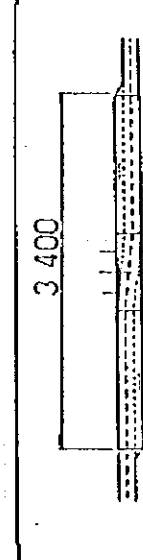
##### **(3) Outline Description of Options**

- Options 1 and 2 show conventional arrangement of 4 or 2 lanes over the Canal.
- Option 3 shows a phased construction option. The 2 lanes of the approach sections are constructed initially and the other 2 lanes are constructed at a later stage, when required.
- Options 4 through 6 include a climbing lane for slow vehicles.

##### **(4) Discussion**

In general, the number of lanes is selected based upon the projected traffic demand and other related factors. The number of lanes has been studied in this phase base on the data of the future traffic demand projected in Phase 2 and will be decided by discussion with the Egyptian Team after this phase based on the results of this study. The Study Team believe that a 4 lane road (Option 1) will be the most suitable for smooth traffic flow. However, Option 1 will be the most costly to construct. A phased construction type (Option 3) will be the second choice if the Option 1 is considered to be too expensive to construct.

Table A6.2.2 Comparison of Number of Lanes

Alternatives	Plan	Lane No. and Width (Vertical Grade)		Comments	Bridge Area (m <sup>2</sup> ) (Length : m.)			Priority
		Main	Approach		Main Br.	Approach	Total	
Option 1 4 Lanes for Main Bridge and Approach Viaducts		4 Lanes 18.8 m (4.0%)	4 Lanes 18.8 m (4.0%)	The most preferable for traffic operation, but the highest construction cost.	12,600 (670)	53,300 (2,730)	63,900 (3,400)	High
Option 2 2 Lanes for Main Bridge and Approach Viaducts		2 Lanes 11.3 m (3.3%)	2 Lanes 11.3 m (3.3%)	The cheapest alternative, but it is not preferable for traffic. A lower vertical grade is required for slow vehicles.	7,600 (670)	39,000 (3,450)	46,600 (4,120)	Low
Option 3 4 Lanes for Main Bridge and 2 Lanes for Approach Viaducts		4 Lanes 18.8 m (3.3%)	2 Lanes 11.8 m (3.3%)	2 lanes of the 4 lane approach viaducts are constructed at the initial stage. The initial construction cost is lowest (Phase Construction)	12,600 (670)	39,000 (3,450)	51,600 (4,120)	High
Option 4 4 Lanes for Main Bridge and 3 Lanes for Viaducts		4 Lanes 18.8 m (4.0%)	3 Lanes 13.9 m (4.0%)	A climbing lane is provided for slow vehicles on the approach sections. 4 lanes on the main bridge.	12,600 (670)	37,900 (2,730)	50,500 (3,400)	Medium
Option 5 2 Lanes for Main Bridge and 3 Lanes Approach Viaducts		2 Lanes 11.8 m (2.0%)	3 Lanes 13.9 m (4.0%)	A climbing lane is provided for slow vehicles on the approach sections. 4 lanes on the main bridge.	7,600 (670)	43,500 (3,130)	51,100 (3,800)	Low
Option 6 3 Lanes for Main Bridge and Approach Viaducts		3 Lanes 13.9 m (4.0%)	3 Lanes 13.9 m (4.0%)	A traffic lane shift on the main bridge. It is not preferable for traffic.	9,300 (670)	38,000 (2,730)	47,300 (3,400)	Low

Option 1 ( 4 Lanes for Main Bridge and Approach Viaduct )

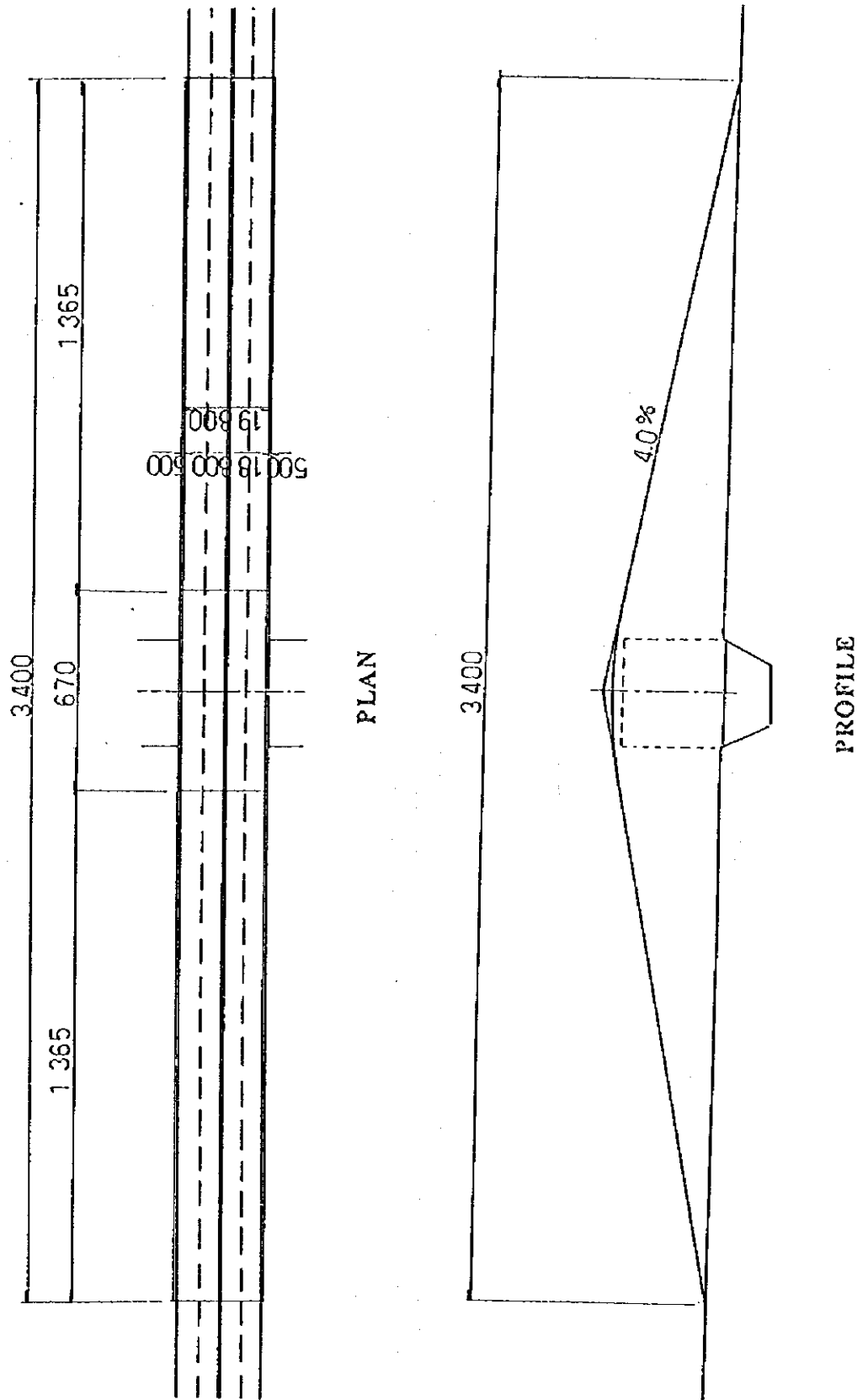


Fig. A6.2.8 Traffic Lane Alternative - Option 1

THE FEASIBILITY STUDY  
ON A BRIDGE OVER NORTHERN  
PART OF THE SUEZ CANAL



Option 2 ( 2 Lanes for Main Bridge and Approach Viaduct )

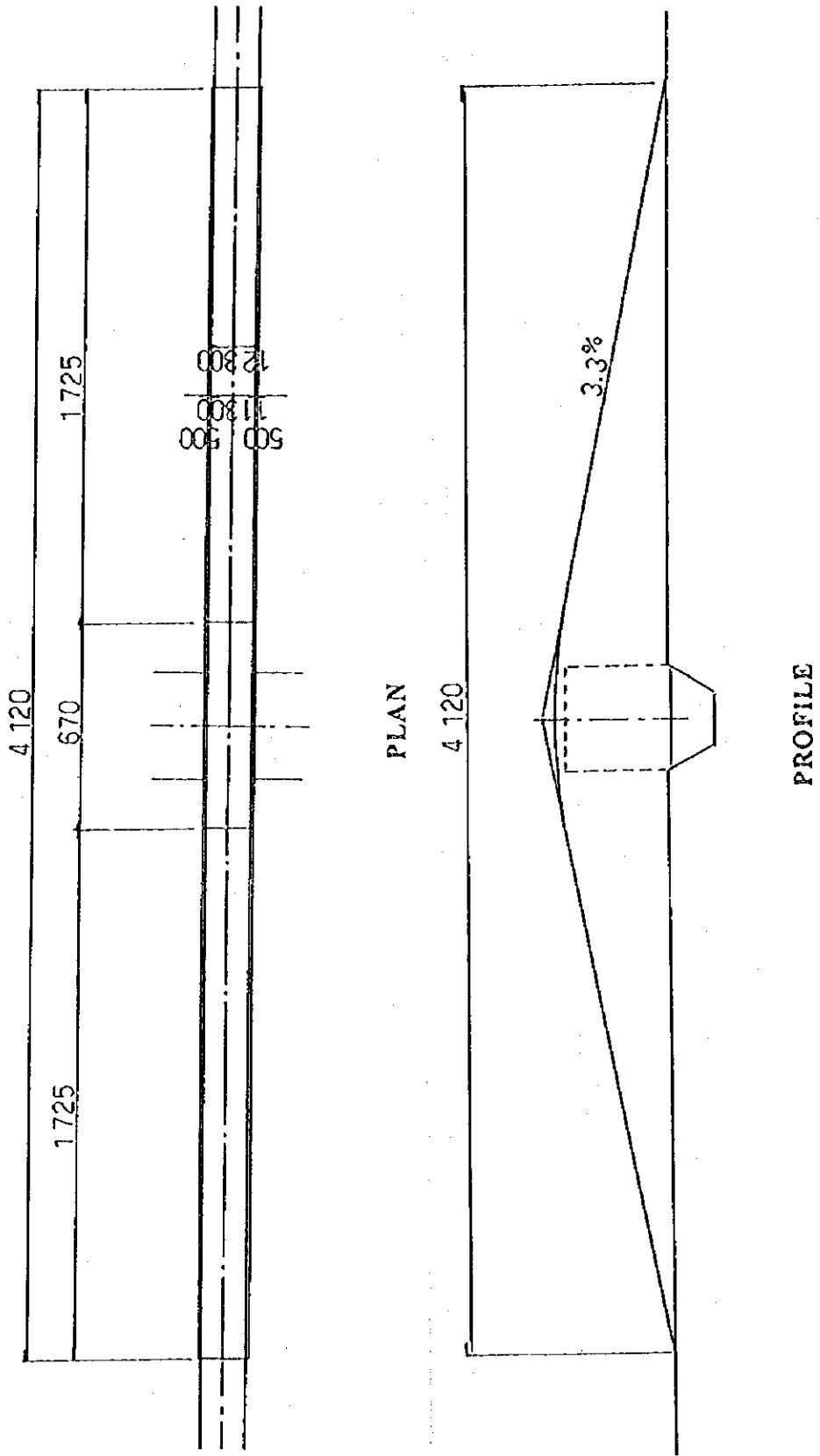


Fig. A6.2.9 Traffic Lane Alternative - Option 2

THE FEASIBILITY STUDY  
ON A BRIDGE OVER NORTHERN  
PART OF THE SUEZ CANAL

Option 3 ( 4 Lanes for Main Bridge and 2 Lane for Approach Viaduct : Phase Construction )

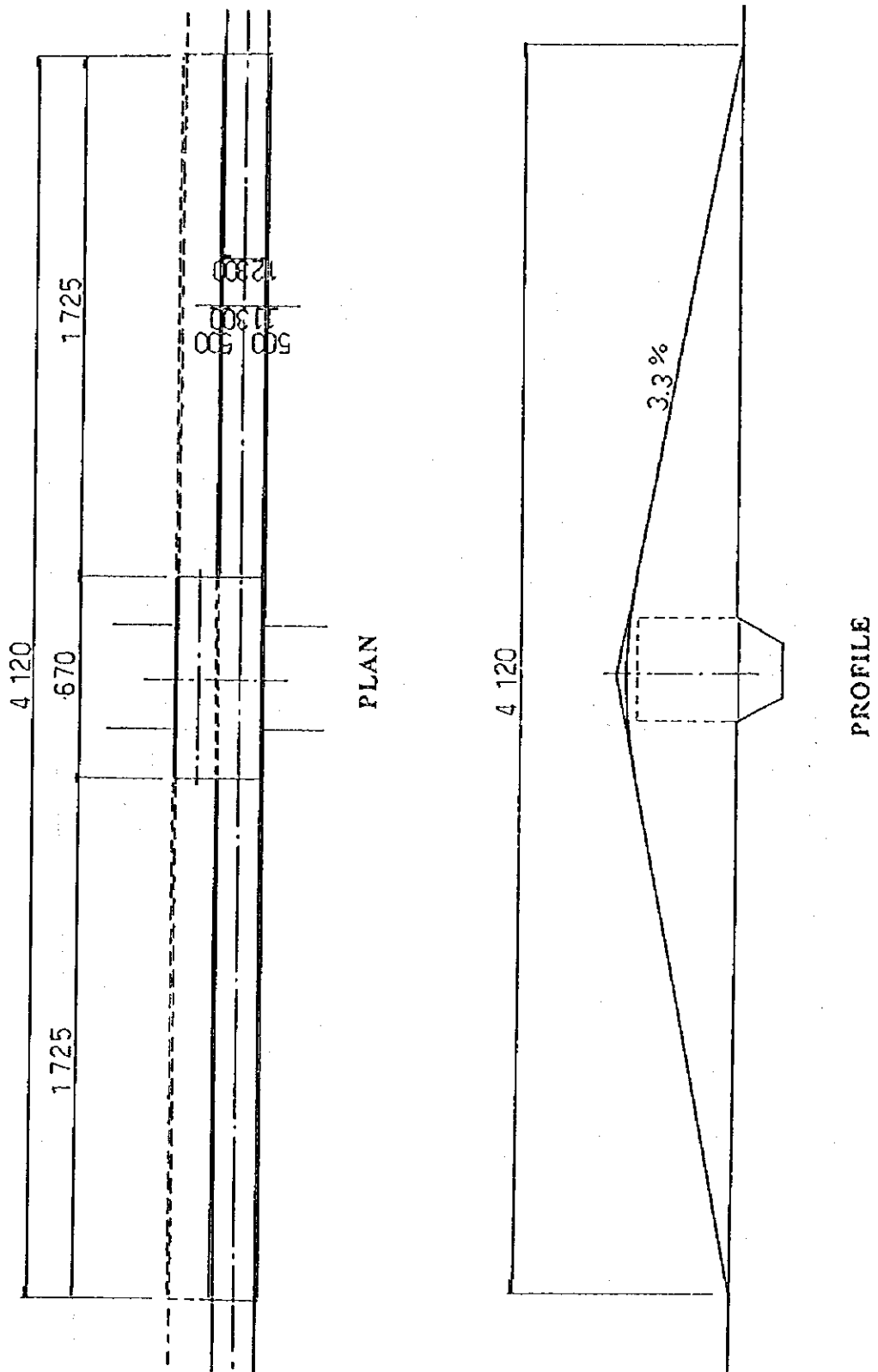


Fig. A6.2.10 Traffic Lane Alternative - Option 3

THE FEASIBILITY STUDY  
ON A BRIDGE OVER NORTHERN  
PART OF THE SUEZ CANAL

Option 4 ( 4 Lanes for Main Bridge and 3 Lane for Approach Viaduct )

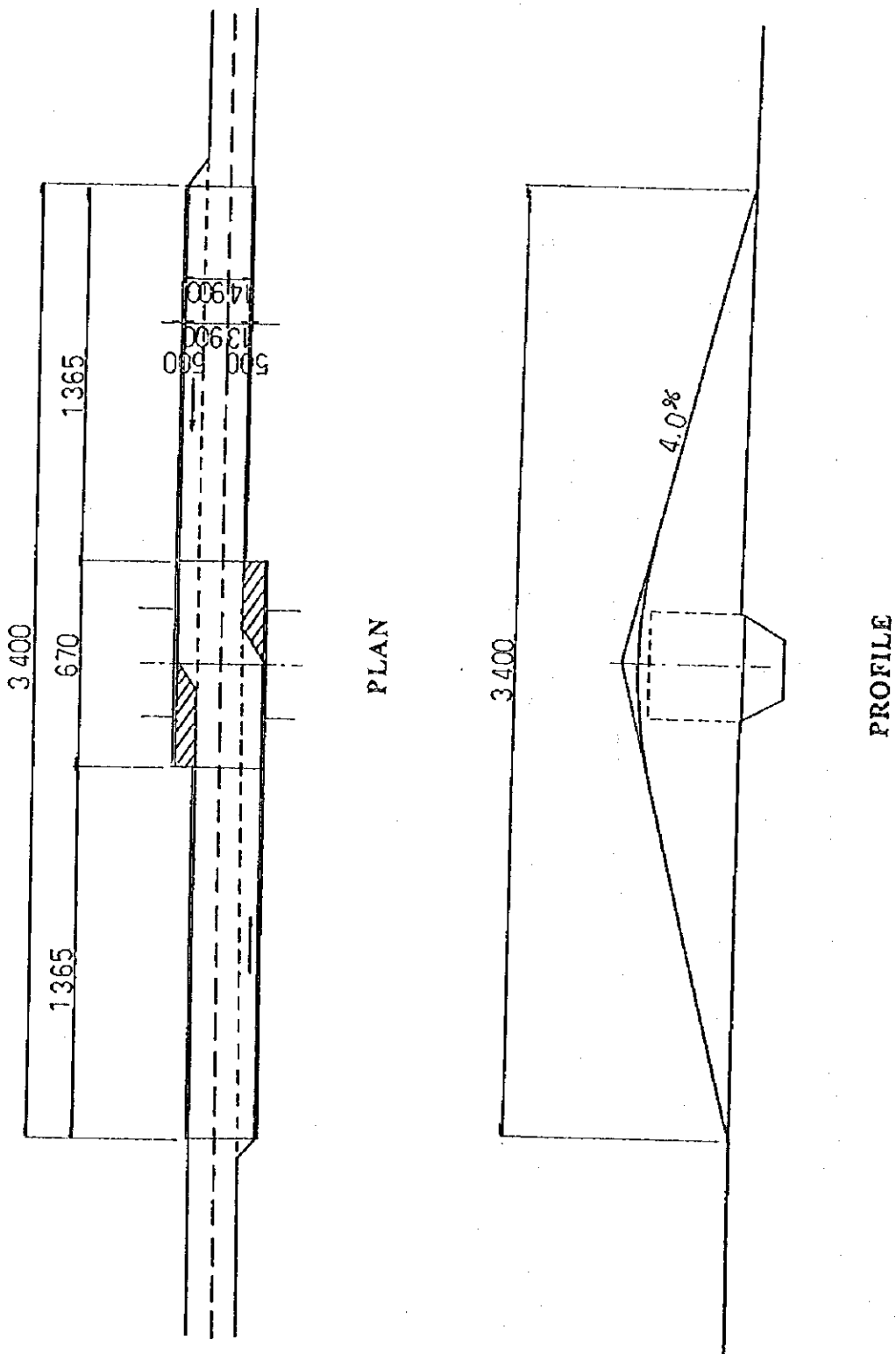


Fig. A6.2.11 Traffic Lane Alternative - Option 4

THE FEASIBILITY STUDY  
ON A BRIDGE OVER NORTHERN  
PART OF THE SUEZ CANAL

Option 5 ( 2 Lanes for Main Bridge and 3 Lane for Approach Viaduct )

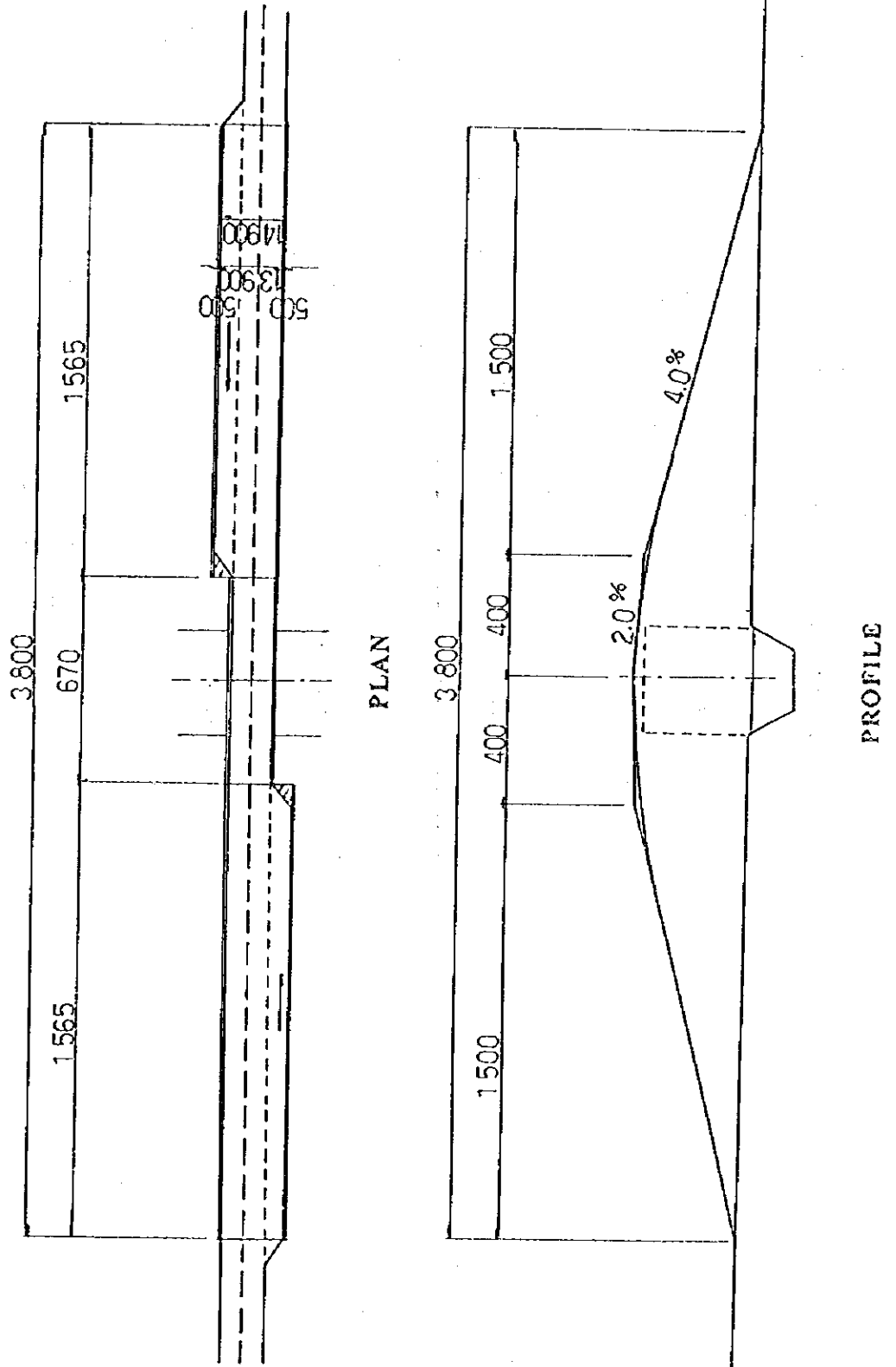


Fig. A6.2.12 Traffic Lane Alternative - Option 5

THE FEASIBILITY STUDY  
ON A BRIDGE OVER NORTHERN  
PART OF THE SUEZ CANAL

Option 6 ( 3 Lanes for Main Bridge and Approach Viaduct )

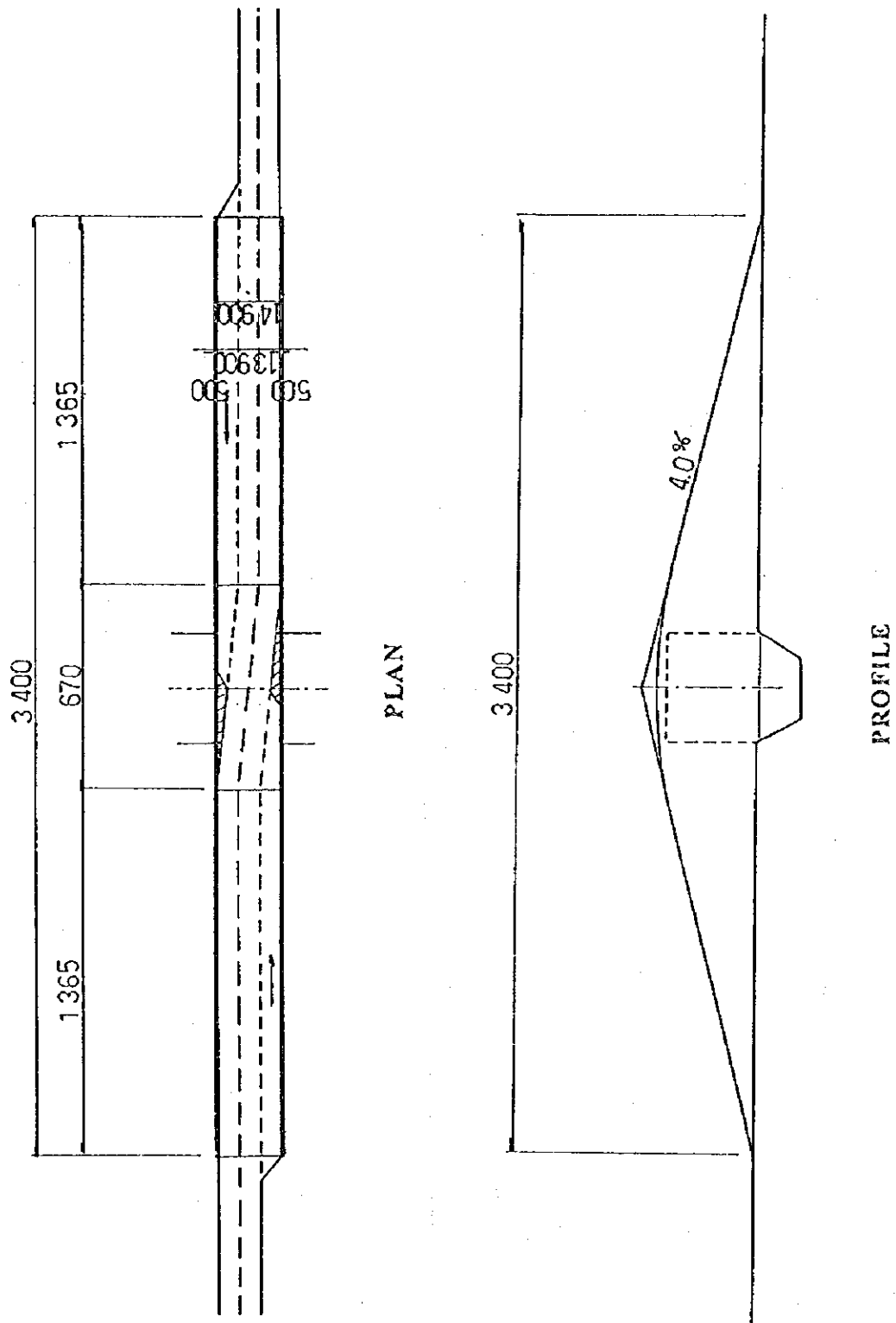


Fig. A6.2.13 Traffic Lane Alternative - Option 6

THE FEASIBILITY STUDY  
ON A BRIDGE OVER NORTHERN  
PART OF THE SUEZ CANAL