ESTIMATION OF TERMINATING TRAFFIC VOLUME

AND

ENGINEERING STUDIES ON AN INTERCHANGE AT S. HILL

December, 1978

Japan International Cooperation Agency (JICA)

INTRODUCTION

In this Report, the incremental traffic volume generated from Pointe aux Sables area has been estimated by taking into consideration the revised plan of the Pointe aux Sables Development Project worked out by the Government of Mauritius after completion of the Feasibility Study; the engineering study on a countermeasure for traffic generated at S. Hill has been made in terms of its estimation.

Accordingly, this Report is unrelated to the link road described in the Feasibility Study Report, however it has been made for reference.

CONTENTS

ESTIMATION OF TERMINATING TRAFFIC VOLUME AND ENGINEERING STUDIES ON AN INTERCHANGE AT S. HILL

1. General

As stated in Section 2.4, Chapter IV of the Feasibility Study Report for Beau Bassin-Port Louis Link Road, multifarious industrial and housing development projects are being worked out for the project area. In this study, future traffic volume to be generated by the implementation of those development projects has been projected by taking into consideration forecasts of future population and working population of the project zone, assuming that the projects will be carried out according to the given schedules.

This section deals only with the development project for the Pointe aux Sables area, the biggest of the projects worked out for the project area, and analyzes possible impacts of this project on the project road.

2. Outline of the Development Project

As can be seen from Fig. 2-1 and Table 2-1, the Pointe aux Sables development project is a community development project aiming primarily at housing development and partly involving industrial estate development.

According to the original development plan, the population of the project zone has been estimated at about 20,000 (4,200 dwelling houses) and the industrial population at about 4,000. The Terms of Reference for the feasibility study on the Pointe aux Sables development project, which has just got under way, has assumed a population of 60,000 for the project area. The industrial population forecast seems to remain unchanged.

Fig. 2-1 Pointe aux Sables;
Development Concept Plan

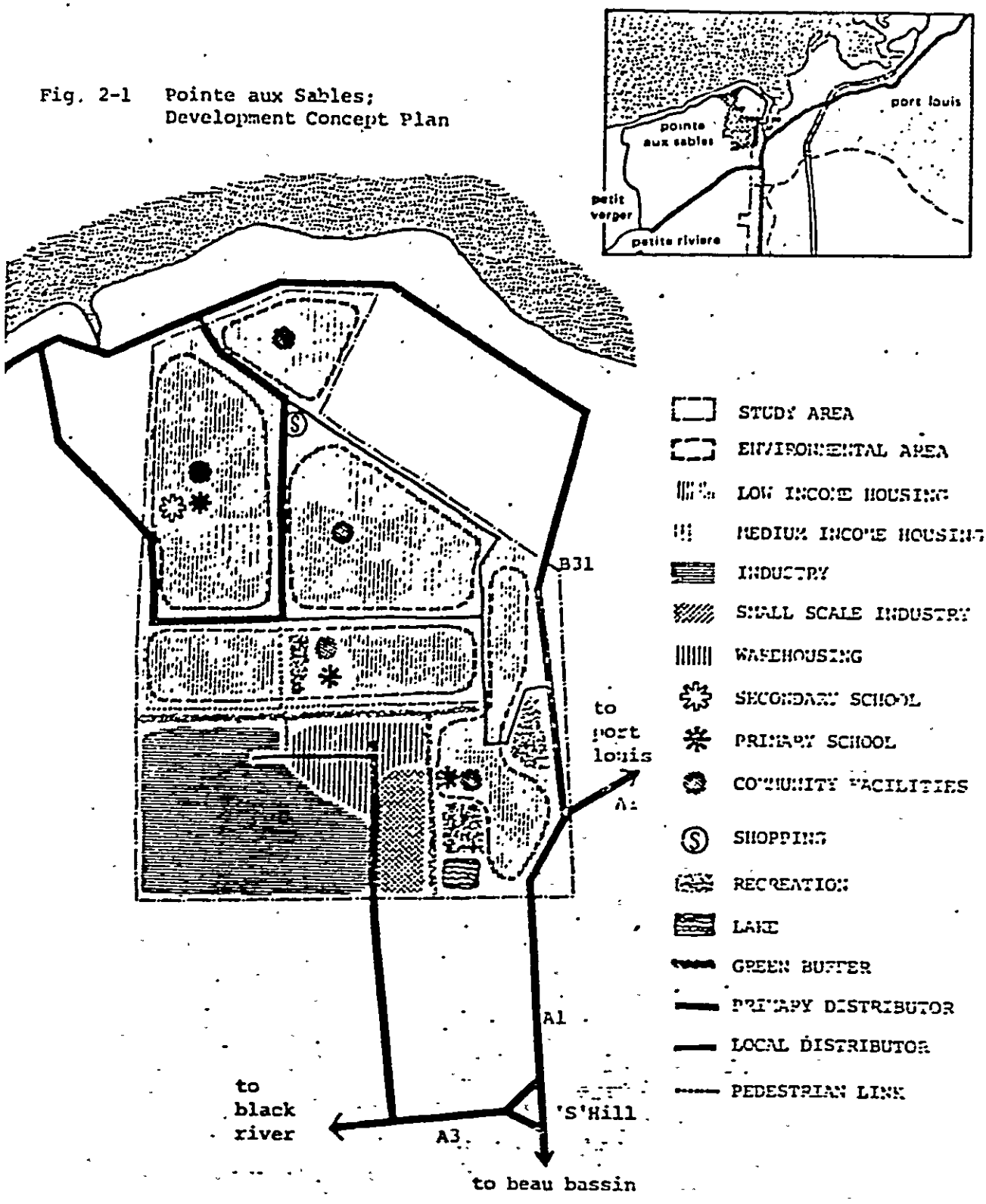


Table 2-1 Land Use in Pointe aux Sables Development Project

Land use	Area		
	Acre	Ha.	(%)
Industrial development	50	20.2	(22.7)
Warehousing and transit shed	20	8.1	(9.1)
Small-scale industries	10	4.0	(4.5)
Housing	140	56.7	(63.7)
Total:	220	89.0	(100.0)

3. Preconditions for Traffic Projection

Some of the preconditions for traffic projection are as follows:

(1) The base year used for its projection is 1992;

(2) The rate of progress of the development project in 1992 is assumed to be 90% for residential areas and 100% for industrial estates; and

(3) The projected population under the original development plan is assured to be 2,000 for residential areas and 4,000 for industrial estates and that under the revised plan is assured to be 60,000 for residential areas and 4,000 for industrial estates.

4. Estimation of Originating Traffic Volume

In estimating originating traffic volume, the number of vehicles per hectare of land used have been adopted. There are no partinent data available in Mauritius. The number of vehicle per hectare of land used varies appreciably with the character and location of housing and industrial development projects and other relevant factors. Based on the anticipation that the Pointe aux Sables development project will

create substantial employment opportunities, the number of vehicles per hectare of land is assumed to be 40 vehicles per hectare per day for industrial estates and 100 vehicles per hectare per day (if the projected population is 20,000) and 300 vehicles per hectare per day (assuming the projected population to be 60,000). Originating and terminating traffic volumes in residential areas and industrial estates are as follows:

Original plan (population: 20,000)

Industrial estates

40 vehicles/ha/day × 32.3 ha = 1,292 vehicles/day

Residential areas

100 vehicles/ha/day × 56.7 ha × 0.9
= 5,104 vehicles/day

TOTAL: 6,396 vehicles/day

Revised plan (population: 60,000)

Industrial estates

40 vehicles/ha/day × 32.3 ha = 1,292 vehicles/day

Residential areas

300 vehicles/ha/day × 56.7 ha × 0.9 ≒ 15,312 vehicles/day

TOTAL: 16,604 vehicles/day

Of the projected vehicular traffic volumes, the traffic volume in the P/L direction has already been included in the "Report" under the assumption that the projected population is 20,000. After deducting this traffic volume, the traffic volume in the B/B direction and the additional traffic volume resulting from the revision of the original plan are as follows:

Traffic volume in B/B direction under original plan

Originating traffic volume = 3,198 - 1,586[1)]	= 1,612 vehicles/day
Terminating traffic volume = 3,198 - 1,910[2)]	= 1,288 vehicles/day
TOTAL: 6,396 - 3,496	= 2,900 vehicles/day

Additional traffic volume resulting from revision of original plan (in all directions)

Originating traffic volume = 8,302 - 1,586[1)]	= 6,716 vehicles/day
Terminating traffic volume = 8,302 - 1,910[2)]	= 6,392 vehicles/day
TOTAL: 16,604 - 3,496	= 13,108 vehicles/day

Notes: 1. Originating traffic volume in the corresponding zone (08A) (in P/L direction only) - originating traffic volume in the existing urban area of the corresponding zone (08A) (in P/L direction only)
= 1,762 - 1,762 × 0.1 = 1,586

2. Terminating traffic volume: 2,122 - 2,122 × 0.1 = 1,910

Table 4-1 shows the originating and terminating traffic volumes classified by time zones and vehicle types under the development projects. These traffic volumes are based on data for similar zones.

Table 4-1 Originating and Terminating Traffic

		Type of vehicle	Under original plan (20,000) Morning	Evening	Off-peak	Total	Under revised plan (60,000) Morning	Evening	Off-peak	Total
Industrial estate	Originating traffic	Car	6	59	86	151	6	59	86	151
		Van	4	6	86	96	4	6	86	96
		Truck	6	-	73	79	6	-	73	79
		Total	16	65	245	326	16	65	245	326
	Terminating traffic	Car	39	5	68	112	39	5	68	112
		Van	10	7	68	85	10	7	68	85
		Truck	3	1	59	63	3	1	59	63
		Total	52	13	195	260	52	13	195	260
Residential area	Originating traffic	Car	244	59	859	1,162	1,214	294	4,265	5,773
		Van	8	4	58	70	38	19	288	345
		Truck	5	1	48	54	26	7	239	272
		Total	257	64	965	1,286	1,278	320	4,792	6,390
	Terminating traffic	Car	25	185	706	916	151	1,107	4,209	5,467
		Van	6	8	56	70	33	47	335	415
		Truck	-	2	40	42	-	11	239	250
		Total	31	195	802	1,028	184	1,165	4,783	6,132
Total	Originating traffic	Car	250	118	945	1,313	1,220	353	4,351	5,924
		Van	12	10	144	166	42	25	374	441
		Truck	11	1	121	133	32	7	312	351
		Total	273	129	1,210	1,612	1,294	385	5,037	6,716
	Terminating traffic	Car	64	190	774	1,028	190	1,112	4,277	5,579
		Van	16	15	124	155	43	54	403	500
		Truck	3	3	99	105	3	12	298	313
		Total	83	208	997	1,288	236	1,178	4,978	6,392
Total			356	337	2,207	2,900	1,530	1,563	10,015	13,108

5. Projection of Distributed Traffic Volume

5.1 Method of Projection

Distributed traffic volume will be projected on the basis of a gravity model built on the existing OD table.

The general formular of gravity model is as follows:

$$Tij = x\ Gi \cdot Aj \cdot Dij^{-r}$$

where Tij = number of trips between zones i and j.
Gi = originating traffic volume in zone i
Aj = terminating traffic volume in zone j
Dij = distance between zones i and j.

The existing OD table has been prepared on the basis of roadside OD table and does not show the originating and terminating traffic volumes in the respective zones. Therefore, the following equation with assumed explanatory variables has been set up by taking into consideration such potential indicators of traffic attraction forces for the respective zones as population and working population:

$$Tij = a \cdot X^{b} \cdot D^{c}$$

where Xij: As described in the following table
a,b,c: Parameters

Potential indicators by vehicle types and time zones.

Type of Vehicle	Time zone	Originating traffic volume	Terminating traffic volume
Passenger car	Morning peak	Population	Working population
	Evening peak	Working population	Population
	Off-peak	Population	Population
Truck	Entire time zone	Working population	Working population

From the foregoing assumptions, the following distribution model has been obtained.

$$Tij=a \cdot X^{b} \cdot D^{c}$$

		log a	a	b	c	R
Car	Morning	0.9837	9.632	0.639	-1.387	0.619
	Evening	1.0859	12.187	0.411	-0.457	0.305
	Off-peak	1.1929	15.592	0.864	-1.802	0.672
Van	Morning	0.7772	5.987	0.347	-0.856	0.600
	Evening	0.3120	2.051	0.329	-0.448	0.378
	Off-peak	0.9697	9.326	0.666	-1.169	0.685
Truck	Morning	0.1690	4.159	0.563	-0.967	0.648
	Evening	-0.3613	0.435	0.685	-0.852	0.525
	Off peak	0.9150	8.222	0.623	-1.005	0.638

5.2 Results of Traffic Projection

Using the above equation, the following distribution patterns have been determined for the traffic volumes in the residential areas and industrial estates in 1992.

Table 5-1 Distributed Traffic Volume in Residential Areas under Original Plan (population: 20,000)

	Zone	Originating Traffic Volume				Terminating Traffic Volume			
		Car	Van	Truck	Total	Car	Van	Truck	Total
Morning peak	1,18	-	-	-	-	-	-	-	-
	2	84	3	1	88	4	3	-	7
	3	31	1	1	33	4	1	-	5
	4	21	1	1	23	3	1	-	4
	5	22	1	1	24	2	1	-	3
	6	15	1	-	16	2	-	-	2
	7,16,17	6	-	-	6	1	-	-	1
	8-B	36	1	1	38	5	-	-	5
	9	5	-	-	5	1	-	-	1
	10,11	8	-	-	8	1	-	-	1
	12,14	4	-	-	4	-	-	-	-
	13,15	12	-	-	12	2	-	-	2
	Total	244	8	5	257	25	6	-	31
Evening peak	1,18	-	-	-	-	-	-	-	-
	2	8	1	1	10	65	4	2	71
	3	10	1	-	11	25	2	-	27
	4	8	1	-	9	17	-	-	17
	5	8	-	-	8	18	-	-	18
	6	7	-	-	7	12	-	-	12
	7,16,17	2	-	-	2	1	-	-	1
	8-B	5	1	-	6	28	2	-	30
	9	2	-	-	2	5	-	-	5
	10,11	3	-	-	3	6	-	-	6
	12,14	1	-	-	1	-	-	-	-
	13,15	5	-	-	5	8	-	-	8
	Total	59	4	1	64	185	8	2	195
Off-peak	1,18	-	-	-	-	-	-	-	-
	2	160	13	11	184	133	13	11	157
	3	154	7	6	167	124	7	6	137
	4	94	6	5	105	78	6	5	89
	5	87	6	5	98	73	6	5	84
	6	59	5	4	68	49	5	4	58
	7,16,17	27	4	3	34	22	3	1	26
	8-B	178	6	5	189	147	6	5	158
	9	29	1	1	31	25	-	-	25
	10,11	12	3	2	17	9	3	-	12
	12,14	15	1	1	17	5	-	-	5
	13,15	44	6	5	55	37	6	3	46
	Total	859	58	48	965	702	55	40	797

Table 5-2 Distributed Traffic Volume in Industrial Estates under Original Plan (population: 20,000)

	Zone	Originating Traffic Volume				Terminating Traffic Volume			
		Car	Van	Truck	Total	Car	Van	Truck	Total
Morning peak	1,18	-	-	-	-	-	-	-	-
	2	2	2	1	5	6	4	1	11
	3	1	1	1	3	6	2	1	9
	4	1	1	1	3	4	1	1	6
	5	1	-	1	2	4	1	-	5
	6	-	-	1	1	3	1	-	4
	7,16,17	-	-	-	-	2	-	-	2
	8-B	1	-	1	2	8	1	-	9
	9	-	-	-	-	2	-	-	2
	10,11	-	-	-	-	1	-	-	1
	12,14	-	-	-	-	-	-	-	-
	13,15	-	-	-	-	3	-	-	3
	Total	6	4	6	16	39	10	3	52
Evening peak	1,18	-	-	-	-	-	-	-	-
	2	8	3	-	11	2	3	1	6
	3	10	1	-	11	1	1	-	2
	4	8	1	-	9	1	1	-	2
	5	8	-	-	8	-	1	-	1
	6	7	-	-	7	-	-	-	-
	7,16,17	2	-	-	2	-	-	-	-
	8-B	5	1	-	6	1	1	-	2
	9	2	-	-	2	-	-	-	-
	10,11	3	-	-	3	-	-	-	-
	12,14	1	-	-	1	-	-	-	-
	13,15	5	-	-	5	-	-	-	-
	Total	59	6	-	65	5	7	1	13
Off-peak	1,18	-	-	-	-	-	-	-	-
	2	16	19	16	51	14	16	14	44
	3	15	11	9	35	13	10	8	31
	4	9	9	7	25	8	8	7	23
	5	9	9	7	25	8	8	7	23
	6	6	8	7	21	6	6	7	19
	7,16,17	3	4	5	12	-	2	2	4
	8-B	18	9	7	34	15	8	7	30
	9	3	2	1	6	2	3	-	5
	10,11	1	4	3	8	-	-	-	-
	12,14	2	3	3	8	-	1	-	1
	13,15	4	8	8	20	2	6	7	15
	Total	86	86	73	245	68	68	59	195

Table 5-3 Distributed Traffic Volume Residential Areas under Revised Plan (population: 60,000)

	Zone	Originating Traffic Volume				Terminating Traffic Volume			
		Car	Van	Truck	Total	Car	Van	Truck	Total
Morning peak	1,18	453	10	7	470	47	9	7	63
	2	178	5	4	187	13	4	4	21
	3	86	3	3	92	14	3	3	20
	4	61	2	2	65	11	2	2	15
	5	45	2	1	48	9	2	1	12
	6	42	2	1	45	18	2	1	21
	7,16,17	99	4	2	105	11	3	2	16
	8-B	141	5	4	150	18	4	4	26
	9	19	1	-	20	5	2	-	7
	10,11	28	1	-	29	-	-	-	-
	12,14	14	1	-	15	-	1	-	1
	13,15	48	2	-	50	6	1	-	7
	Total	1,214	38	24	1,276	152	33	24	209
Evening peak	1,18	90	6	2	98	415	12	3	430
	2	25	3	1	29	163	7	2	172
	3	27	2	1	30	78	4	1	83
	4	20	1	1	22	56	3	1	60
	5	16	1	-	17	41	2	1	44
	6	34	1	-	35	38	2	-	40
	7,16,17	25	2	1	28	90	4	1	95
	8-B	34	3	1	38	129	7	2	138
	9	9	-	-	9	17	1	-	18
	10,11	-	-	-	-	25	1	-	26
	12,14	-	-	-	-	12	-	-	12
	13,15	14	-	-	14	44	1	-	45
	Total	294	19	7	320	1,108	44	11	1,163
Off-peak	1,18	1,807	109	91	2,007	1,783	127	91	2,001
	2	336	36	30	402	332	41	30	403
	3	387	20	16	423	382	23	16	421
	4	266	15	13	294	263	18	13	294
	5	204	12	10	226	201	14	10	225
	6	151	12	10	173	149	14	10	173
	7,16,17	291	27	22	340	287	31	22	340
	8-B	516	27	22	565	509	31	22	562
	9	85	4	3	92	84	5	3	92
	10,11	34	7	6	47	33	8	6	47
	12,14	46	4	3	53	45	5	3	53
	13,15	142	15	13	170	141	18	13	172
	Total	4,265	288	239	4,792	4,209	335	239	4,783

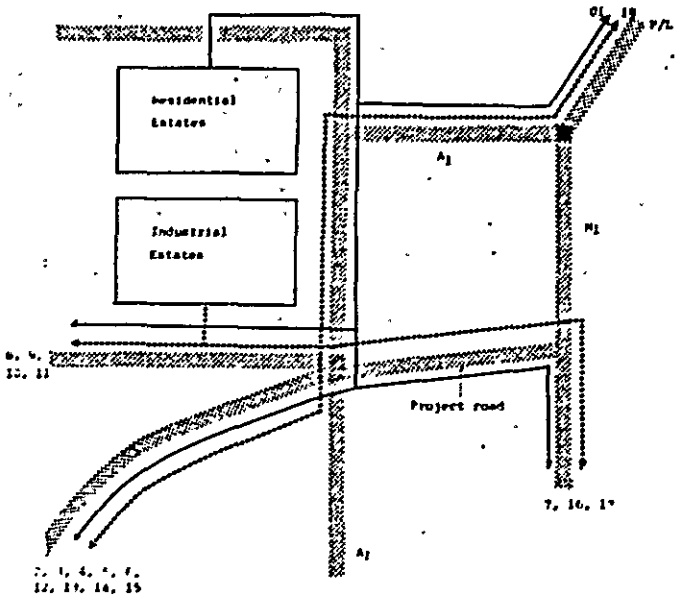
Table 5-4 Distributed Traffic Volume in Industrial Estates under Revised Plan (population: 60,000)

	Zone	Originating Traffic Volume				Terminating Traffic Volume			
		Car	Van	Truck	Total	Car	Van	Truck	Total
Morning peak	1,18	3	2	2	7	13	3	1	17
	2	1	1	1	3	4	2	1	7
	3	1	-	1	2	4	1	-	5
	4	-	-	-	-	3	1	-	4
	5	-	-	-	-	2	-	-	2
	6	-	-	-	-	5	-	-	5
	7,16,17	-	-	1	1	2	1	-	3
	8-B	1	1	1	3	5	2	1	8
	9	-	-	-	-	1	-	-	1
	10,11	-	-	-	-	-	-	-	-
	12,14	-	-	-	-	-	-	-	-
	13,15	-	-	-	-	-	-	-	-
	Total	6	4	6	16	39	10	3	52
Evening peak	1,18	18	2	-	20	2	2	3	7
	2	5	1	-	6	1	1	2	4
	3	5	1	-	6	1	1	1	3
	4	4	-	-	4	-	1	1	2
	5	3	-	-	3	-	-	1	1
	6	7	-	-	7	-	-	-	-
	7,16,17	5	1	-	6	-	1	1	2
	8-B	7	1	-	8	1	1	2	4
	9	2	-	-	2	-	-	-	-
	10,11	-	-	-	-	-	-	-	-
	12,14	-	-	-	-	-	-	-	-
	13,15	3	-	-	3	-	-	-	-
	Total	59	6	-	65	5	7	11	23
Off-peak	1,18	37	34	27	98	30	26	23	79
	2	7	11	9	27	5	8	7	20
	3	8	6	5	19	6	5	4	15
	4	5	5	4	14	4	4	3	11
	5	4	4	3	11	3	3	3	9
	6	3	4	3	10	2	3	3	8
	7,16,17	6	8	7	21	5	6	5	16
	8-B	10	8	7	25	8	6	6	20
	9	2	1	1	4	1	1	1	3
	10,11	1	3	2	6	1	2	1	4
	12,14	-	1	1	2	1	1	-	2
	13,15	3	5	4	12	2	3	3	8
	Total	86	90	73	249	68	68	59	195

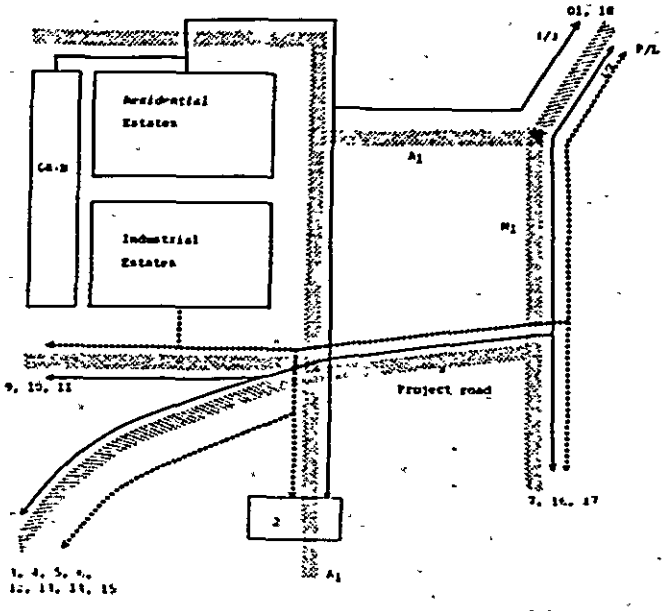
6. Distribution of Traffic

The two cases illustrated below are assumed in allocating the distributed traffic volumes shown in the foregoing section.

Case I



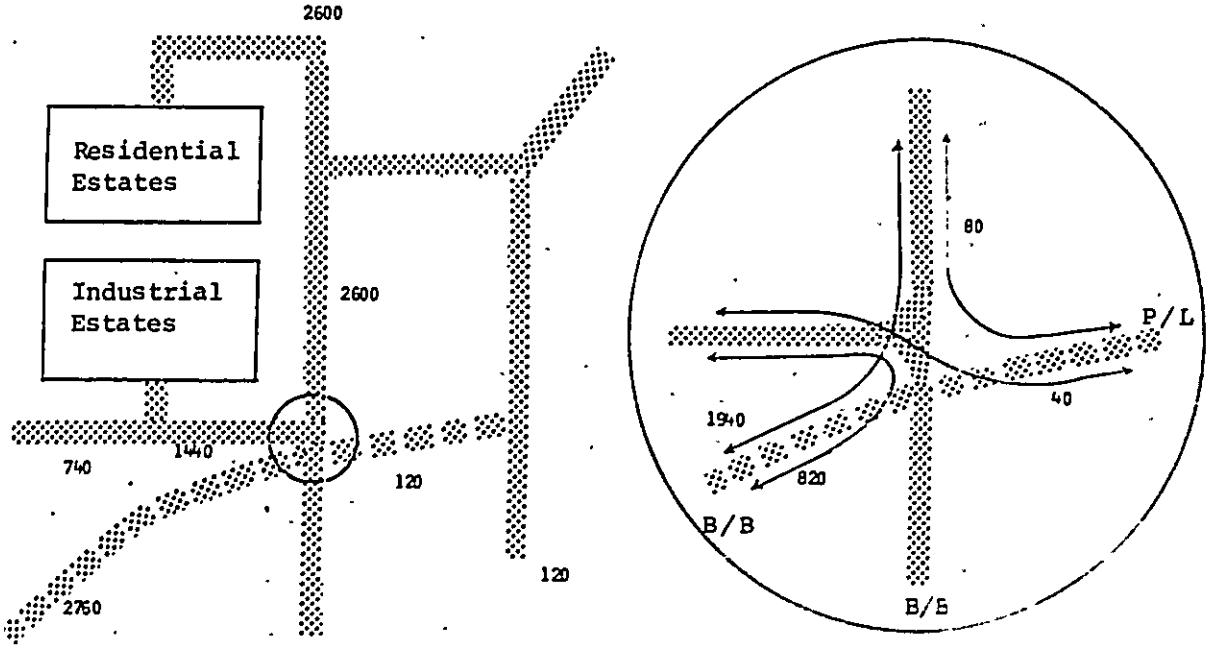
Case II



Allocation - Case I

Year: 1992

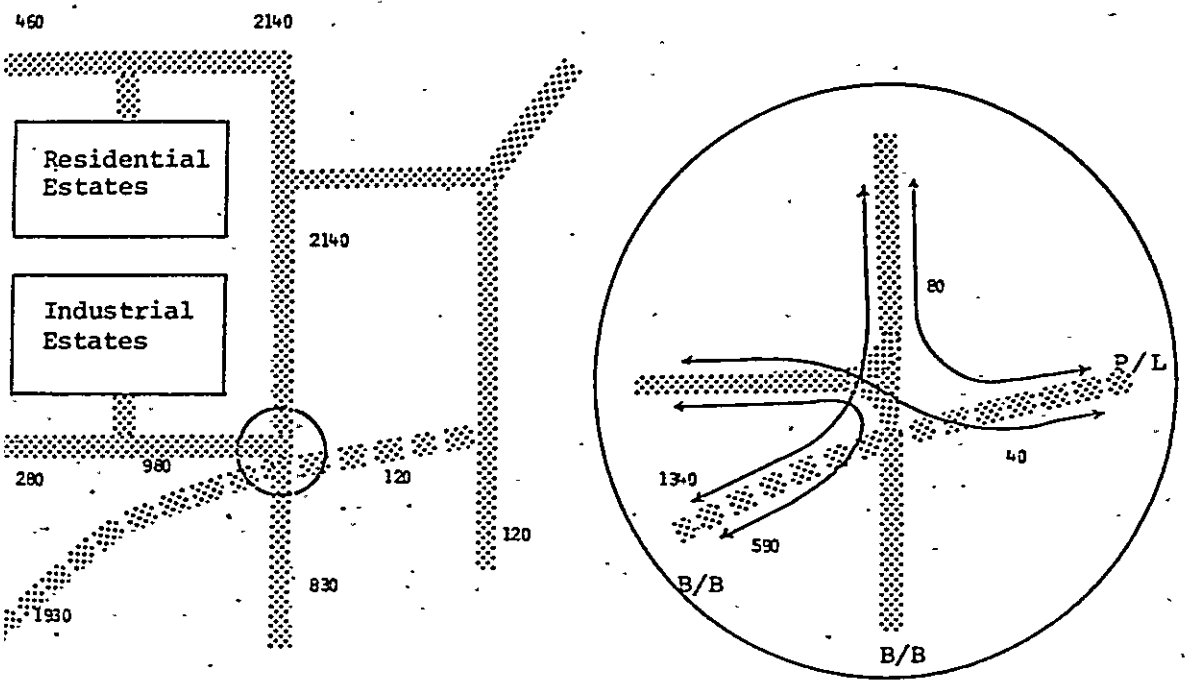
Planned population under original plan: 20,000



Allocation - Case II

Year: 1992

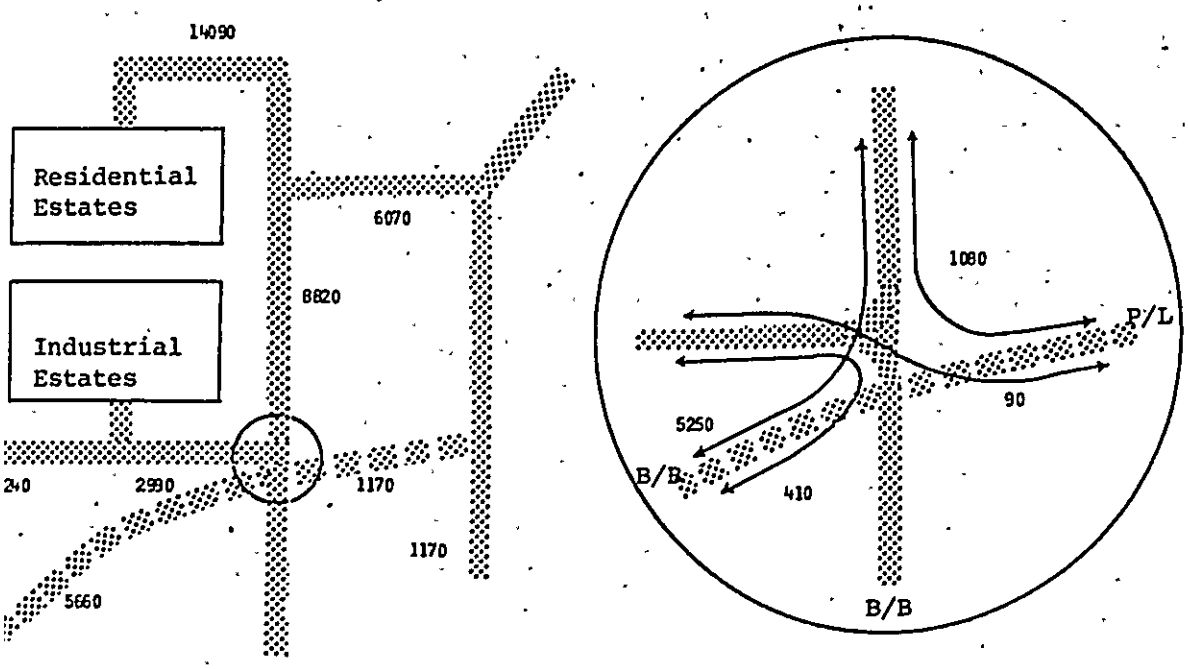
Planned population under original plan: 20,000



Allocation - Case I

Year: 1992

Planned population under revised plan: 60,000



Allocation - Case II

Year: 1992

Planned population under revised plan: 60,000

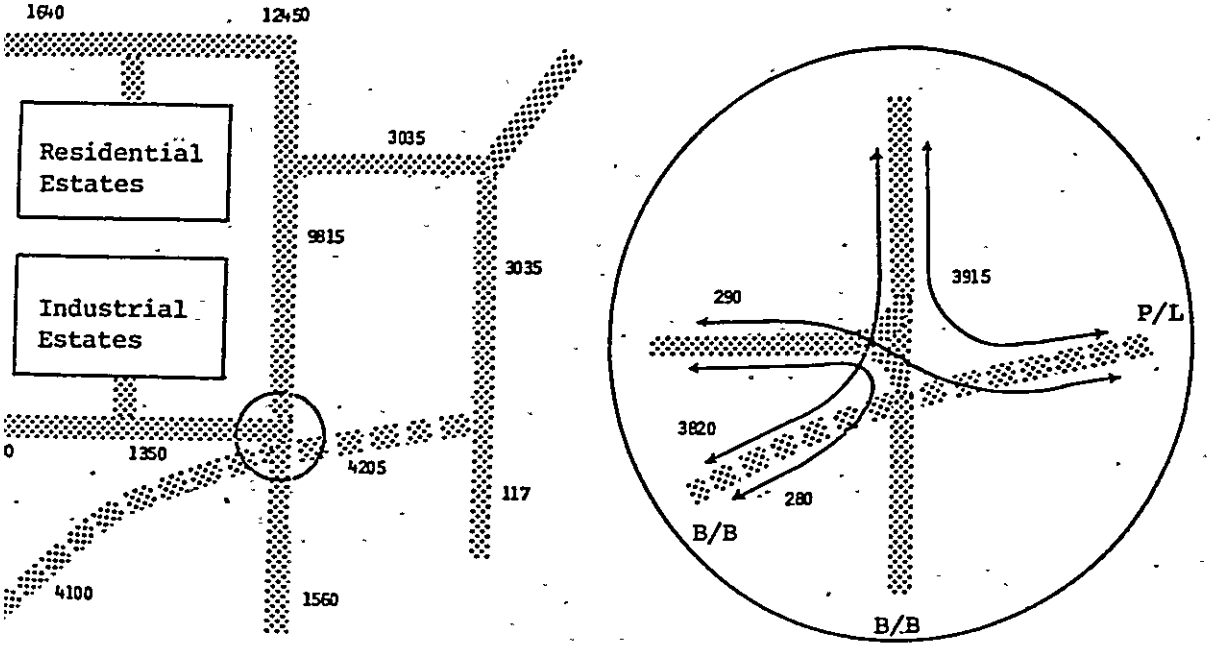


Table - Traffic Volume by Time Zones

			Traffic volume				Percent			
			Morn-ing	Eve-ning	Off-peak	Total	Morn-ing	Eve-ning	Off-peak	Total
20,000	Industrial estates	Originating traffic volume	16	65	245	326	5	20	75	100
		Terminating traffic volume	52	13	195	260	20	5	75	100
	Residential areas	Originating traffic volume	257	64	965	1,286	20	5	75	100
		Terminating traffic volume	31	195	802	1,028	3	19	78	100
	Total	Originating traffic volume	273	129	1,210	1,612	17	8	75	100
		Terminating traffic volume	83	208	997	1,288	7	16	77	100
60,000	Industrial estates	Originating traffic volume	16	65	245	326	5	20	75	100
		Terminating traffic volume	52	13	195	260	20	5	75	100
	Residential areas	Originating traffic volume	1,278	320	4,792	6,390	20	5	75	100
		Terminating traffic volume	184	1,165	4,783	6,132	3	19	78	100
	Total	Originating traffic volume	1,294	385	5,037	6,716	19	6	75	100
		Terminating traffic volume	236	1,178	4,978	6,392	4	18	78	100

Table - Working Population/Night Population Ratio (1992)

Zone	Working population	Night population	Working population / Night population	Business area	Bed-town
01	85,780	142,000	0.6	○	
02 A	8,180	3,600	2.3	◎	
B	1,450	6,200	0.2		○
Total	9,630	9,800	1.0		
03 A	3,890	19,500	0.2		○
B	5,030	13,100	0.4		
C	2,560	8,300	0.3		
Total	11,480	40,900	0.3		
04 A	6,400	17,500	0.4		
B	2,290	12,800	0.2		○
C	4,500	20,200	0.2		○
Total	13,190	50,500	0.3		
05 A	6,670	21,000	0.3		
B	5,670	22,100	0.3		
C	4,950	31,700	0.2		○
Total	17,290	74,800	0.2		
06 A	5,880	19,500	0.3		
B	18,040	53,500	0.3		
C	1,010	9,800	0.1		⊙
Total	24,930	82,800	0.3		
07 A	4,490	4,700	1.0	○	
B	11,010	28,700	0.4		
Total	15,500	33,400	0.5		
08 A	10,550	20,000	0.5	△	
B	4,500	11,000	0.4		
Total	15,050	31,000	0.5		

Table - Traffic Volume by Time Zones and Vehicle Types

(%)

		Originating Traffic Volume				Terminating Traffic Volume			
		Car	Van	Truck	Total	Car	Van	Truck	Total
Morning peak	02-A	35	31	34	100	75	19	6	100
	07-A	85	7	8	100	84	6	10	100
	01	69	21	10	100	92	4	4	100
	08-A	90	3	7	100	58	34	8	100
		95	3	2	100	82	18	-	100
	Residential areas	95	3	2	100	82	18	-	100
	Industrial estates	35	30	35	100	75	20	5	100
Evening peak	02-A	90	10	-	100	41	48	11	100
	07-A	81	5	14	100	74	9	17	100
	01	90	6	4	100	84	11	5	100
	08-A	93	7	-	100	92	3	5	100
		92	6	2	100	95	4	1	100
	Residential areas	92	6	2	100	95	4	1	100
	Industrial estates	90	10	-	100	40	50	10	100
Off-peak	02-A	37	33	30	100	33	42	25	100
	07-A	70	19	11	100	73	15	12	100
	01	80	12	8	100	81	10	9	100
	08-A	82	10	8	100	83	8	9	100
		89	6	5	100	88	7	5	100
	Residential areas	89	6	5	100	88	7	5	100
	Industrial estates	35	35	30	100	35	35	30	100

Table - Traffic Volume by Time Zones

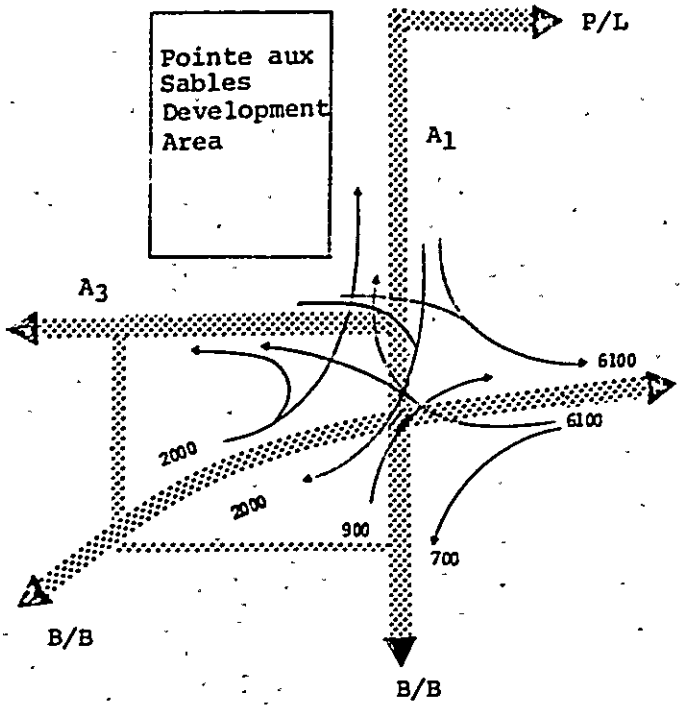
(%)

	Originating Traffic Volum				Terminating Traffic Volume			
	Morn-ing	Eve-ning	Off-peak	Total	Morn-ing	Eve-ning	Off-peak	Total
02-A	11	18	71	100	19	7	74	100
07-A	12	15	73	100	15	9	76	100
01	6	20	74	100	22	7	71	100
08-A	10	7	83	100	6	9	85	100
	21	4	75	100	3	19	78	100
Residential areas	20	5	75	100	3	19	78	100
Industrial estates	5	20	75	100	20	5	75	100

7. Traffic Volume at S. Hill Interchange

Direction-wise traffic volumes at the S. Hill Interchange have been estimated by taking into consideration the total traffic figures of the incremental generated traffic volume under the assumption that projected population is 60,000 as mentioned in the previous chapter and the traffic volume estimated for the alternative P_4 in 1992 as well as a revised plan of the Pointe aux Sables Development Plan.

Direction-wise Traffic Volumes at the S. Hill Interchange (1992, 12-hour traffic P.C.U.)



From the viewpoint of the methodology used for traffic assignment, the traffic volume diverted to the Roads A_3 and A_1 at the S. Hill Interchange would not clearly assigned. However, it is anticipated that most of the incremental generated traffic volume would be diverted to the A_1 Road in the ratio of nine to one.

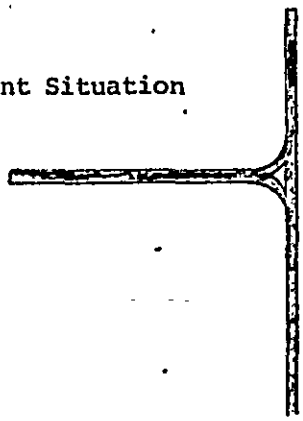
8. Type of S. Hill Interchange

The type of an intersection, which is capable of coping appropriately with the future traffic demand, has been decided to be a form of an interchange by taking into consideration the design levels (access-controlled motorway type, etc) of the project road. The improved plans for interchange types are as follows:

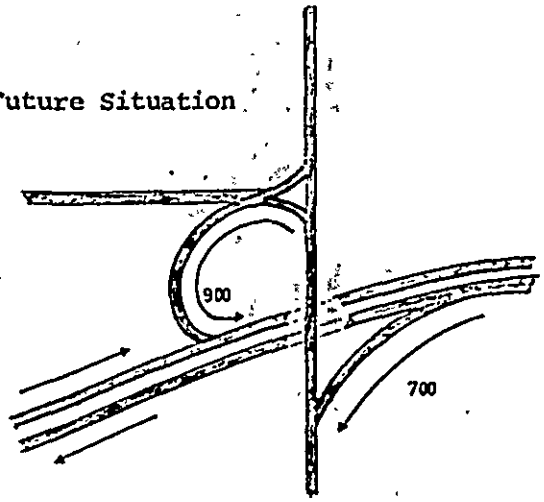
Improved Plans	Outline of the Plans
Improved Plan I	Independent rampway type accommodated with exists and entrances for the Project Road
Improved Plan II	Exists and entrances located intensively in the west side
Improved Plan III	Exists and entrances located intensively in the east side
Improved Plan IV	The type of an intersection at S. Hill is subject to the existing plan described in the Feasibility Study; and direction-wise traffic including generated traffic would utilize the Richelieu Roundabout. Accordingly, the road connecting directly with the Richelieu Approach Road and Pointe aux Sables should be improved.
Improved Plan V	The interchange at S. Hill is the same as one preliminarily designed in the Feasibility Study. At the intersection of the Project Road and the connecting road running between the Pointe aux Sables and Coromandel industrial estates, a Y-shape interchange is designed to cope with traffic.
Improved Plan VI	A traffic policy of this plan is the same as in the Plan V, but a full-diamond interchange is designed at the intersection of the connecting road and the Project Road.

Technical studies on these improved plans will be made.

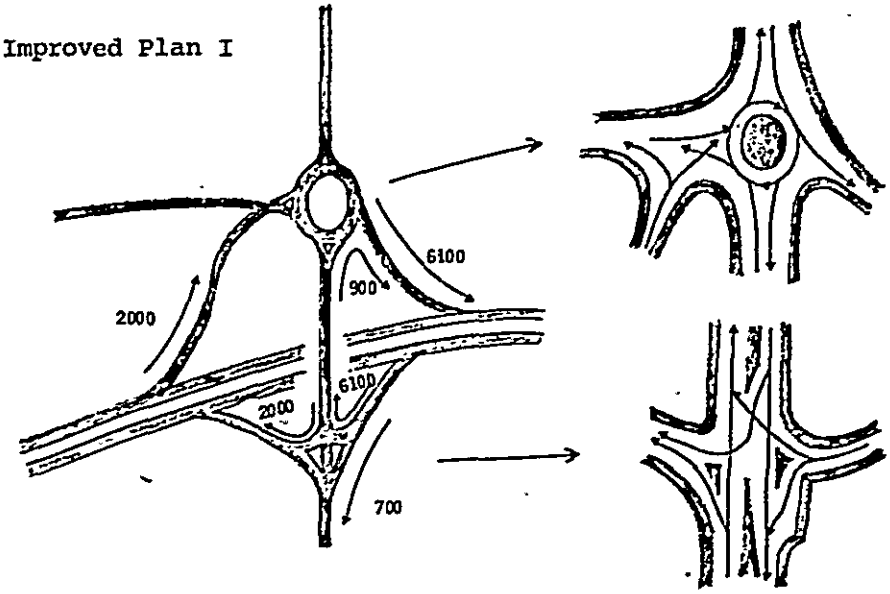
Present Situation



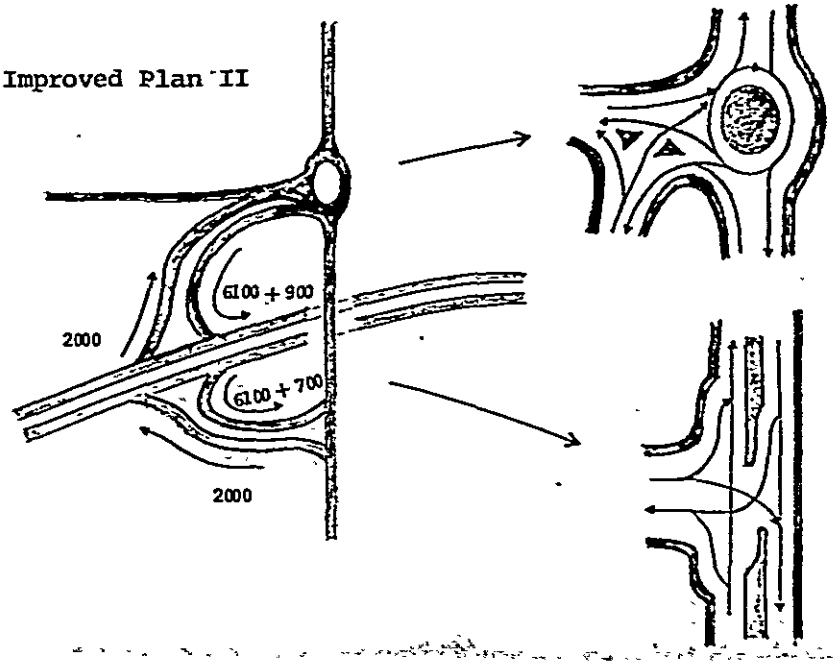
Future Situation



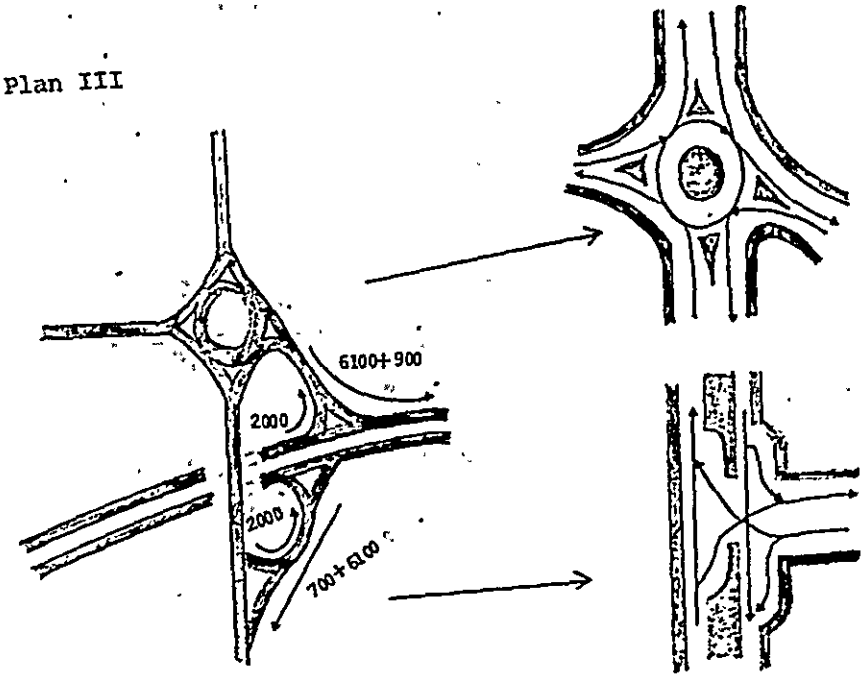
Improved Plan I



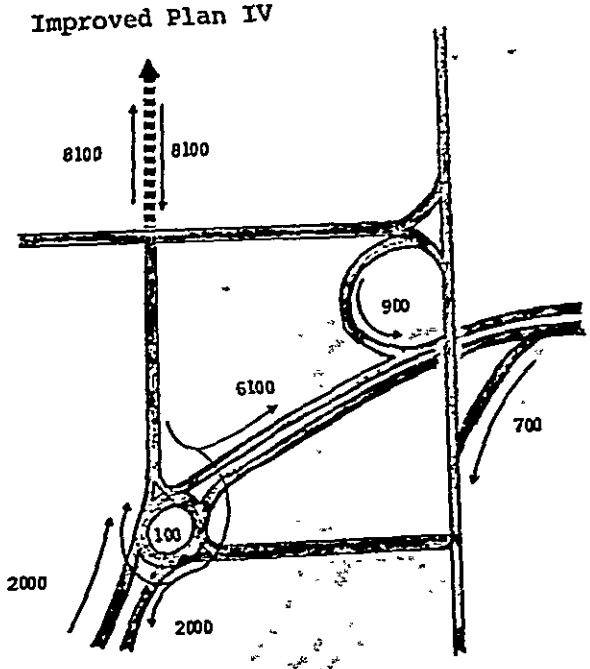
Improved Plan II



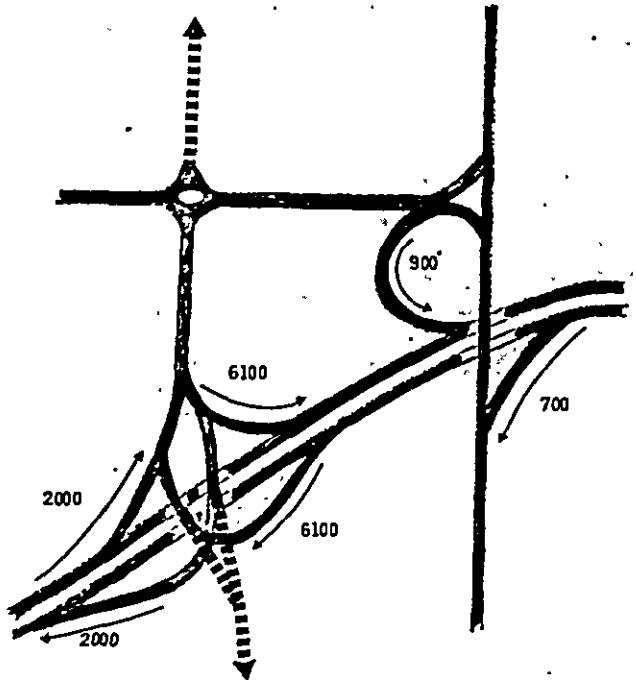
Improved Plan III



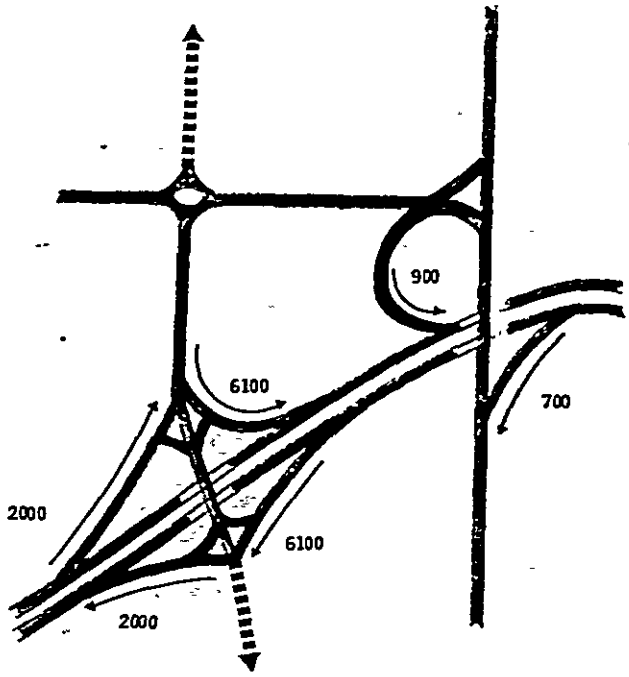
Improved Plan IV



Improved Plan V



Improved Plan VI



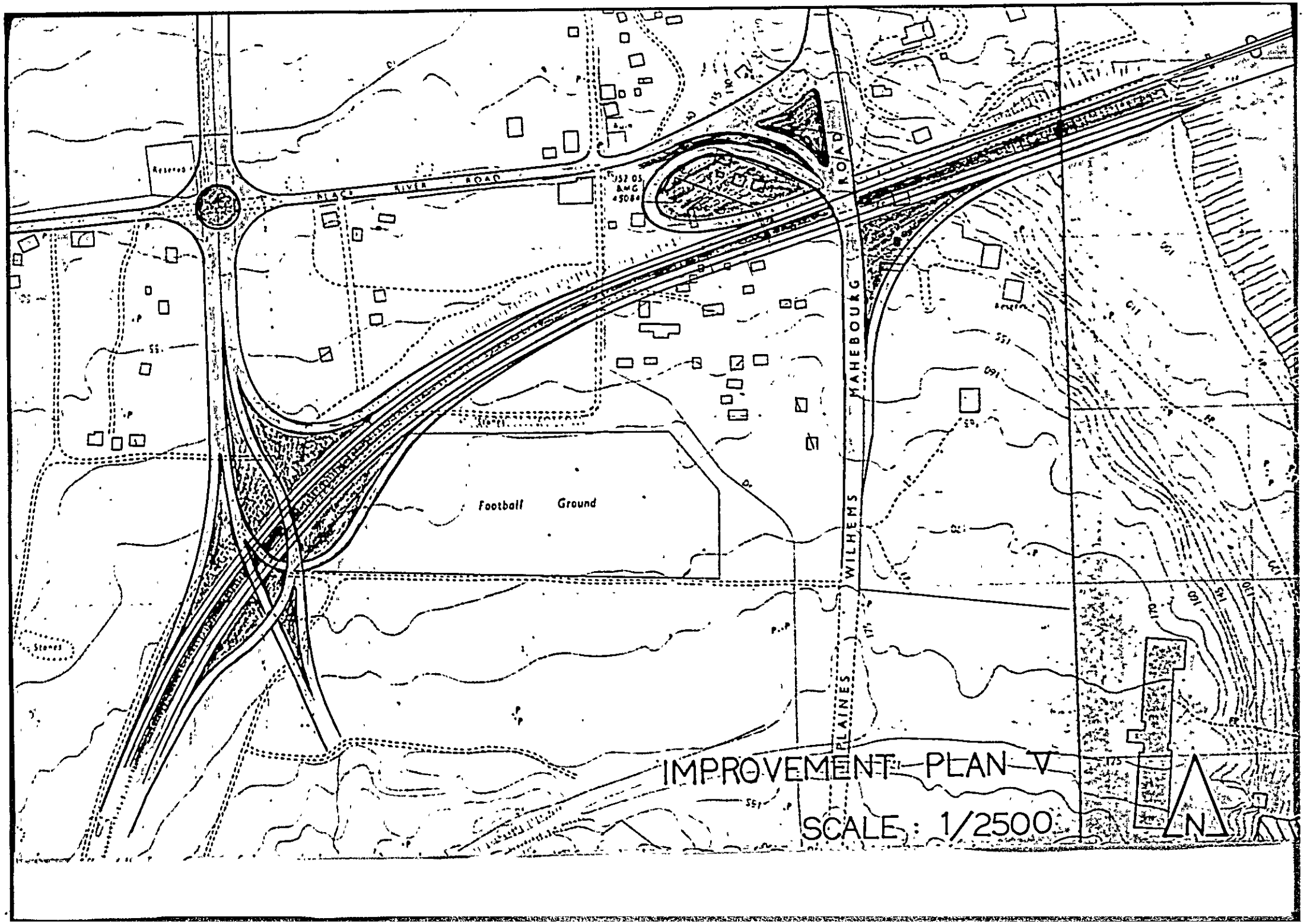
9. Engineering Studies

The results of engineering studies on multifarious types of interchange at S. Hill are as follows:

Alternatives	Outline of the Engineering Studies
Plan I	According to topographical conditions, the ramp from the A1 Road and the Project Road in the direction of Port Louis would not provide safe traffic services, i.e. the desirable length of a speed change lane could not be set between the A1 Road and the G.R.N.W. Bridge.
Plan II	Due to implacticableness of designing a roundabout, it hardly provides traffic services towards Port Louis from Pointe aux Sables.
Plan III	According to the same reason as in the Plan I, it hardly provides services for both traffics from the Project Road to the A1 Road and vice versa in the direction of Port Louis.
Plan IV	In this plan, the S. Hill Interchange cannot provide traffic services from Pointe aux Sables to Port Louis.
Plans V and VI	In these plans, traffic services for all directions are provided.

10. Recommendation

As far as the engineering studies are concerned, either Plan V or VI would be deemed adoptable for determining the most appropriate type of the interchange at S. Hill. After completion of the comparative design of the interchange, the most appropriate type of the interchange will be determined, and then designed in the Final Engineering.


RIVER ROAD
MAHEBOURG ROAD
WILHEMS PLAINES
Football Ground
Stores
IMPROVEMENT PLAN V
SCALE : 1/2500
N