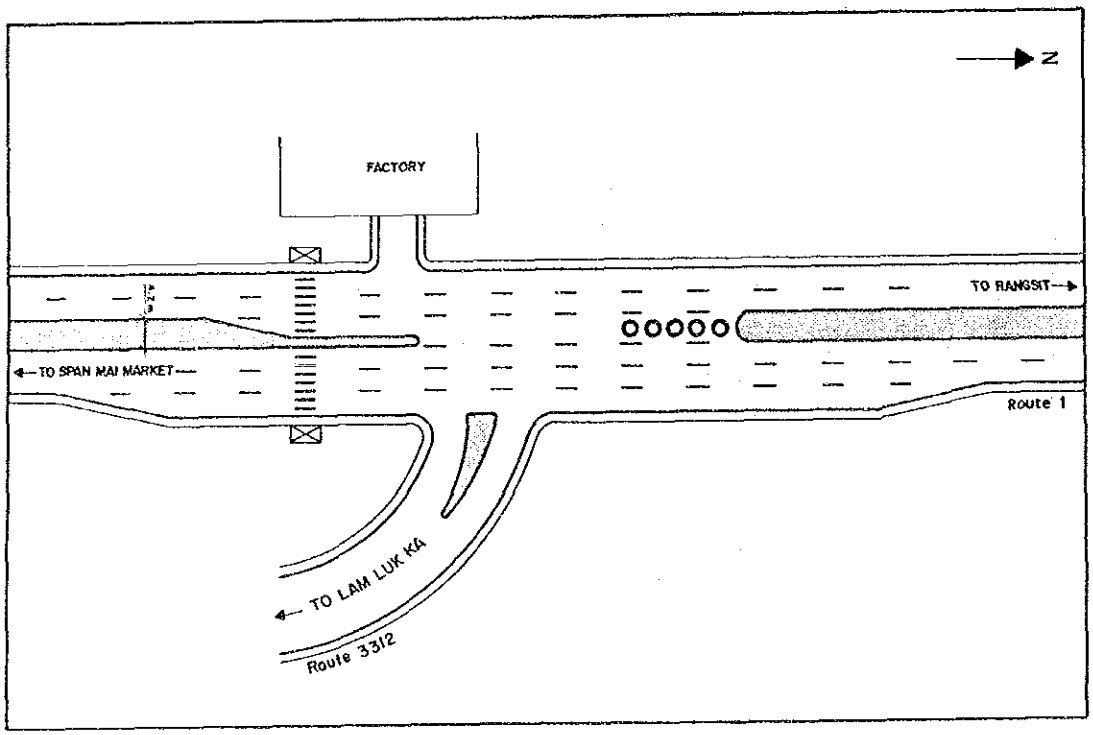
DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	7		LOCATION NAME	Thupa Temee Stadium		ROAD CONDITION	Inter-section
ROUTE NO.	1/3312	CONTROL SECTION NO.	100/101	K.P. OF PROBLEM LOCATION	K.P. 27.000 – K.P. 28.000 / 0.500		
K.P OF CONTROL SECT.	K.P. 16.441 / 0.000 – K.P 29.000 / 34.095					DISTRICT CODE	411
DIVISION NAME	BANGKOK			DISTRICT NAME	BANGKOK		
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 40,500; MINOR ROAD 8,897; (PEAK HOUR) MAJOR ROAD 3,122; MINOR ROAD 843			PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 27.0; MINOR ROAD 35.1; (PEAK HOUR) MAJOR ROAD 32.0; MINOR ROAD 28.8	PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	
						ACCIDENT RATE (PERSONS/100 MIL. VEH. KM.)	22.5/0.0
NO. OF ACCIDENTS(CASES)	17/0			CASUALITIES (PERSONS)	(FATALITIES) 1/0; (INJURIES) 2/0	WHOLE CONTROL SECTION	32.1/17.5

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

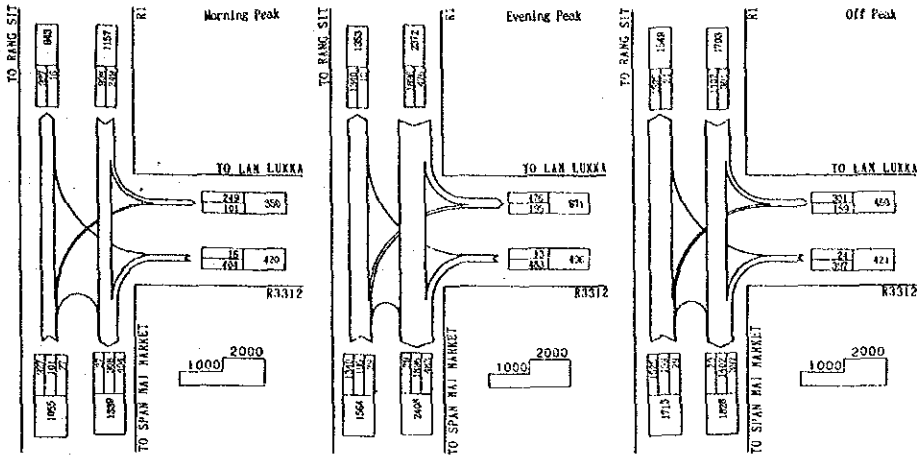
This is the intersection of R1 and R3312. R1 has a right-turn lane going north to R3312 and a left-turn lane going south to R3312. R3312 is a two-lane road and intersects R1 at its curved section. There is a bus-stop and a pedestrian crossing in this section.

TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

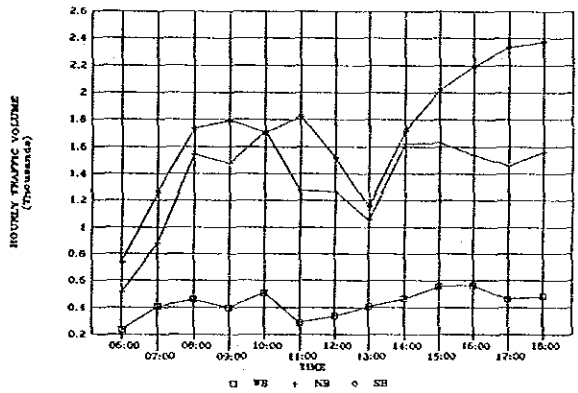
TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	0
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis



VARIATION IN TRAFFIC VOLUME



Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
7	1	100	27+000 - 28+000	1.000	36,589	36,589	17	1	2	3	17.0	127.3	7.5	15.0	22.5	32.1	
7	3312	101	0+000 - 0+500	0.500	3,221	1,611	0	0	0	0	0.0	0.0	0.0	0.0	0.0	17.5	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
7	1	100	0	0	3	4	5	0	0	1	0	0	2	0	2	17
7	331	101	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
7	1	100	13	1	0	0	0	0	3	17	
7	3312	101	0	0	0	0	0	0	0	0	

COMMENTS ON TRAFFIC CONDITION

R1 is a primary highway with heavy traffic volumes.

R3312 has a traffic volume of about 6,300 vehicles/day and its heavy vehicle rate (RHV) is as high as 35.1%. Right-turns from R3312 are prohibited .

COMMENTS ON ACCIDENT CONDITION

Rear-end collisions are the most frequent (5 cases, 29% of the total), followed by head-on collisions (4 cases, 24% of the total).

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

Traffic volumes exceed the capacity of the stop-controlled intersection.

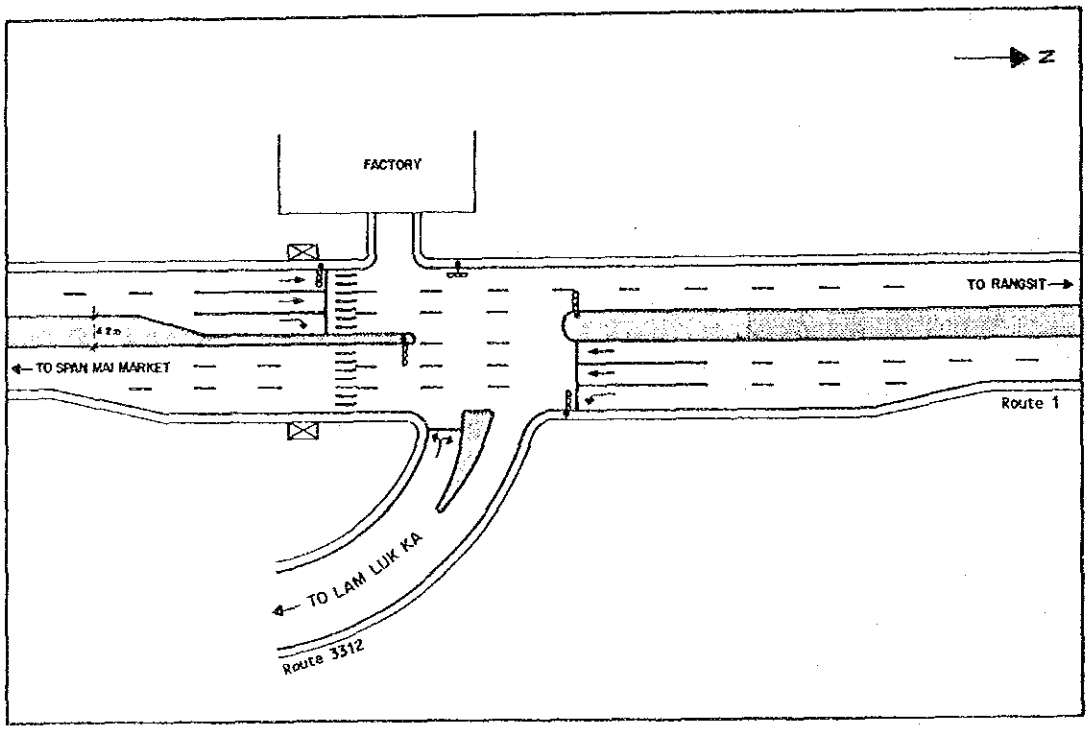
MEASURES

The installation of pre-timed signals to be coordinated with the signals at 27 Kp, is suggested.

EVALUATION

Installation of pre-timed signals coordinated with signals installed at 27 kp.: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN



Morning Peak

1Ø	2Ø	3Ø
54.5	7.9	37.6

Cycle Length	101	Saturate Degree	0.660

Evening Peak

1Ø	2Ø	3Ø
54.7	9.4	35.9

Cycle Length	106	Saturate Degree	0.818

Off Peak

1Ø	2Ø
49.3	50.7

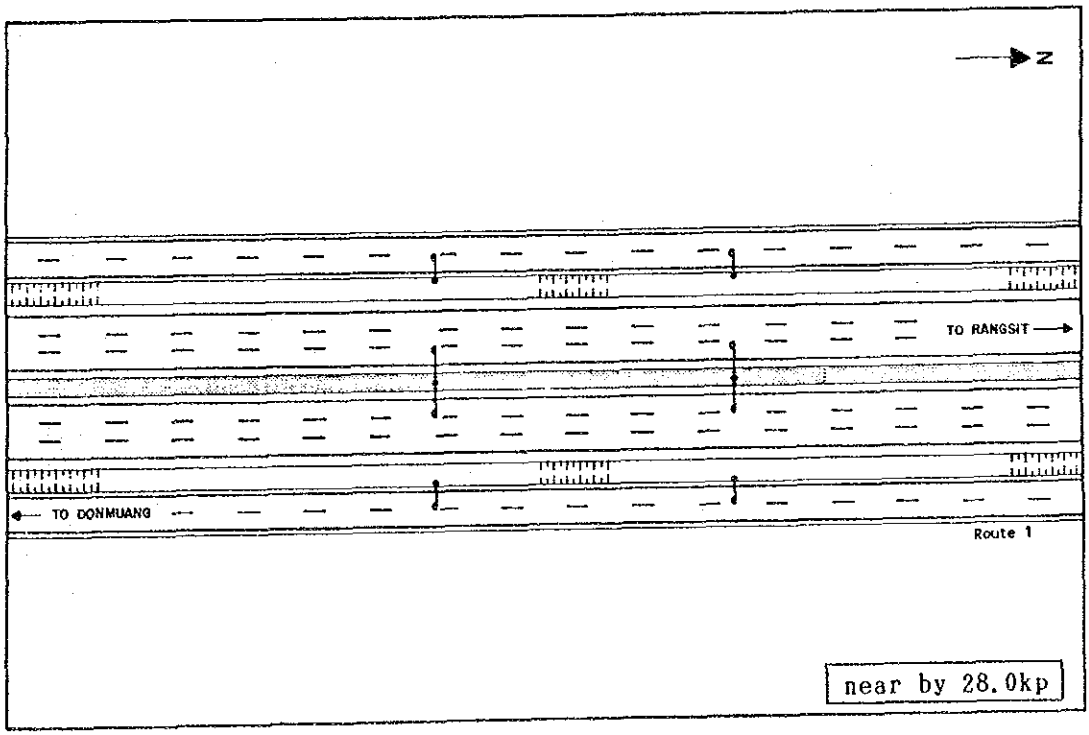
Cycle Length	75	Saturate Degree	0.465

DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	8		LOCATION NAME	Simum Muang Market			
ROUTE NO	1	CONTROL SECTION NO.	100	K.P. OF PROBLEM LOCATION	K.P 28.000 – K.P 29.000	ROAD CONDITION	Roadway Section
K.P. OF CONTROL SECT.	K.P. 16.441 – K.P. 29.000					DISTRICT CODE	411
DIVISION NAME	BANGKOK		DISTRICT NAME	BANGKOK		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 40,500 MINOR ROAD (PEAK HOUR) MAJOR ROAD 3,122 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 27.0 MINOR ROAD (PEAK HOUR) MAJOR ROAD 32.0 MINOR ROAD		ACCIDENT RATE (PERSONS / 100 MIL. VEH. KM.)	37.4
NO. OF ACCIDENTS(CASES)	6		CASUALITIES (PERSONS)	(FATALITIES) 1 (INJURIES) 4		WHOLE CONTROL SECTION	32.1

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

This is a highway section which comes after the end of the R1 and R31 mergings. It has frontage roads which are divided by depressed separators. The R1 section here is a straight section with six lanes on the highway and two lanes on the frontage road on both sides.

TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME		NUMBER OF ACCIDENTS (CASES)	CASUALTIES			ACCIDENT RATE					ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
					ADT (PCU/DAY)	VEHICLE KILOMETER		DEATH (CASES)	INJURY (CASES)	DEATH AND INJURY (CASES)	ACCIDENT DENSITY (CASES/KM)	ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	DEATH (CASUALTIES/100 MIL.VEH.KM.)	INJURY (CASUALTIES/100 MIL.VEH.KM.)	DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)		
8	1	100	28+000 - 29+000	1.000	36,589	36,589	6	1	4	5	6.0	44.9	7.5	30.0	37.4	32.1	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES)													
			HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
8	1	100	0	0	0	0	3	0	1	0	1	0	0	0	1	6

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT								REMARKS
			OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	
8	1	100	3	1	0	0	0	0	2	6	

COMMENTS ON TRAFFIC CONDITION

R1 is a primary highway having heavy traffic and the heavy vehicle rate is 38%.

COMMENTS ON ACCIDENT CONDITION

The frequency of accidents is not very high (6 cases recorded). The most frequent type of accident is rear-end collisions (3 cases).

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

Cars drop into the depressed median.

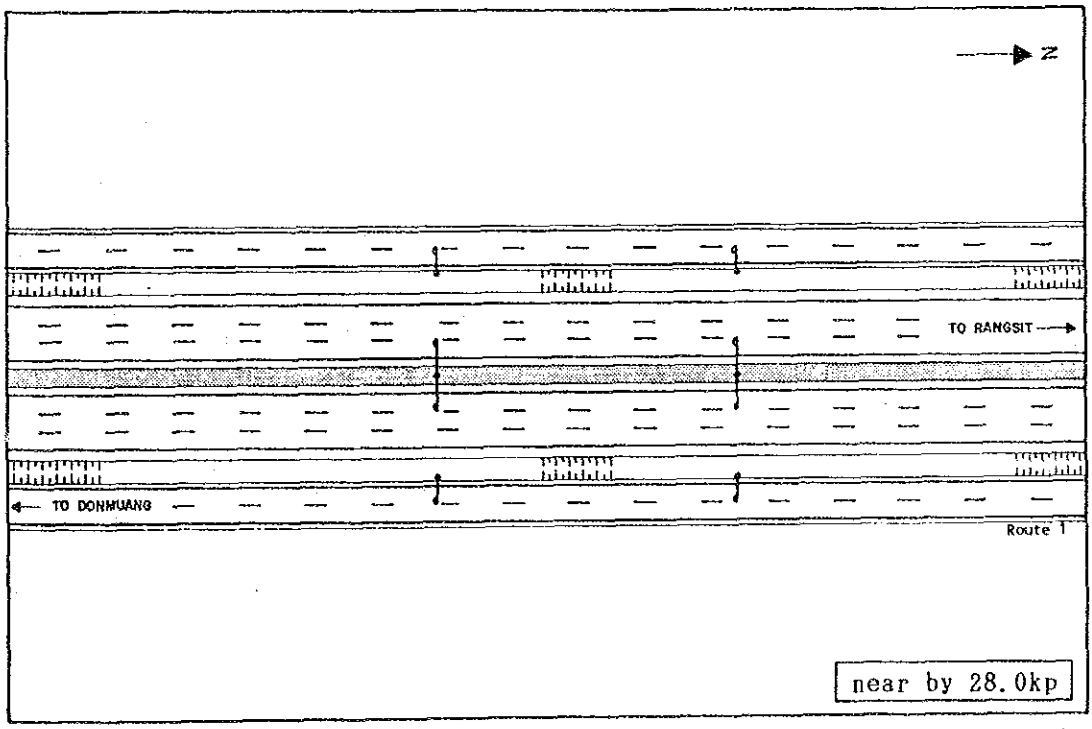
MEASURES

The installation of a guard fence is suggested.

EVALUATION

Installation of grade fence: Not warranted. No accidents from cars dropping into depressed medium.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN



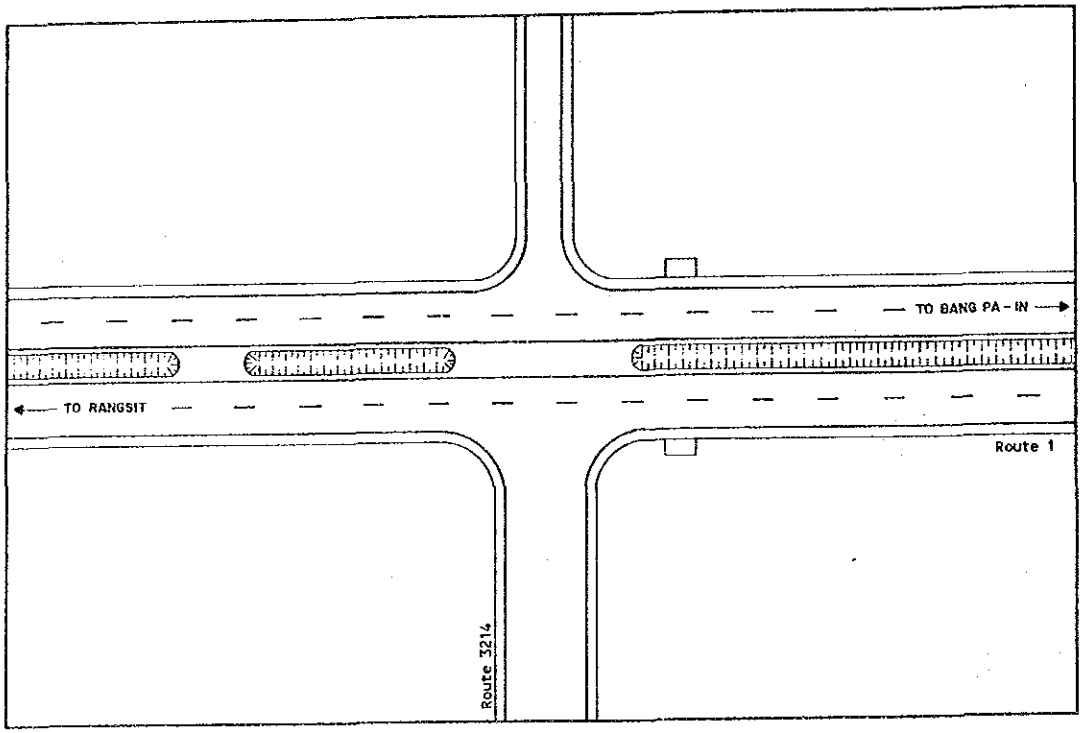
Leave as the existung Condition

DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	9	LOCATION NAME		Khlong Luang			
ROUTE NO.	1/3214	CONTROL SECTION NO.	201/102	K.P. OF PROBLEM LOCATION	K.P 39.500 0.000 – K.P 41.000 0.500	ROAD CONDITION	Inter-section
K.P OF CONTROL SECT.	K.P 16.441 0.000 – K.P 29.000 11.224					DISTRICT CODE	416
DIVISION NAME	BANGKOK			DISTRICT NAME	BANGKOK	PEDESTRIAN VOLUME (PERSONS/ PEAK HOUR)	
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 61,483 MINOR ROAD 5,086 (PEAK HOUR) MAJOR ROAD 4,094 MINOR ROAD 473			PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 37.8 MINOR ROAD 17.0 (PEAK HOUR) MAJOR ROAD 38.2 MINOR ROAD 15.2	ACCIDENT RATE (PERSONS / 100 MIL. VEH. KM.)	27.5/0.0
NO. OF ACCIDENTS(CASES)	12/0			CASUALITIES (PERSONS)	(FATALITIES) 5/0 (INJURIES) 7/0	WHOLE CONTROL SECTION	20.9/0.0

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

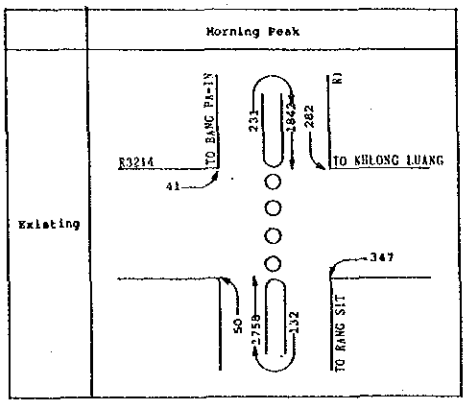
This is the intersection of R1 and R3214. The R1 section is a straight four-lane section with a wide median. R3214 is a narrow road (widening planned) on the western side of R1, but it has two lanes on the eastern side of R1.

TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

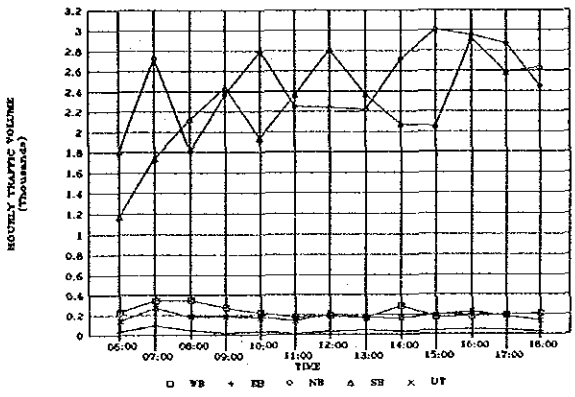
TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis



VARIATION IN TRAFFIC VOLUME



Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
9	1	201	39+500 - 41+000	1.500	79,604	119,406	12	5	7	12	8.0	27.5	11.5	16.1	27.5	20.9	
9	3214	102	0+000 - 0+500	0.500	9,303	4,652	0	0	0	0	0.0	0.0	0.0	0.0	0.0	34.1	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
9	1	201	3	0	0	0	2	0	2	0	1	1	3	0	0	12
9	321	102	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
9	1	201	3	5	0	0	0	0	4	12	
9	3214	102	0	0	0	0	0	0	0	0	

COMMENTS ON TRAFFIC CONDITION

It is impossible to go straight or make a right-turn from R3214 to R1 because its median opening is blocked-up. Traffic from R3214 wanting to go straight or to turn right must first make a left-turn and then a U-turn in the median opening.

COMMENTS ON ACCIDENT CONDITION

The number of accidents is not very large, but 5 cases (42% of all accidents) of vehicles running off the road have been recorded.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

Traffic from R3214, going straight or turning right, is inconvenienced because of the closed median.

It is difficult to make U-turns at the near median opening due to the heavy traffic volume travelling at speed.

MEASURES

Installation of signals, channelization of U-turn traffic and the installation of U-turn signals are suggested.

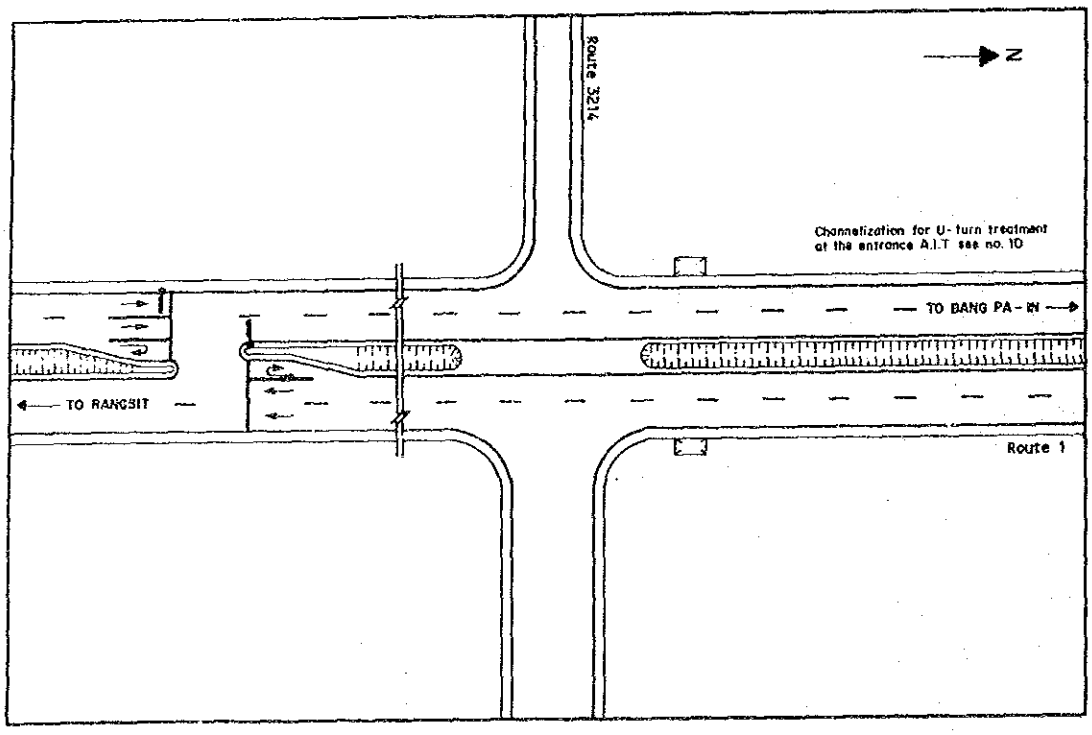
EVALUATION

Installation of signals: Not warranted enough, no clear need for measure.

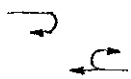
Channelization for U-turns: Providing U-turn facilities.

Installation of U-turn signals: Cannot handle U-turn volume without signal.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN



WHOLE DAY

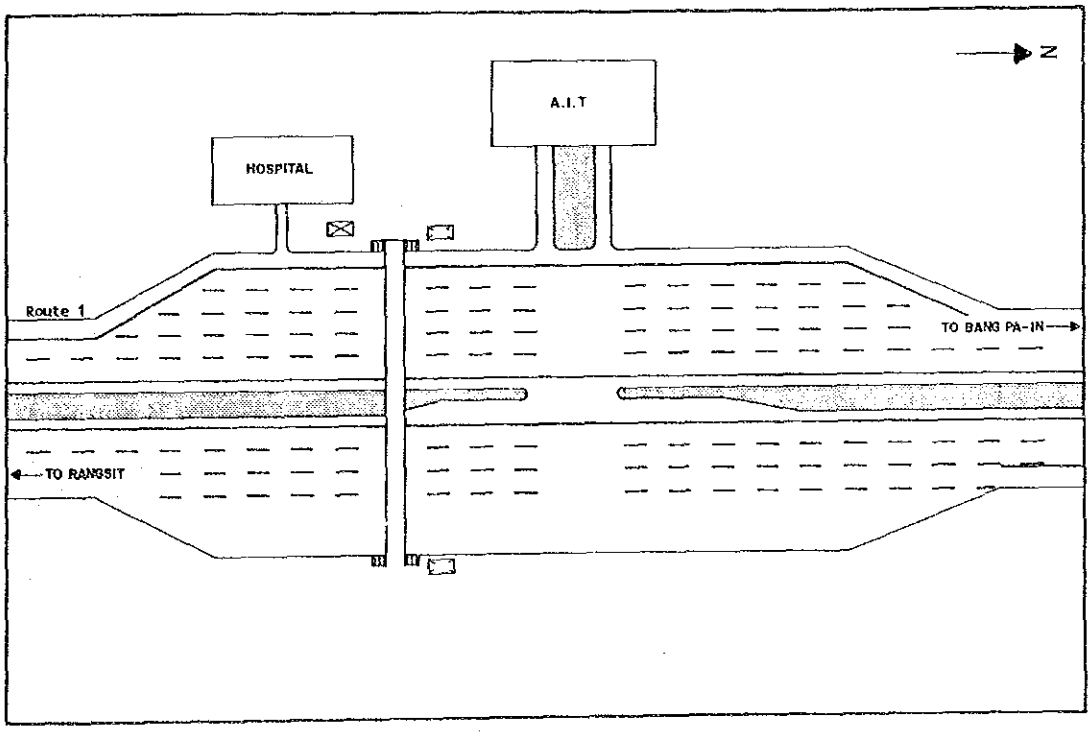
1Ø		2Ø	
			
75.6		24.4	
Cycle Length	40	Saturate Degree	0.529

DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	10		LOCATION NAME	Ent.AIT			
ROUTE NO.	1	CONTROL SECTION NO. 201	K.P. OF PROBLEM LOCATION	K.P. 41.000 – K.P. 42.000		ROAD CONDITION	Roadway Section
K.P OF CONTROL SECT.	K.P. 29.000 – K.P. 48.080						
DIVISION NAME	BANGKOK		DISTRICT NAME	PATHUMTHANI		DISTRICT CODE	416
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 61,483 MINOR ROAD (PEAK HOUR) MAJOR ROAD 4,094 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 37.8 MINOR ROAD (PEAK HOUR) MAJOR ROAD 38.2 MINOR ROAD		PEDESTRIAN VOLUME (PERSONS/ PEAK HOUR)	
						ACCIDENT RATE (PERSONS/100 MIL. VEH. KM.)	13.8
NO. OF ACCIDENTS(CASES)	4		CASUALITIES (PERSONS)	(FATALITIES) 0 (INJURIES) 4		WHOLE CONTROL SECTION	20.9

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

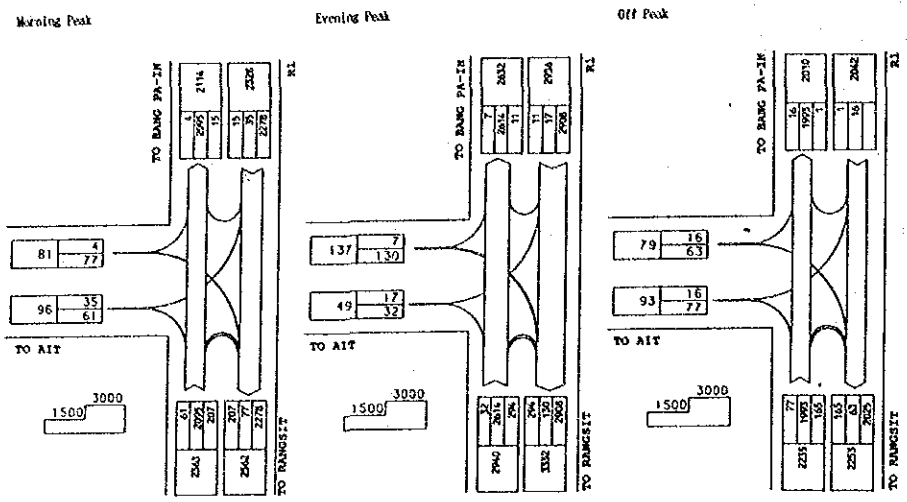
This is a small intersection of R1, an important primary highway, and a minor road leading to the Asian Institute of Technology (AIT) and Tamasart University. The road has been partially widened from the standard four lanes to ten lanes. R1 has a right-turn lane and an acceleration lane for right-turning cars.

TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

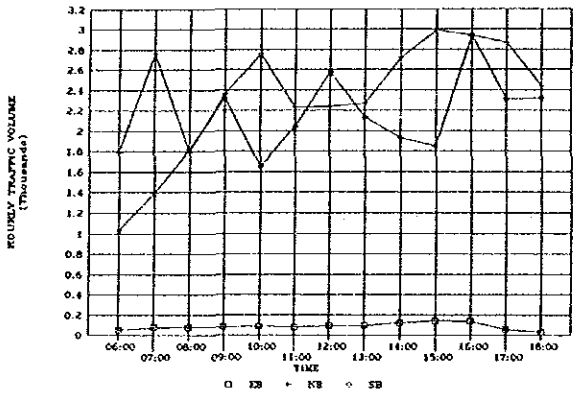
TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	0
STREET LIGHTING	
GUARD FENCE	0
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis



VARIATION IN TRAFFIC VOLUME



Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL. VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH. KM.)	REMARKS
10	1	201	41+000 - 42+000	1.000	79,604	79,604	4	0	4	4	4.0	13.8	0.0	13.8	13.8	20.9	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
10	1	201	0	0	0	0	0	1	0	0	2	0	0	0	1	4

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
10	1	201	3	1	0	0	0	0	0	4	

COMMENTS ON TRAFFIC CONDITION

R1 has high traffic volumes, a high proportion of heavy vehicles, and a very high traffic running speed. The median has no open section for approximately 1.7 km on the Bangkok-side, including the intersection with R3214. Right-turning traffic from R1 to the crossroad has to make a U-turn here. Most of the U-turn traffic is made up of small cars.

COMMENTS ON ACCIDENT CONDITION

There were no accidents recorded on this section.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

R1 has many lanes with very high running speeds. It is difficult and dangerous for cars from the minor road to make right-turns or U-turns. Some of the U-turn traffic is accommodated in the median shoulder (w is 20 m), but some cars are unable to get into the shoulder. This often gives rise to a conflict with the through-traffic, disturbing its steady and smooth flow.

MEASURES

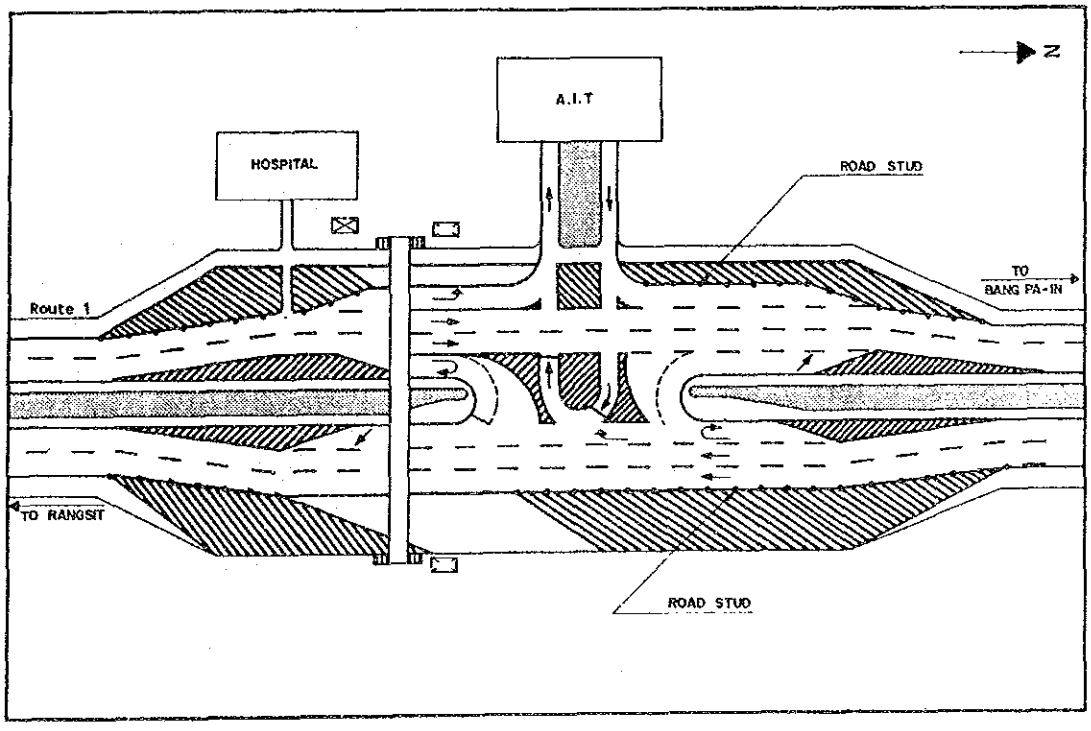
The reduction of the lane numbers to match ordinary lane numbers and the provision of the U-turn facility are suggested.

EVALUATION

Reduction of number of lanes to match ordinary lane numbers: Although traffic volumes are low, the road conditions warrant the measures

Providing U-turn facilities: Although traffic volumes are low, the road conditions warrant the measures

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

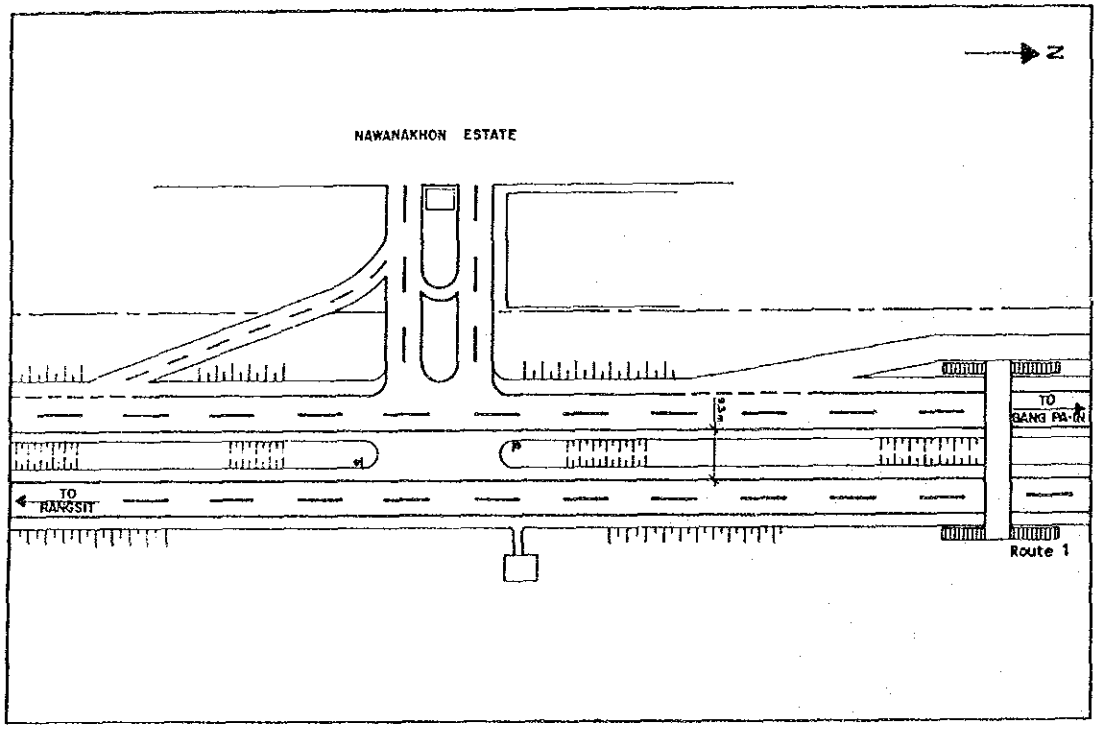


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	11		LOCATION NAME	Nawanakorn			
ROUTE NO.	1	CONTROL SECTION NO. 201	K.P. OF PROBLEM LOCATION	K.P. 45.500 – K.P. 46.500		ROAD CONDITION	Inter-section
K.P. OF CONTROL SECT.	K.P. 29.000 – K.P. 48.080					DISTRICT CODE	416
DIVISION NAME	BANGKOK		DISTRICT NAME	PATHUMTHANI		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 61,483 MINOR ROAD (PEAK HOUR) MAJOR ROAD 4,094 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 37.8 MINOR ROAD (PEAK HOUR) MAJOR ROAD 38.2 MINOR ROAD		ACCIDENT RATE (PERSONS / 100 MIL. VEH KM.)	44.7
NO. OF ACCIDENTS(CASES)	12		CASUALITIES (PERSONS)	(FATALITIES) 3 (INJURIES) 10		WHOLE CONTROL SECTION	20.9

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

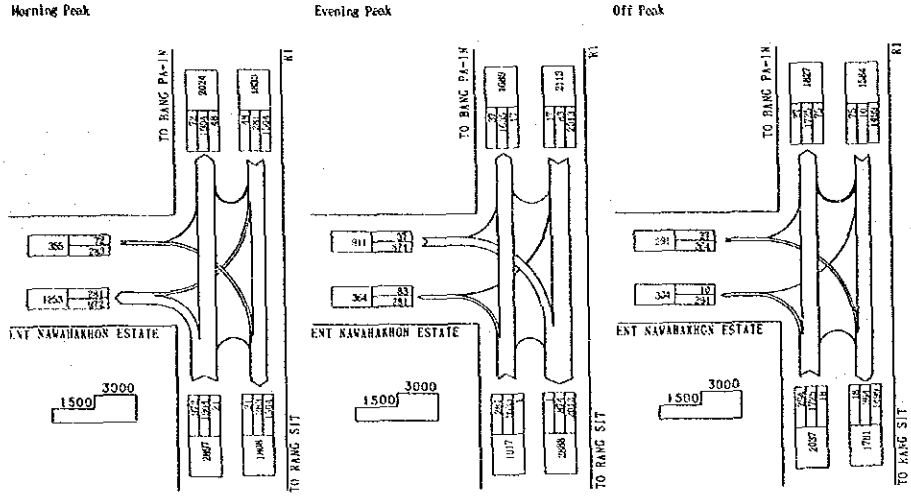
This is a T-intersection of R1 and a feeder road for the Nawanakorn Estate. The R1 section here is a straight four-lane section with a wide median (9 m). Two lanes are provided at the entrance and exit of the estate, and there is an access road leading south to the estate.

TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

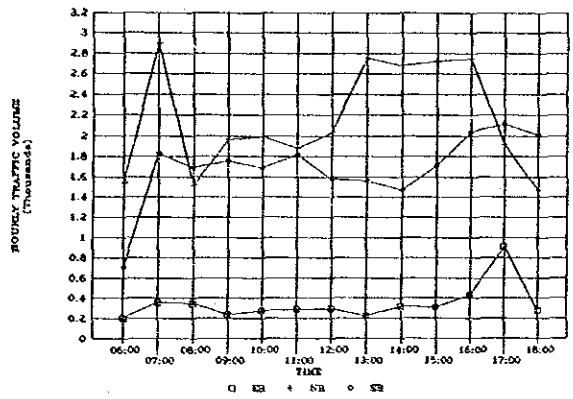
TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	0
STREET LIGHTING	
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis



VARIATION IN TRAFFIC VOLUME



Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
11	1	201	45+500 - 46+500	1.000	79,604	79,604	12	3	10	13	12.0	41.3	10.3	34.4	44.7	20.9	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
11	1	201	1	0	0	0	5	0	2	0	3	0	0	0	1	= 12

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
11	1	201	6	3	1	0	0	0	2	12	

COMMENTS ON TRAFFIC CONDITION

R1 is a primary highway having heavy traffic. the volume of entering and exitine traffic increases in the morning and evening hours.

COMMENTS ON ACCIDENT CONDITION

Accident are mostly mostly by speeding. Rear-end collisions are the most frequent(5 cases,42% of all accident types), followed by collisions caused by improper turning (3 cases, 25% of total).

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

Users from the industrial estate are inconvenienced by the lack of signals.

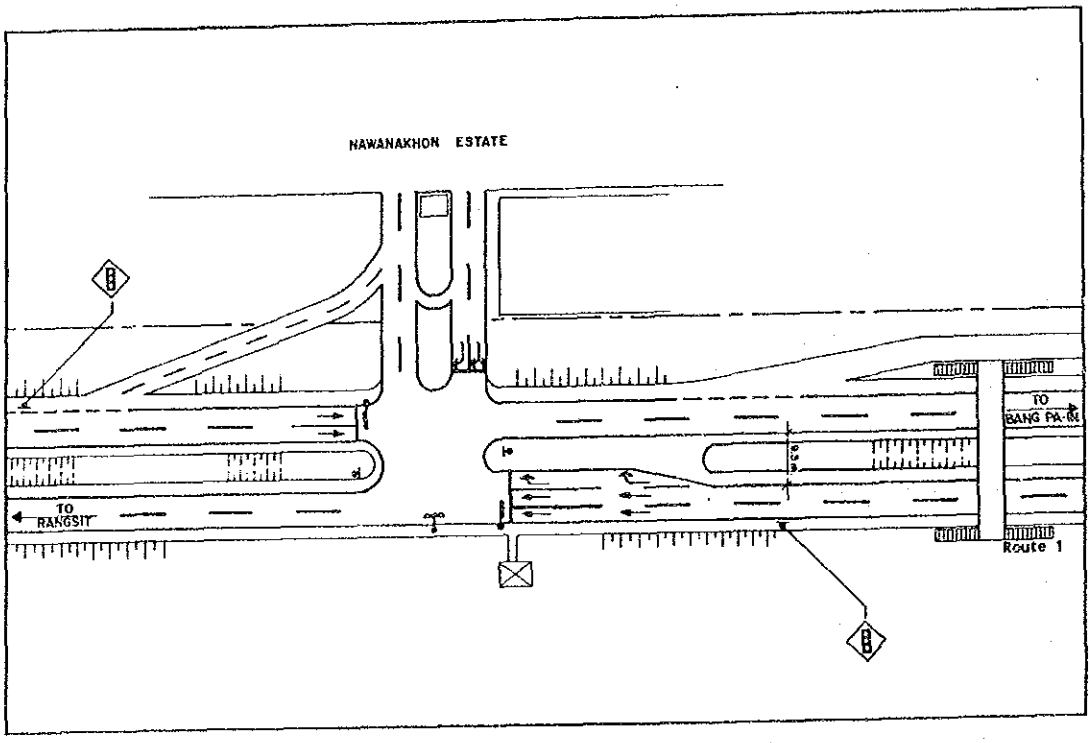
MEASURES

The installation of signals is suggested.

EVALUATION

Installation of signal: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN



Morning Peak

1Ø	2Ø	3Ø
60.8	23.1	16.1

Cycle Length	130	Saturate Degree	0.758

Evening Peak

1Ø	2Ø	3Ø
58.8	8.2	33.0

Cycle Length	85	Saturate Degree	0.835

Off Peak

1Ø	2Ø	3Ø
72.2	9.6	18.2

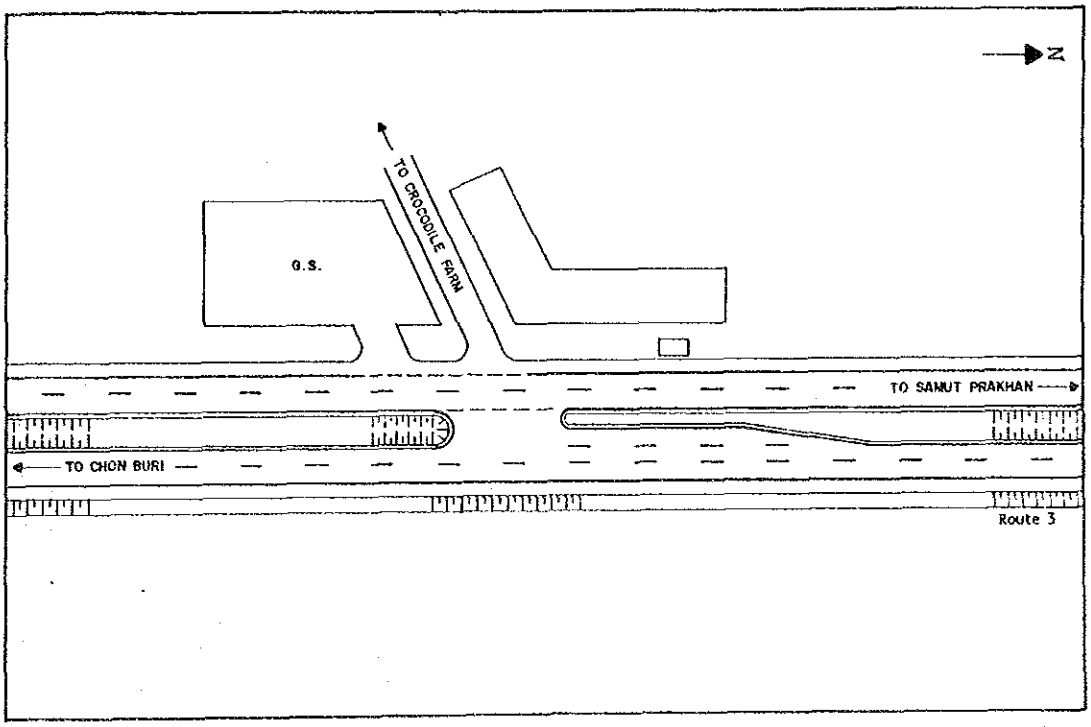
Cycle Length	115	Saturate Degree	0.559

DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	12		LOCATION NAME	Crocodile Farm			
ROUTE NO.	3	CONTROL SECTION NO. 200	K.P. OF PROBLEM LOCATION	K.P. 28.500 – K.P. 29.500		ROAD CONDITION	Inter-section
K.P. OF CONTROL SECT.	K.P. 16.710 – K.P. 55.992					DISTRICT CODE	411
DIVISION NAME	BANGKOK		DISTRICT NAME	BANGKOK		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 70,793 MINOR ROAD (PEAK HOUR) MAJOR ROAD 4,685 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 39.2 MINOR ROAD (PEAK HOUR) MAJOR ROAD 39.0 MINOR ROAD		ACCIDENT RATE (PERSONS/100 MIL. VEH. KM.)	56.2
NO. OF ACCIDENTS(CASES)	6		CASUALITIES (PERSONS)	(FATALITIES) 2 (INJURIES) 6		WHOLE CONTROL SECTION	14.5

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

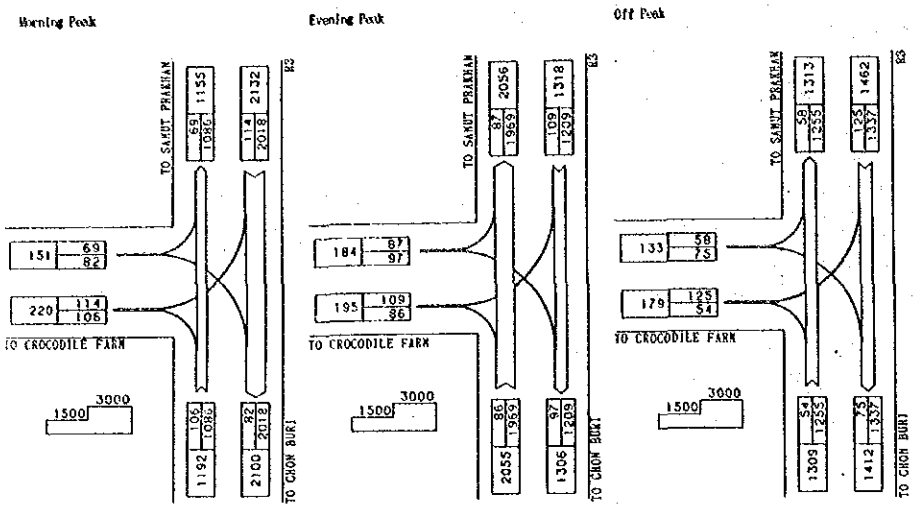
This is a T-intersection of R3 and a feeder road to a crocodile farm. The R3 section is a straight four-lane section with a wide median. The feeder road is a two-lane road. There is a right-turn lane going south from R3 to the farm.

TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

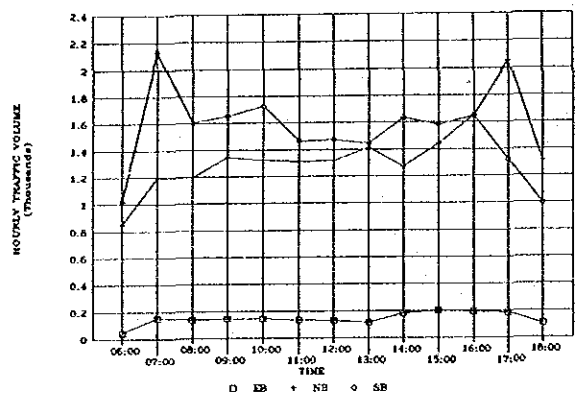
TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	
GUARD FENCE	0
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis



VARIATION IN TRAFFIC VOLUME



Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
12	3	200	28+500 - 29+500	1.000	87,827	87,827	6	2	16	18	6.0	18.7	6.2	49.9	56.2	14.5	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
12	3	200	2	1	1	1	1	0	0	0	0	0	0	0	0	6

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
12	3	200	6	0	0	0	0	0	0	6	

COMMENTS ON TRAFFIC CONDITION

R3 is a primary highway which runs south-east. It has large traffic volumes and a high proportion of heavy vehicles (RHV is 39%).

COMMENTS ON ACCIDENT CONDITION

Speeding is the main cause of accidents.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

Traffic volume of the stop-controlled intersection is almost saturated.

MEASURES

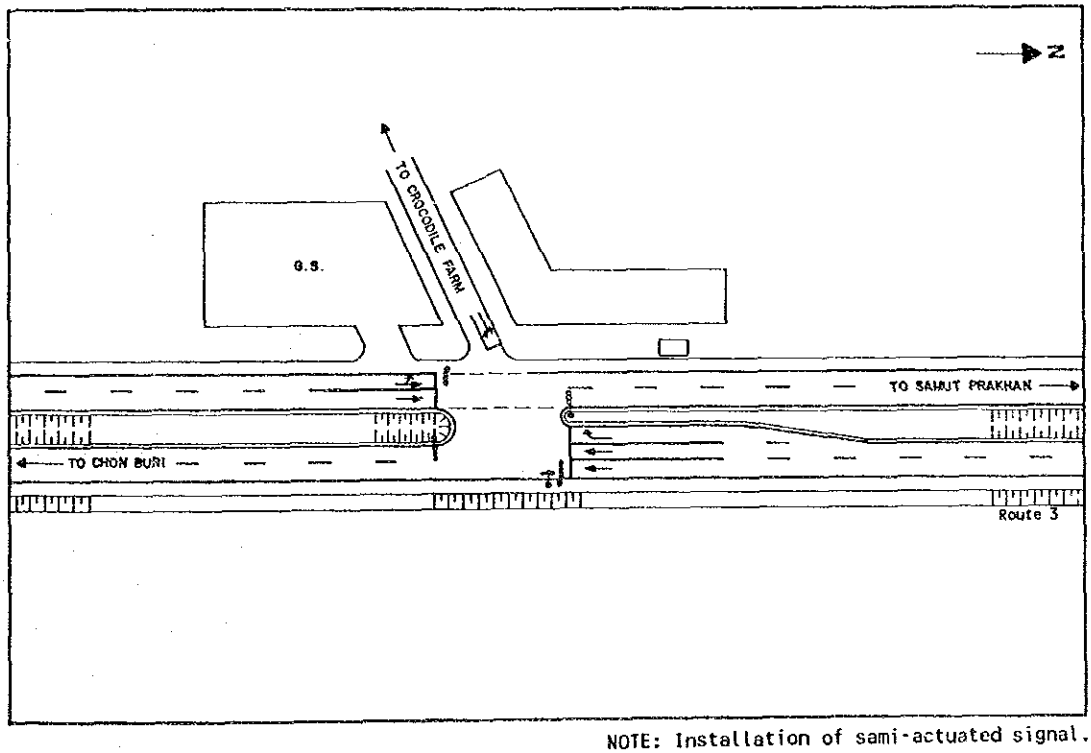
The installation of pre-timed signals or semi-activated traffic signals is suggested.

EVALUATION

Installation of pre-timed signal: Not warranted because of low traffic volume.

Installation of semi- actuated traffic signal: Satisfies criteria for improvement (traffic volume from crocodile farm is low).

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN



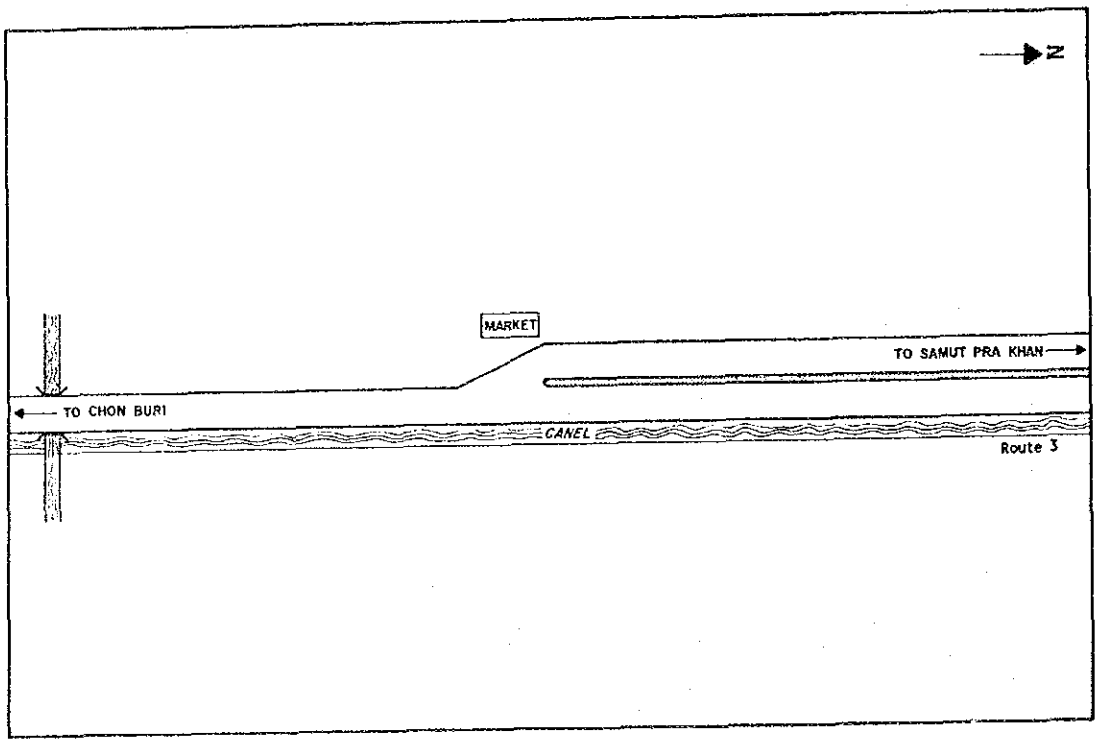
NOTE: Installation of sami-actuated signal.

DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	13		LOCATION NAME	Bang Poo			
ROUTE NO.	3	CONTROL SECTION NO.	200	K.P. OF PROBLEM LOCATION	K.P 29.250 – K.P. 51.150	ROAD CONDITION	Roadway Section
K.P OF CONTROL SECT.	K.P 16.710 – K.P 55.992					DISTRICT CODE	411
DIVISION NAME	BANGKOK			DISTRICT NAME	BANGKOK	PEDESTRIAN VOLUME (PERSONS / PEAK HOUR)	
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 70,793 MINOR ROAD (PEAK HOUR) MAJOR ROAD 4,685 MINOR ROAD			PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 39.2 MINOR ROAD (PEAK HOUR) MAJOR ROAD 39.0 MINOR ROAD	ACCIDENT RATE (PERSONS / 100 MIL. VEH. KM.)	5.4
NO OF ACCIDENTS(CASES)	18			CASUALITIES (PERSONS)	(FATALITIES) 12 (INJURIES) 26	WHOLE CONTROL SECTION	14.5

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

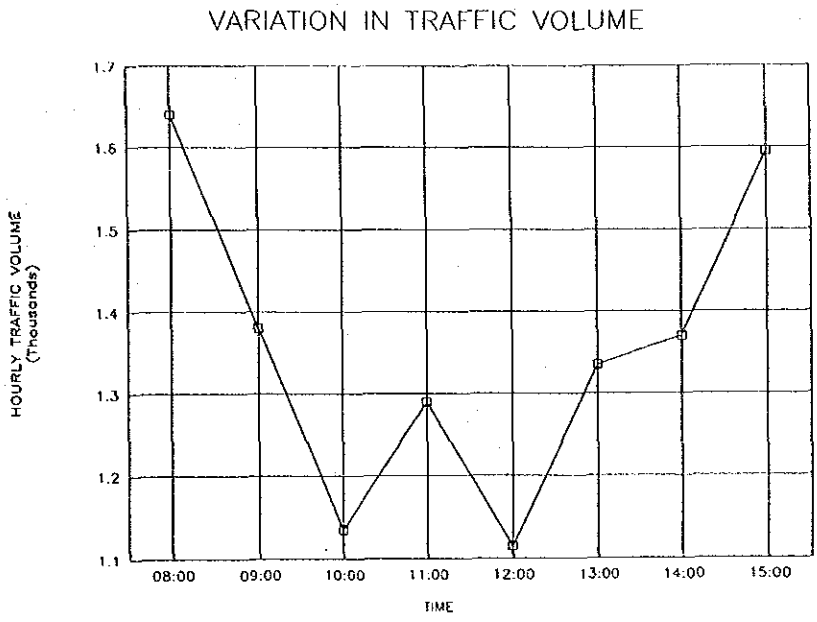
This is a section of R3 and has four lanes and a wide center strip (5.5 m) as far as Kp 40 + 000, after which the number of lanes is reduced to two.

TRAFFIC SAFETY / CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	
GUARD FENCE	0
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis



Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME		NUMBER OF ACCIDENTS (CASES)	CASUALTIES			ACCIDENT RATE					ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
					ADT (PCU/DAY)	VEHICLE KILOMETER		DEATH (CASES)	INJURY (CASES)	DEATH AND INJURY (CASES)	ACCIDENT DENSITY (CASES/KM)	ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	DEATH (CASUALTIES/100 MIL.VEH.KM.)	INJURY (CASUALTIES/100 MIL.VEH.KM.)	DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)		
13	3	200	29+250 - 51+150	21.900	87,827	1,923,411	18	12	26	38	0.8	2.6	1.7	3.7	5.4	14.5	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES)													
			HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
13	3	200	3	2	2	1	3	5	0	0	0	1	0	0	1	18

Number of Accident by couse

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT								REMARKS
			OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	
13	3	200	14	1	3	0	0	0	0	18	

COMMENTS ON TRAFFIC CONDITION

R3 is a primary highway which runs south-east. It has large traffic volumes and a high proportion of heavy vehicles (RHV is 39%).

COMMENTS ON ACCIDENT CONDITION

Speeding is the cause of most of the accidents (14 cases, 78% of the total), especially at night-time when ten of the cases were recorded.

Of all the accident types, head-on collisions are the most frequent (5 cases, 36% of the total), followed by read-end collisions and pedestrian accidents (3 cases, 21% of the total). Ten cases of accidents involving vehicles and motorcycles were recorded.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The number of night-time accidents is higher than on other sections, especially the number of accidents involving motorcycles.

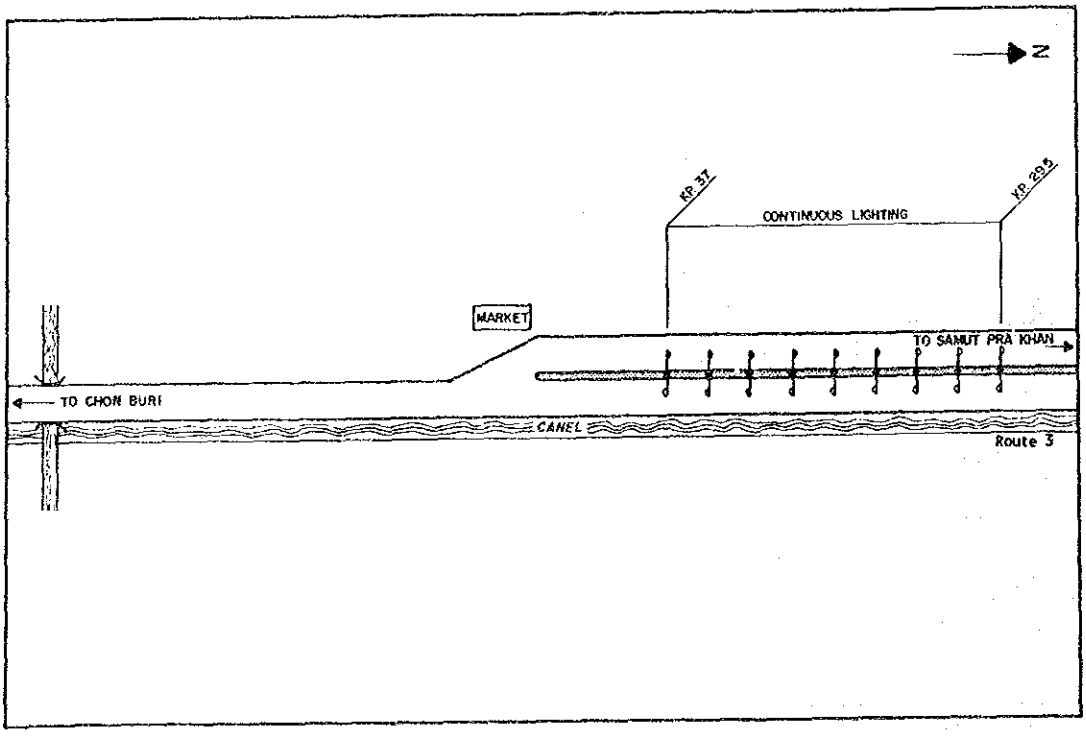
MEASURES

The installation of continuous lighting between 29.5 Kp and 37 Kp is suggested, because there are many residential areas and market facilities on this section.

EVALUATION

Installation of continuous lighting (kp.29.5-kp.37): Satisfies criteria for improvement. There are residential areas and market facilities between 29.5 kp and 37.0 kp. There are no facilities far from 37.0 kp.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

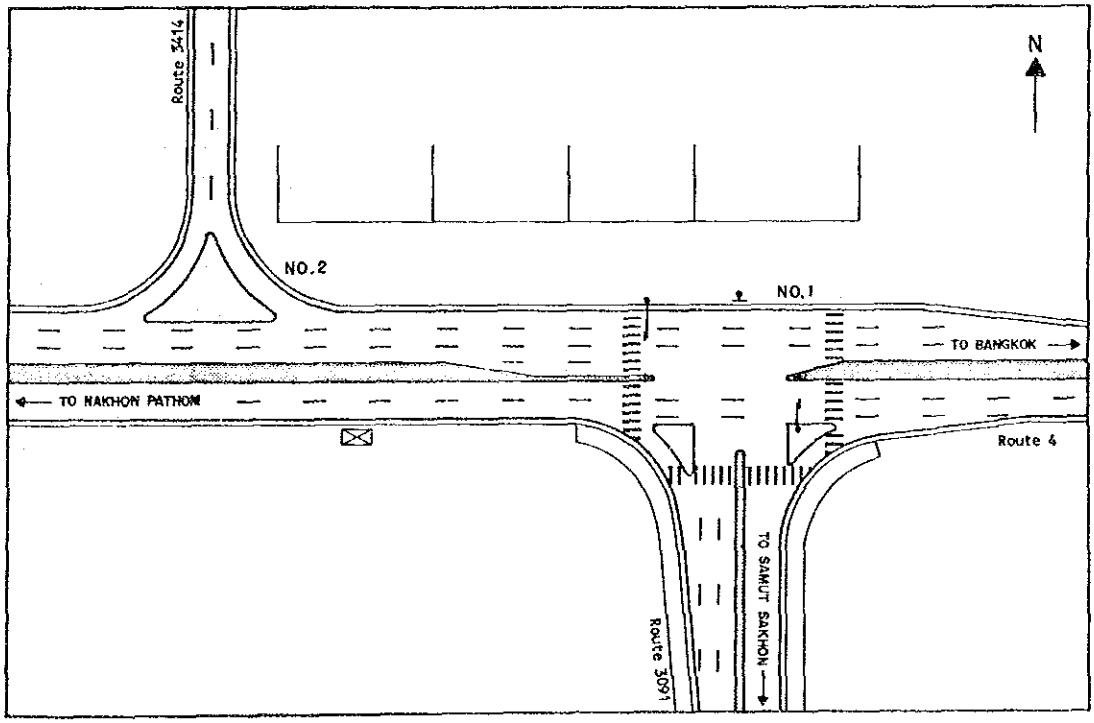


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	14		LOCATION NAME	Oam Noi			
ROUTE NO.	4/4	CONTROL SECTION NO. 100/201	K.P. OF PROBLEM LOCATION	K.P. 24.500 24.967 — K.P. 24.967 25.500		ROAD CONDITION	Inter-section
K.P. OF CONTROL SECT.	K.P. 21.375 24.967 — K.P. 24.967 41.067						
DIVISION NAME	BANGKOK		DISTRICT NAME	THONBURI		DISTRICT CODE	415
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 51,550 MINOR ROAD (PEAK HOUR) MAJOR ROAD 3,168 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 47.3 MINOR ROAD (PEAK HOUR) MAJOR ROAD 52.1 MINOR ROAD		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	
						ACCIDENT RATE (PERSONS/100 MIL. VEH KM)	49.1/69.7
NO. OF ACCIDENTS(CASES)	3/7		CASUALITIES (PERSONS)	(FATALITIES) 3/2 (INJURIES) 1/6		WHOLE CONTROL SECTION	36.7/29.7

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

This location is the staggered intersection of R4, R3091 and R3414. There is a distance of about 100m between the two intersection legs of R3091 and R3414. An improvement plan has already been prepared by the DOH for this section.

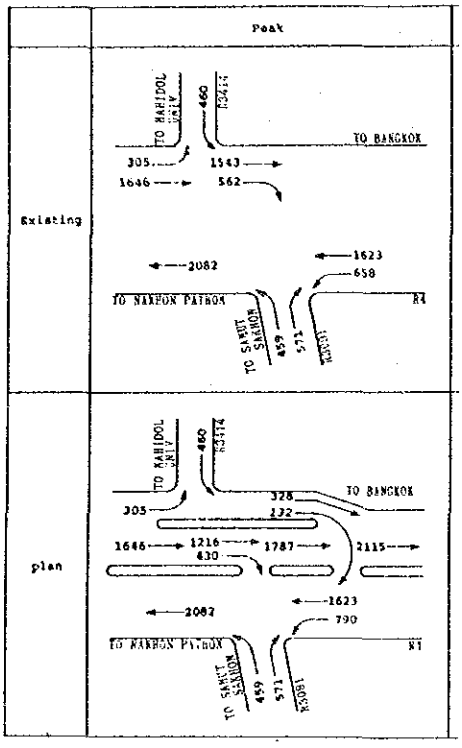
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	0
PEDESTRIAN CROSSING	0
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	0
CHANELIZATION	0

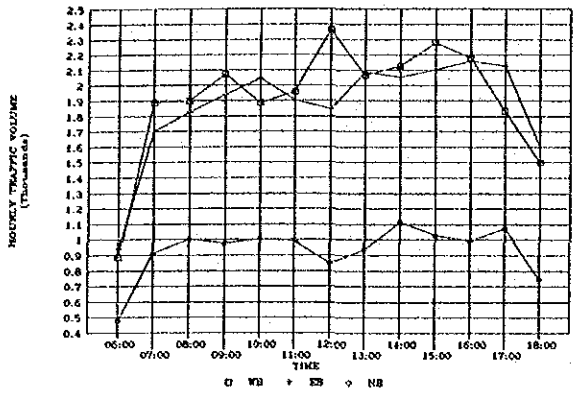
TRAFFIC DATA ANALYSIS

Traffic Data Analysis

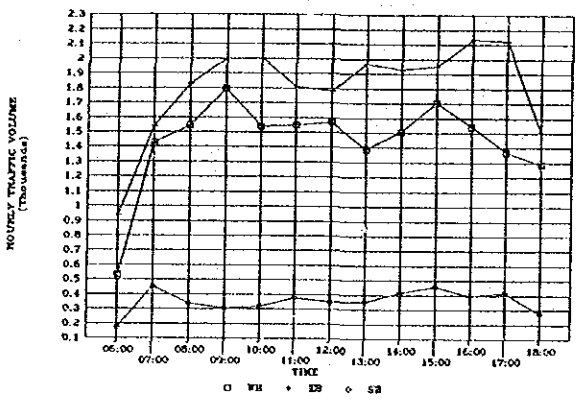
LOCATION NO.14



NO.1 VARIATION IN TRAFFIC VOLUME



NO.2 VARIATION IN TRAFFIC VOLUME



Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	E.P.-E.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
14	4	100	24+500 - 24+967	0.467	57,813	22,329	3	3	1	4	6.4	36.8	36.8	12.3	49.1	36.7	
14	4	201	24+967 - 25+500	0.533	59,013	31,454	7	2	6	8	13.1	61.8	17.4	52.3	69.7	29.7	
14	3091	100	0+000 - 0+500	0.500	11,904	5,952	1	0	1	1	2.0	46.0	0.0	46.0	46.0	144.9	
14	3414	100	0+000 - 0+500	0.500	6,164	3,082	1	0	0	0	2.0	88.9	0.0	0.0	0.0	28.9	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
14	4	100	1	0	0	0	2	0	0	0	0	0	0	0	0	3
14	4	201	4	0	0	0	1	0	0	0	0	1	0	0	1	7
14	309	100	0	0	0	0	0	0	1	0	0	0	0	0	0	1
14	341	100	0	0	0	0	0	0	0	0	0	0	1	0	0	1

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
14	4	100	3	0	0	0	0	0	0	3	
14	4	201	7	0	0	0	0	0	0	7	
14	3091	100	0	1	0	0	0	0	0	1	
14	3414	100	0	0	0	0	0	0	1	1	

COMMENTS ON TRAFFIC CONDITION

R4 is a primary highway which runs to the west. It has a large traffic volume and a high proportion of heavy vehicles (RHV is 47%). The vehicles from R3414 to R3091 have a very short length of road in which to weave through the traffic on R4 to turn right at the intersection of R3091 and R4.

COMMENTS ON ACCIDENT CONDITION

The accident frequency is low.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

An examination of traffic signal controls is needed, so as to make a signal control plan along with intersection improvements.

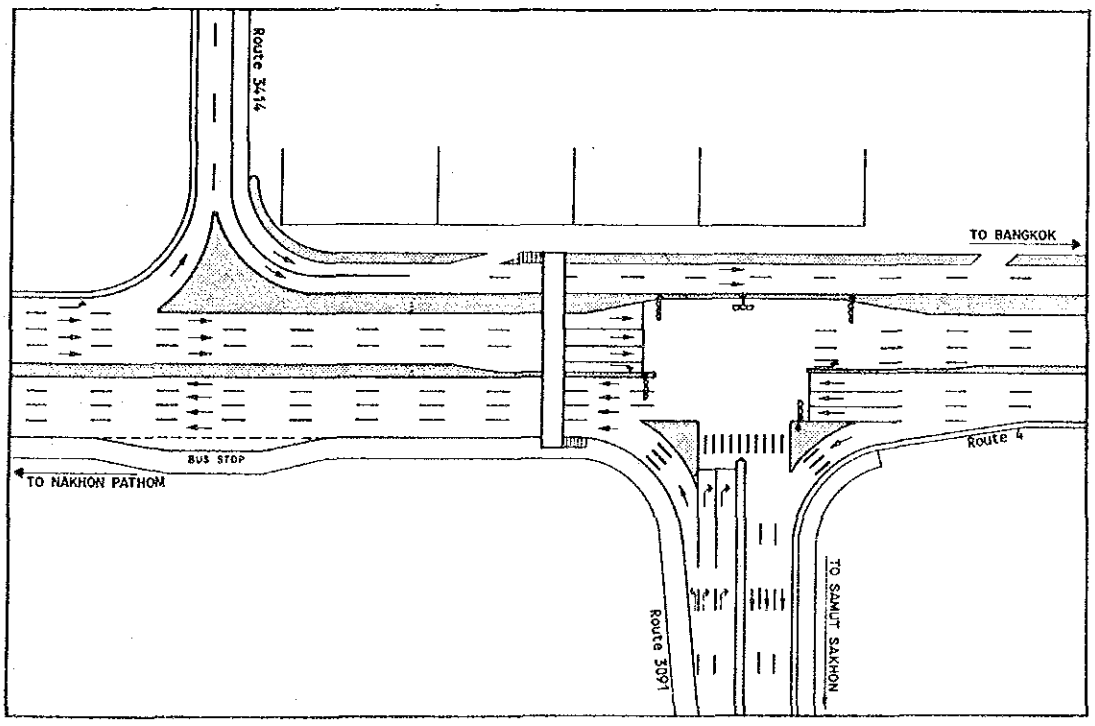
MEASURES

Signal phasing was examined based on the improvement plan prepared by the DOH.

EVALUATION

Examination of traffic signal control: DOH approved.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN



NOTE: the improvement plan prepared by DOH.

WHOLE DAY

1Ø	2Ø	3Ø
40	32.5	27.5

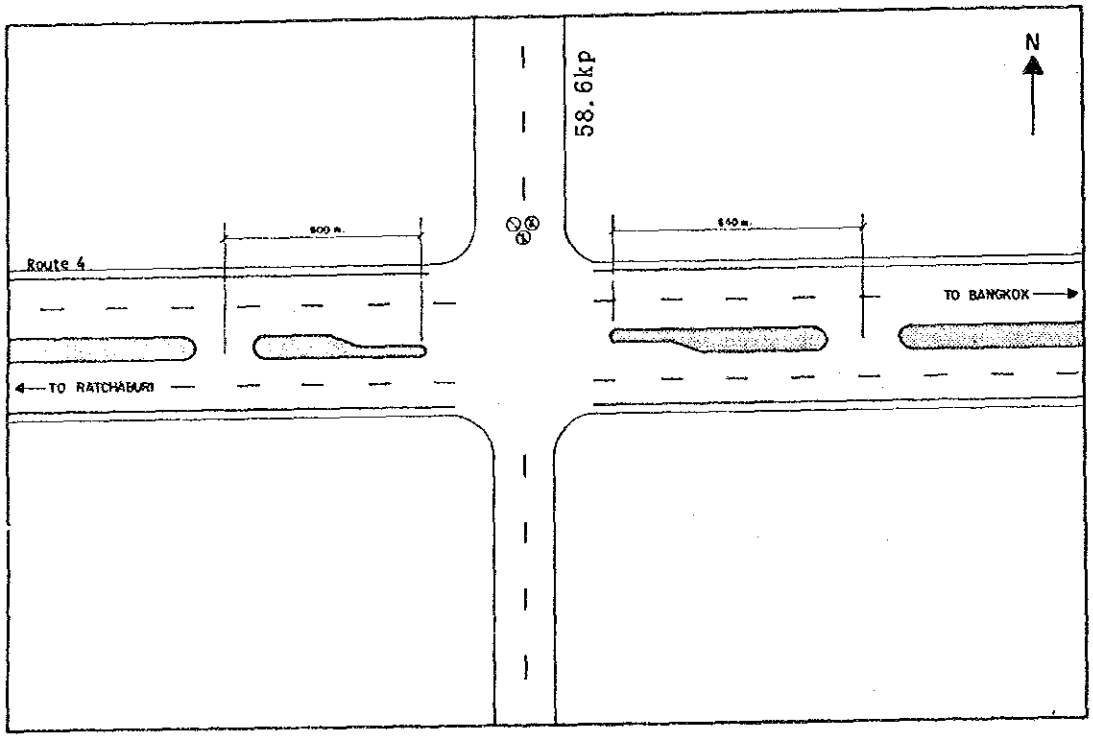
Cycle Length	80	Saturate Degree	0.669

DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	15		LOCATION NAME	Sanamchan Palace			
ROUTE NO.	4	CONTROL SECTION NO.	203	K.P. OF PROBLEM LOCATION	K.P. 57.500 – K.P. 59.500	ROAD CONDITION	Inter-section
K.P. OF CONTROL SECT.	K.P. 53.680 – K.P. 60.026					DISTRICT CODE	443
DIVISION NAME	SUPHANBURI			DISTRICT NAME	BANPONG	PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 68,749 MINOR ROAD (PEAK HOUR) MAJOR ROAD 4,866 MINOR ROAD			PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 40.0 MINOR ROAD (PEAK HOUR) MAJOR ROAD 42.9 MINOR ROAD	ACCIDENT RATE (PERSONS/100 MIL. VEH. KM.)	40.2
NO. OF ACCIDENTS(CASES)	9			CASUALITIES (PERSONS)	(FATALITIES) 5 (INJURIES) 6	WHOLE CONTROL SECTION	28.8

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

This is an intersection of Route 4 and one of its feeder roads. This R4 section is a straight four-lane section with a wide median. The northern crossroad is a paved two-lane road and the southern crossroad is an unpaved two-lane road.

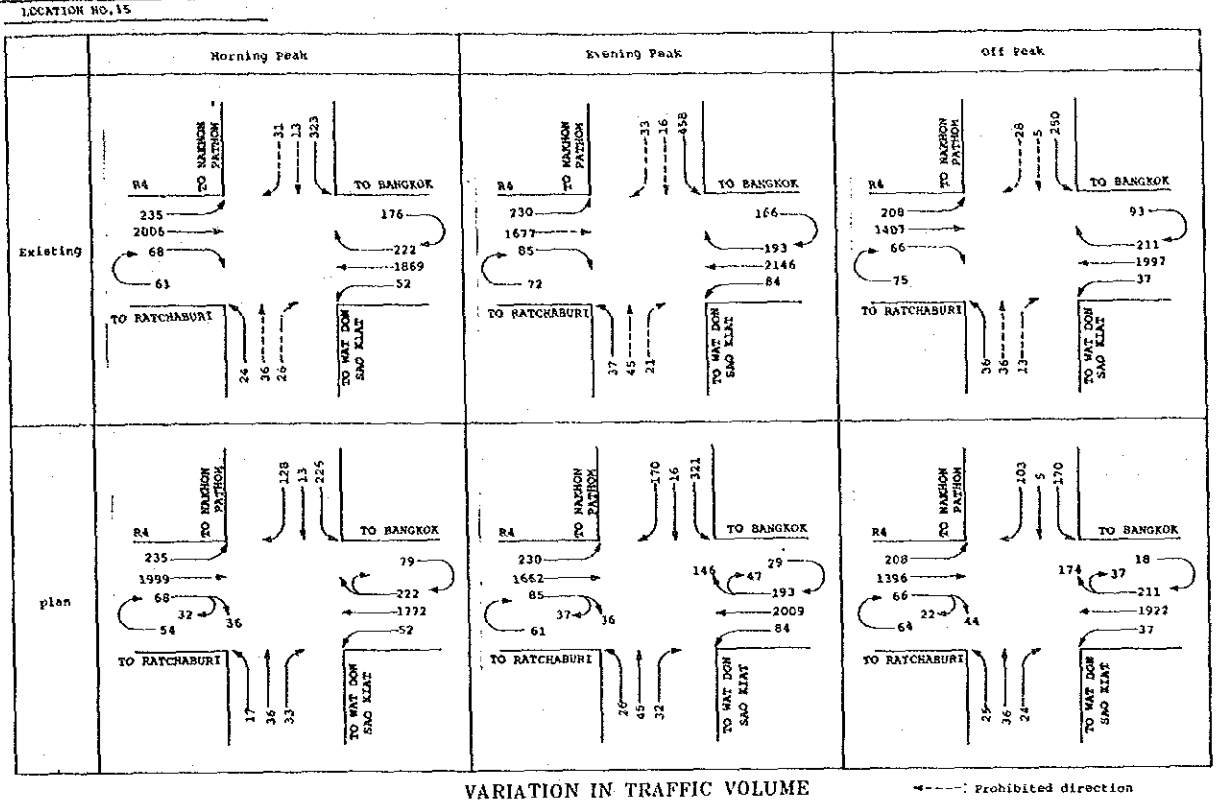
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

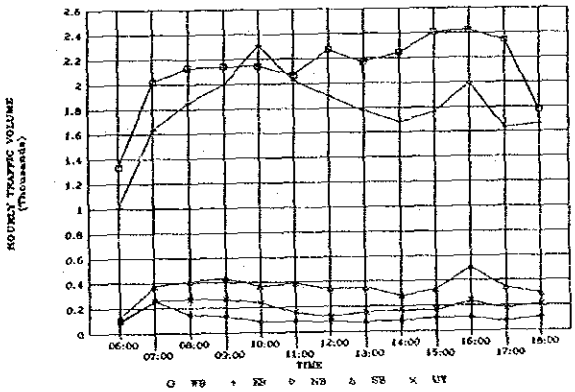
TRAFFIC DATA ANALYSIS

Traffic Data Analysis

LOCATION NO.15



VARIATION IN TRAFFIC VOLUME



Prohibited direction

Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	E.P.-E.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
15	4	203	37+500 - 39+500	2.000	37,445	75,890	9	5	6	11	4.5	32.9	18.3	22.0	40.2	25.8	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	SIDE COLLISION SAME DIR.	SIDE COLLISION ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT FARM	OTHERS	SUM
15	4	203	1	0	0	0	3	6	0	0	2	0	1	0	2	9

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
15	4	203	7	1	0	0	0	0	1	9	

COMMENTS ON TRAFFIC CONDITION

R4 is a southbound primary highway with heavy traffic volumes and a high proportion of heavy vehicles.

The northern crossroad leads to a town and many cars make right- and left-turns in this direction. It is prohibited to go straight or to make right-turns from the northern crossroad. Right-turning vehicles are required to make a left-turn first and then a U-turn in the median opening.

COMMENTS ON ACCIDENT CONDITION

Accidents occur mainly in the intersection and in the median opening. Of all the accident types, rear-end collisions are the most frequent, followed by accidents caused by improper turning. It should be noted that night-time accidents account for 60% of all accidents (this includes many fatalities).

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

Owing to the heavy traffic volume and the high traffic speeds of R4, crossing from the minor road and turning right from R4 are dangerous.

In the median opening, the shoulder is used to accommodate cars decelerating and waiting to make right-turns. However, since the shoulder is not well-paved and the lane width is narrow, the cars there often cause the through-traffic to brake suddenly or to change lanes. This is considered to be one of the major causes of rear-end collisions.

MEASURES

The installation of traffic signals at the intersection, or the installation of U-turn traffic signals at the median opening and channelization, are suggested.

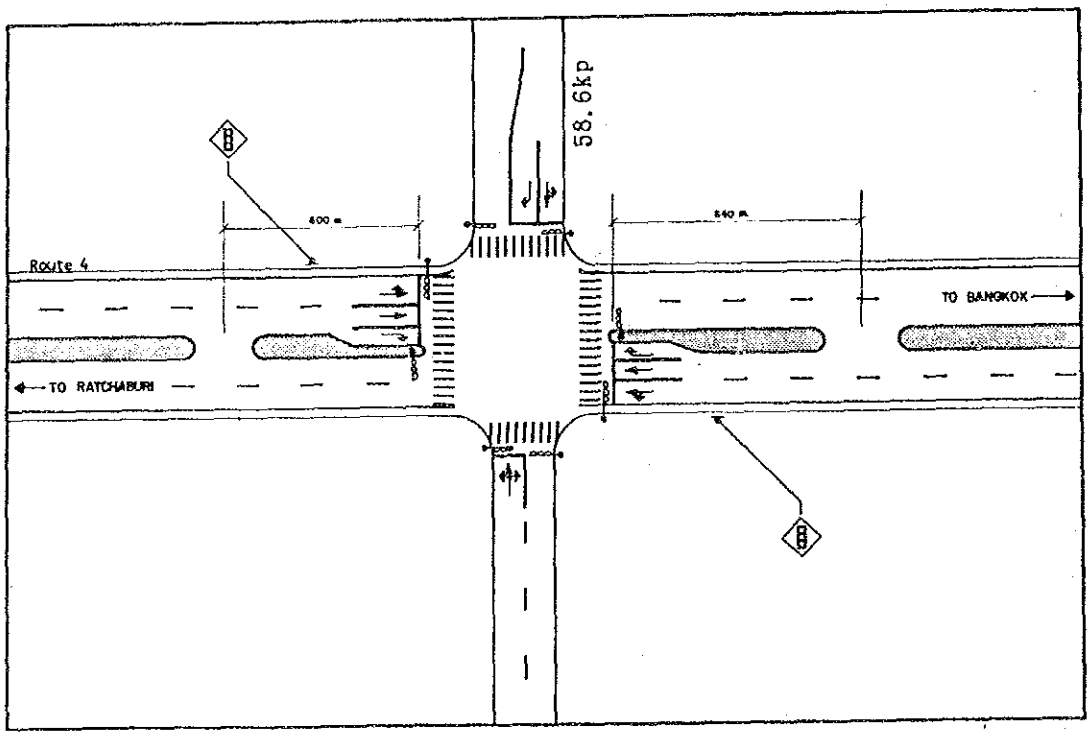
EVALUATION

Installation of traffic signals at the intersection: Satisfies criteria for improvement.

Installation of U-turn traffic signals at the median opening: Can treat U-turn volume without signal control.

Channelization at the intersection: Road conditions warrant the measure.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN



Morning Peak

1Ø	2Ø	3Ø
68.4	9.5	22.1

Cycle Length	95	Saturate Degree	0.755

Evening Peak

1Ø	2Ø	3Ø
64.2	7.4	28.4

Cycle Length	95	Saturate Degree	0.755

Off Peak

1Ø	2Ø	3Ø
70.5	10.4	19.1

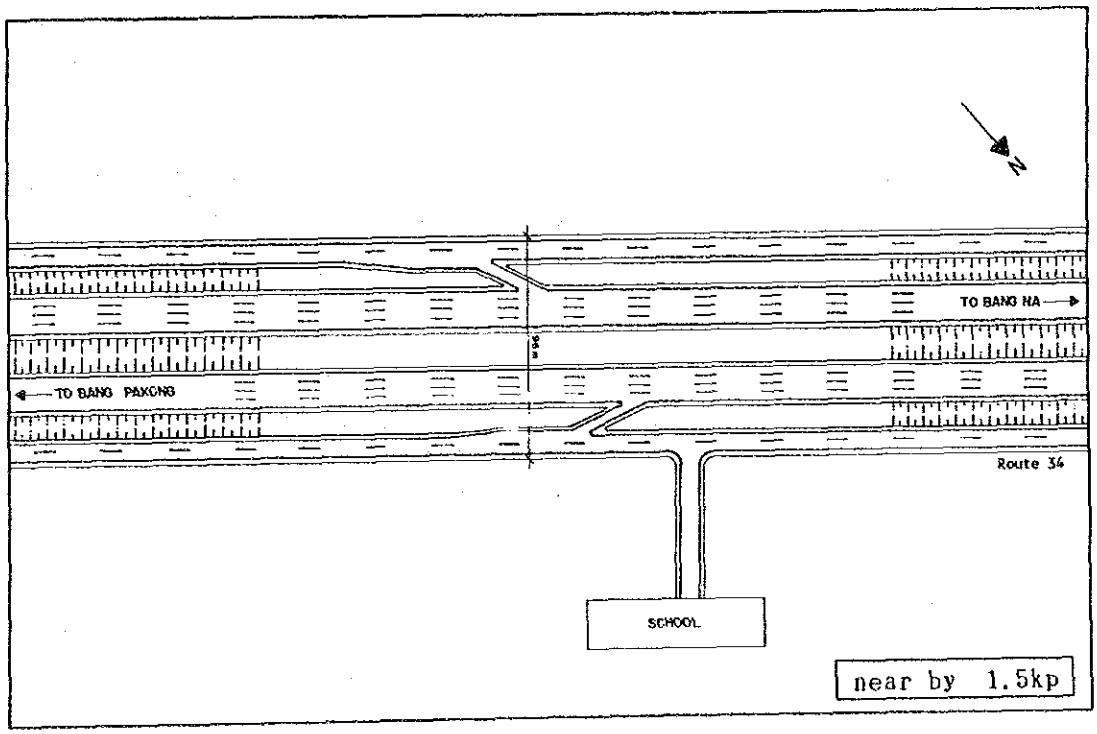
Cycle Length	115	Saturate Degree	0.651

DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	16	LOCATION NAME	Prapha Montri School			
ROUTE NO.	34	CONTROL SECTION NO. 100	K.P. OF PROBLEM LOCATION	K.P 1.000 – K.P. 2.000	ROAD CONDITION	Roadway Section
K.P. OF CONTROL SECT.	K.P. 0.000 – K.P. 46.000				DISTRICT CODE	411
DIVISION NAME	BANGKOK	DISTRICT NAME	BANGKOK		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	227
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 67,854 MINOR ROAD (PEAK HOUR) MAJOR ROAD 3,781 MINOR ROAD	PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 34.5 MINOR ROAD (PEAK HOUR) MAJOR ROAD 31.4 MINOR ROAD		ACCIDENT RATE (PERSONS/100 MIL. VEH. KM.)	308.8
NO. OF ACCIDENTS(CASES)	134	CASUALITIES (PERSONS)	(FATALITIES) 3 (INJURIES) 48		WHOLE CONTROL SECTION	40.7

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

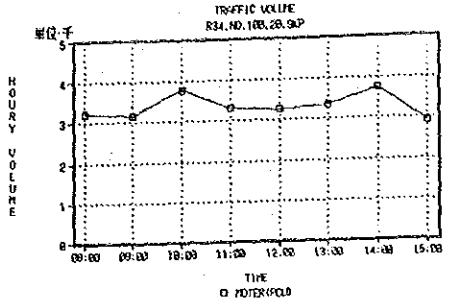
This is an uninterrupted flow section of R34 with a school access road. R34 is an eight-lane highway with a wide median and a two-lane frontage road divided by a separator on both sides. It has a total width of 96m.

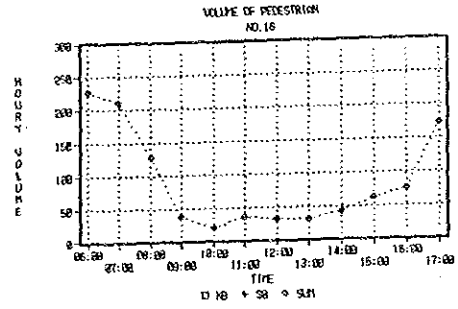
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	0
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis





Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL. VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
16	34	100	1+000 - 2+000	1.000	45,246	45,246	134	3	48	51	134.0	811.4	18.2	290.6	308.8	40.7	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
16	34	100	20	1	28	6	45	0	0	4	23	2	3	0	2	134

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
16	34	100	95	17	17	1	0	1	3	134	

COMMENTS ON TRAFFIC CONDITION

R34 is a primary highway which runs south-east. It has a large traffic volume and a high proportion of heavy vehicles (RHV is 34%). It conforms to high-level design standards and allows cars to travel at high speeds.

COMMENTS ON ACCIDENT CONDITION

The accident frequency is very high. Rear-end collisions are the most frequent, followed by pedestrian accidents.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The pedestrian crossings are in a dangerous condition.

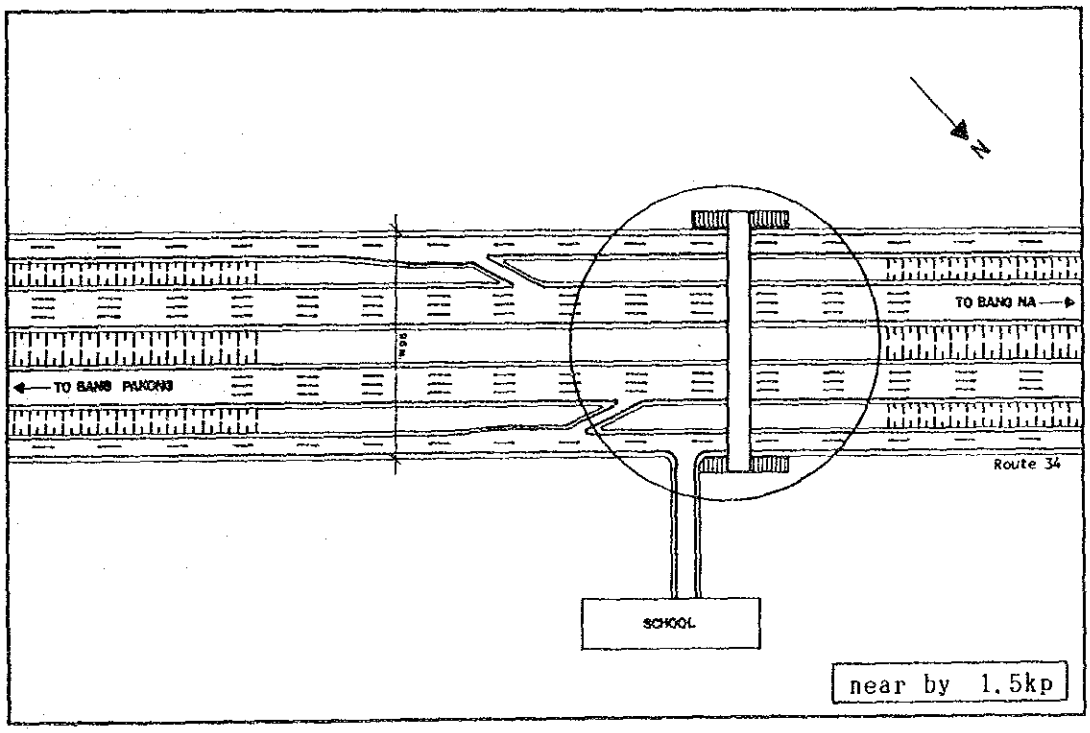
MEASURES

The installation of pedestrian overpasses are suggested.

EVALUATION

Installation of pedestrian overpass: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

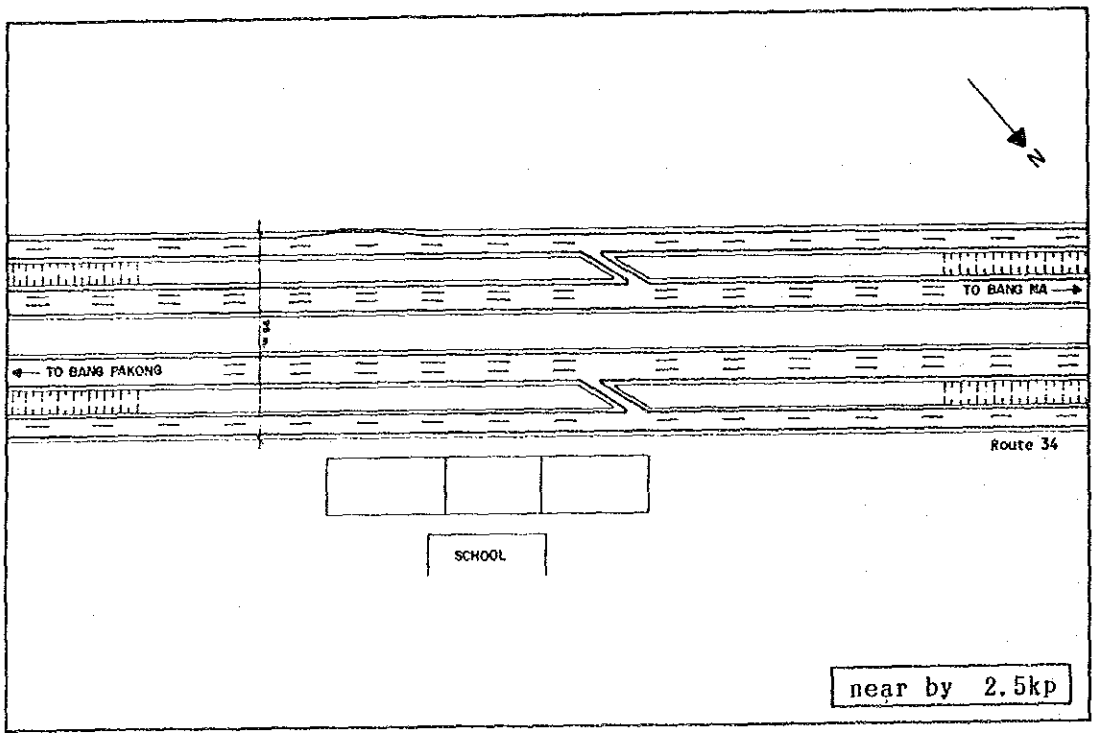


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	17		LOCATION NAME	Nuan Thong School			
ROUTE NO.	34	CONTROL SECTION NO. 100	K.P. OF PROBLEM LOCATION	K.P. 2.000 – K.P. 3.000		ROAD CONDITION	Roadway Section
K.P. OF CONTROL SECT.	K.P. 0.000 – K.P. 46.000					DISTRICT CODE	411
DIVISION NAME	BANGKOK		DISTRICT NAME	BANGKOK		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	295
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 67,854 MINOR ROAD (PEAK HOUR) MAJOR ROAD 3,781 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 34.5 MINOR ROAD (PEAK HOUR) MAJOR ROAD 31.5 MINOR ROAD		ACCIDENT RATE (PERSONS/100 MIL. VEH. KM.)	320.9
NO. OF ACCIDENTS(CASES)	104		CASUALITIES (PERSONS)	(FATALITIES) 4 (INJURIES) 49		WHOLE CONTROL SECTION	40.7

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

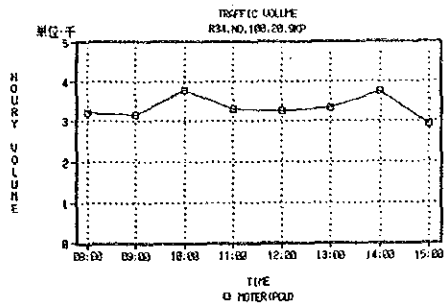
This is an uninterrupted flow section of R34 with a school access road. R34 is an eight-lane highway with a wide median and a two-lane frontage road divided by a separator on both sides. It has a total width of 96m.

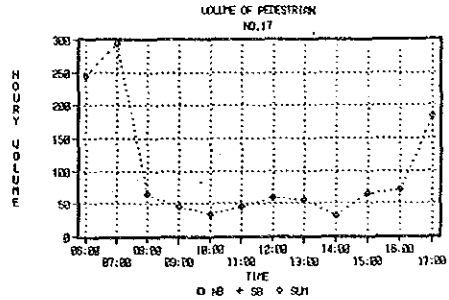
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	0
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis





Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL. VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH. KM.)	REMARKS
17	34	100	2+000 - 3+000	1.000	45,246	45,246	104	4	49	53	104.0	629.7	24.3	296.7	320.9	40.7	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
17	34	100	23	1	18	9	29	1	0	2	14	2	3	0	2	104

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
17	34	100	81	9	9	0	0	1	4	104	

COMMENTS ON TRAFFIC CONDITION

R34 is a primary highway which runs south-east. It has a large traffic volume and a high proportion of heavy vehicles (RHV is 34%). It conforms to high-level design standards and allows cars to travel at high speeds.

COMMENTS ON ACCIDENT CONDITION

The accident frequency is very high. Rear-end collisions are the most frequent, followed by pedestrian accidents.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The pedestrian crossings are in a dangerous condition.

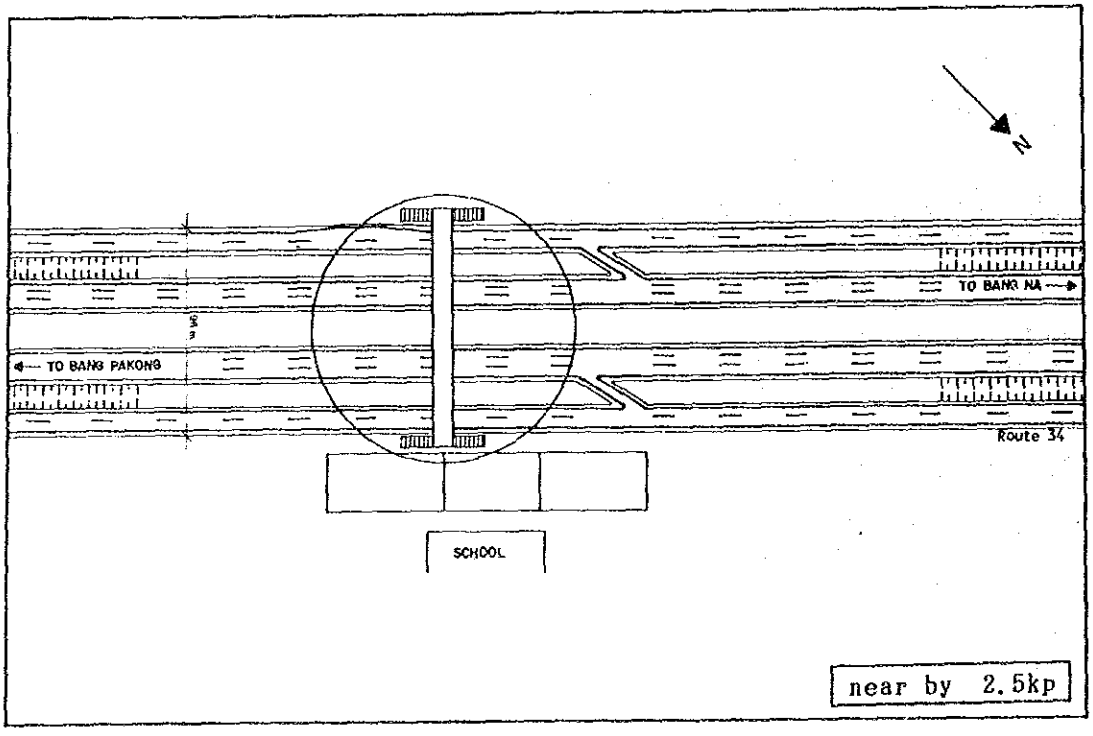
MEASURES

The installation of pedestrian overpasses are suggested.

EVALUATION

Installation of pedestrian overpass: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

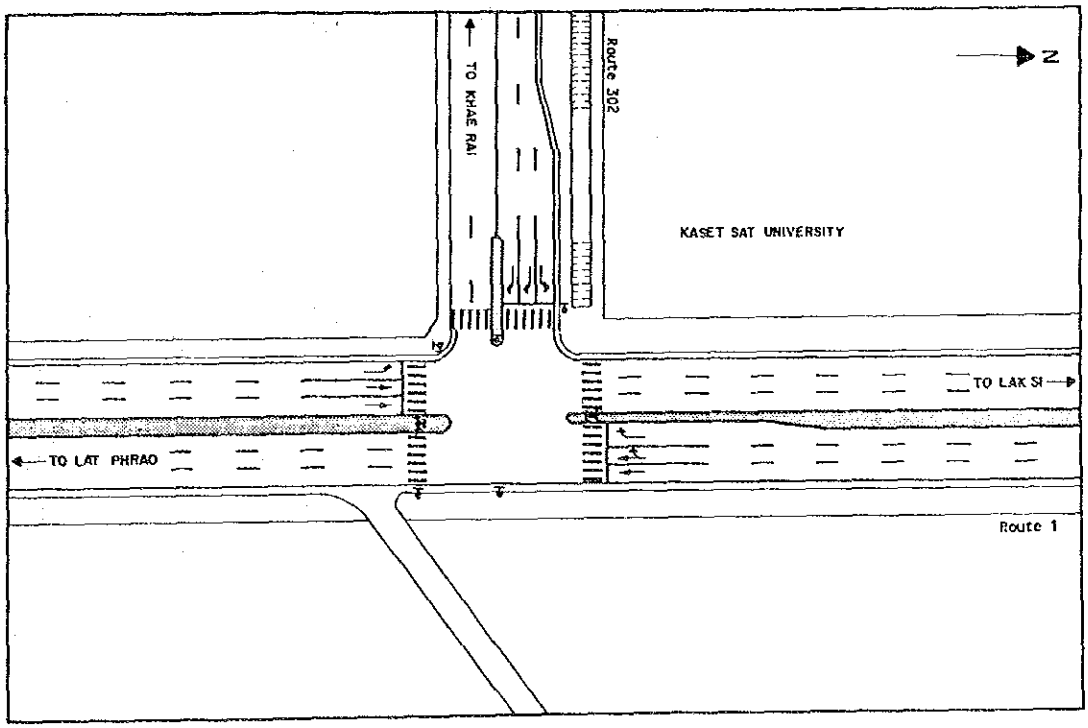


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	18		LOCATION NAME	Kaset Sat University			
ROUTE NO.	302/1	CONTROL SECTION NO. 100/100	K.P. OF PROBLEM LOCATION	K.P 0.000 – K.P 0.500		ROAD CONDITION	Inter-section
K.P OF CONTROL SECT.	K.P 0.000 – 16.441	K.P 6.333 – 29.000					
DIVISION NAME	BANGKOK		DISTRICT NAME	BANGKOK		DISTRICT CODE	411
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 53,299; MINOR ROAD 53,153; (PEAK HOUR) MAJOR ROAD 2,956; MINOR ROAD 4,260		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 18.5; MINOR ROAD 21.8; (PEAK HOUR) MAJOR ROAD 14.0; MINOR ROAD 29.4		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	
						ACCIDENT RATE (PERSONS/100 MIL. VEH. KM.)	82.3/-
NO. OF ACCIDENTS(CASES)	71/-		CASUALITIES (PERSONS)	(FATALITIES) 1/-; (INJURIES) 7/-		WHOLE CONTROL SECTION	45.5/-

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

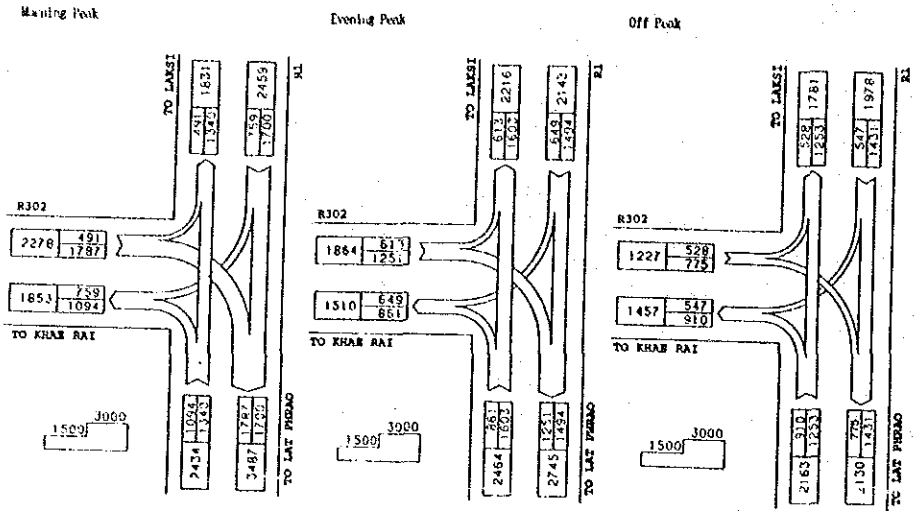
This is the T-shaped signalized intersection between R302 and R1 (Phahon Yothin Road). The area along the road is commercialized, except for Kaset Sat University on the north-west corner. Plans to widen the R302 from four lanes to eight lanes have been prepared by the DOH.

TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

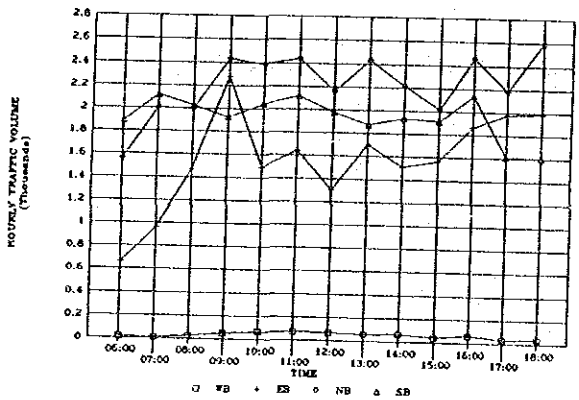
TRAFFIC SIGNAL	0
PEDESTRIAN CROSSING	0
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis



VARIATION IN TRAFFIC VOLUME



Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL. VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH. KM.)	REMARKS
18	302	100	0+000 - 0+500	0.500	53,294	26,647	71	1	7	8	142.0	730.0	10.3	72.0	82.3	45.5	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
18	302	100	2	1	8	13	16	0	9	3	13	0	0	0	6	71

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
18	302	100	42	19	5	0	0	0	5	71	

COMMENTS ON TRAFFIC CONDITION

Heavy traffic volume traverses R302 and R1 all day. Right- and left-turning traffic is also heavy, with vehicles predominantly turning right from R302 toward Lat Phrao.

COMMENTS ON ACCIDENT CONDITION

The number of accidents that occurred at the intersection on R302 was 11 cases with collisions between vehicles being the most common. Of these accidents there were no injuries or fatalities recorded. There were no accidents recorded on R1.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

This intersection has been over-saturated due to the high volumes of traffic entering the intersection. The capacity of the lanes is reduced because of inadequate channelization of traffic.

MEASURES

The widening of R302, channelization on R1 and an improvement of traffic signal phasing are suggested.

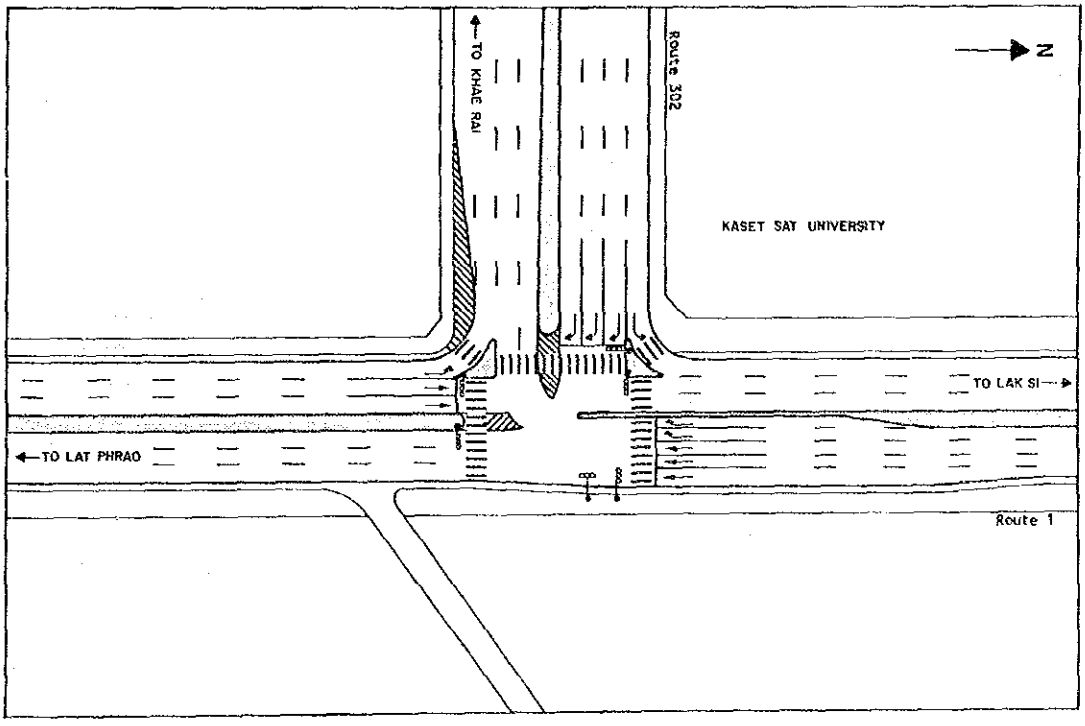
EVALUATION

Widening of R302: Satisfies criteria for improvement.

Channelization on R1: Satisfies criteria for improvement.

Improvement of traffic signal phasing: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN



Morning Peak

1Ø	2Ø	3Ø
37.1	24.2	38.7

Cycle Length	132	Saturate Degree	0.877

Evening Peak

1Ø	2Ø	3Ø
47.6	22.1	30.3

Cycle Length	145	Saturate Degree	0.813

Off Peak

1Ø	2Ø	3Ø
37.8	19.5	42.7

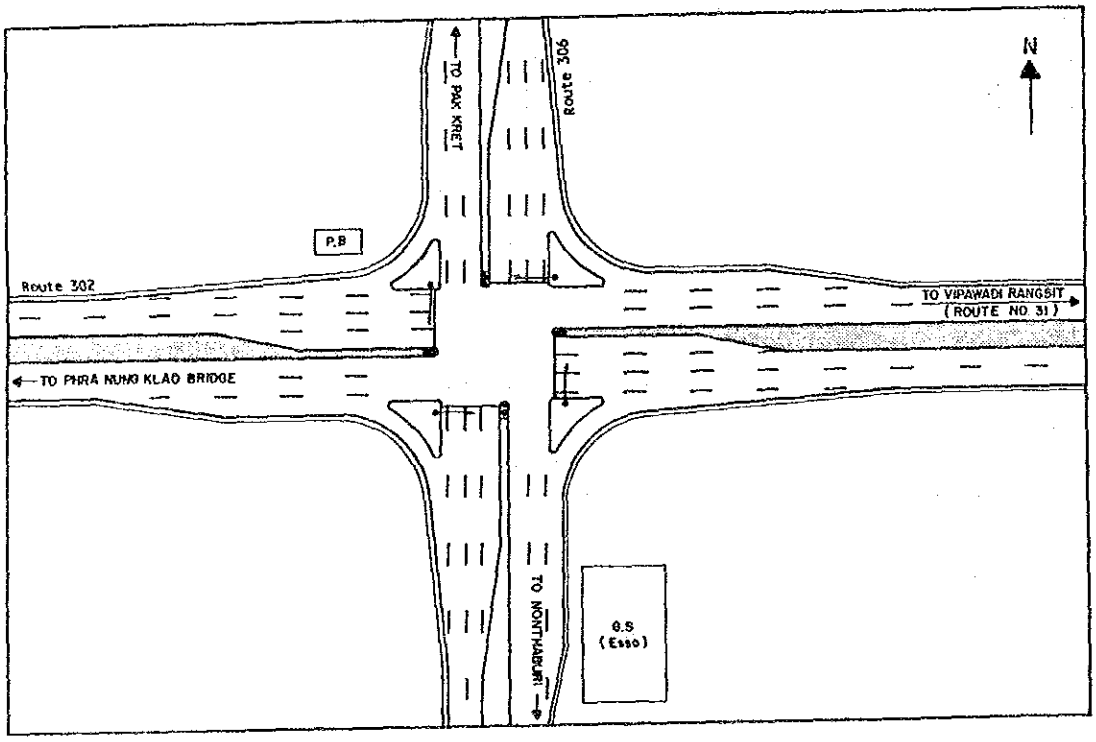
Cycle Length	164	Saturate Degree	0.806

DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	19	LOCATION NAME	Khae Rai		ROAD CONDITION	Inter-section
ROUTE NO.	302/306	CONTROL SECTION NO.	100/103	K.P. OF PROBLEM LOCATION	K.P 6.000 – K.P 7.000 7.000 8.000	
K.P OF CONTROL SECT.	K.P. 0.000 – K.P. 6.333 6.000 26.674					DISTRICT CODE	411 416
DIVISION NAME	BANGKOK			DISTRICT NAME	BANGKOK		
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 53,299 MINOR ROAD 49,189 (PEAK HOUR) MAJOR ROAD 2,956 MINOR ROAD 3,356			PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 18.5 MINOR ROAD 31.3 (PEAK HOUR) MAJOR ROAD 14.0 MINOR ROAD 32.8	PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	
						ACCIDENT RATE (PERSONS/100 MIL. VEH. KM.)	0.0/78.7
NO. OF ACCIDENTS(CASES)	0/5			CASUALITIES (PERSONS)	(FATALITIES) 0/2 (INJURIES) 0/5	WHOLE CONTROL SECTION	45.5/44.6

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

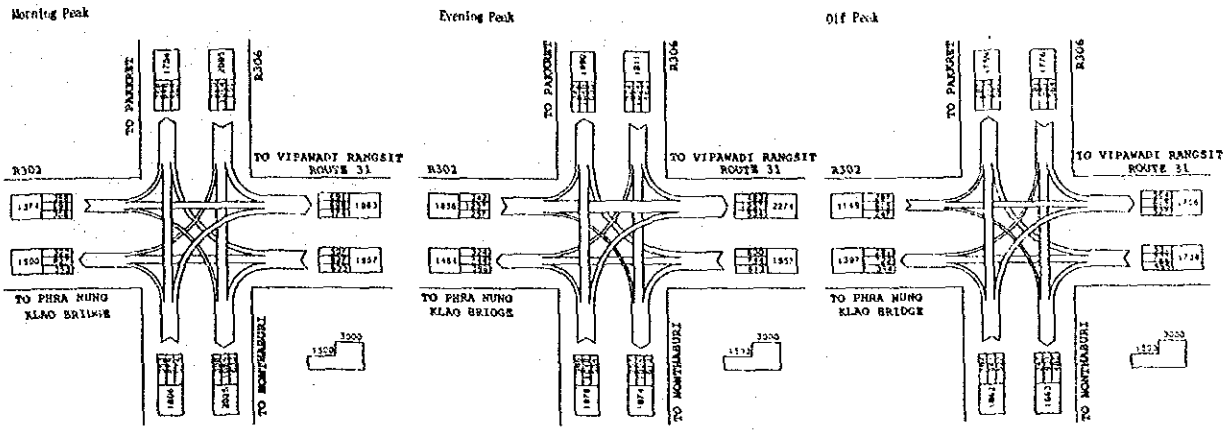
This is a signalized intersection of two four-lane roads. R302 has a 40m wide right-of-way to be used for future widening to an eight-lane road. R306 also has a right-of-way, but it is narrow and has a minimum width of 14 m on one side.

TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

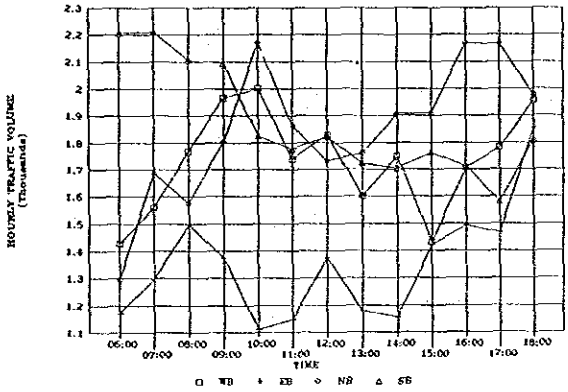
TRAFFIC SIGNAL	0
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	0

TRAFFIC DATA ANALYSIS

Traffic Data Analysis



VARIATION IN TRAFFIC VOLUME



Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
19	302	100	6+000 - 7+000	1.000	53,296	53,296	0	0	0	0	0.0	0.0	0.0	0.0	0.0	45.5	
19	306	103	7+000 - 8+000	1.000	24,370	24,370	5	2	5	7	5.0	56.2	22.5	56.2	78.7	44.6	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
19	302	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	306	103	1	0	0	0	2	0	0	0	0	0	0	0	2	5

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
19	302	100	0	0	0	0	0	0	0	0	

COMMENTS ON TRAFFIC CONDITION

Traffic is heavy on both R302 and R306. It is especially heavy in the south-north direction (R306) and in the north-east and south-east directions. The peak hour heavy vehicle rate is 10 to 15%, which is lower than the levels on primary highways. The motorcycle rate is also high.

COMMENTS ON ACCIDENT CONDITION

The number of accidents that occurred at the intersection was 10 cases.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The large amount of entering traffic is causing over-saturation.

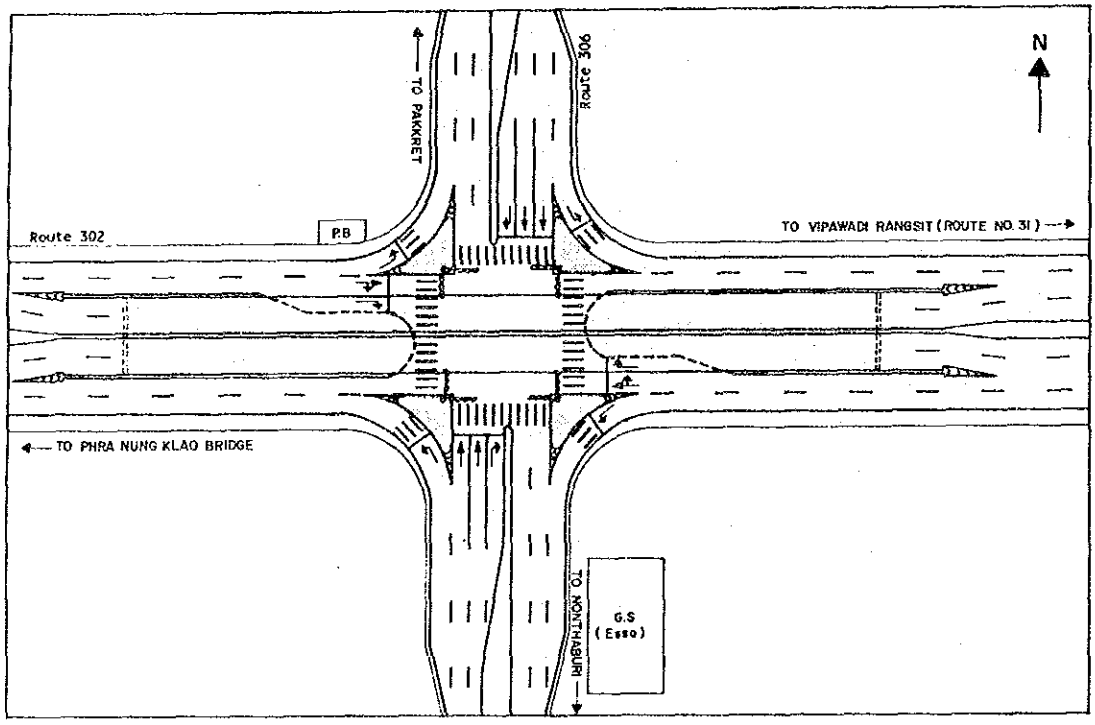
MEASURES

The construction of a grade separation, based on the widening plan of R302, is suggested.

EVALUATION

Grade separation based on the widening plan of R302 (R302 will cross over R306): Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN



1Ø	2Ø	3Ø
35.0	30.0	35.0

Cycle Length	127	Saturate Degree	0.684

1Ø	2Ø	3Ø
36.0	28.0	36.0

Cycle Length	123	Saturate Degree	0.677

1Ø	2Ø	3Ø
36.0	28.0	36.0

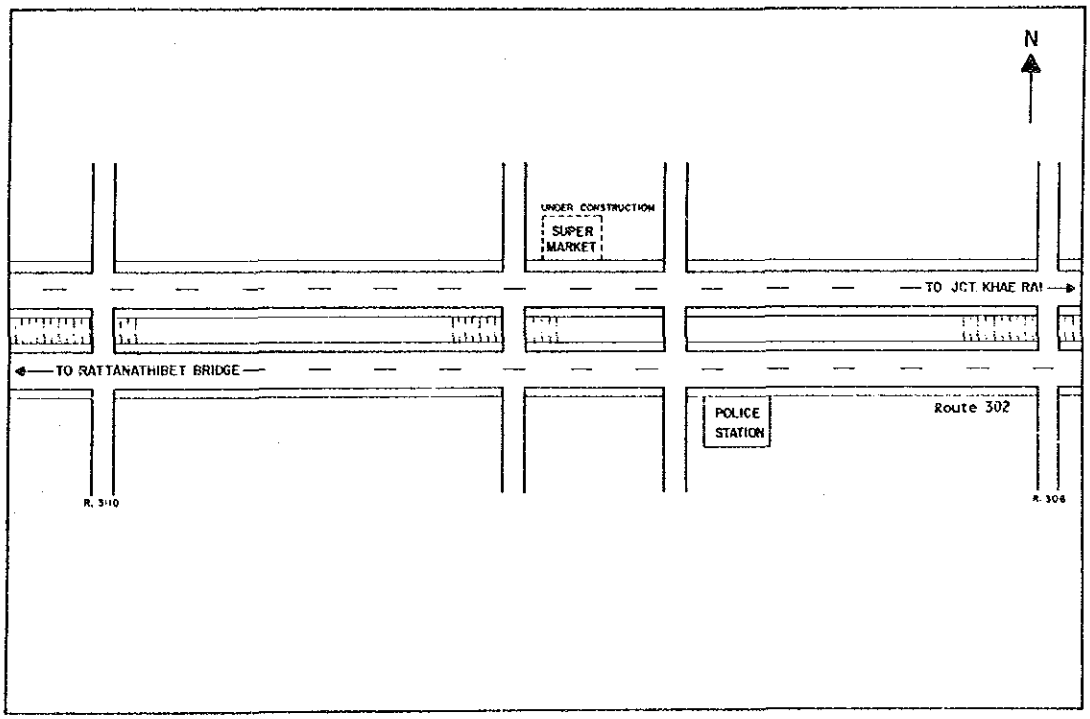
Cycle Length	123	Saturate Degree	0.677

DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	20		LOCATION NAME	Ratanathibet			
ROUTE NO.	302	CONTROL SECTION NO. 200	K.P. OF PROBLEM LOCATION	K.P. 6.333 – K.P. 10.800		ROAD CONDITION	Roadway Section
K.P. OF CONTROL SECT.	K.P. 6.333 – K.P. 18.811						
DIVISION NAME	BANGKOK		DISTRICT NAME	PATHUMTHANI		DISTRICT CODE	416
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 26,206 MINOR ROAD (PEAK HOUR) MAJOR ROAD 1,924 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 33.5 MINOR ROAD (PEAK HOUR) MAJOR ROAD 44.5 MINOR ROAD		PEDESTRIAN VOLUME (PERSONS/ PEAK HOUR)	
						ACCIDENT RATE (PERSONS / 100 MIL. VEH KM)	0.0
NO. OF ACCIDENTS(CASES)	2		CASUALITIES (PERSONS)	(FATALITIES) 0 (INJURIES) 0		WHOLE CONTROL SECTION	10.8

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

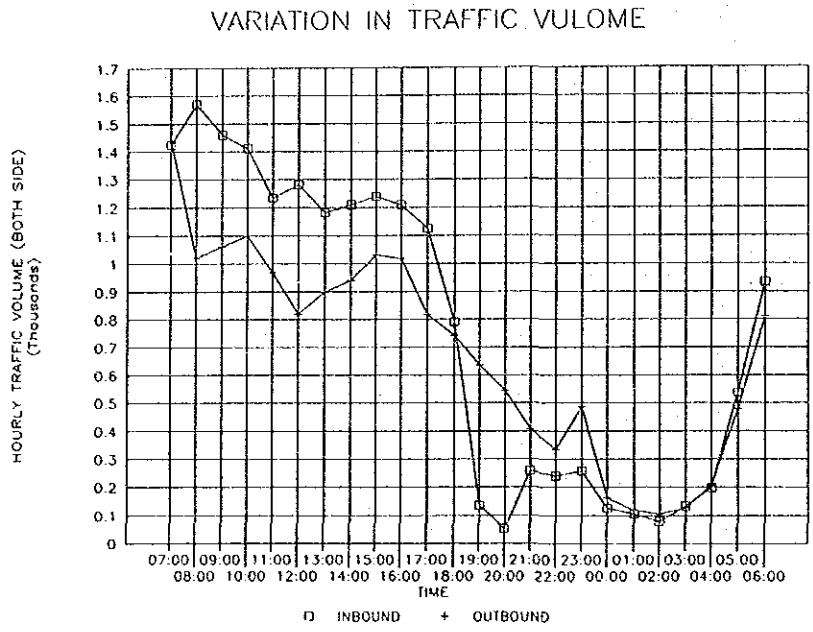
This is an uninterrupted flow section of R302. It is a straight four-lane section with a wide median (4 m).

TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis



Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME		NUMBER OF ACCIDENTS (CASES)	CASUALTIES			ACCIDENT RATE					ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
					ADT (PCU/DAY)	VEHICLE KILOMETER		DEATH (CASES)	INJURY (CASES)	DEATH AND INJURY (CASES)	ACCIDENT DENSITY (CASES/KM)	ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	DEATH (CASUALTIES/100 MIL.VEH.KM.)	INJURY (CASUALTIES/100 MIL.VEH.KM.)	DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)		
20	302	200	6+333 - 10+800	4.467	18,306	81,773	2	0	0	0	0.4	6.7	0.0	0.0	0.0	10.8	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES)													
			HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
20	302	200	1	0	0	0	0	0	0	0	0	0	1	0	0	2

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT								REMARKS
			OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	
20	302	200	1	0	0	0	0	0	1	2	

COMMENTS ON TRAFFIC CONDITION

The intersection has average daily traffic (ADT) volumes of 20,000 vehicles and its RHV is 34%.

COMMENTS ON ACCIDENT CONDITION

Eight night-time accidents were recorded, accounting for 62% of the total accidents.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The number of accidents occurring at night is high in comparison with other sections. This is most likely due to poor lighting at this intersection.

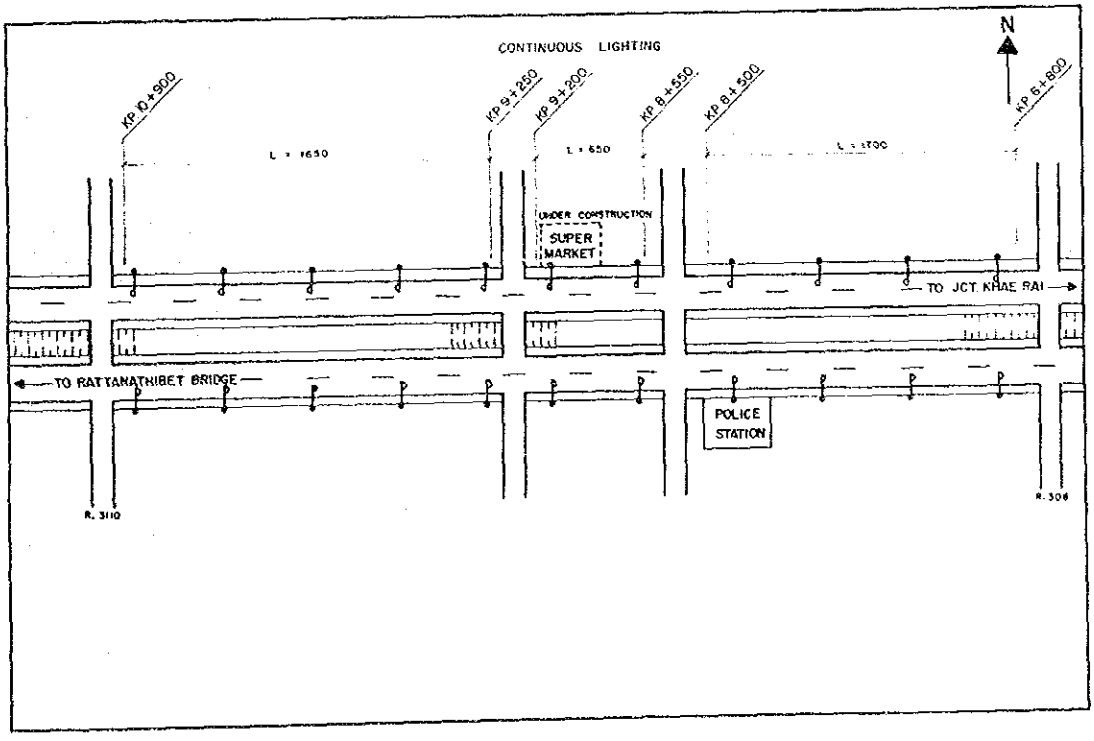
MEASURES

The installation of continuous lighting is suggested.

EVALUATION

Installation of continuous lighting: It is better that continuous lighting be installed between 6.3 kp and 10.8 kp, since continuous lighting already exits on R3110. Existing traffic volume is about 19,000 veh./day, continuous lighting should be installed when volume exceeds 25,000 veh./day.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

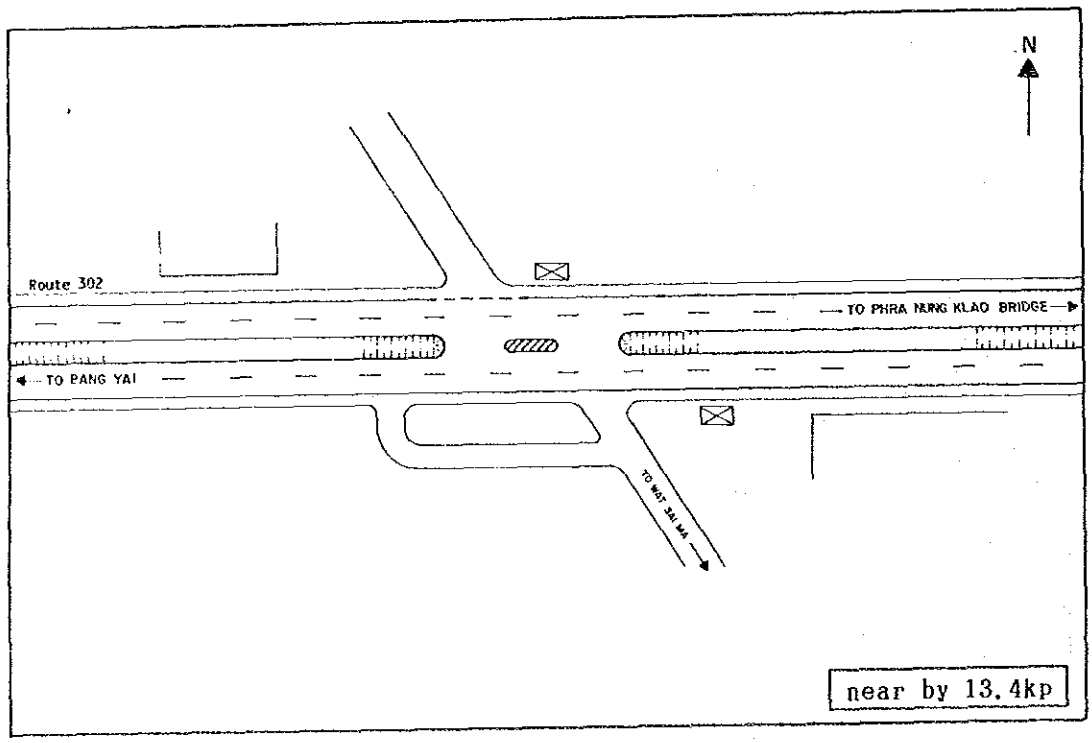


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	21		LOCATION NAME	Wat Saima			
ROUTE NO.	302	CONTROL SECTION NO.	200	K.P. OF PROBLEM LOCATION	K.P 13.000 – K.P. 14.000	ROAD CONDITION	Inter-section
K.P OF CONTROL SECT.	K.P 6.333 – K.P. 18.811					DISTRICT CODE	416
DIVISION NAME	BANGKOK		DISTRICT NAME	PATHUMTHANI		PEDESTRIAN VOLUME (PERSONS/ PEAK HOUR)	
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 26,206 MINOR ROAD (PEAK HOUR) MAJOR ROAD 1,924 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 33.5 MINOR ROAD (PEAK HOUR) MAJOR ROAD 44.5 MINOR ROAD		ACCIDENT RATE (PERSONS / 100 MIL. VEH. KM)	29.9
NO. OF ACCIDENTS(CASES)	5		CASUALITIES (PERSONS)	(FATALITIES) 1 (INJURIES) 1		WHOLE CONTROL SECTION	10.8

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

This is a skewed intersection of R302 and a soi. This R302 section is a straight four-lane section with a wide median (9 m).

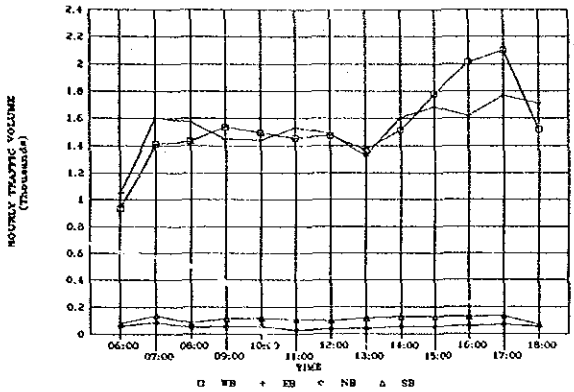
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis

VARIATION IN TRAFFIC VOLUME



Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME		NUMBER OF ACCIDENTS (CASES)	CASUALTIES			ACCIDENT RATE					ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
					ADT (PCU/DAY)	VEHICLE KILOMETER		DEATH (CASES)	INJURY (CASES)	DEATH AND INJURY (CASES)	ACCIDENT DENSITY (CASES/KM)	ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	DEATH (CASUALTIES/100 MIL.VEH.KM.)	INJURY (CASUALTIES/100 MIL.VEH.KM.)	DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)		
21	302	200	13+000 - 14+000	1.000	18,306	18,306	5	1	1	2	5.0	74.8	15.0	15.0	29.9	10.8	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES)													
			HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
21	302	200	1	0	0	0	0	0	0	0	4	0		0	0	5

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT								REMARKS
			OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	
21	302	200	1	4	0	0	0	0	0	5	

COMMENTS ON TRAFFIC CONDITION

The ADT of R302 is 20,000 vehicles and its RHV is 34%. Traffic is often disorganized within the intersection because of its skewdness.

COMMENTS ON ACCIDENT CONDITION

Nearly all accidents are caused by improper turning (4 out of 5 cases). Three of the accidents involved motorcycles.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

Traffic volume exceeds the capacity of the stop-controlled intersection and traffic flow is confused by vehicles making U-turns.

MEASURES

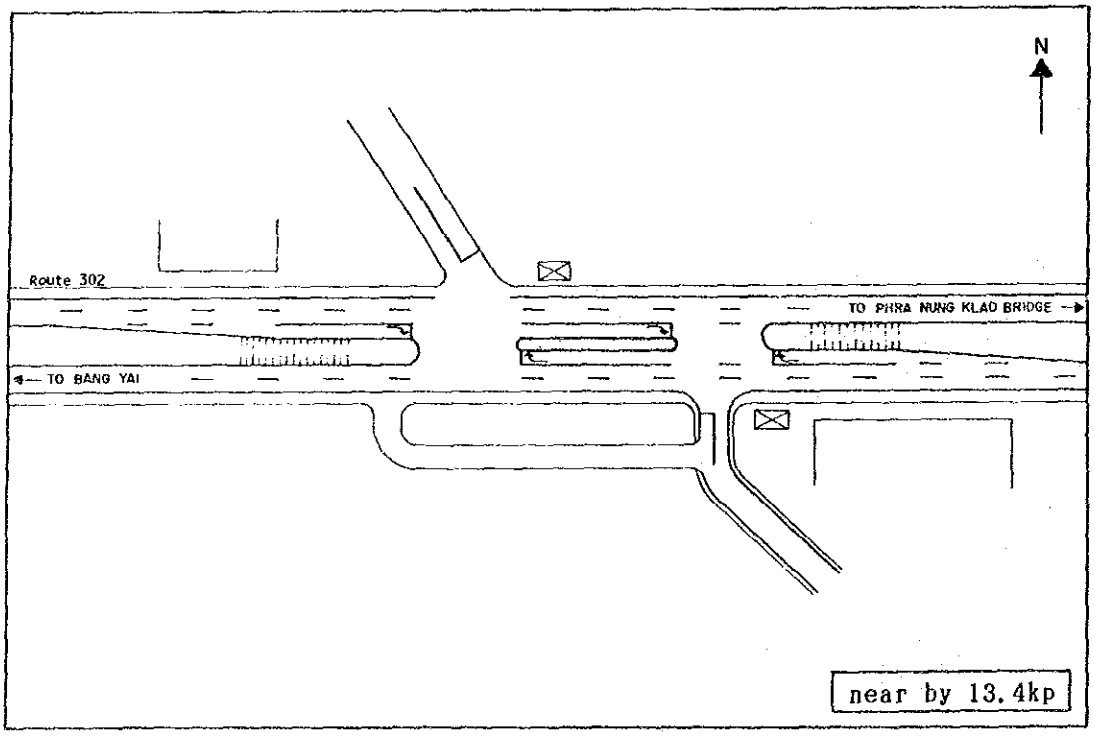
The installation of signals, or channelization to providing a U-turn lane, are suggested.

EVALUATION

Installation of signals: Not warranted because of low traffic volume.

Channelization to providing a U-turn lane: Road conditions warrant the measure.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

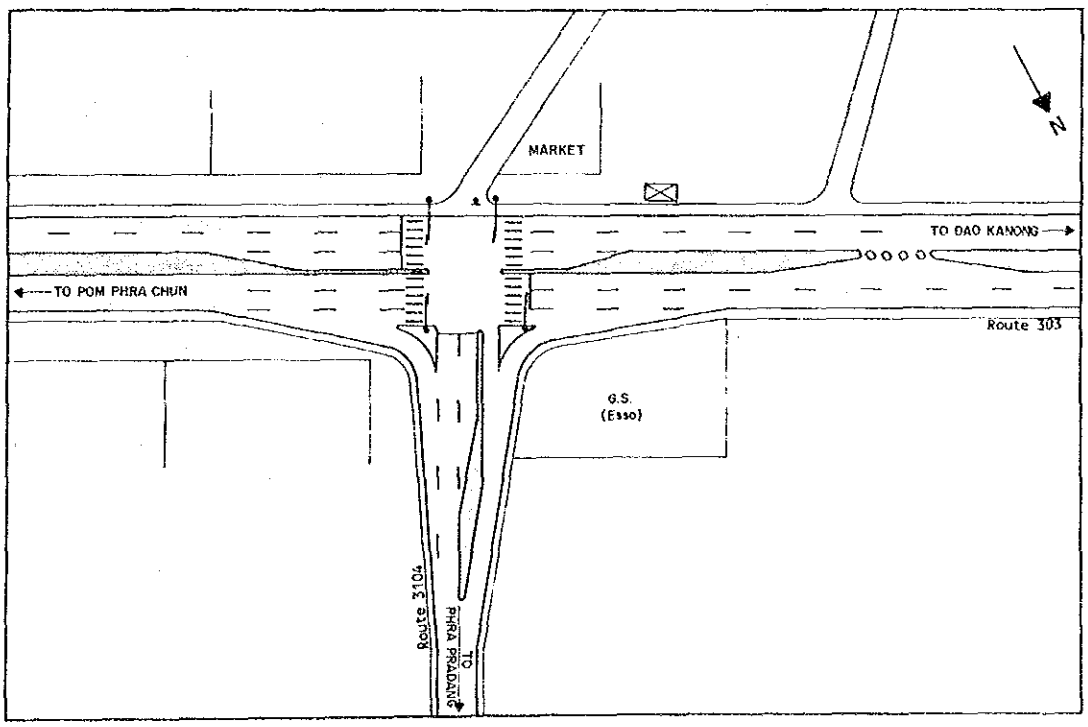


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	22		LOCATION NAME	Prapadaeng			
ROUTE NO.	303/3104	CONTROL SECTION NO.	100/100	K.P. OF PROBLEM LOCATION	K.P. 10.500 / 0.000 — K.P. 11.500 / 0.500	ROAD CONDITION	Inter-section
K.P. OF CONTROL SECT.	K.P. 6.463 / 0.000 — K.P. 27.782 / 1.333						
DIVISION NAME	BANGKOK		DISTRICT NAME	THONBURI		DISTRICT CODE	415
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 47,938; MINOR ROAD 33,616; (PEAK HOUR) MAJOR ROAD 3,084; MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 35.9; MINOR ROAD 30.8; (PEAK HOUR) MAJOR ROAD 34.9; MINOR ROAD		PEDESTRIAN VOLUME (PERSONS / PEAK HOUR)	
						ACCIDENT RATE (PERSONS / 100 MIL. VEH KM)	109.6/15.5
NO. OF ACCIDENTS(CASES)	12/1		CASUALITIES (PERSONS)	(FATALITIES) 9/0; (INJURIES) 4/1		WHOLE CONTROL SECTION	48.2/17.5

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

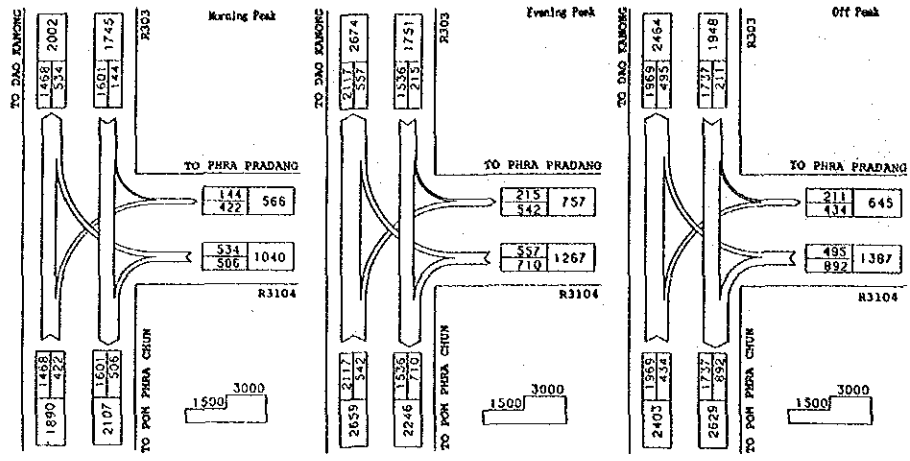
This is a signalized T-intersection. R303 is a four-lane road with a median. R3104 is connected to R3113 across the Chaophraya river by a ferry service. Widening works to four lanes are now in progress.

TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

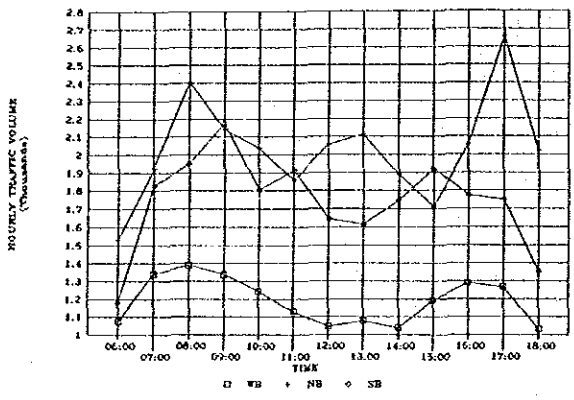
TRAFFIC SIGNAL	0
PEDESTRIAN CROSSING	0
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	0

TRAFFIC DATA ANALYSIS

Traffic Data Analysis



VARIATION IN TRAFFIC VOLUME



Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL. VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH. KM.)	REMARKS
22	303	100	10+500 - 11+500	1.000	32,511	32,511	12	9	4	13	12.0	101.1	75.8	33.7	109.6	48.2	
22	3104	100	0+000 - 0+500	0.500	35,254	17,627	1	0	1	1	2.0	15.5	0.0	15.5	15.5	17.5	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
22	303	100	4	0	3	0	1	0	2	0	0	0	2	0	0	12
22	310	100	0	0	0	0	0	0	0	0	1	0	0	0	0	1

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
22	303	100	9	1	0	1	1	0	0	12	
22	3104	100	0	1	0	0	0	0	0	1	

COMMENTS ON TRAFFIC CONDITION

Peak hour traffic on R303 is heavy at 4400 passenger car units per hour (PCU/hr). Right-turning traffic volumes from R303 and left-turning traffic volumes from R3104 are both high.

COMMENTS ON ACCIDENT CONDITION

The accident rate is twice as high as that for the entire control section. Many of the accidents are caused by motorcycles.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

Through-traffic is interrupted at the approaches of the intersections, causing a decline in traffic capacity and a risk of accidents due to abrupt lane changes.

MEASURES

The improvement of signal phasing after the widening of R3104 to four lanes, the extension of the storage lane length for right-turns on R303 and the repair of the shoulder, are suggested.

EVALUATION

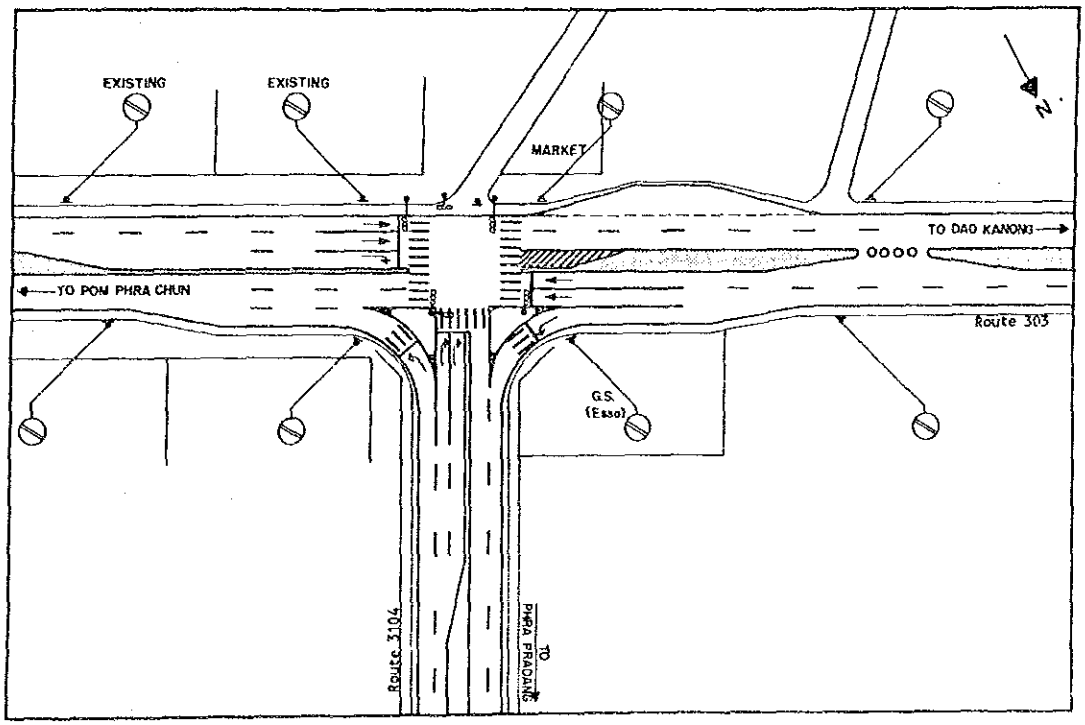
Improvement of signal phasing after widening of R3104 to 4 lanes: Satisfies criteria for improvement.

Prohibition of parking.: Satisfies criteria for improvement.

Extension of storage lane length for right-turn on R303: Satisfies criteria for improvement.

Provision of bus bay: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN



Morning Peak

1Ø	2Ø	3Ø
52.8	25.6	21.6

Cycle Length	125	Saturate Degree	0.765

Evening Peak

1Ø	2Ø	3Ø
44.2	33.3	26.6

Cycle Length	120	Saturate Degree	0.790

Off Peak

1Ø	2Ø	3Ø
48.7	27.4	23.9

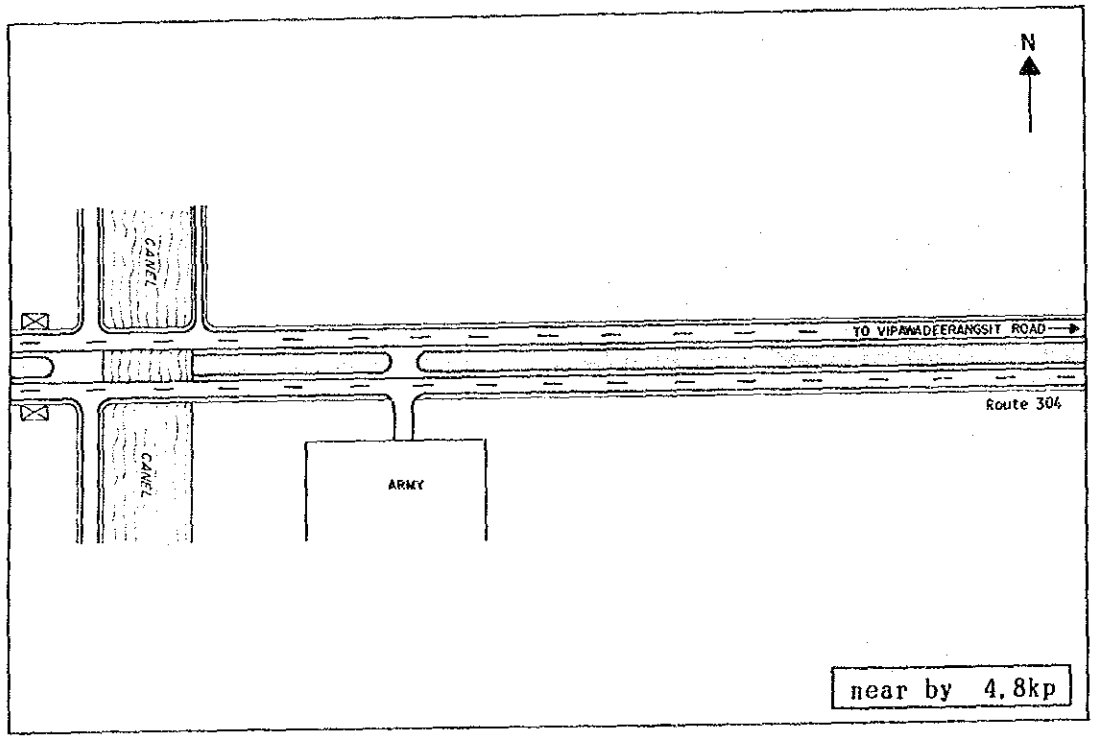
Cycle Length	113	Saturate Degree	0.729

DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	23		LOCATION NAME	Ent.Army			
ROUTE NO.	304	CONTROL SECTION NO. 101	K.P. OF PROBLEM LOCATION	K.P. 4.000 – K.P. 6.000		ROAD CONDITION	Roadway Section
K.P. OF CONTROL SECT.	K.P. 10.752 – K.P. 1.851					DISTRICT CODE	411
DIVISION NAME	BANGKOK		DISTRICT NAME	BANGKOK		PEDESTRIAN VOLUME (PERSONS/ PEAK HOUR)	13
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 35,774 MINOR ROAD (PEAK HOUR) MAJOR ROAD 2,637 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 15.7 MINOR ROAD (PEAK HOUR) MAJOR ROAD 24.1 MINOR ROAD		ACCIDENT RATE (PERSONS / 100 MIL. VEH. KM.)	2.2
NO. OF ACCIDENTS(CASES)	8		CASUALITIES (PERSONS)	(FATALITIES) 1 (INJURIES) 0		WHOLE CONTROL SECTION	16.7

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

This is an intersection of R304 and a feeder road to army facilities. This R304 section is a straight four-lane section with a wide median (6 m).

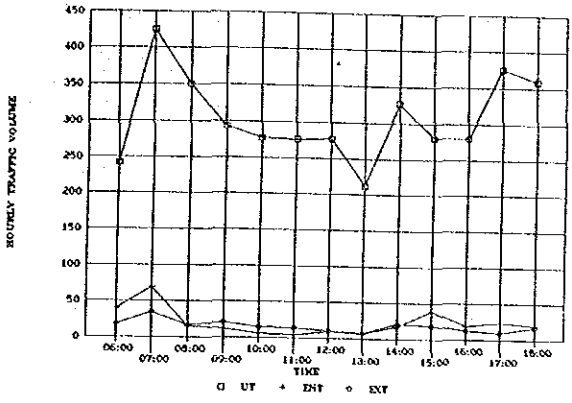
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

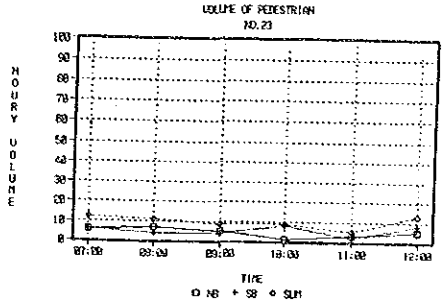
TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis

VARIATION IN TRAFFIC VOLUME





Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL. VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH. KM.)	REMARKS
23	304	101	4+000 - 6+000	2.000	62,574	125,148	8	1	0	1	4.0	17.5	2.2	0.0	2.2	16.7	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
23	304	101	0	0	1	0	4	0	0	0	0	1	1	0	1	8

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
23	304	101	4	1	0	1	0	0	2	8	-

COMMENTS ON TRAFFIC CONDITION

R304 is a primary highway which runs from east to west and has a large traffic volume. Its RHV is 16%.

COMMENTS ON ACCIDENT CONDITION

Half of all accidents are rear-end collisions.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The pedestrian crossing is in a dangerous condition.

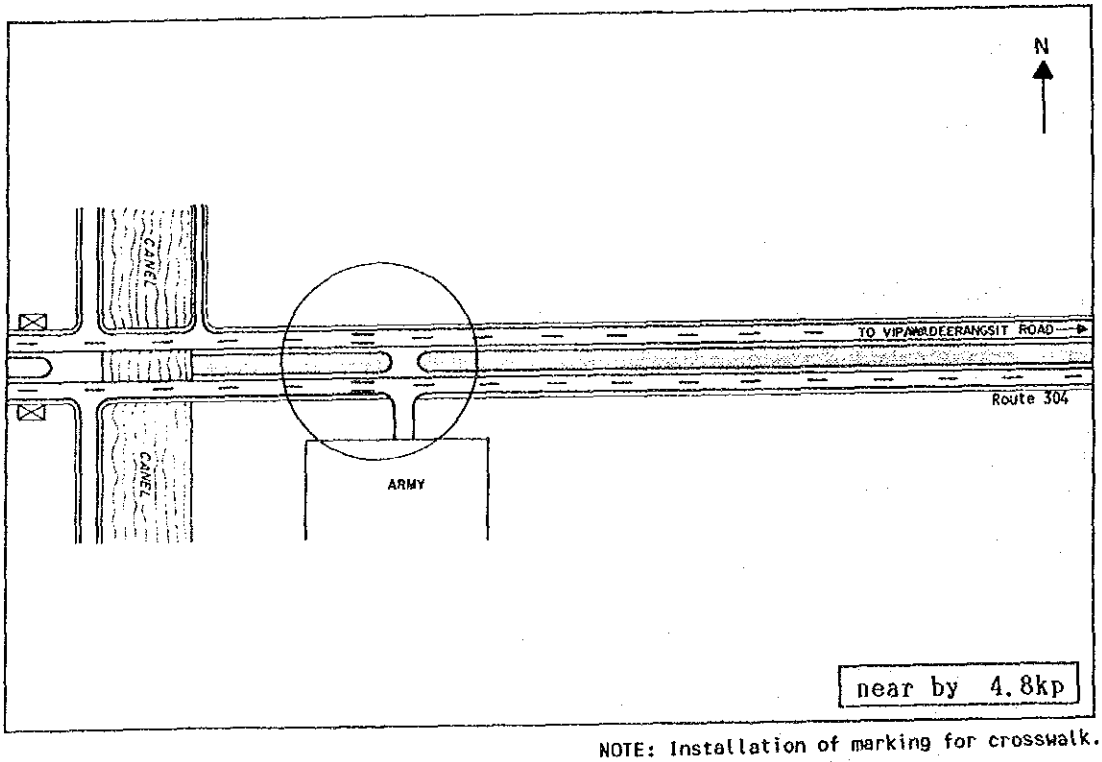
MEASURES

The installation of a pedestrian overpass is suggested.

EVALUATION

Installation of pedestrian overpass: Pedestrian volume is low.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN



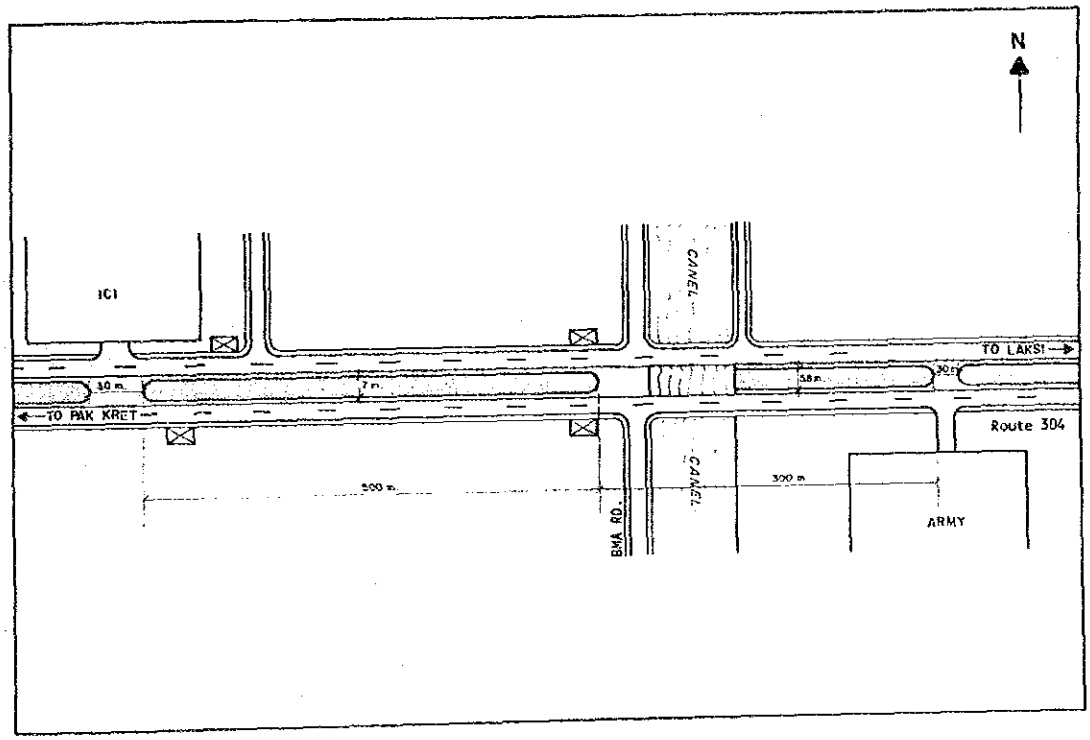
NOTE: Installation of marking for crosswalk.

DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	24		LOCATION NAME	Khlong Prapa			
ROUTE NO.	304/BMA	CONTROL SECTION NO. 101	K.P. OF PROBLEM LOCATION	K.P. 4.000 – K.P. 6.000		ROAD CONDITION	Inter-section
K.P. OF CONTROL SECT.	K.P. 10.752 – K.P. 1.851					DISTRICT CODE	411
DIVISION NAME	BANGKOK		DISTRICT NAME	BANGKOK		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 35,774 MINOR ROAD (PEAK HOUR) MAJOR ROAD 2,637 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 15.7 MINOR ROAD (PEAK HOUR) MAJOR ROAD 24.1 MINOR ROAD		ACCIDENT RATE (PERSONS/100 MIL. VEH. KM.)	2.2
NO. OF ACCIDENTS(CASES)	8		CASUALITIES (PERSONS)	(FATALITIES) 1 (INJURIES) 0		WHOLE CONTROL SECTION	16.7

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

This is an intersection of R304 and the BMA road. At present, the median is closed. Right-turning traffic makes a U-turn in the median opening. R304 is a four-lane road with a wide median. The BMA road is a two-lane road, but widening plans to four lanes have been prepared by the BMA.

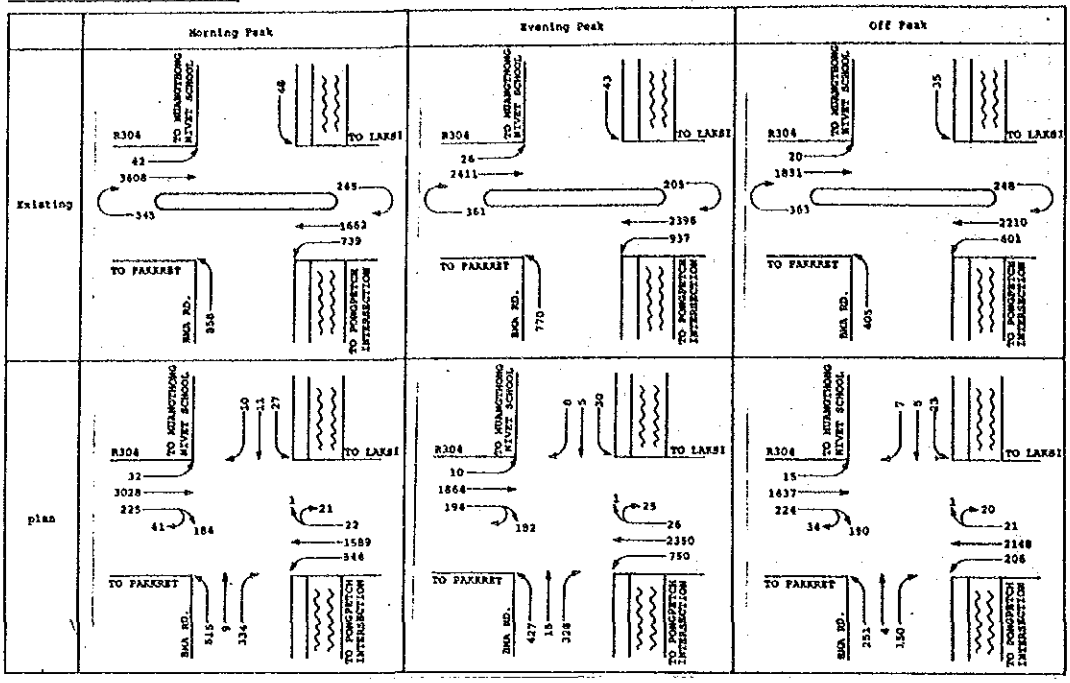
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

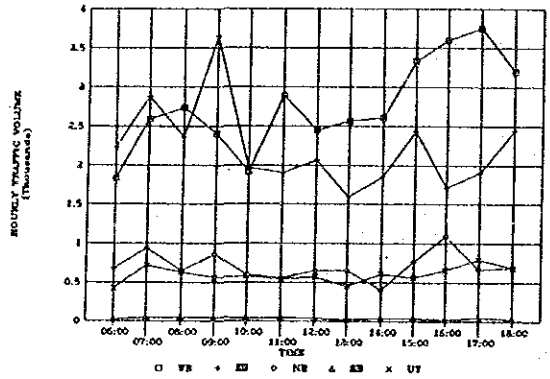
TRAFFIC DATA ANALYSIS

Traffic Data Analysis

LOCATION NO.24



VARIATION IN TRAFFIC VOLUME



Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME: NOT (PCU/DAY)	TRAFFIC VOLUME: VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES: DEATH (CASES)	CASUALTIES: INJURY (CASES)	CASUALTIES: DEATH AND INJURY (CASES)	ACCIDENT RATE: ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE: ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	ACCIDENT RATE: DEATH (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE: INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE: DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
24	304	101	4+000 - 6+000	2.000	62,576	125,152	8	1	0	1	4.0	12.5	2.2	0.0	2.2	16.7	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES): HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
24	304	101	0	0	1	0	4	0	0	0	0	1	1	0	1	8

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT: OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
24	304	101	4	1	0	1	0	0	2	8	

COMMENTS ON TRAFFIC CONDITION

R304 has a very large traffic volume, with heavy east-bound morning peak-hour traffic, and equally heavy west-bound traffic in the evening peak-hours. Entering traffic from the BMA road exceeds 800 PCU/hr. in peak-hours. Of this entering traffic, traffic turning right and making U-turns at the median opening, amounts to 344 PCU/hr.

COMMENTS ON ACCIDENT CONDITION

Rear-end collisions are a major portion of all accidents.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

It is dangerous and difficult to make U-turns at the median opening because of the heavy traffic on R304. The situation causes U-turn traffic to clog-up and overflow into the through-lane, thus impeding the flow of the through-traffic.

MEASURES

The following measures are suggested in order to solve the above problems:

Alternative-A : signalization of the intersection with the BMA road (widening of the BMA road and R304 will be required);

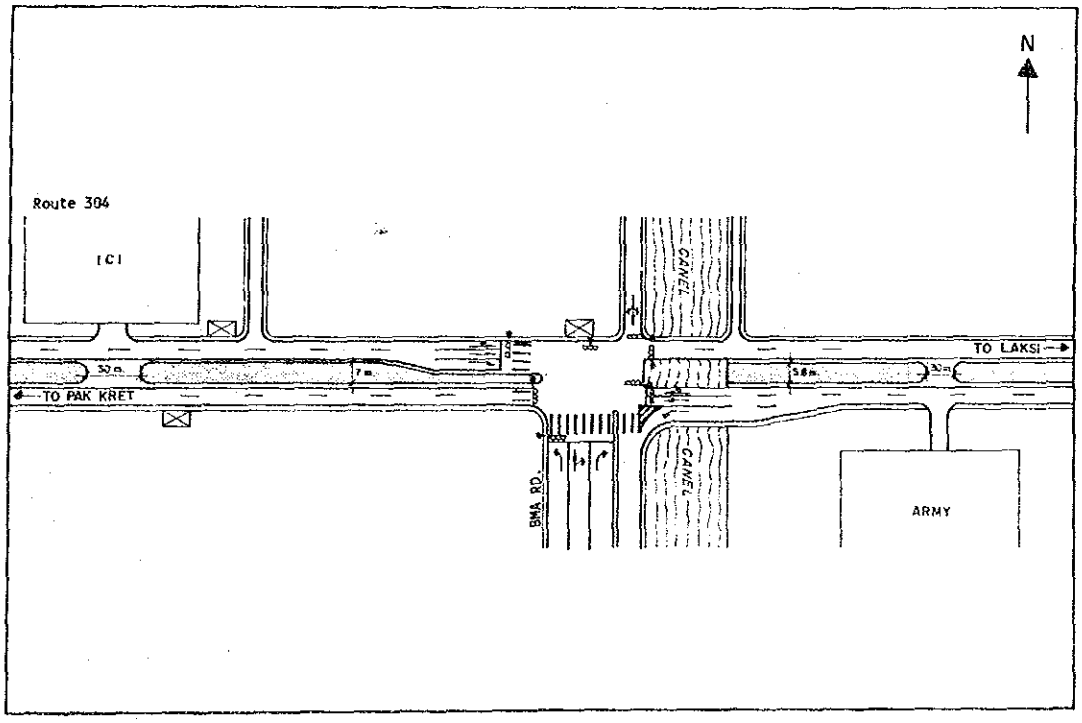
Alternative-B : traffic signals at the median openings on both sides in order to handle U-turn vehicles, without improving the intersection with the BMA road.

EVALUATION

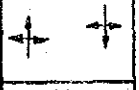
Signalization of intersection with the BMA road (widening of BMA road and R304 will be required): Satisfies criteria for improvement.

Traffic signal at the median openings on both sides in order to handle U-turning vehicles, without improving the intersection with the BMA road: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

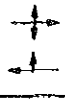


Morning Peak

1ø	2ø	3ø
		
52.8	35.6	11.6

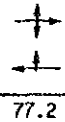
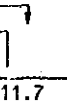
Cycle Length	180	Saturate Degree	0.821

Evening Peak

1ø	2ø	3ø
		
66.7	7.3	26.0

Cycle Length	60	Saturate Degree	0.824

Off Peak

1ø	2ø	3ø
		
77.2	11.7	11.7

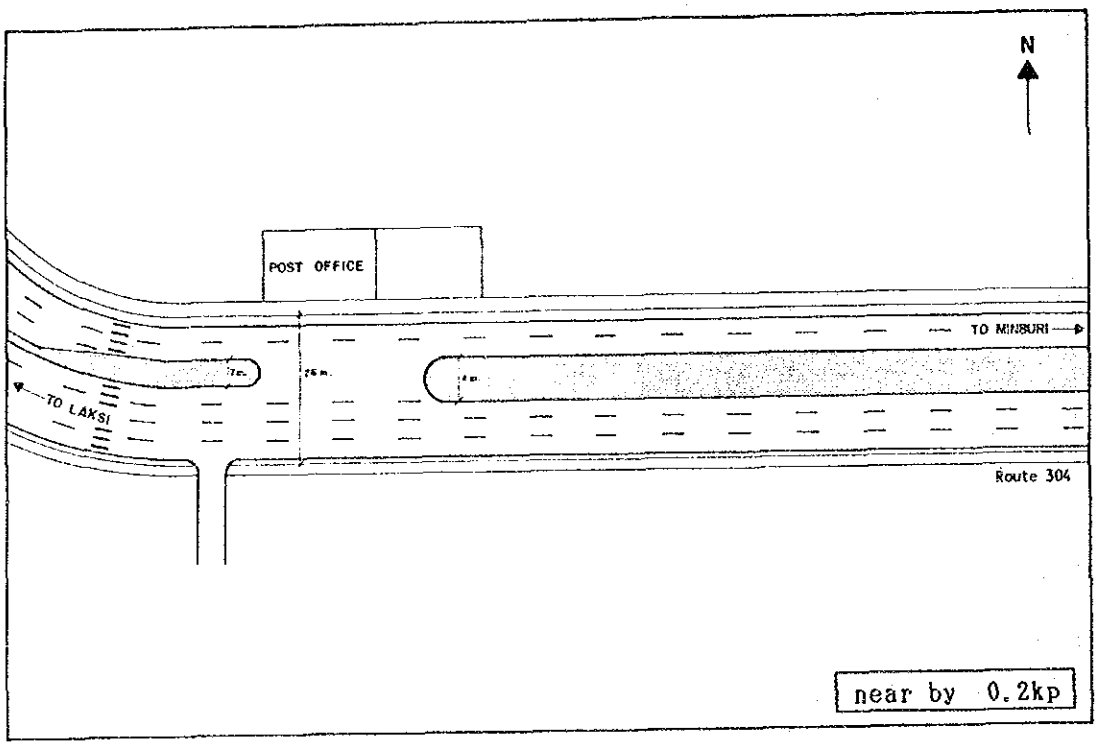
Cycle Length	180	Saturate Degree	0.778

DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	25		LOCATION NAME	Ram Inthra Post Office			
ROUTE NO.	304	CONTROL SECTION NO. 102	K.P. OF PROBLEM LOCATION	K.P. 0.000 — K.P 0.500		ROAD CONDITION	Roadway Section
K.P OF CONTROL SECT.	K.P. 0.000 — K.P 17.348					DISTRICT CODE	411
DIVISION NAME	BANGKOK		DISTRICT NAME	BANGKOK		PEDESTRIAN VOLUME (PERSONS/ PEAK HOUR)	103
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 63,416 MINOR ROAD (PEAK HOUR) MAJOR ROAD 5,756 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 35.5 MINOR ROAD (PEAK HOUR) MAJOR ROAD 42.5 MINOR ROAD		ACCIDENT RATE (PERSONS / 100 MIL. VEH. KM.)	110.8
NO. OF ACCIDENTS(CASES)	47		CASUALITIES (PERSONS)	(FATALITIES) 0 (INJURIES) 9		WHOLE CONTROL SECTION	64.6

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

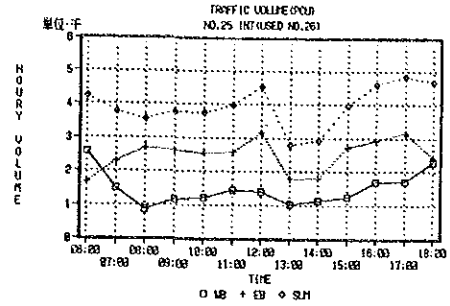
This is an uninterrupted flow section of R304. It has five lanes and a wide median (11 m).

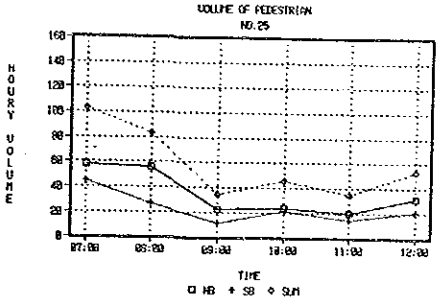
TRAFFIC SAFETY / CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	0
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis





Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME		NUMBER OF ACCIDENTS (CASES)	CASUALTIES			ACCIDENT RATE					ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
					ADT (PCU/DAY)	VEHICLE KILOMETER		DEATH (CASES)	INJURY (CASES)	DEATH AND INJURY (CASES)	ACCIDENT DENSITY (CASES/KM)	ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	DEATH (CASUALTIES/100 MIL.VEH.KM.)	INJURY (CASUALTIES/100 MIL.VEH.KM.)	DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)		
25	304	102	0+000 - 0+500	0.500	44,507	22,254	47	0	9	9	94.0	578.6	0.0	110.8	110.8	66.6	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES)													
			HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
25	304	102	1	1	14	1	20	0	1	1	0	0	0	0	8	47

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT								REMARKS
			OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	
25	304	102	41	0	3	0	0	0	3	47	

COMMENTS ON TRAFFIC CONDITION

R304 is a primary highway which runs from east to west. It has a large traffic volume and its RHV is 35%. The traffic speed on R304 is high.

COMMENTS ON ACCIDENT CONDITION

Many accidents are caused by speeding (41 cases, 87% of all accidents) and rear-end collisions are the most common of all accidents.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The pedestrian crossing is in a dangerous condition.

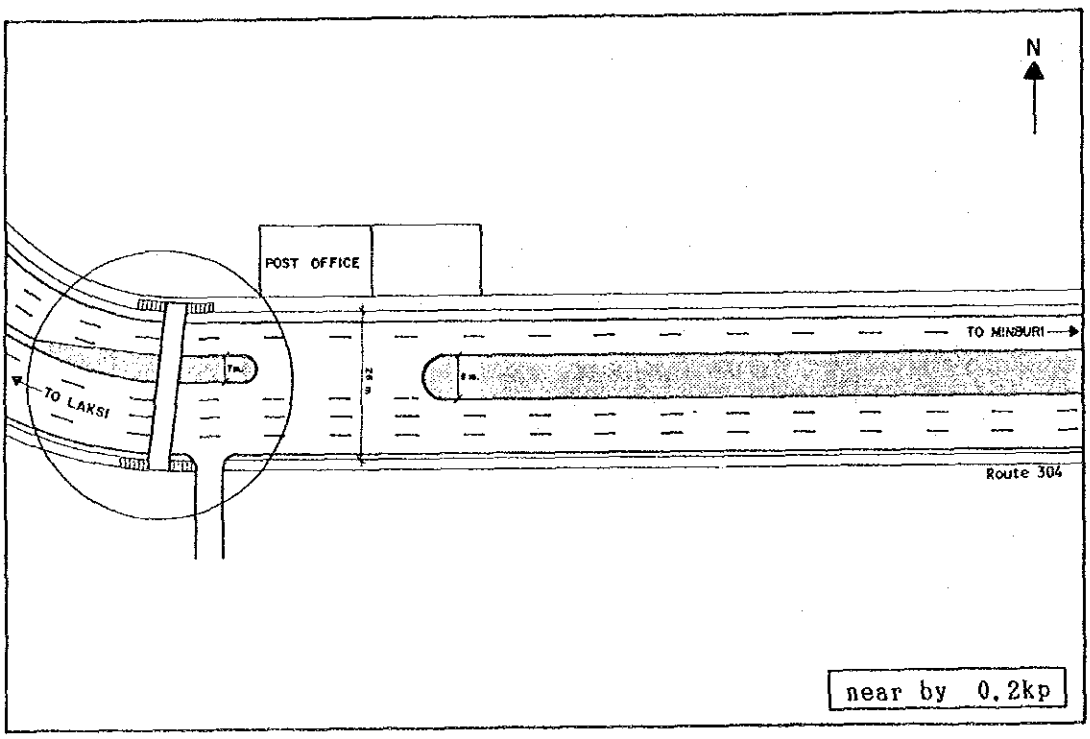
MEASURES

The installation of a pedestrian overpass is suggested.

EVALUATION

Installation of pedestrian overpass: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

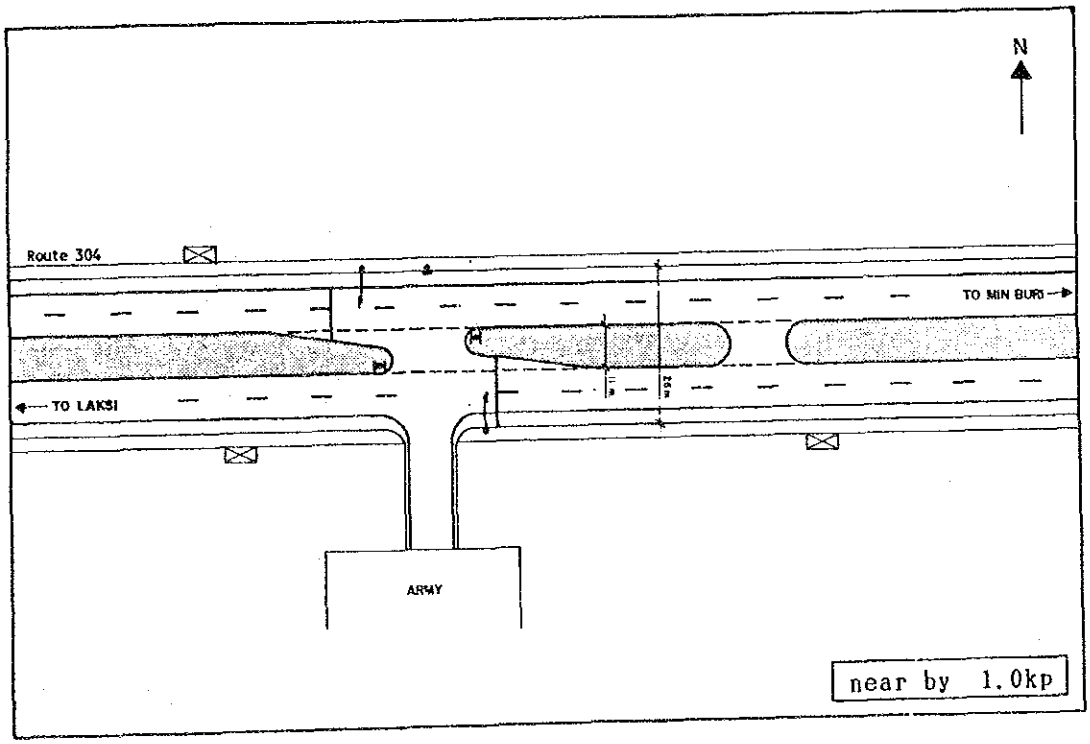


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	26		LOCATION NAME	Army Golf Club			
ROUTE NO.	304	CONTROL SECTION NO. 102	K.P. OF PROBLEM LOCATION	K.P. 0.500 — K.P. 1.500		ROAD CONDITION	Roadway Section
K.P. OF CONTROL SECT.	K.P. 0.000 — K.P. 17.348					DISTRICT CODE	411
DIVISION NAME	BANGKOK		DISTRICT NAME	BANGKOK		PEDESTRIAN VOLUME (PERSONS/ PEAK HOUR)	133
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 63,416 MINOR ROAD (PEAK HOUR) MAJOR ROAD 5,756 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 35.5 MINOR ROAD (PEAK HOUR) MAJOR ROAD 42.5 MINOR ROAD		ACCIDENT RATE (PERSONS / 100 MIL. VEH. KM.)	61.6
NO. OF ACCIDENTS(CASES)	36		CASUALITIES (PERSONS)	(FATALITIES) 0 (INJURIES) 10		WHOLE CONTROL SECTION	64.6

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

This is the intersection of R304 and a feeder road to an army golf club. This R304 section is a straight four-lane section with a wide median opening. Traffic signals have been installed but are not operational.

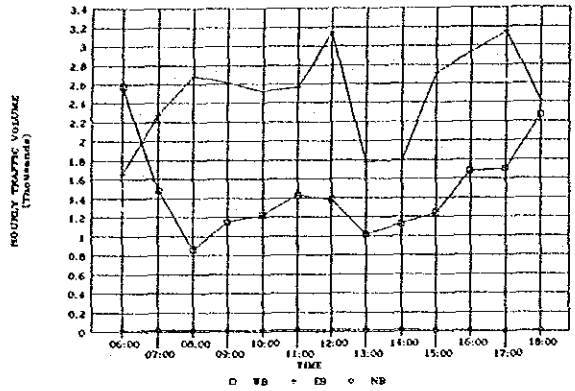
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

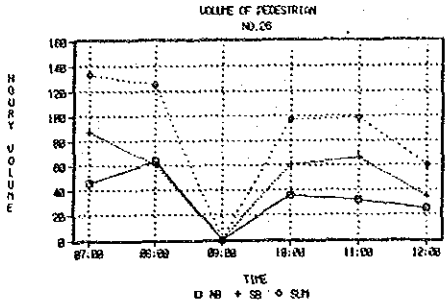
TRAFFIC SIGNAL	0
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis

VARIATION IN TRAFFIC VOLUME





Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL. VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH. KM.)	REMARKS
26	304	102	0+500 - 1+500	1.000	44,507	44,507	36	0	10	10	36.0	221.6	0.0	61.6	61.6	64.6	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
26	304	102	1	0	7	1	14	1	2	0	4	0	0	0	6	36

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
26	304	102	21	5	2	0	1	0	7	36	

COMMENTS ON TRAFFIC CONDITION

R304 is a primary highway which runs from east to west and which has a heavy traffic volume (RHV is 35%). The traffic speed on R304 is high, with a large amount of traffic making U-turns from the west.

COMMENTS ON ACCIDENT CONDITION

Many accidents are caused by speeding (21 cases, 58% of all accidents). Rear-end collisions are the most common of all accidents.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The pedestrian crossing is in a dangerous condition and the vehicles which are entering and exiting from the army golf club are confused when turning.

MEASURES

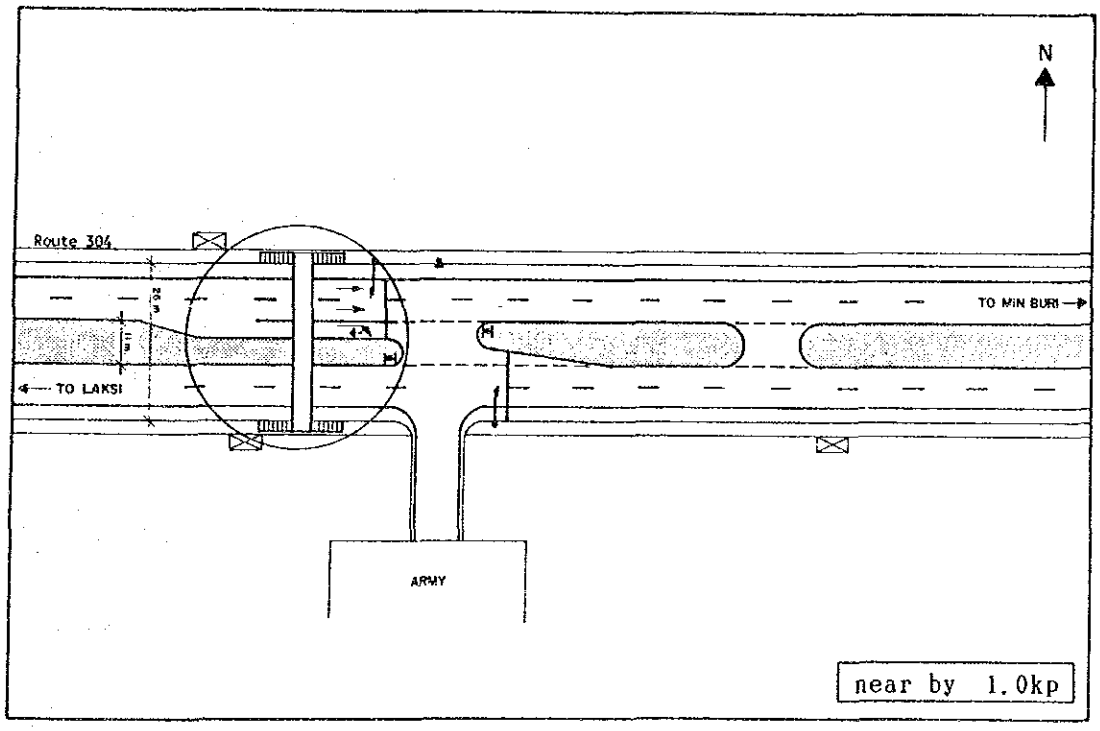
The installation of a pedestrian overpass and the operation of signal controls are suggested.

EVALUATION

Installation of pedestrian overpass: Satisfies criteria for improvement.

Operation of signal control (not operated at present): Not warranted because of low traffic volumes.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

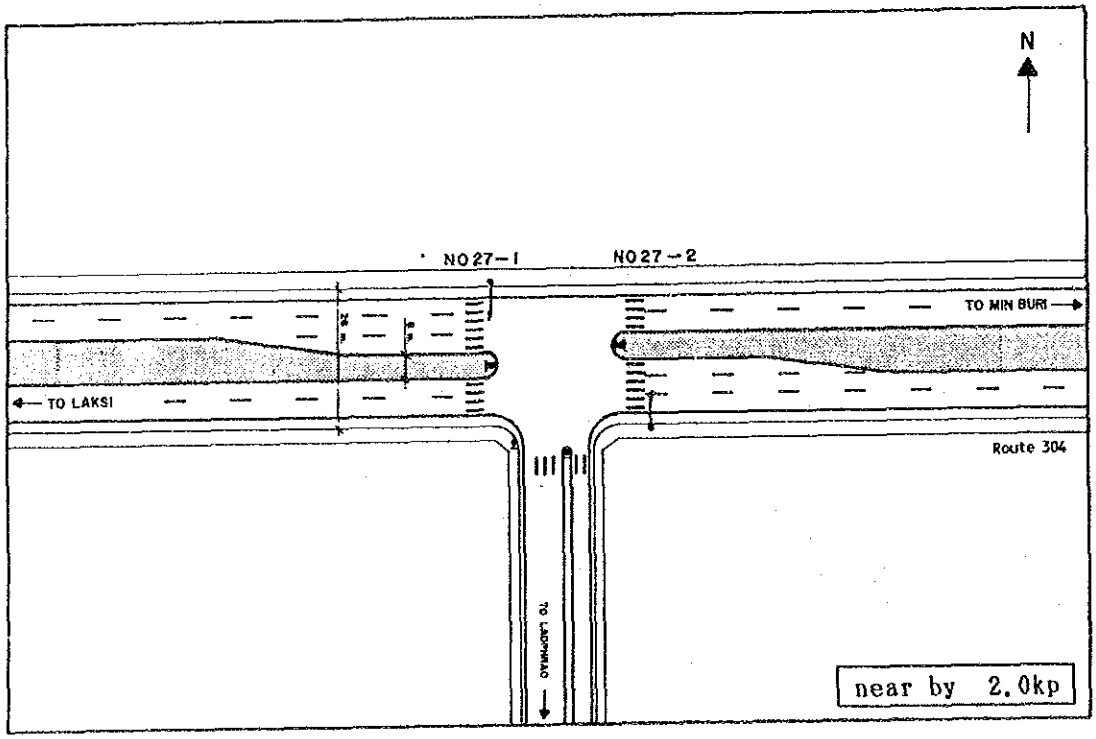


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	27		LOCATION NAME	Ram Intra Center			
ROUTE NO.	304	CONTROL SECTION NO. 102	K.P. OF PROBLEM LOCATION	K.P. 2.000 – K.P. 2.500		ROAD CONDITION	Roadway Section
K.P OF CONTROL SECT.	K.P. 0.000 – K.P. 17.348						
DIVISION NAME	BANGKOK		DISTRICT NAME	BANGKOK		DISTRICT CODE	411
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 63,416 MINOR ROAD (PEAK HOUR) MAJOR ROAD 5,756 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 35.5 MINOR ROAD (PEAK HOUR) MAJOR ROAD 42.5 MINOR ROAD		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	213
						ACCIDENT RATE (PERSONS/100 MIL. VEH. KM.)	110.8
NO. OF ACCIDENTS(CASES)	59		CASUALITIES (PERSONS)	(FATALITIES) 0 (INJURIES) 9		WHOLE CONTROL SECTION	64.6

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

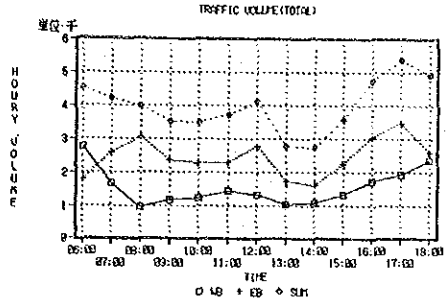
These are the intersections of R304 and several sois. The R304 section is a straight four-lane section with a wide median (12 m).

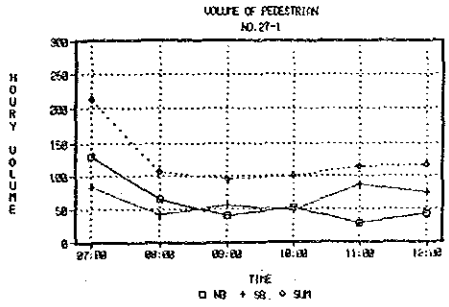
TRAFFIC SAFETY / CONTROL DEVICES INSTALLED

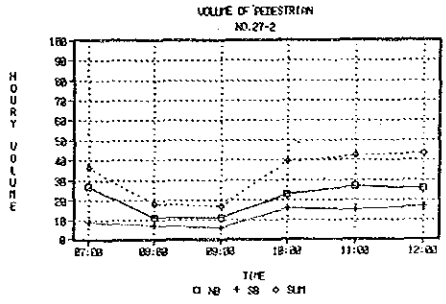
TRAFFIC SIGNAL	0
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis







Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME		NUMBER OF ACCIDENTS (CASES)	CASUALTIES			ACCIDENT RATE					ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
					ADT (PCU/DAY)	VEHICLE KILOMETER		DEATH (CASES)	INJURY (CASES)	DEATH AND INJURY (CASES)	ACCIDENT DENSITY (CASES/KM)	ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	DEATH (CASUALTIES/100 MIL.VEH.KM.)	INJURY (CASUALTIES/100 MIL.VEH.KM.)	DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)		
27	304	102	2+000 - 2+500	0.500	44,507	22,254	59	0	9	9	118.0	726.4	0.0	110.8	110.8	64.6	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES)													
			HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
27	304	102	3	0	10	2	25	0	6	1	4	1	1	0	6	59

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT								REMARKS
			OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	
27	304	102	43	9	2	1	0	0	4	59	

COMMENTS ON TRAFFIC CONDITION

R304 is a primary highway which runs from east to west and which has a large traffic volume (RHV is 35%). The traffic speed on R304 is high.

COMMENTS ON ACCIDENT CONDITION

Many accidents are caused by speeding and rear-end collisions are the most common of all accidents.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The pedestrian crossings are in a dangerous condition.

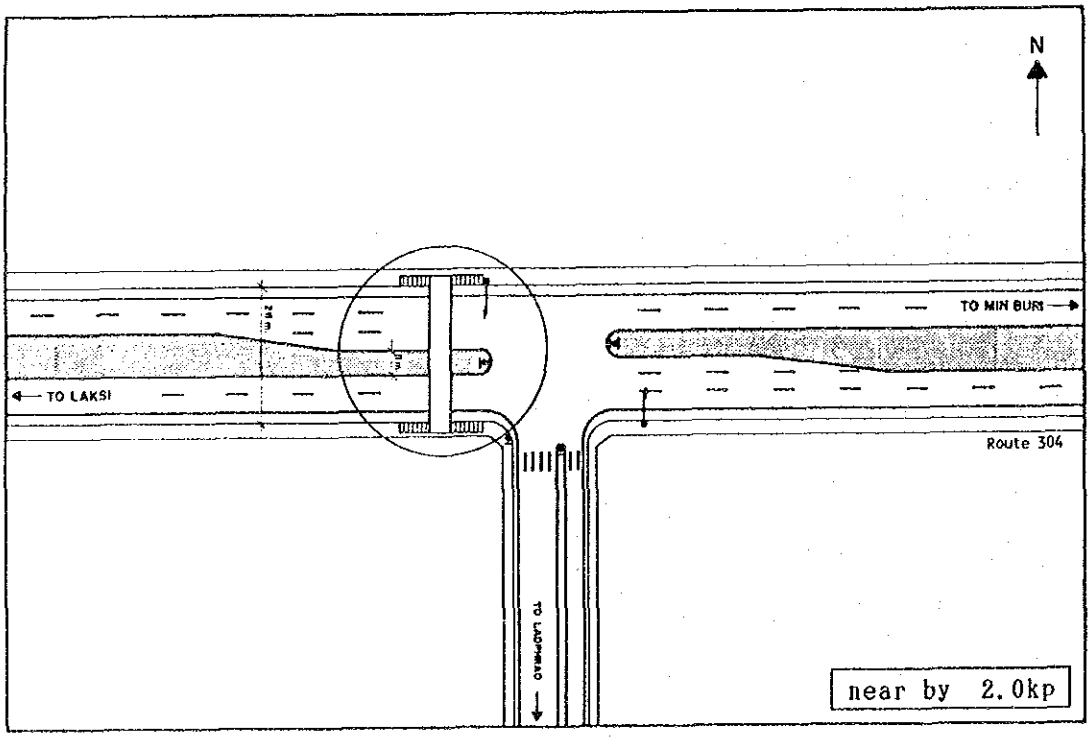
MEASURES

The installation of pedestrian overpasses is suggested.

EVALUATION

Installation of pedestrian overpass: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

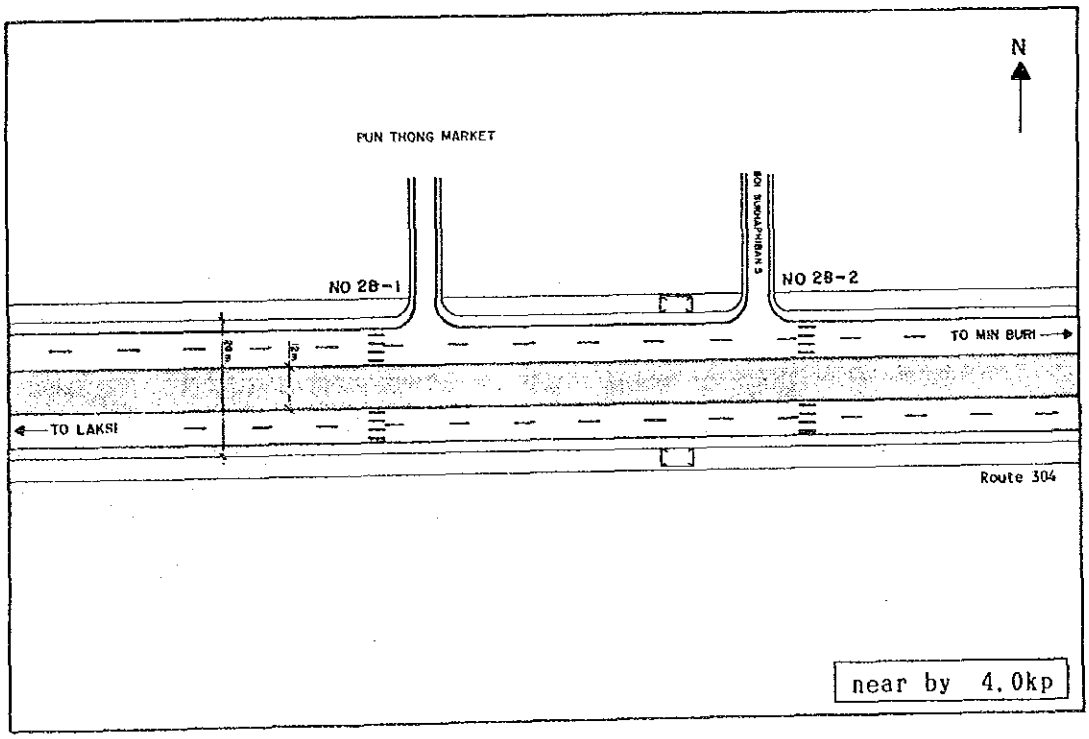


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	28		LOCATION NAME	Km.4 Market			
ROUTE NO.	304	CONTROL SECTION NO. 102	K.P. OF PROBLEM LOCATION	K.P. 3.500 – K.P. 4.500		ROAD CONDITION	Roadway Section
K.P. OF CONTROL SECT.	K.P. 0.000 – K.P. 17.348					DISTRICT CODE	411
DIVISION NAME	BANGKOK		DISTRICT NAME	BANGKOK		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	620
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 63,416 MINOR ROAD (PEAK HOUR) MAJOR ROAD 5,756 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 35.5 MINOR ROAD (PEAK HOUR) MAJOR ROAD 42.5 MINOR ROAD		ACCIDENT RATE (PERSONS/100 MIL. VEH. KM.)	86.2
NO. OF ACCIDENTS(CASES)	42		CASUALITIES (PERSONS)	(FATALITIES) 2 (INJURIES) 12		WHOLE CONTROL SECTION	64.6

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

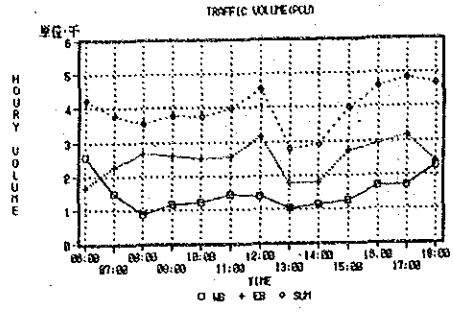
These are the intersections of R304 and several sois. The R304 section is a straight four-lane section with a wide median (12 m).

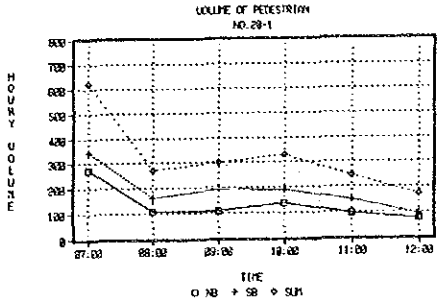
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

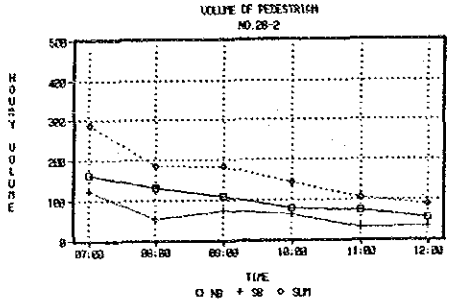
TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis







Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
28	304	102	3+500 - 4+500	1.000	44,507	44,507	42	2	12	14	42.0	258.5	12.3	73.9	86.2	64.6	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
28	304	102	4	1	6	3	20	0	2	1	2	2	0	0	1	42

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
28	304	102	37	3	1	0	0	0	1	42	

COMMENTS ON TRAFFIC CONDITION

R304 is a primary highway which runs from east to west and which has a large traffic volume (RHV is 35%). The traffic speed on R304 is high.

COMMENTS ON ACCIDENT CONDITION

Many accidents are caused by speeding and rear-end collisions are the most common of all accidents.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The pedestrian crossings are in a dangerous condition.

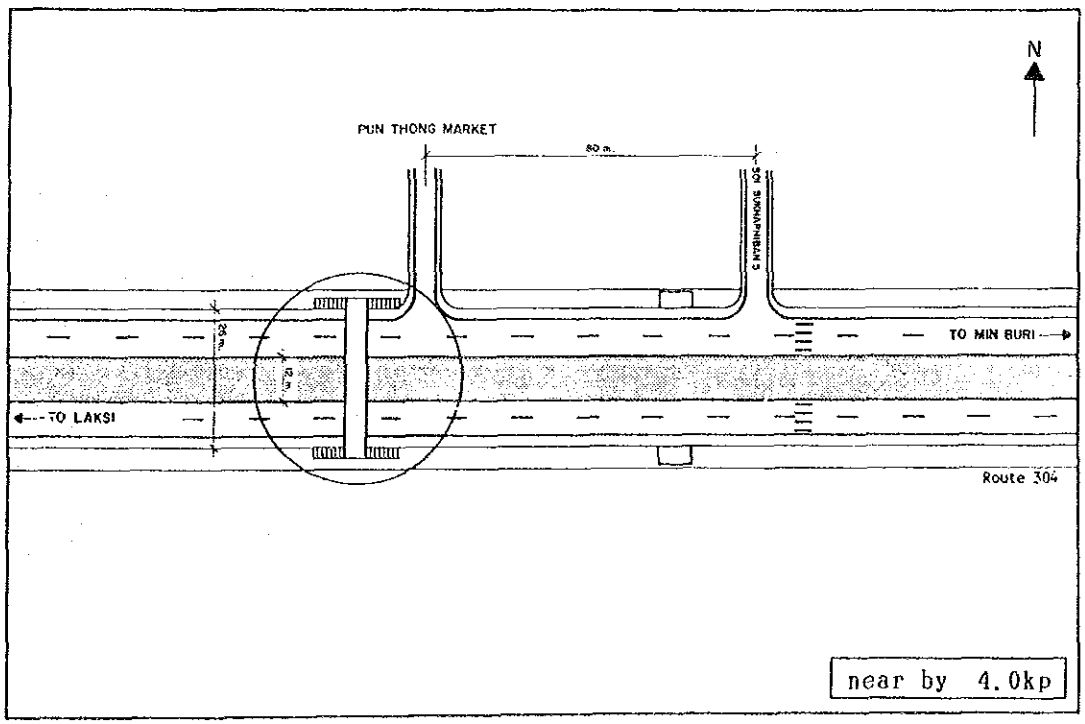
MEASURES

The installation of pedestrian overpasses is suggested.

EVALUATION

Installation of pedestrian overpass: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

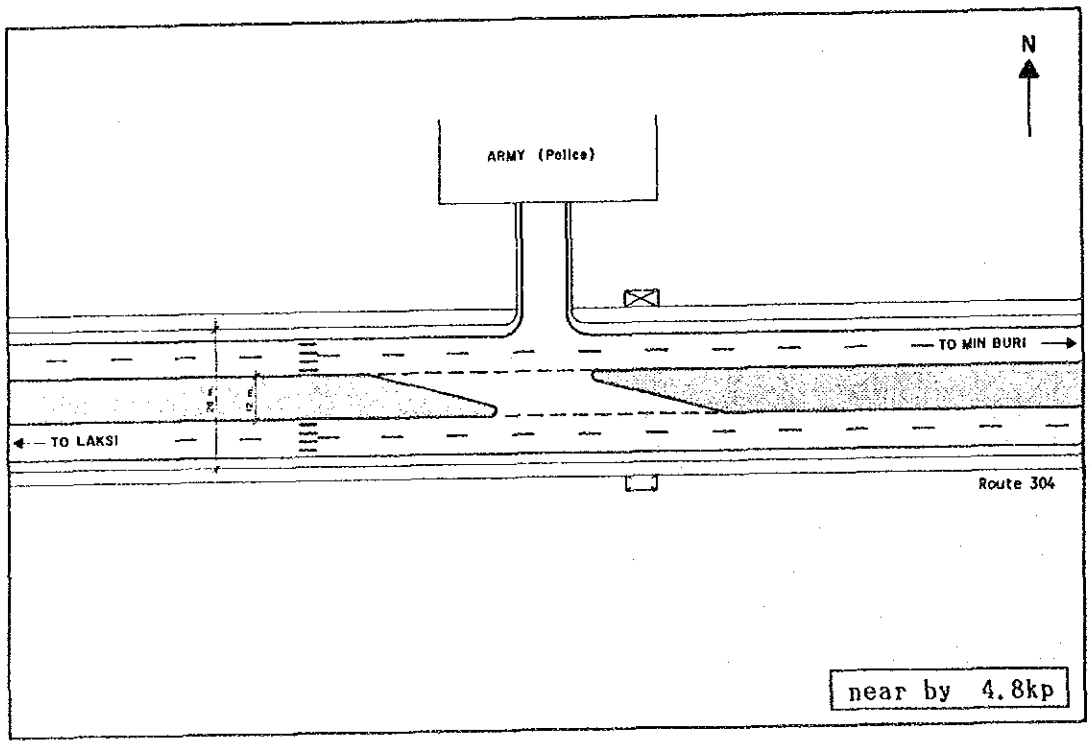


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	29		LOCATION NAME	Air Police			
ROUTE NO.	304	CONTROL SECTION NO. 102	K.P. OF PROBLEM LOCATION	K.P. 4.500 – K.P. 5.000		ROAD CONDITION	Roadway Section
K.P. OF CONTROL SECT	K.P. 0.000 – K.P. 17.348					DISTRICT CODE	411
DIVISION NAME	BANGKOK		DISTRICT NAME	BANGKOK		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	95
TRAFFIC VOLUME (VEHICLES) (P.C.U)	(WHOLE DAY) MAJOR ROAD 63,416 MINOR ROAD (PEAK HOUR) MAJOR ROAD 5,756 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 35.5 MINOR ROAD (PEAK HOUR) MAJOR ROAD 42.5 MINOR ROAD		ACCIDENT RATE (PERSONS/100 MIL. VEH. KM.)	123.1
NO. OF ACCIDENTS(CASES)	27		CASUALITIES (PERSONS)	(FATALITIES) 0 (INJURIES) 10		WHOLE CONTROL SECTION	64.6

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

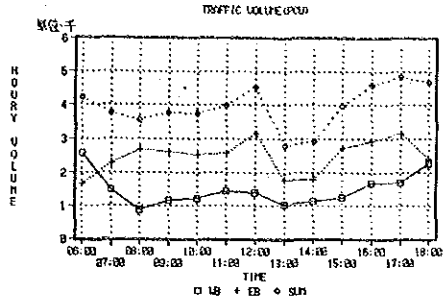
These are the intersections of R304 and several sois. The R304 section is a straight four-lane section with a wide median (12 m).

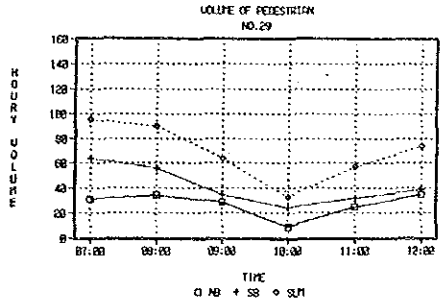
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	0
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis





Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
29	304	102	4+500 - 5+000	0.500	44,507	22,254	27	0	10	10	54.0	332.4	0.0	123.1	123.1	64.6	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
29	304	102	4	1	7	0	12	0	0	0	0	1	2	0	0	27

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
29	304	102	25	0	0	0	0	0	2	27	

COMMENTS ON TRAFFIC CONDITION

R304 is a primary highway which runs from east to west and which has a large traffic volume (RHV is 35%). The traffic speed on R304 is high.

COMMENTS ON ACCIDENT CONDITION

Many accidents are caused by speeding and rear-end collisions are the most common of all accidents.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The pedestrian crossings are in a dangerous condition.

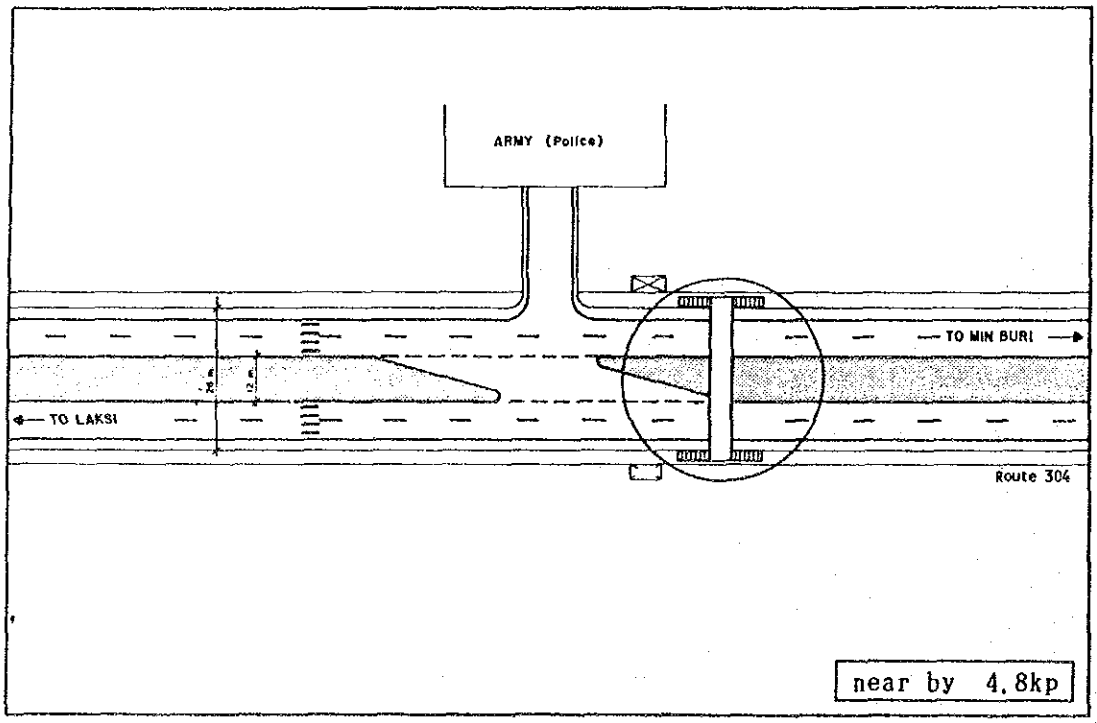
MEASURES

The installation of pedestrian overpasses is suggested.

EVALUATION

Installation of pedestrian overpass: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

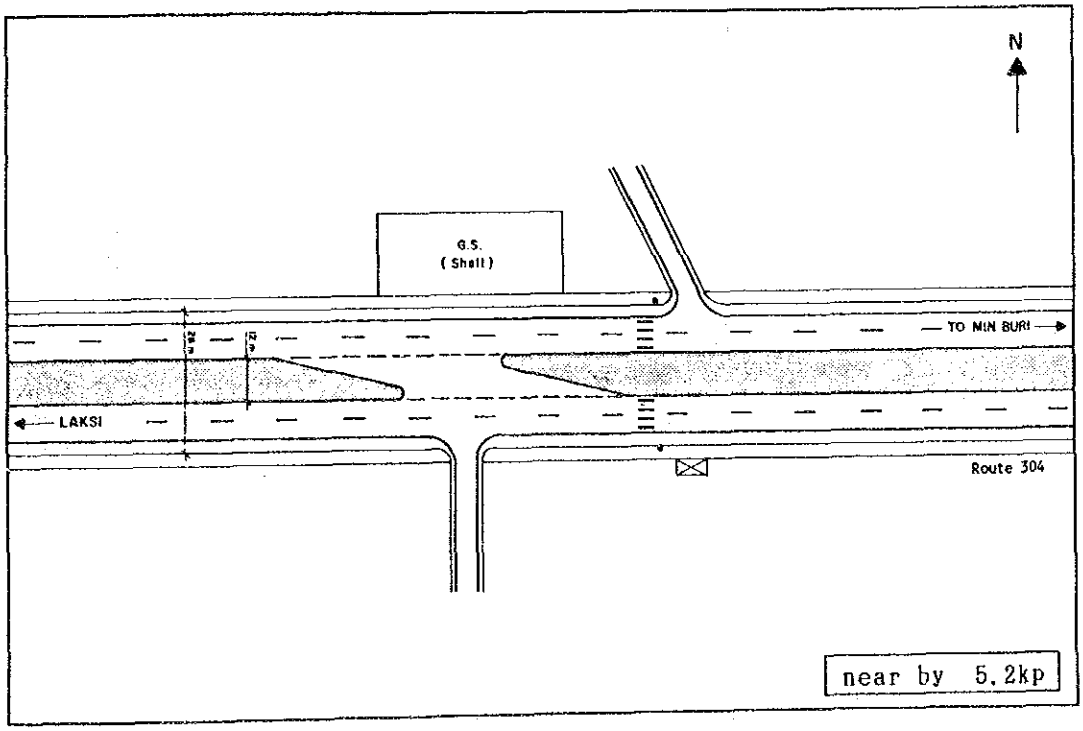


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	30		LOCATION NAME	Mai Ya Lap			
ROUTE NO.	304	CONTROL SECTION NO. 102	K.P. OF PROBLEM LOCATION	K.P. 5.000 – K.P. 5.500		ROAD CONDITION	Roadway Section
K.P. OF CONTROL SECT.	K.P. 0.000 – K.P. 17,348						
DIVISION NAME	BANGKOK		DISTRICT NAME	BANGKOK		DISTRICT CODE	411
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 63,416 MINOR ROAD (PEAK HOUR) MAJOR ROAD 5,756 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 35.5 MINOR ROAD (PEAK HOUR) MAJOR ROAD 42.5 MINOR ROAD		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	194
						ACCIDENT RATE (PERSONS/100 MIL. VEH. KM.)	135.4
NO. OF ACCIDENTS(CASES)	24		CASUALITIES (PERSONS)	(FATALITIES) 0 (INJURIES) 11		WHOLE CONTROL SECTION	64.6

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

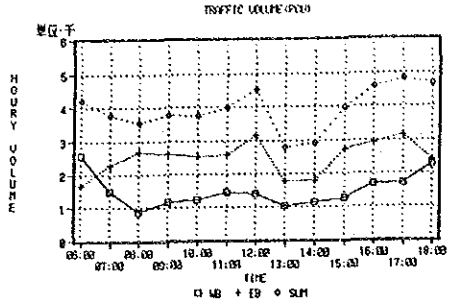
These are the intersections of R304 and several sois. The R304 section is a straight four-lane section with a wide median (12 m).

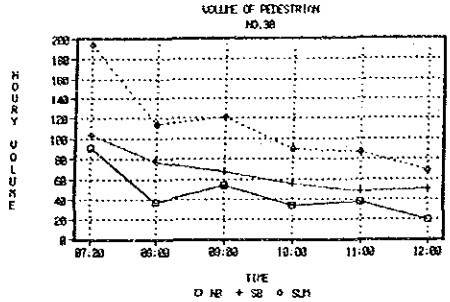
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis





Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME		NUMBER OF ACCIDENTS (CASES)	CASUALTIES			ACCIDENT RATE					ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
					ADT (PCU/DAY)	VEHICLE KILOMETER		DEATH (CASES)	INJURY (CASES)	DEATH AND INJURY (CASES)	ACCIDENT DENSITY (CASES/KM)	ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	DEATH (CASUALTIES/100 MIL.VEH.KM.)	INJURY (CASUALTIES/100 MIL.VEH.KM.)	DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)		
30	304	102	5+000 - 5+500	0.500	44,507	22,254	24	0	11	11	48.0	295.5	0.0	135.4	135.4	64.6	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES)													
			HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
30	304	102	3	1	8	0	11	0	0	0	0	0	1	0	0	24

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT								REMARKS
			OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	
30	304	102	22	0	0	0	0	0	2	24	

COMMENTS ON TRAFFIC CONDITION

R304 is a primary highway which runs from east to west and which has a large traffic volume (RHV is 35%). The traffic speed on R304 is high.

COMMENTS ON ACCIDENT CONDITION

Many accidents are caused by speeding and rear-end collisions are the most common of all accidents.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The pedestrian crossings are in a dangerous condition.

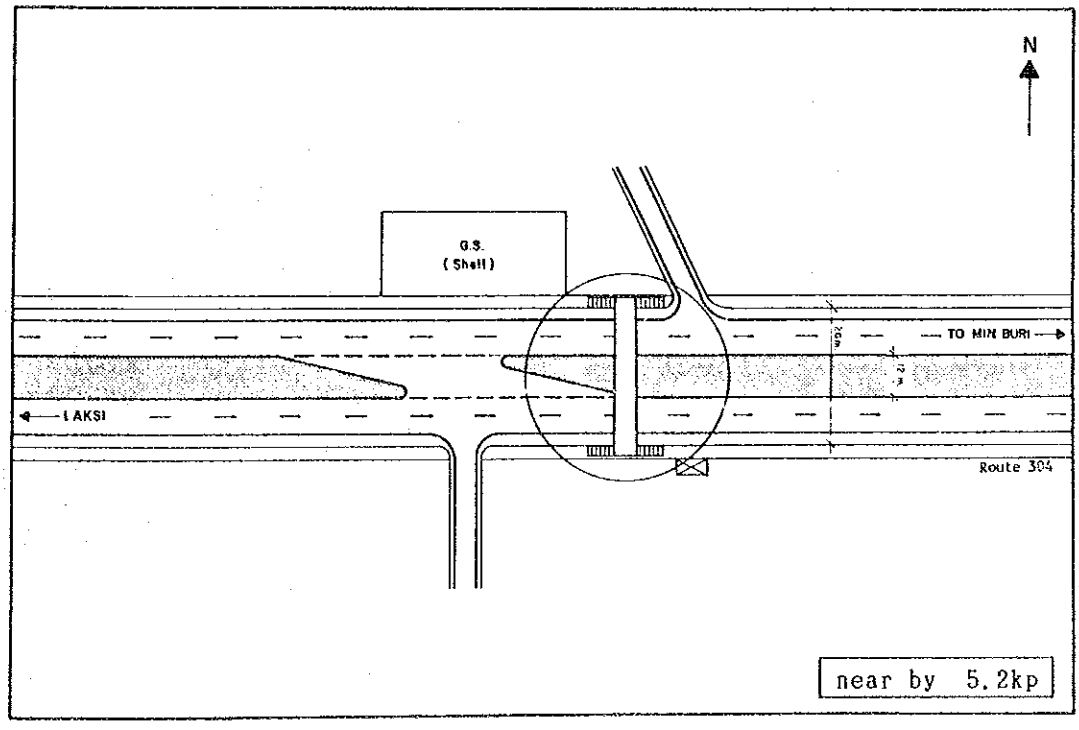
MEASURES

The installation of pedestrian overpasses is suggested.

EVALUATION

Installation of pedestrian overpass: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

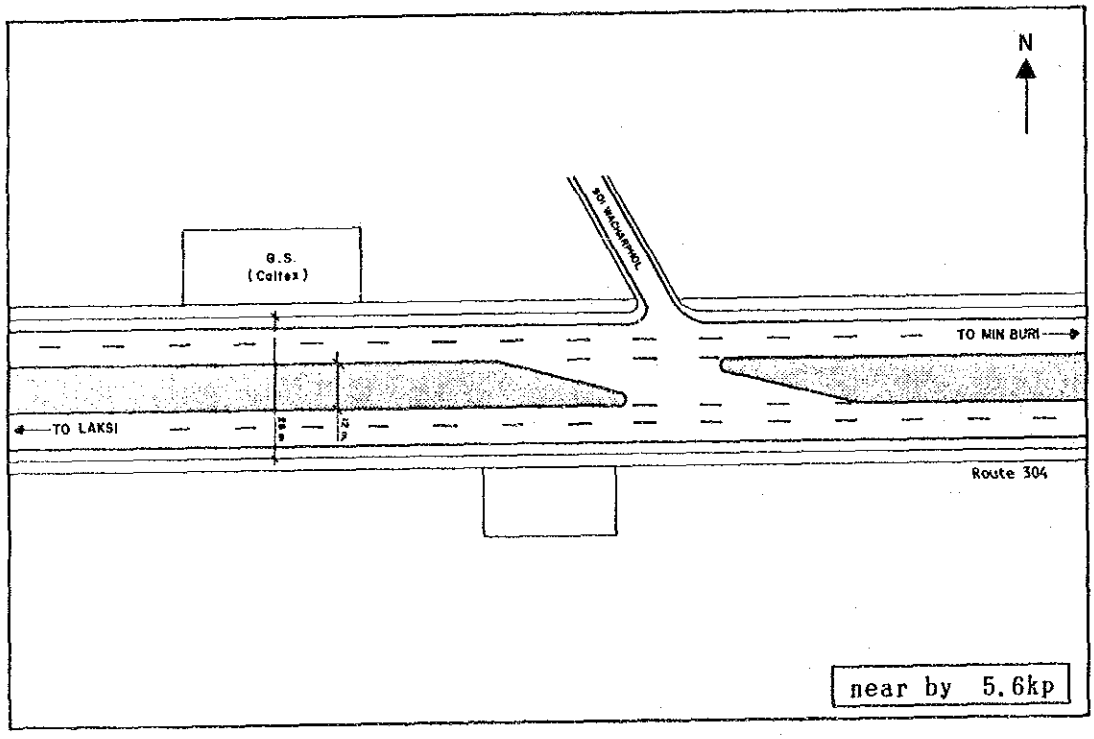


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	31		LOCATION NAME	Wachiraphon			
ROUTE NO.	304	CONTROL SECTION NO.	102	K.P. OF PROBLEM LOCATION	K.P. 5.500 – K.P. 6.000	ROAD CONDITION	Roadway Section
K.P OF CONTROL SECT.	K P 0.000 – K P 17.348					DISTRICT CODE	411
DIVISION NAME	BANGKOK			DISTRICT NAME	BANGKOK	PEDESTRIAN VOLUME (PERSONS/ PEAK HOUR)	128
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 63,416 MINOR ROAD (PEAK HOUR) MAJOR ROAD 5,756 MINOR ROAD			PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 35.5 MINOR ROAD (PEAK HOUR) MAJOR ROAD 42.5 MINOR ROAD	ACCIDENT RATE (PERSONS / 100 MIL. VEH. KM.)	184.7
NO. OF ACCIDENTS(CASES)	31			CASUALITIES (PERSONS)	(FATALITIES) 1 (INJURIES) 14	WHOLE CONTROL SECTION	64.6

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

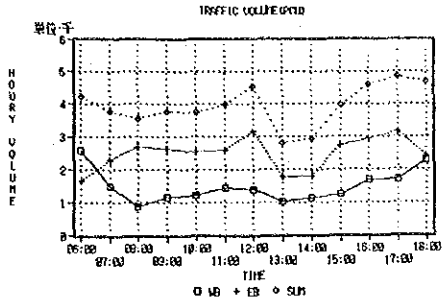
These are the intersections of R304 and several sois. The R304 section is a straight four-lane section with a wide median (12 m).

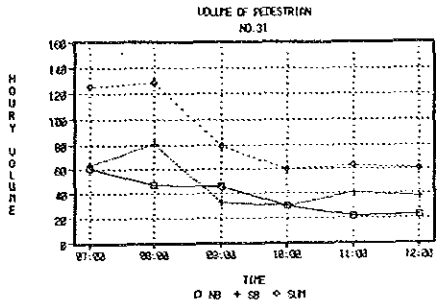
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis





Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
31	304	102	5+500 - 6+000	0.500	44,507	22,254	31	1	14	15	62.0	381.7	12.3	184.7	172.4	64.6	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
31	304	102	4	0	6	1	14	0	0	0	0	1	2	0	3	31

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
31	304	102	25	1	1	0	0	1	3	31	

COMMENTS ON TRAFFIC CONDITION

R304 is a primary highway which runs from east to west and which has a large traffic volume (RHV is 35%). The traffic speed on R304 is high.

COMMENTS ON ACCIDENT CONDITION

Many accidents are caused by speeding and rear-end collisions are the most common of all accidents.

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The pedestrian crossings are in a dangerous condition.

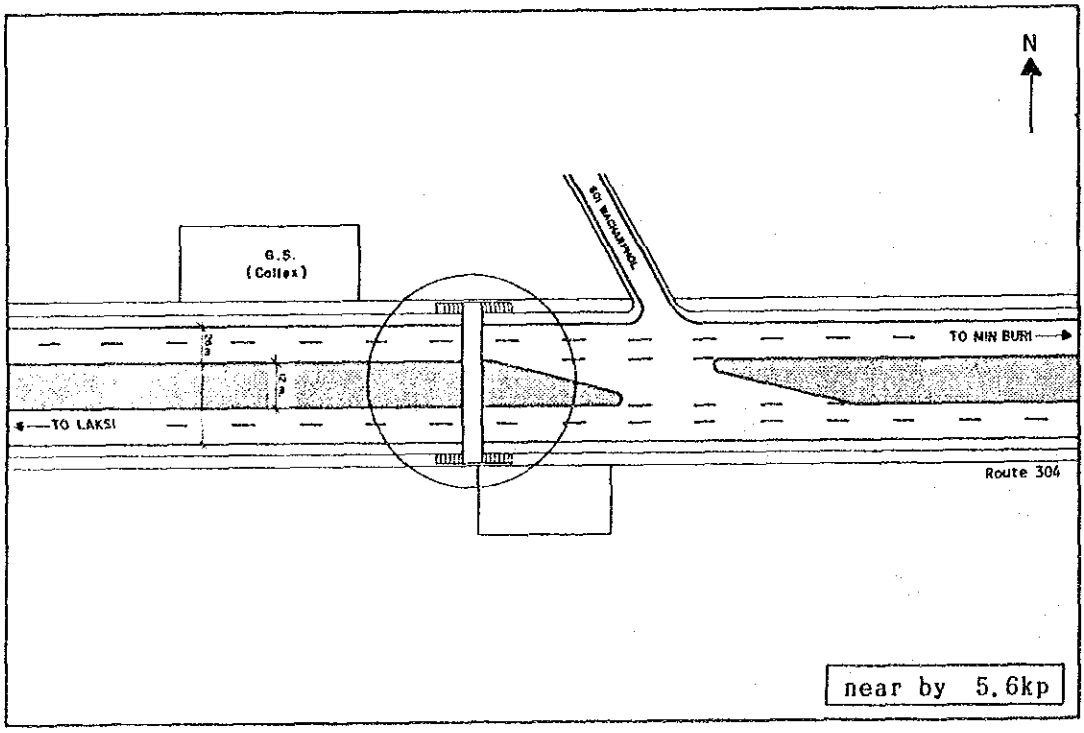
MEASURES

The installation of pedestrian overpasses is suggested.

EVALUATION

Installation of pedestrian overpass: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

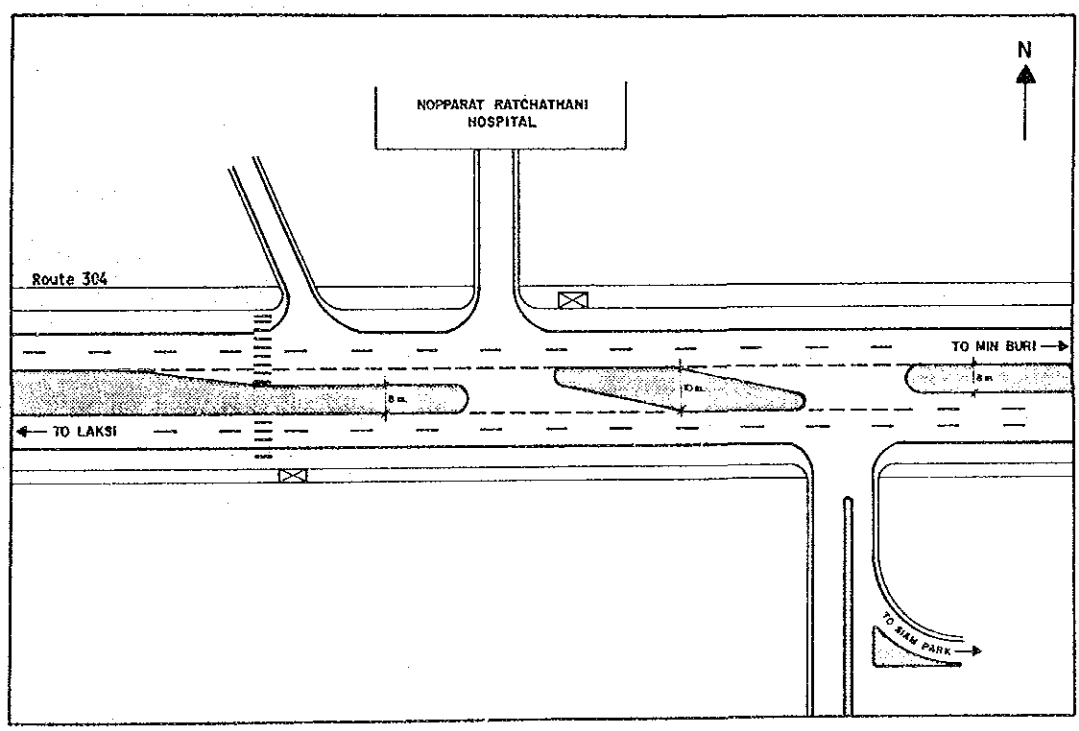


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	32		LOCATION NAME	Noppharat Ratchathani Hospitol			
ROUTE NO.	304	CONTROL SECTION NO. 102	K.P. OF PROBLEM LOCATION	K.P. 11.500 – K.P. 12.500		ROAD CONDITION	Roadway Section
K.P. OF CONTROL SECT.	K.P. 0.000 – K.P. 17.348						
DIVISION NAME	BANGKOK		DISTRICT NAME	BANGKOK		DISTRICT CODE	411
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 63,416 MINOR ROAD (PEAK HOUR) MAJOR ROAD 5,756 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 35.5 MINOR ROAD (PEAK HOUR) MAJOR ROAD 42.5 MINOR ROAD		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	
						ACCIDENT RATE (PERSONS/100 MIL. VEH. KM)	36.9
NO. OF ACCIDENTS(CASES)	13		CASUALITIES (PERSONS)	(FATALITIES) 0 (INJURIES) 6		WHOLE CONTROL SECTION	64.6

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

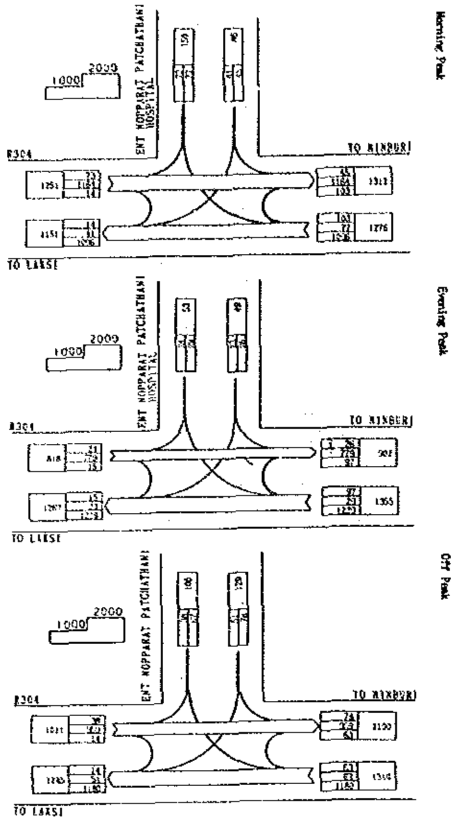
This is the intersection of R304 and a feeder road to a hospital. The R304 section is a straight four-lane section with a wide median (10 m). Approximately 60 m to the east of this intersection there is a T-intersection where R304 meets a road leading to Siam Park. A U-turn lane for eastbound traffic is provided.

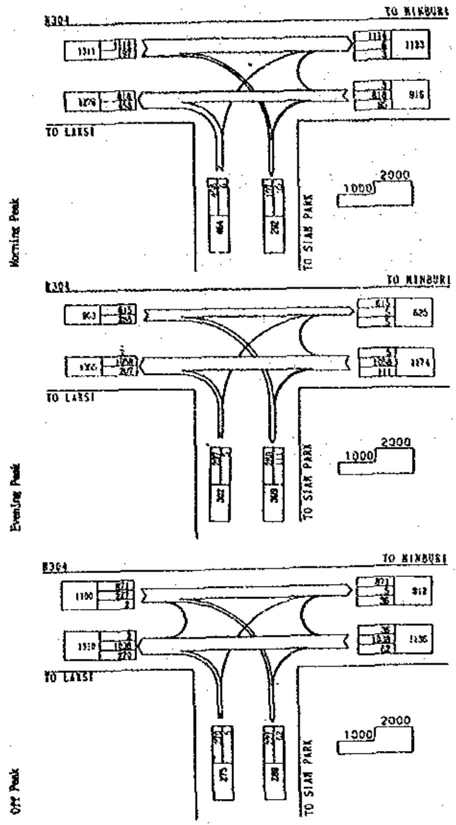
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	0
PEDESTRIAN OVERPASS	
STREET LIGHTING	0
GUARD FENCE	
CHANELIZATION	

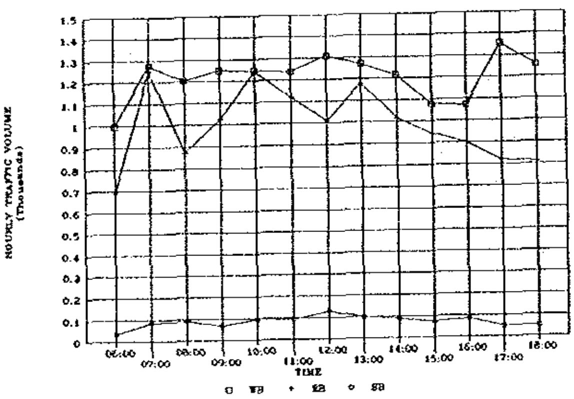
TRAFFIC DATA ANALYSIS

Traffic Data Analysis

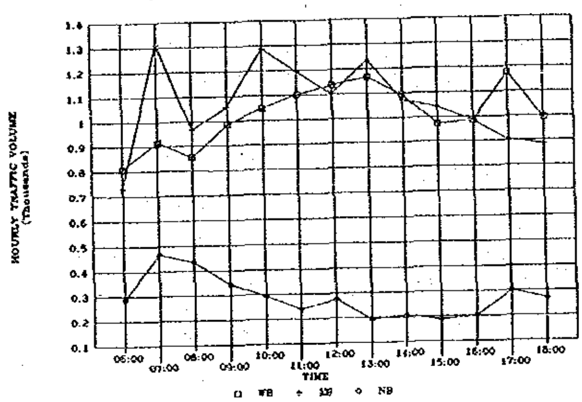




VARIATION IN TRAFFIC VOLUME



VARIATION IN TRAFFIC VOLUME



Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (VCL/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL. VEH.KM.)	ACCIDENT RATE DEATH	ACCIDENT RATE INJURY	ACCIDENT RATE DEATH AND INJURY	ACCIDENT RATE OF CONTROL SECTION	REMARKS
32	304	162	11+500 - 12+500	1.000	44,307	44,307	13	0	[illegible]	[illegible]	13.0	80.4	0.0	36.9	36.9	64.6	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	HIT PEDESTRIAN	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
32	304	162	2	0	4	3	1	0	0	0	0	0	0	0	3	13

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	OVER SPEED LIMIT	FAILURE TO YIELD TO STOP	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
32	304	162	10	0	1	0	0	0	2	13	

COMMENTS ON TRAFFIC CONDITION

R304 is a primary highway which runs from east to west and which has a large traffic volume (RHV is 35%). The traffic speed on R304 is high.

COMMENTS ON ACCIDENT CONDITION

Accidents are mostly caused by speeding. Accidents caused by overtaking cars are frequent (4 cases, 31% of the total), followed by head-on collisions (3 cases, 23% of the total).

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

Vehicles entering and exiting the hospital are confused.

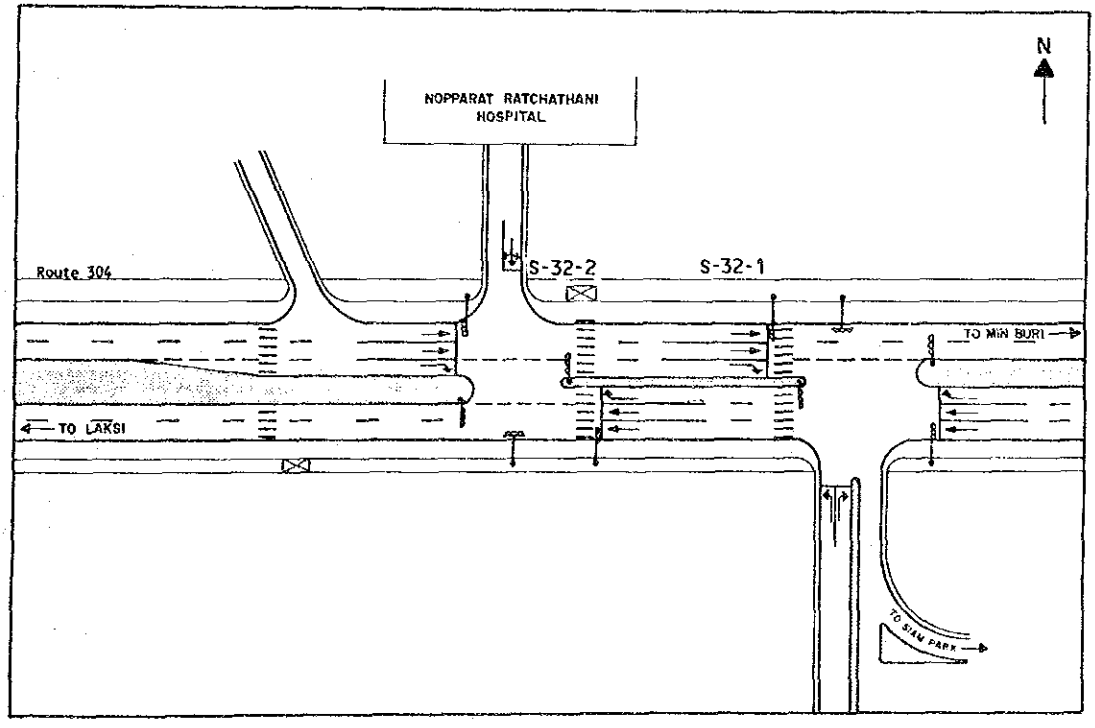
MEASURES

The installation of synchronized signals is suggested.

EVALUATION

Installation of signals (simultaneous-type): Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN



Morning Peak

1Ø	2Ø	3Ø
49.4	8.2	42.4

Cycle Length	85	Saturate Degree	0.532

The signal phasing plan in S-32-2 is same as S-32-1

Evening Peak

1Ø	2Ø	3Ø
51.7	11.7	36.6

Cycle Length	60	Saturate Degree	0.465

The signal phasing plan in S-32-2 is same as S-32-1

Off Peak

1Ø	2Ø	3Ø
60.0	12.5	27.5

Cycle Length	80	Saturate Degree	0.429

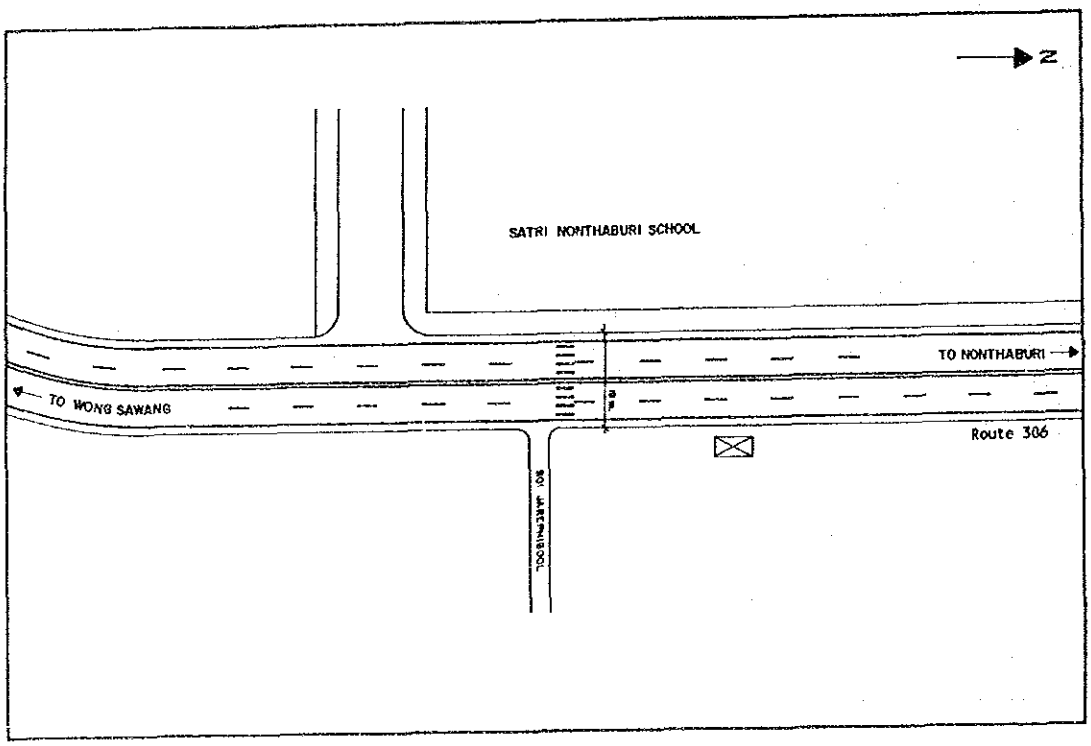
The signal phasing plan in S-32-2 is same as S-32-1

DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	33		LOCATION NAME	Sattri Nonthaburi School			
ROUTE NO	306	CONTROL SECTION NO.	102	K.P. OF PROBLEM LOCATION	K.P 1.000 – K.P 2.000	ROAD CONDITION	Roadway Section
K.P OF CONTROL SECT	K.P. 0.000 – K.P 6.000					DISTRICT CODE	416
DIVISION NAME	BANGKOK			DISTRICT NAME	PATHUMTHANI	PEDESTRIAN VOLUME (PERSONS/ PEAK HOUR)	1,379
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 49,489 MINOR ROAD (PEAK HOUR) MAJOR ROAD 3,073 MINOR ROAD			PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 26.6 MINOR ROAD (PEAK HOUR) MAJOR ROAD 24.9 MINOR ROAD	ACCIDENT RATE (PERSONS / 100 MIL. VEH. KM.)	102.9
NO. OF ACCIDENTS(CASES)	6			CASUALITIES (PERSONS)	(FATALITIES) 0 (INJURIES) 8	WHOLE CONTROL SECTION	75.1

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

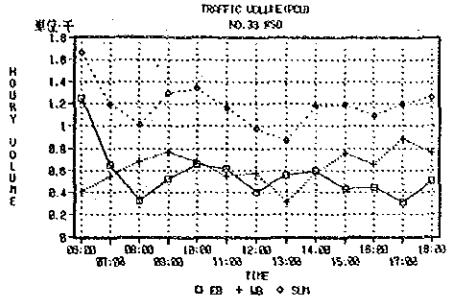
These are the uninterrupted flow section of R306, with three schools facing its roadway. It is an undivided four-lane road section.

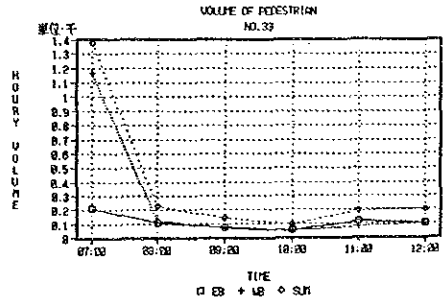
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	0
PEDESTRIAN OVERPASS	
STREET LIGHTING	
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis





Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	X.P.-X.P.	LENGTH (KM)	TRAFFIC VOLUME		NUMBER OF ACCIDENTS (CASES)	CASUALTIES			ACCIDENT RATE					ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
					ADT (PCU/DAY)	VEHICLE KILOMETER		DEATH (CASES)	INJURY (CASES)	DEATH AND INJURY (CASES)	ACCIDENT DENSITY (CASES/KM)	ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	DEATH (CASUALTIES/100 MIL.VEH.KM.)	INJURY (CASUALTIES/100 MIL.VEH.KM.)	DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)		
33	306	102	1+000 - 2+000	1.000	21,292	21,292	6	0	8	8	6.0	77.2	0.0	102.9	102.9	75.1	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES)														
			HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM	
33	306	102	0	2	0	0	1	0	1	0	0	1	0	0	1	6	

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT								REMARKS
			OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	
33	306	102	3	1	0	0	0	1	1	6	

COMMENTS ON TRAFFIC CONDITION

R306 is a primary highway having a high traffic volume (RHV is 27%).

COMMENTS ON ACCIDENT CONDITION

The accident frequency in this section is low (only 6 cases were recorded in the whole of the section including these locations).

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The pedestrian crossings are in a dangerous condition.

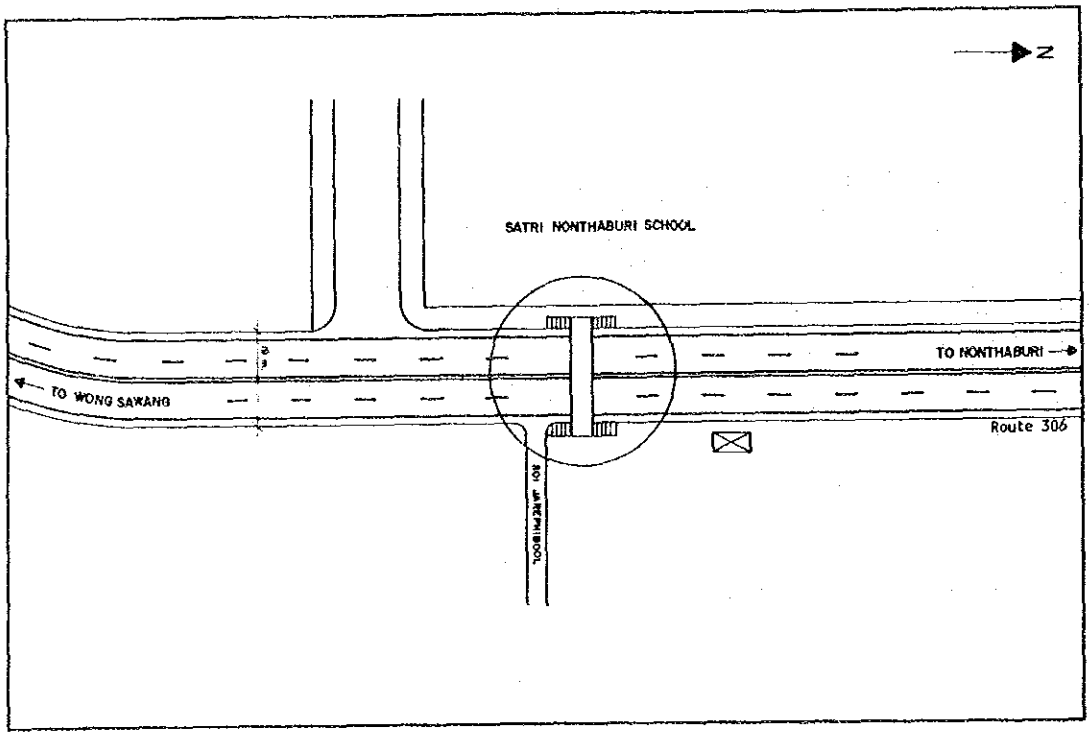
MEASURES

The installation of pedestrian overpasses is suggested.

EVALUATION

Installation of pedestrian overpass: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

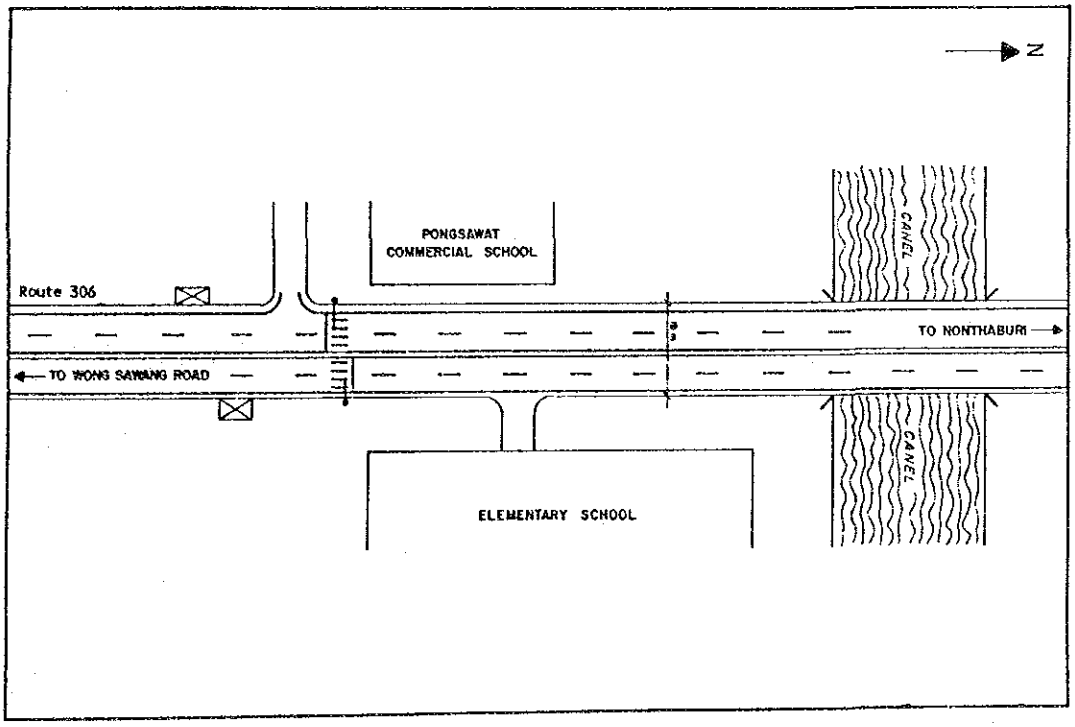


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	34		LOCATION NAME	Pongsawat Commercial School			
ROUTE NO.	306	CONTROL SECTION NO. 102	K.P. OF PROBLEM LOCATION	K.P 3.000 — K.P 4.000		ROAD CONDITION	Roadway Section
K.P OF CONTROL SECT.	K.P. 0.000 — K.P 6.000					DISTRICT CODE	416
DIVISION NAME	BANGKOK		DISTRICT NAME	PATHUMTHANI		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	764
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 49,489 MINOR ROAD (PEAK HOUR) MAJOR ROAD 3,073 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 26.6 MINOR ROAD (PEAK HOUR) MAJOR ROAD 24.9 MINOR ROAD		ACCIDENT RATE (PERSONS / 100 MIL. VEH. KM.)	51.5
NO. OF ACCIDENTS(CASES)	4		CASUALITIES (PERSONS)	(FATALITIES) 1 (INJURIES) 3		WHOLE CONTROL SECTION	75.1

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

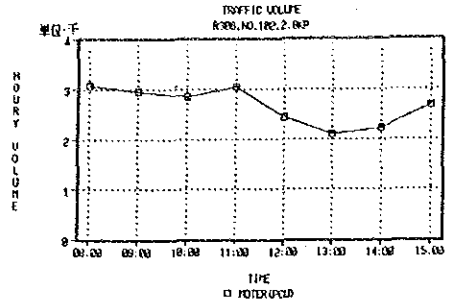
These are the uninterrupted flow section of R306, with three schools facing its roadway. It is an undivided four-lane road section.

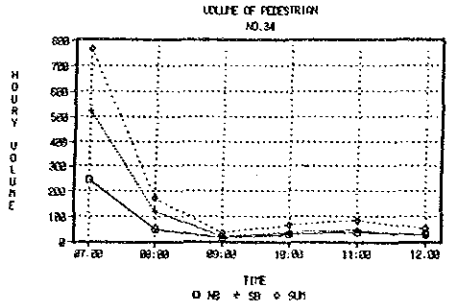
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	0
PEDESTRIAN CROSSING	0
PEDESTRIAN OVERPASS	
STREET LIGHTING	
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis





Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH.KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH.KM.)	REMARKS
34	306	102	3+600 - 4+000	1.000	21,292	21,292	4	1	3	4	4.0	51.5	12.9	38.6	51.5	75.1	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
34	306	102	2	0	0	0	0	0	0	0	2	0	0	0	0	4

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
34	306	102	2	2	0	0	0	0	0	4	

COMMENTS ON TRAFFIC CONDITION

R306 is a primary highway having a high traffic volume (RHV is 27%).

COMMENTS ON ACCIDENT CONDITION

The accident frequency in this section is low (only 6 cases were recorded in the whole of the section including these locations).

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The pedestrian crossings are in a dangerous condition.

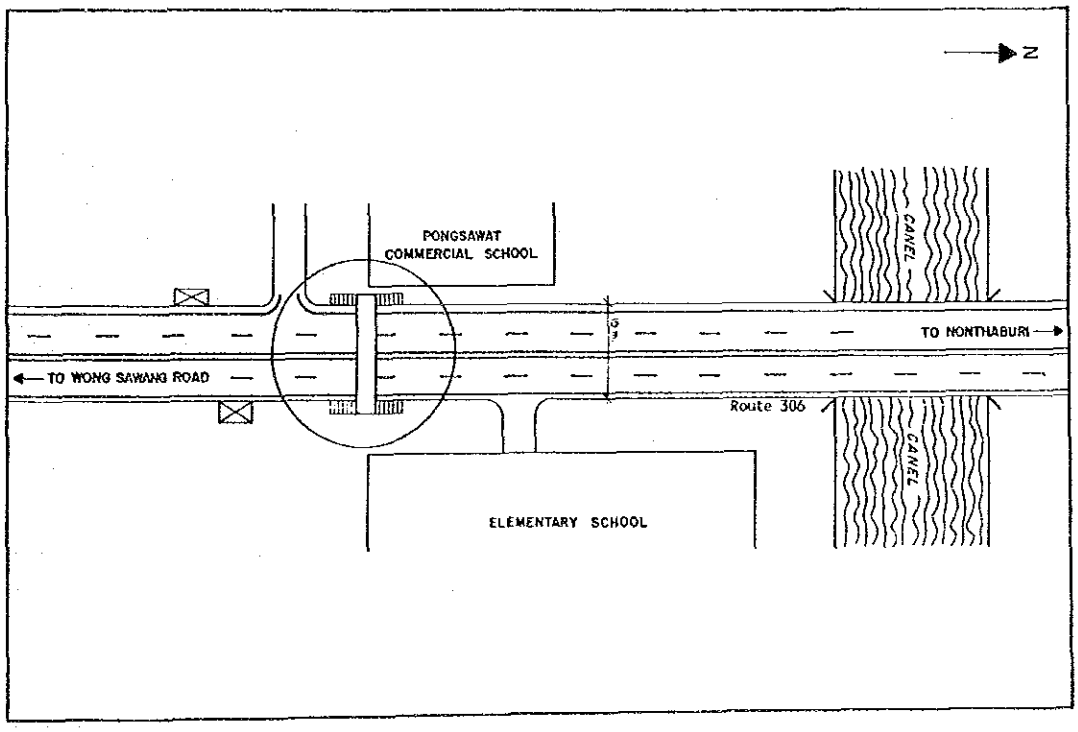
MEASURES

The installation of pedestrian overpasses is suggested.

EVALUATION

Installation of pedestrian overpass: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN

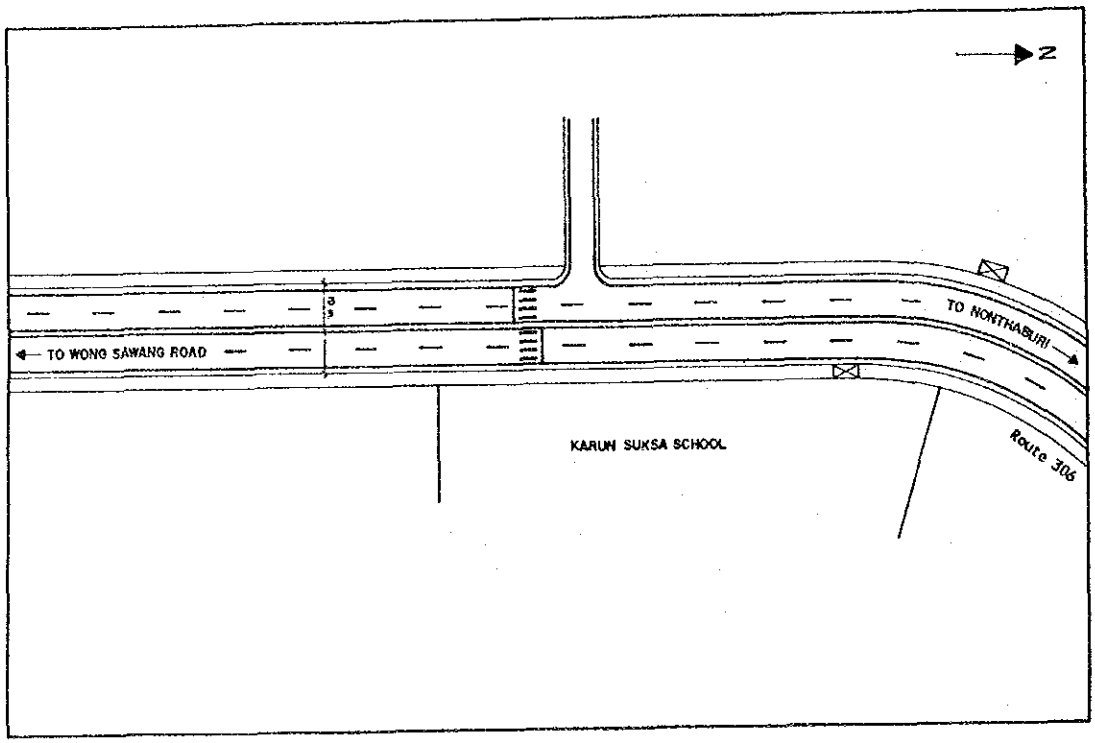


DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	35		LOCATION NAME	Wat Lanna Boon			
ROUTE NO.	306	CONTROL SECTION NO. 102	K.P. OF PROBLEM LOCATION	K.P 5.000 — K.P. 6.000		ROAD CONDITION	Roadway Section
K.P OF CONTROL SECT	K.P 0.000 — K.P. 6.000					DISTRICT CODE	416
DIVISION NAME	BANGKOK		DISTRICT NAME	PATHUMTHANI		PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	57
TRAFFIC VOLUME (VEHICLES) (P.C.U)	(WHOLE DAY) MAJOR ROAD 49,489 MINOR ROAD (PEAK HOUR) MAJOR ROAD 3,073 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 26.6 MINOR ROAD (PEAK HOUR) MAJOR ROAD 24.9 MINOR ROAD		ACCIDENT RATE (PERSONS / 100 MIL. VEH. KM.)	102.9
NO. OF ACCIDENTS(CASES)	5		CASUALITIES (PERSONS)	(FATALITIES) 1 (INJURIES) 7		WHOLE CONTROL SECTION	75.1

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

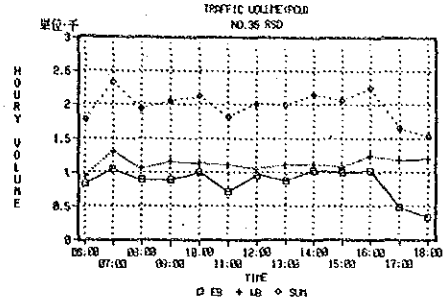
These are the uninterrupted flow section of R306, with three schools facing its roadway. It is an undivided four-lane road section.

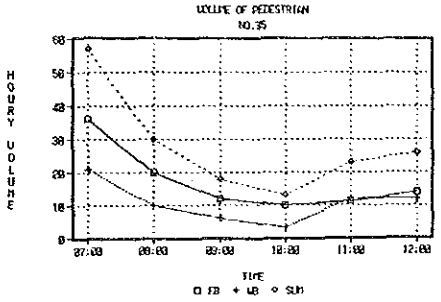
TRAFFIC SAFETY / CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	0
PEDESTRIAN OVERPASS	
STREET LIGHTING	
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis





Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL. VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH. KM.)	REMARKS
35	306	102	5+000 - 6+000	1.000	21,292	21,292	5	1	7	8	5.0	64.3	12.9	90.1	102.9	75.1	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
35	306	102	0	0	0	1	1	1	0	1	0	0	0	0	0	4

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
35	306	102	1	1	0	0	0	0	2	4	

COMMENTS ON TRAFFIC CONDITION

R306 is a primary highway having a high traffic volume (RHV is 27%).

COMMENTS ON ACCIDENT CONDITION

The accident frequency in this section is low (only 6 cases were recorded in the whole of the section including these locations).

POSIBLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The pedestrian crossings are in a dangerous condition.

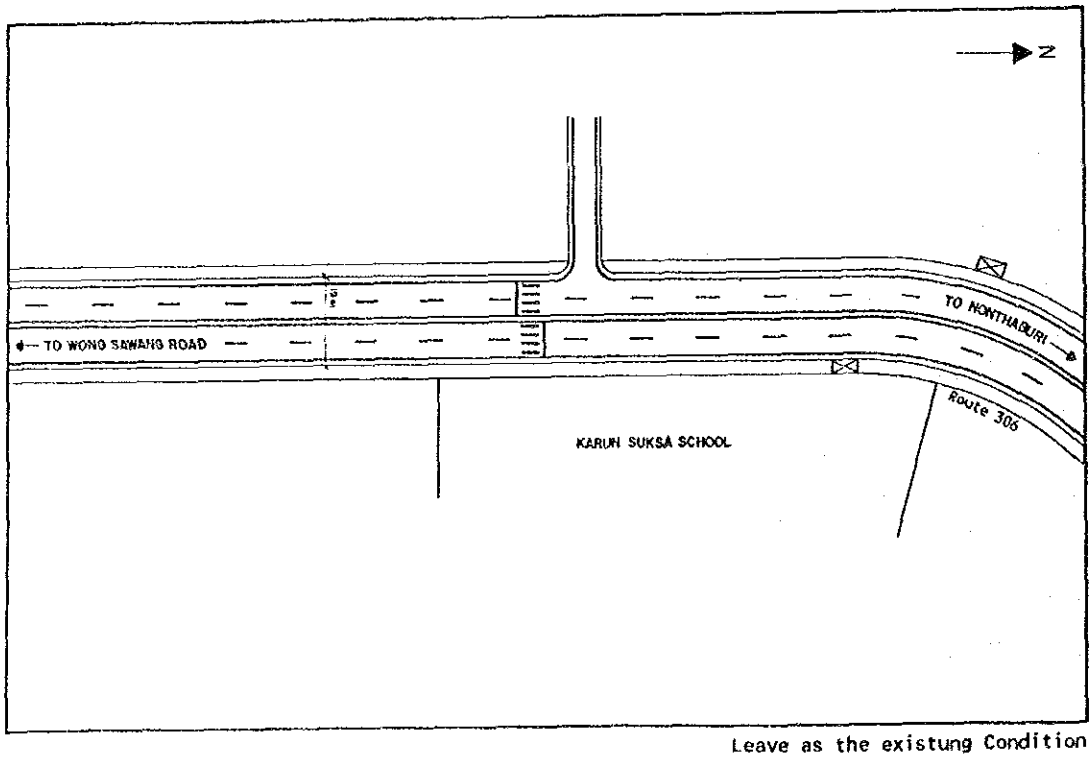
MEASURES

The installation of pedestrian overpasses is suggested.

EVALUATION

Installation of pedestrian overpass: not satisfy for improvment.
(pedestrian volume is low.)

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN



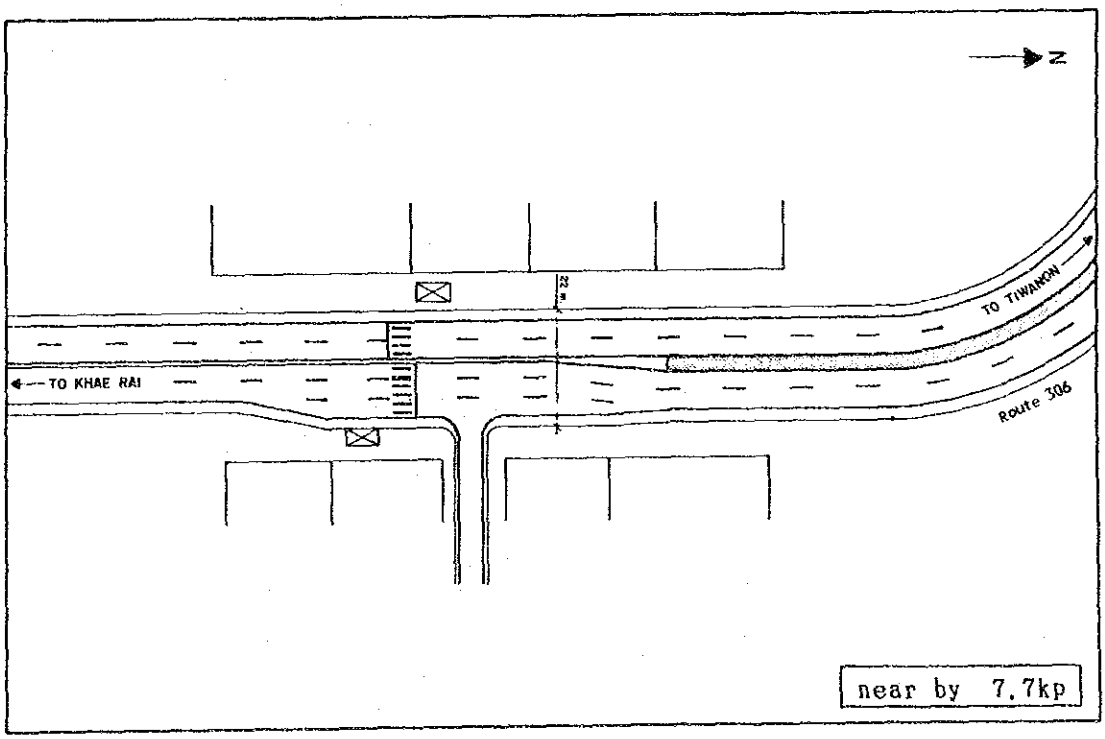
Leave as the existung Condition

DIAGNOSTIC SHEET OF PROBLEM LOCATIONS

(Form - 1)

LOCATION NO.	36		LOCATION NAME	Pinprapakom		
ROUTE NO.	306	CONTROL SECTION NO. 103	K.P. OF PROBLEM LOCATION	K.P 7.000 -- K.P 8.000	ROAD CONDITION	Roadway Section
K.P. OF CONTROL SECT.	K.P. 6.000 — K.P 26.674				DISTRICT CODE	416
DIVISION NAME	BANGKOK		DISTRICT NAME	PATHUMTHANI	PEDESTRIAN VOLUME (PERSONS/PEAK HOUR)	343
TRAFFIC VOLUME (VEHICLES) (P.C.U.)	(WHOLE DAY) MAJOR ROAD 49,189 MINOR ROAD (PEAK HOUR) MAJOR ROAD 3,356 MINOR ROAD		PERCENT OF HEAVY VEHICLES (%)	(WHOLE DAY) MAJOR ROAD 31.26 MINOR ROAD (PEAK HOUR) MAJOR ROAD 32.8 MINOR ROAD	ACCIDENT RATE (PERSONS / 100 MIL. VEH. KM.)	78.7
NO. OF ACCIDENTS(CASES)	5		CASUALITIES (PERSONS)	(FATALITIES) 2 (INJURIES) 5	WHOLE CONTROL SECTION	44.6

EXISTING ROAD CONDITION DIAGRAM



COMMENTS ON EXISTING ROAD CONDITION

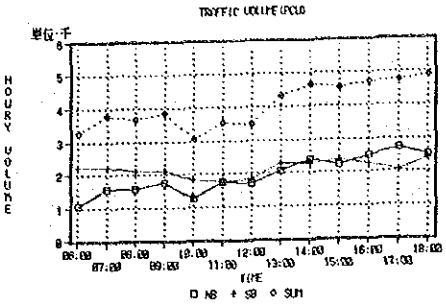
This is the intersection of R306 and a soi. The R306 section is an undivided four-lane section. R306 has left-turn lanes for traffic entering and existing from the soi.

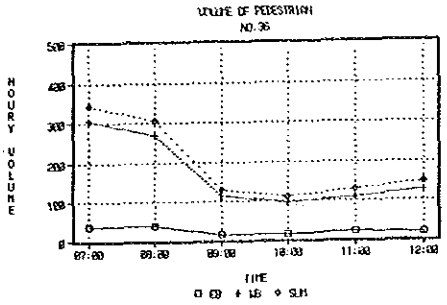
TRAFFIC SAFETY/CONTROL DEVICES INSTALLED

TRAFFIC SIGNAL	
PEDESTRIAN CROSSING	0
PEDESTRIAN OVERPASS	
STREET LIGHTING	
GUARD FENCE	
CHANELIZATION	

TRAFFIC DATA ANALYSIS

Traffic Data Analysis





Accident Data Analysis

Number of Accident and Casualties

STUDY SECTION NO.	ROUTE NO.	CONTROL SECTION NO.	K.P.-K.P.	LENGTH (KM)	TRAFFIC VOLUME ADT (PCU/DAY)	TRAFFIC VOLUME VEHICLE KILOMETER	NUMBER OF ACCIDENTS (CASES)	CASUALTIES DEATH (CASES)	CASUALTIES INJURY (CASES)	CASUALTIES DEATH AND INJURY (CASES)	ACCIDENT RATE ACCIDENT DENSITY (CASES/KM)	ACCIDENT RATE ALL ACCIDENTS (CASES/100 MIL. VEH.KM.)	ACCIDENT RATE DEATH (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE DEATH AND INJURY (CASUALTIES/100 MIL.VEH. KM.)	ACCIDENT RATE OF CONTROL SECTION (CASUALTIES/100 MIL.VEH. KM.)	REMARKS
36	306	103	7+000 - 8+000	1.000	24,370	24,370	5	2	5	7	5.0	56.2	22.5	56.2	78.7	44.6	

Number of Accident by type

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY TYPE OF ACCIDENT (CASES) HIT PEDESTRIANS	HIT BICYCLE	HIT DURING PASSING	HIT OPPOSED VEHICLE	REAR END COLLISION	HEAD ON COLLISION	HIT AT INTERSECTION	SIDE COLLISION	IMPROPER TURNING	LOST OF CONTROL	HIT FIXED OBJECT	HIT TRAIN	OTHERS	SUM
36	306	103	2	0	0	0	2	0	0	0	0	0	0	0	2	6

Number of Accident by cause

NO.	ROUTE NO.	CONTROL SECTION NO.	NUMBER OF ACCIDENTS BY CAUSE OF ACCIDENT OVER SPEED LIMIT	FAILURE TO YIELD TO ROW	IMPROPER PASSING	VEHICLE DEFECTS	DRUNKEN DRIVER	SLEEPY	OTHERS	SUM	REMARKS
36	306	103	4	0	0	0	0	0	2	6	

COMMENTS ON TRAFFIC CONDITION

R306 is a primary highway with a high traffic volume (RHV is 31%).

COMMENTS ON ACCIDENT CONDITION

The accident frequency is low (only 6 cases recorded) of which 4 were caused by speeding.

POSIDLE COUNTERMEASURES AND THEIR GROUNDS

PROBLEMS

The pedestrian crossing is in a dangerous condition.

MEASURES

The installation of a pedestrian overpass is suggested.

EVALUATION

Installation of pedestrian overpass: Satisfies criteria for improvement.

ILLUSTRATION OF TRAFFIC SAFETY / OPERATION PLAN