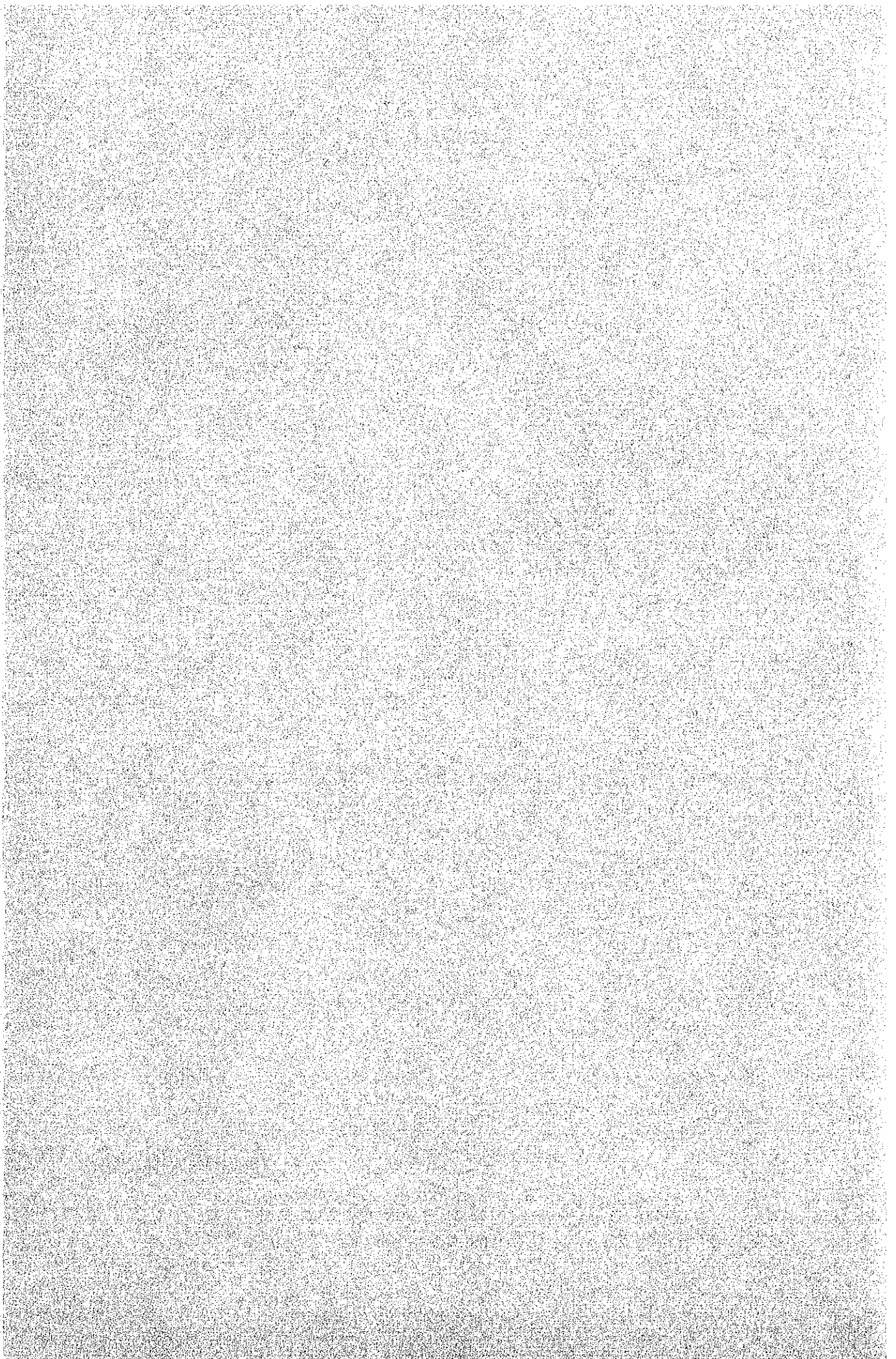


## **Appendices**

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## APPENDIX A - GLOSSARY OF TECHNICAL TERMS

The use of some technical term in the main text has been inevitable. This Glossary describes the meaning of such terms.

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AA DT (Average Annual Daily Traffic)	The total yearly volume divided by the number of days in the year.
Age/sex structure	The proportions of the total population in specific age groups by sex.
Assignment/trip assignment/traffic assignment	The process of allocating trips or traffic to particular routes, according to the characteristics describing the routes and relationships known to influence route selection. The results of this process are often referred to as 'an assignment.'
At-grade intersection	An intersection of two or more carriageways at the same level.
Attraction/trip attraction	The end of trip; the destination of trip;
Base year	The year for which input data for the study was collected, in this case 1979.
Base Case (or Do Nothing)	The situation that would exist if no further expenditure or policy initiatives other than those already committed took place.
Billion	1,000 million.
Bus bay/Turn in or Turn out	Demarcated area at the side of the road for buses loading or unloading passengers.
Bus Exclusive lane	See Exclusive Bus Lane.
Busway	A carriageway built exclusively for the use of buses.

<b>Centroid connector</b>	A real or imaginary link between the assumed centre of a zone (the zone centroid) and the transport network. It is given values of time or cost to represent the average time or cost for travellers to/from the zone to gain access to the main transport network.
<b>Cordon-internal/external</b>	A cordon is an imaginary line delineating a particular part of the area under study.
<b>Design year</b>	The year for which planning data and travel patterns are forecast for 1985 and 2000.
<b>Destination/trip destination</b>	The place at which a trip/journey finishes.
<b>Distribution/trip distribution</b>	The process of synthesising travel patterns between zones from trip generations, trip attractions and measures of separation between each zone pair.
<b>Do Something</b>	Refers to a planned policy for the future to solve specific problems.
<b>Exclusive Bus Lane</b>	A lane on a public highway devoted exclusively for use by buses.
<b>Economically active</b>	Capable of working
<b>Environment capacity (of a road)</b>	The maximum traffic flow which is consistent with the activities carried out along the street or is otherwise acceptable on environmental grounds.
<b>Federal Route 1</b>	The road which originates at Johor Bahru and terminates at Kubang Pasu via Kuala Lumpur, Ipoh, Butterworth

Generation/trip generation	and Alor Star. The origin of a truck trip. Normally used in the context of trips generated by a particular zone i.e. the number of trips which begin in a zone as a result of its population and economic activity.
Grade separation	The vertical separation of carriageways to eliminate crossing conflicts at intersections.
Gravity model	A mathematical relationship used for forecasting trips between zones. The number of trips between any zone pair is assumed to be proportional to the generations in one zone, the attractions in the other and inversely proportional to a function of the generalised cost on travel between the zones.
Hierarchy of roads	A classification of roads, in ranking order of importance as carriers of traffic.
Household	A mutually dependent group of persons, normally a family, living together on the basis of common resources.
Household size	The numbers of persons comprising a household.
Infrastructure	A general expression for the services and utilities necessary to support urban development, normally provided by Government or public utility companies e.g. roads, water supply, drainage.
Internal trip	A trip with both ends inside the study area.

Intra-zonal trip	A trip with both origin and destination in the same traffic zone.
Line haul	The 'line haul' mode of transport is defined as the mode of public transport meeting the bulk of the demand for transport along the major corridors of movement.
Link	An element in a transport network which connects two nodes, for example the stretch of highway between two junctions.
Linked trip	A complete journey from origin to destination comprising one or more modes of travel.
Minimum path	The route of a journey between two zones which has the minimum total cost or time, or the combination of these being used to determine route choice.
Modal split	The allocation of trips to various transport modes on the basis of the characteristics of each mode.
Model/traffic model	A mathematical relationship, or series of relationships, which is used to predict the use of a defined transport system under assumed land use distributions and socio-economic characteristics of the population.
Multi-car owning household	A car-owning household which has more than one car available for use by the household.
Multiplier effects	The process where investment and growth in one industry creates increased opportunities for other



	Industries and services, with consequent increases in benefits over a broader range than would be expected.
New Federal Route 1	The road is so called for Alor Star-Changkat Jering highway.
New Mass Transport System	A guide rail-based public transport system characterised by manual or automatic.
Node	A numbered point in a transport network. Each node generally represents a road intersection or a junction in a public transport network.
Non-resident	Not living or based in the study area.
Non-work trip	Any person trip other than a trip on employers business (called a work trip).
Occupancy	The number of persons per vehicle, including the driver.
Opportunity cost	The benefits that are foregone when expenditure is directed to one item rather than another.
Origin/trip origin	The place at which a trip starts.
Outskirts	Outer border or fringe.
Penang Bridge	Linkage bridge is connected with Province Wellesley and Penang Island.
Peak hours	The hours during the day when traffic volumes are highest.
Perceived cost	The costs, usually travel costs, that the user actually perceives that he pays for a journey, including transfer payments such as indirect taxes and import duties.
Primary industry	The basic resource-producing activity.

	ties of agriculture, forestry, fishing, mining and quarrying.
Purpose/trip purpose	The main reason for which a particular trip is made.
Resident	Living or based in the study area.
Resource cost	The actual cost of resources consumed, excluding transfer payments such as taxes which are, however, included in perceived costs.
Road inventory	List and description of all roads in the network. Details of length, road width, etc. are recorded.
Saturation flow	The maximum amount of traffic which can pass the 'stop line' of a green signal, normally expressed in vehicles or p.c.u.'s per hour.
Screenline	An imaginary line through the study area which is used for comparing observed travel behaviour crossing the line with the synthesised results of the traffic model.
Secondary industry	Includes manufacturing industry, public utilities and construction.
Signal cycle time	The total time taken for traffic signal lights to complete one full set of commands, that is from the commencement of a green signal for one stream of traffic through all other colour phases for all other traffic streams until the recommencement of the first green signal.
Tertiary industry	Refers to commerce and services, including transport, communications and storage.

Transport mode	A means of travel such as walking, car, bus or others.
Trishaw	A small public transport means for passengers worked manually with three wheels.
Transport network	A diagrammatic representation of a transport system, usually expressed in terms of links and nodes, e.g. a road pattern can be expressed by describing each length of road as a link and each junction as a node.
Travel time	Length of time taken for a journey from leaving the origin to arriving at the destination. Includes walking waiting and interchange times.
Tree	A table of the nodes lying on the minimum paths from one node or zone centroid in a network to all others.
Trip end	One end of a trip.
Trip/journey	A one-way movement from one place to another for a particular purpose, using one or more transport modes.
Trip length distribution	The frequency curve, or histogram, describing the number of trips of different lengths, times or costs.
Trip matrix (O-D table)	A table listing the number of journeys between each and every zone pair.
Trip rate	The average number of trips made by all members of the household during the course of an average weekday may be sub-divided by mode and/or purpose.
Trip production	The Trip Production is the number of

	trips made per unit time.
Update	To revise or modify.
Urban area	The built-up area bounded by EDSA
User	Traveller (who is using a mode of transport).
Value added	The increase in value that inputs receive when being transformed into saleable goods and services.
Volume/traffic volume	The number of vehicles passing a given point in a specified period of time.
Work trip	A trip on employers business (as opposed to non-work trips).
Zone centroid/centroid	A point within a traffic zone, taken as representative of all points within the zone for traffic analysis purposes. It is assumed that all trips to or from a zone start and finish at the zone centroid.
Zone/traffic zone	A geographic area used in traffic analysis. The study area is subdivided into many such zones. A zone is delineated with reference to its land use characteristics and the transport system which serves it.

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APPENDIX B: LIST OF REPORTS

- (1) Inception Report -----March, 1979.
- (2) Progress Report -----August, 1979.
- (3) Interim Report -----December, 1979.  
Main Volume -----December, 1979.  
Supplementary Volume.  
Part A: Introduction -----December, 1979.  
Part B: Present Traffic and Road  
Conditions -----December, 1979.  
Part C: Short-Term Action Programme -----December, 1979.  
Part D: Long-Term Transport Planning  
and Programming -----December, 1979.
- (4) Draft Final Report  
Main Volume -----March, 1980.  
Supplementary Volume -----March, 1980.
- (5) Final Report  
Main Volume -----May, 1980.  
Supplementary Volume -----May, 1980.
- (6) Technical Report  
01: Car Owner Interview Survey -----August, 1979.  
02: Ferry Survey -----August, 1979.  
03: Cordon Line Survey -----August, 1979.  
04: Screen Line Survey -----August, 1979.  
05: Bus Passengers Survey -----August, 1979.  
06: Parking Survey -----August, 1979.  
07: Traffic Generation, Intersection,  
Traffic Volume Counting, Travel Time  
and Running Speed Survey, Questionnaires  
to Pedestrians -----August, 1979.  
08: Road-Side Trees Survey -----August, 1979.  
09: Some Analyses of Traffic Census  
by J.K.R -----August, 1979.  
10: Highway Inventory Survey -----December, 1979.  
11: Analysis and Forecast of Traffic  
Movement -----December, 1979.  
12: Port and Harbour Study -----December, 1979.  
13: Data Processing -----January, 1980.

- 14: Public Transport Study -----January, 1980.
- 15: Traffic Engineering and Management Study ---January, 1980.
- 16: The Ferry Study -----February, 1980.
- 17: Pilot Study of Land Utilization in  
Residential Area -----March, 1980.

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APPENDIX D. ORIGIN AND DESTINATION TABLES

1-1	Car - all purposes	(1979)
1-2	Vehicles except Motor-Cycles	(1979)
1-3	Motor Cycles	(1979)
2-1	Vehicles	(1985)
2-2	Vehicles	(P.C.U. 1985)
2-3	Motor Cycles	(1985)
3-1	Vehicles	(2000)
3-2	Vehicles	(P.C.U. 2000)
3-3	Motor Cycles	(2000)











### 3-3 MOTOR-CYCLES (2000)

0	D																				SUB TOTAL	SUB TOTAL	TOTAL IN INTERNAL AREA	91	92	93	94	SUB TOTAL	01	02	03	04	05	SUB TOTAL	TOTAL IN EXTERNAL AREA	GRAND TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																	
1	148100	4661	9892	7834	170483	2188	1455	805	363	4786	175283	322	398	151	226	1097	121	118	45	29	129	442	1539	116822												
2	4667	3660	452	496	9275	89	102	59	28	278	9553	128	32	14	19	193	10	10	4	2	12	38	231	9784												
3	9957	453	9521	5502	25433	237	396	195	89	914	26347	51	302	67	84	504	30	28	10	5	31	104	608	26955												
4	7823	497	5539	22696	36555	321	480	274	116	1191	37746	62	317	95	281	755	40	38	15	10	41	144	899	38645												
SUB TOTAL	170547	9271	25404	36528	241750	2835	2433	1333	578	7179	248929	563	1049	327	610	2549	201	194	74	46	213	728	3277	252206												
5	2072	78	216	289	2655	46615	13600	5033	1724	66977	69632	1	3	1	2	7	1361	1098	240	164	603	3466	3473	73105												
6	1307	91	360	435	2193	13761	30157	3752	2732	55452	57645	2	6	2	3	13	1118	960	316	218	766	3378	3391	61036												
7	710	52	167	243	1172	4918	8693	39322	3530	56513	57635	1	1	1	1	4	649	837	375	257	591	2709	2713	60393												
8	310	25	78	106	519	1733	2781	3592	6770	14876	15395	1	1	0	1	3	242	236	237	183	316	1214	1217	16612												
SUB TOTAL	4399	246	821	1073	6539	67027	55231	56704	14856	193918	200357	5	11	4	7	27	3370	3131	1168	822	2276	10767	10794	211151												
TOTAL IN INTERNAL AREA	174946	9517	26225	37601	248289	69852	57664	58073	15434	200997	449286	568	1060	331	617	2576	3571	3325	1242	868	2489	11495	14071	463357												
91	327	131	52	63	573	7	8	3	3	21	594	0	0	0	0	2	2	0	0	0	0	0	21	596												
92	402	33	306	320	1061	11	16	9	3	39	1100	0	0	0	0	0	0	0	0	0	0	0	0	1100												
93	154	15	68	96	333	3	7	3	1	14	347	0	0	0	0	0	0	0	0	0	0	0	0	347												
94	232	20	85	284	621	6	10	3	3	22	643	2	0	0	0	2	0	0	0	0	0	0	2	645												
SUB TOTAL	1115	199	511	763	2588	27	41	18	10	96	2684	2	0	0	2	4	0	0	0	0	0	0	4	2688												
01	189	17	44	63	313	1303	1075	592	230	3200	3513	7	10	4	7	28	0	0	9	4	46	59	87	3600												
02	186	17	44	62	309	1071	943	757	230	3001	3310	7	10	5	7	29	0	0	22	9	33	64	93	3403												
03	70	7	17	23	117	233	306	352	229	1120	1237	3	4	2	3	12	9	22	0	7	17	55	67	1304												
04	47	4	10	16	77	156	208	245	174	783	860	2	2	1	2	7	5	9	7	0	15	36	43	903												
05	199	19	46	66	330	581	737	521	301	2140	2470	8	11	5	8	32	18	47	21	15	0	101	133	2603												
SUB TOTAL	691	64	161	230	1146	3344	3249	2467	1164	10244	11390	27	37	17	27	108	32	78	59	35	111	315	423	11813												
TOTAL IN EXTERNAL AREA	1806	263	672	993	3734	3371	3310	2485	1174	10340	14074	29	37	17	29	112	33	78	59	35	111	315	427	14501												
GRAND TOTAL	176752	9780	26897	38594	252023	73233	60974	60522	16608	211337	463360	597	1097	348	646	2688	3603	3403	1301	903	2600	11810	14498	477858												

Appendix E COMPARISON OF ALTERNATIVE PLANS

1. Result of Traffic Assignment by Plans, 1985
2. Result of Traffic Assignment by Plans, 2000
3. Result of Traffic Assignment of Bus by Plans, 1985
4. Result of Traffic Assignment of Bus by Plans, 2000
5. Estimated Daily Traffic Characteristics of Vehicles, 1985
6. Estimated Daily Traffic Characteristics of Motor-Cycle, 1985
7. Benefits Derived From Project Implementation, 1985
8. Annual Benefits Derived from Project Implementation, 1985
9. Benefits Derived from Project Implementaion, 2000
10. Annual Benefits of Alternative Plans, 1985
11. Annual Benefits of Alternative Plans, 2000

1. RESULTS OF TRAFFIC ASSIGNMENT BY PLANS

1985

Upper Number; Car  
( ) ; Motorcycle

	Base	Plan 1 - A	Plan 2 - A	Plan 3 - A	Plan 3 - B
Daily Trips Assigned (1000 Trips)	471 (319)	471 (319)	471 (319)	471 (319)	471 (319)
Vehicle Kilometer (1000 Kms)	5,928 (2,904)	5,736 (2,876)	5,776 (2,874)	5,621 (2,870)	5,539 (2,864)
Vehicle Hours (1000 Hrs)	213 (145)	203 (141)	199 (142)	187 (135)	184 (134)
Average Trip Length (Kms/Trip)	12.6 (9.1)	12.2 (9.0)	12.3 (9.0)	11.9 (9.0)	12.0 (9.0)
Average Travel Time (Min/Trip)	27.1 (27.1)	25.8 (26.3)	25.4 (26.3)	23.8 (25.0)	23.9 (24.9)
Average Travel Speed (Kms/Hr)	27.9 (20.2)	28.4 (20.5)	29.1 (20.5)	30.0 (21.6)	30.1 (21.7)

2. RESULTS OF TRAFFIC ASSIGNMENTS BY PLANS

2000

	Base	Plan 3 - A	Plan 4 - A	Plan 4 - B	Plan 4 - C	Plan 4 - D
Daily Trips Assigned (1000 Trips)	1,140 (334)	1,140 (334)	1,140 (334)	1,109 (329)	1,099 (323)	1,044 (329)
Vehicle Kilometers (1000 kms)	16,243 (3,169)	16,172 (3,112)	16,075 (3,093)	15,741 (3,024)	15,610 (2,974)	15,252 (3,024)
Vehicle Hours (1000 Hrs)	789 (157)	716 (144)	633 (133)	617 (134)	610 (130)	578 (132)
Average Trip Length (kms/Trip)	14.2 (9.5)	14.3 (9.3)	14.1 (9.3)	14.2 (9.2)	14.2 (9.2)	14.6 (9.2)
Average Travel time (Min./Trip)	41.4 (28.1)	38.0 (25.9)	33.3 (23.9)	33.4 (24.4)	33.3 (24.2)	33.3 (24.2)
Average Travel Speed (kms/hr.)	20.6 (20.2)	22.6 (21.6)	25.4 (23.3)	25.5 (22.6)	25.6 (22.8)	25.8 (22.9)

3. RESULTS OF TRAFFIC ASSIGNMENT OF BUS BY PLANS

1985

	Base	Plan 1 - A	Plan 2 - A	Plan 3 - A	Plan 3 - B
Daily Passengers (1000 Pass.)	171.9	171.9	171.9	171.9	171.9
Passenger Kilometers (1000 Kms)	1,942.7	1,942.7	1,942.7	1,942.7	2,077.1
Passenger Hours (1000 Hrs)	137.0	127.8	127.4	123.0	125.0
Average Trip Length (Kms/Trip)	47.8	44.6	44.5	42.9	40.8
Average Travel Speed (Kms/Hr.)	14.18	15.20	15.25	15.79	16.61
Fleet Kilometers (1000 Kms)	30618	30618	30618	30618	30618

4. RESULTS OF TRAFFIC ASSIGNMENT OF BUS BY PLANS

2000

	Base	Plan 3 - A	Plan 4 - A	Plan 4 - B	Plan 4 - C	Plan 4 - D
Daily Passengers (1000 Pass.)	208.0	208.0	208.0	259.2	186.7	259.2
Passenger Kilometers (1000 Kms)	2,489.7	2,489.7	2,489.7	2,934.0	2,338.4	2,934.0
Passenger Hours (1000 Hrs.)	209.4	190.9	169.8	204.2	158.8	204.2
Average Trip Length (Kms/Trip)	11.97	11.97	11.97	11.3	12.5	11.3
Average Travel Time (Hrs./Trip)	60.41	55.05	48.99	47.27	51.06	47.27
Average Travel Speed (Kms./Hr.)	11.89	12.85	13.66	14.37	14.71	14.37
Fleet Kilometers (1000 Kms)	38931	38931	38931	45534	36839	45534

5 ESTIMATED DAILY TRAFFIC CHARACTERISTICS OF VEHICLES

1985

	Without Project (Base)	PENANG ISLAND		PROVINCE WELLESLEY		BOTH AREAS On-going Projects
		Project 1	Project 2	Project 3	Project 4	
Daily Vehicle Hours 1000	178,190	174,870	176,640	176,960	173,080	169,845
	-	0.981	0.991	0.993	0.971	0.953
Daily Vehicle Kms	4,761,400	4,768,100	4,784,200	4,717,540	4,692,100	
	-	1.001	1.005	0.999	0.991	0.985
Average Trip Length (Kms/Trip)	12.47	12.49	12.53	12.46	12.36	12.29
	-	1.002	1.005	0.999	0.991	0.986
Average Travel Time (Mins./Trip)	28.01	27.49	27.77	27.82	27.21	26.70
	-	0.981	0.991	0.993	0.971	0.953
Average Travel Speed (Kms./Hr.)	26.71	27.26	27.08	26.87	27.26	27.63
	-	1.021	1.014	1.006	1.021	1.034

Notes: 1) includes lorry, passengers and commercial vehicles except motor-cycles.

2) comparison between base case and project case.

6. ESTIMATED DAILY TRAFFIC CHARACTERISTICS OF MOTOR-CYCLE

1985

	Without Project (Base)	PENANG ISLAND		PROVINCE WELLESLEY	
		Project 1	Project 2	Project 3	Project 4
Daily Vehicle Hours	141,760	139,450	140,710	141,180	138,780
Daily Vehicle Kms	2,861,400	2,862,600	2,861,900	2,865,740	2,836,740
Average Trip Length (Kms/Trip)	9.13	9.13	9.13	9.14	9.05
Average Travel Time (Mins./Trip)	27.14	26.69	26.93	27.02	26.57
Average Travel Speed (Kms./Hr.)	20.18	20.52	20.34	20.29	20.44

7 BENEFIT DERIVED FROM PROJECT IMPLEMENTATION

1985

(In thousand dollars at 1979 Prices)

	Project 1	Project 2	Project 3	Project 4
Vehicle <sup>1)</sup>				
Annual Time Saved	4,489	2,739	3,251	4,778
Annual Vehicle Operating Cost Savings	3,001	584	6,073	3,019
Savings on fixed cost	2,524	1,540	1,827	2,686
Savings on running cost	477	-956	4,246	333
Sub-Total	7,490	3,323	9,324	7,797
M/Cycle				
Annual Time Saved	272	171	304	211
Annual Vehicle Operating Cost Savings	62	12	92	88
Savings on fixed Cost	54	34	61	42
Sub-Total	334	183	396	299
Total	7,824	3,506	9,720	8,096

Note: 1) including taxi, lorry and others except motor-cycles

8. ANNUAL BENEFITS DERIVED FROM PROJECT IMPLEMENTATION

1985

(In thousand dollars at 1979 prices)

	Plan 1 - A	Plan 2 - A	Plan 3 - A
Cars <sup>1)</sup>			
Annual Time Cost Savings	11,009	16,622	27,823
Annual Operating Cost Savings	12,780	14,272	26,235
Savings on fixed costs	4,060	5,451	9,606
Savings on running costs	8,720	8,821	16,629
Sub-Total	23,789	30,896	54,058
Motor-Cycle			
Annual Time Cost Savings	1,705	2,215	3,959
Annual Operating Cost Savings	1,290	1,675	2,867
Savings on fixed costs	394	512	915
Savings on running costs	896	1,163	1,952
Sub-Total	2,995	3,890	6,826
Total	26,784	34,786	60,884

Note: 1) includes taxis, lorries and buses.

9. BENEFITS DERIVED FROM PROJECT IMPLEMENTATION

2000

(In thousand dollars at 1979 prices)

		Plan 3 - A	Plan 4 - A
Cars <sup>1)</sup>	Annual Time Cost Savings	86,314	163,816
	Annual Operating Cost Savings	65,107	125,706
	Savings on fixed costs	32,659	61,984
	Savings on running costs	32,448	63,722
	Sub-Total	151,421	289,522
Motor-Cycle	Annual Time Cost Savings	5,161	9,868
	Annual Operating Cost Savings	4,101	7,841
	Savings on fixed costs	1,191	2,277
	Savings on running costs	2,910	5,564
	Sub-Total	9,262	17,709
Total		160,683	307,231

Note: 1) includes taxis, lorries and buses.

10. ANNUAL BENEFITS OF ALTERNATIVE PLANS

1985

(In thousand dollars at 1979 prices)

	3 - A	3 - B
<b>Car Owners</b>		
* car operating cost saving	27,823	36,768
* time saving	26,235	32,110
* public transport fare	0	-1,912
* gain/loss due to diverted traffic	0	-2,319
Total	54,058	64,647
<b>Motor-cycle Owners</b>		
* Motor-cycle operating cost saving	2,867	3,085
* time saving	3,959	4,493
* public transport fare	0	-581
* gain/loss due to diverted traffic	0	-251
Total	6,826	6,746
<b>Non Owners</b>		
* time saving (Total)	1,984	5,845
<b>Bus Operators</b>		
* Operating cost saving	0	585
* fares	0	2,493
Total	0	3,078
Total Net Benefit	62,868	80,316



11. ANNUAL BENEFITS OF ALTERNATIVE PLANS

2000

(In thousand dollars at 1979 prices)

	Plan 4 - A	Plan 4 - B	Plan 4 - C	Plan 4 - D
<b>Car-Owners</b>				
* car operating cost saving	125,706	159,878	171,334	159,228
* time saving	163,816	180,345	187,714	195,505
* public transport fare	0	-4,629	-10,007	-4,629
* gain/loss due to diverted traffic	0	-10,858	-5,539	-10,858
<b>Total</b>	<b>289,522</b>	<b>324,736</b>	<b>343,502</b>	<b>339,246</b>
<b>M/cycle Owners</b>				
* M/cycle operating cost saving	7,841	8,449	7,226	8,697
* time saving	9,868	9,597	11,023	10,179
* public transport fare	0	-651	-1,449	-651
* gain/loss due to diverted traffic	0	-442	-334	-442
<b>Total</b>	<b>17,709</b>	<b>16,953</b>	<b>16,466</b>	<b>17,783</b>
<b>Non-owners</b>				
* time saving (Total)	9,755	11,224	13,954	11,224
* public transport fare	-	-	-5,932	-
<b>Total</b>	<b>9,755</b>	<b>11,224</b>	<b>8,022</b>	<b>11,224</b>
<b>Bus Operators</b>				
* operating cost saving	398	-57	2,468	-57
* fare	0	5,280	-1,856	5,280
<b>Total</b>	<b>398</b>	<b>5,223</b>	<b>612</b>	<b>5,223</b>
<b>NIS Operators</b>				
* operating cost	-	-	-29,961	-
* public transport fare	-	-	32,504	-
<b>Total</b>	<b>-</b>	<b>-</b>	<b>2,543</b>	<b>-</b>
<b>Total Net Benefit</b>	<b>317,384</b>	<b>348,136</b>	<b>371,145</b>	<b>373,476</b>





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