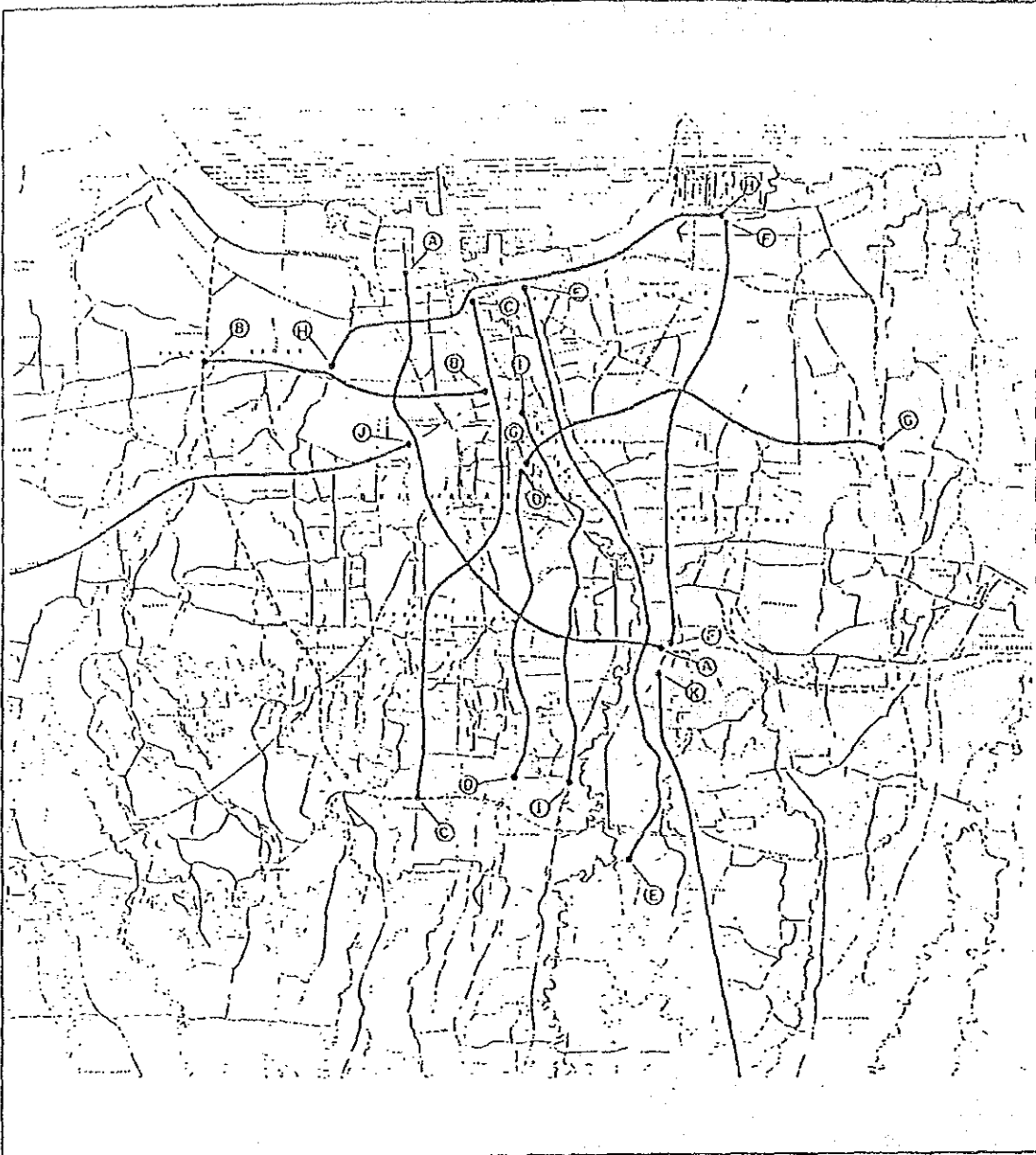


TABLE 4.8 COMPOSITE ACCIDENT RATES

ROADWAY CATEGORY	FACILITY TYPE	INCIDENCE (MVKT)(1)	
		Fatalities	Injuries(2)
Regional Toll Road	Multi-lane, controlled access in rural setting	0.04	1.36
Urban Toll Road	Multi-lane, controlled access in urban setting	0.01	0.35
Urban Arterial	Major urban street, varying cross sections, no control of access	0.17	0.59

(1) Incidence per million vehicle kilometres of travel (MVKT)
based on reported accidents

(2) Includes minor and major injuries



LEGEND

- : SURVEY CORRIDOR
- : CORRIDOR EXTENT AND DESIGNATION

FIG. 4.18

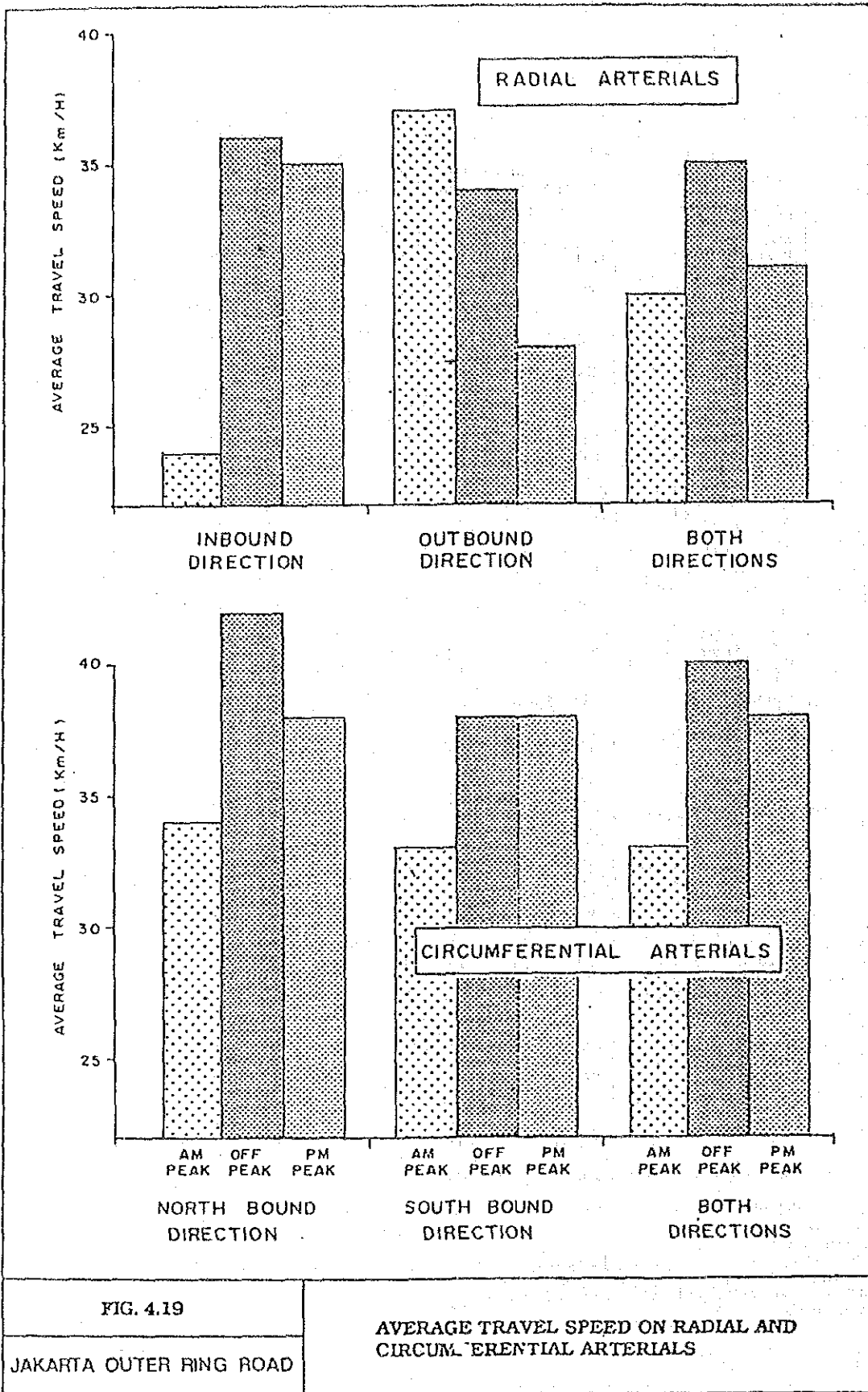
LOCATION OF SPEED SURVEY CORRIDORS

JAKARTA OUTER RING ROAD

TABLE 4.11 AVERAGE TRAVEL SPEED

CORRIDOR(I)	SEGMENT	AVERAGE TRAVEL SPEED(2) (km/h)										
		DIRECTION A			DIRECTION B			BOTH DIRECTIONS				
		DIRECTION	AM PEAK	OFF-PEAK	PM PEAK	DIRECTION	AM PEAK	OFF-PEAK	PM PEAK	AM PEAK	OFF-PEAK	PM PEAK
A	Jl.Prof.Dr.Latunelen/ Jl.Jembatan Tiga	NB	46	35	25	SB	27	32	40	37	33	33
	Jl.Let.Jend.Parman	NB	26	31	32	SB	25	30	37	26	30	30
	Jl.Jend.Gatot Subroto	NB	41	48	41	SB	25	28	28	33	38	35
	Jl.Let.Jend.Haryono	NB	32	48	37	SB	38	43	44	35	45	40
	Total	NB	37	41	32	SB	28	32	36	33	37	34
B	Jl.Daan Mogot	EB	22	29	21	WB	41	33	28	32	31	24
	Jl.Kyallapa/Jl.Aayhart	EB	34	44	38	WB	26	23	13	30	33	26
	Total	EB	26	34	27	WB	36	30	23	31	32	25
C	Jl.Fatmawati	NB	15	25	31	SB	28	25	21	21	25	26
	Jl.Panglima Polim Raya/ Jl.Sisingamangaraja	NB	19	29	20	SB	27	23	19	23	26	19
	Jl.Jend.Sudirman	NB	39	52	66	SB	49	43	36	44	47	51
	Jl.M.H.Thamrin/ Jl.Medan Merdeka Barat	NB	26	38	36	SB	33	31	22	30	35	29
	Jl.Gajah Mada	NB	24	20	35	SB	38	26	33	31	23	29
Total	NB	26	34	40	SB	36	31	25	31	32	33	
D	Jl.Duncul Raya	NB	16	32	31	SB	36	33	31	26	32	31
	Jl.R.Rasuna Said	NB	30	47	52	SB	60	50	40	45	48	46
	Jl.H.O.S.Cokroaminoto	NB	21	27	14	SB	32	24	19	26	25	16
	Total	NB	22	37	36	SB	44	38	33	33	37	35
E	Jl.Raya Bogor/ Jl.Dewi Sariika	NB	21	33	34	SB	33	32	27	27	32	30
	Jl.Otto Iskandar Dinoto/ Jl.Salemka Raya/ Jl.Kramat Raya	NB	26	30	30	SB	38	33	32	32	32	31
	Jl.Pasar Senen/ Jl.Gunung Sahari	NB	36	34	24	SB	34	27	27	35	30	26
	Total	NB	26	32	30	SB	35	31	29	31	32	30
	Jl.Jend.Panjaitan	NB	25	40	33	SB	28	41	38	26	40	36
F	Jl.Jend.A.Yani	NB	24	42	42	SB	45	49	41	35	45	41
	Jl.Laks.Muda Yos Sudarso	NB	35	47	57	SB	42	48	45	39	47	51
	Total	NB	29	43	46	SB	40	47	42	34	45	44
	Jl.Perintis Kemerdekaan	WB	22	42	35	EB	37	49	43	29	46	39
G	Jl.Let.Jend.Suप्रप्तो	WB	11	49	51	EB	39	28	17	25	38	34
	Jl.Kramat Dunder	WB	21	24	18	EB	21	21	20	21	22	19
	Total	WB	19	41	37	EB	35	38	32	27	40	34
	Jl.L.R.E.Martadinata	WB	40	31	40	EB	40	43	38	40	37	39
H	Jl.Lodan	WB	34	23	28	EB	25	37	24	30	30	26
	Jl.P.T.Angke/ Jl.Pamcran/Jl.P.Kangan	WB	29	27	23	EB	32	26	29	30	27	26
	Total	WB	34	28	31	EB	34	35	32	34	31	31
	Jl.Pasar Minggu	NB	28	36	33	SB	36	36	30	32	36	31
I	Jl.Prof.Dr.Supomo/ Jl.Dr.Saharjo	NB	25	38	34	SB	32	31	20	28	35	27
	Jl.Proklamasi/ Jl.Cikini Raya/ Jl.Medan Merdeka Timur	NB	23	25	24	SB	35	26	17	29	26	21
	Total	NB	25	34	31	SB	34	31	22	30	32	26
	Jakarta-Micrak Toll Road	WB	.	63	82	WB	67	74	80	.	79	81
J	Jagorawi Toll Road	NB	83	92	87	SB	.	92	83	.	92	85

- (1) Refer Figure 4.18
 (2) Average "Floating car speed" for specified period. Directional classification : NB = northbound (toward north). Time classification AM Peak (06:00 - 09:00); Off-Peak (09:00 - 15:00); PM Peak (15:00 - 18:00)



II. NECESSARY DATA

I. ORGANIZATIONS CONCERNING THE IMPLEMENTATION OF THE STUDY

I T E M	(A) ROAD DEVELOPMENT PLANNING	(B) ROAD CONSTRUCTION	(C) ROAD IMPROVEMENT/BETTERMENT	(D) ROAD MAINTENANCE/BETTERMENT	
1. Agencies which are responsible for the followings: (1) National Road (2) Provincial Road (3) Toll Roads	Bina Marga (Bipran, Binkot) Provincial PU (Bipran, Binkot) (but with consultation to the Central Bina Marga) Bina Marga (Note 3)	Bina Marga 3-Impl. Directorates (Bina Marga, Binkot) Provincial PU (Bipran, Binkot) (but with consultation to the Central Bina Marga) Jasa Marga (including D/D)	Bina Marga 3-Impl. Directorates (Bina Marga, Binkot) Provincial PU (Bipran, Binkot) (but with consultation to the Central Bina Marga) Jasa Marga	Provincial PU Provincial PU Provincial PU (Bipran, Binkot) (but with consultation to the Central Bina Marga) Jasa Marga	Note 1 Note 2

Note 1 & 2 : Inter-city roads information of road situation is centralized. On urban roads is under preparation.

3 : With technical consultation to Bina Marga.

I T E M	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAILABILITY	PLACE OF DATA AVAILABLE	
<p>2. Agencies in charge of and/or concerned with the followings:</p> <p>(A) Permission of aerial photo taking</p> <p>(B) Custody of topographic maps and aerial photos</p> <p>B-1 Topographic Maps :</p> <p>B-2 Aerial Photos :</p> <p>(C) Area conservation</p>	<p>(1) Name of Agencies and Departments</p> <p>(2) Name and position of the responsible persons in charge for the Japanese Study Team to contact</p>	<p>(1) HANKAM (Joint Military Headquarter)</p> <p>(2) Not known yet</p>	<p>(1) - Directorate General of Geology, Ministry of Public Works, (Same as BAKOSURTANAL)</p> <p>- BAKOSURTANAL</p> <p>(S=1/50,000, 1/100,000, 1/250,000 and 1/1,000,000)</p> <p>- Bureau of Mapping, DKI Jakarta (S=1/5,000, 1/2,000 and 1/1,000)</p> <p>- Bappeda of West Java Province (S=10,000 and S=1/5,000)</p> <p>(2) Not known yet</p> <p>(1) - Penas (State-owned Aero-survey Company)</p> <p>- BPN (National Land Agency)</p> <p>- Bureau of Mapping, DKI Jakarta</p> <p>(2) Not known yet</p> <p>Required clarification of questionnaire</p>	

I T E M	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAILABILITY	PLACE OF DATA AVAILABLE	
(D) Geological data/information of DKI Jakarta/JABOTABEK Area		(1) - Directorate General of Geology, Ministry of Public Works - Bappeda of DKI Jakarta and, West Java		
3. Organization to supervise and steer the management of the Study	(1) Necessity of the Steering Committee and proposed member insitutions	(2) Not known yet		(1) Coordination during the Study period and after the Study is necessary between the agencies in the central government level and agencies in the local government level in order to authorize the study results including the actual process for privatization. So, for this purpose, same as other studies, the Government would set up the steering committee of director generals and directors level of related government agencies and the technical committee of sub-directors level. The proposed member institutions would be almost same as those for the previous ARSDA JICA study as follows: - Director General of Highways - BINKOR of Directorate General of Highways (Bina Marga)

I T E M	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAILABILITY	PLACE OF DATA AVAILABLE	
				<ul style="list-style-type: none"> - RBO IX office of Bina Marga - Regional office for DKI Jakarta of Public Works - Director General of Land Transport and Inland Waterways, Ministry of Communications - Bappeda, Dinas of City Planning, Dinas of Public Works, Dinas of Land Transport and Traffic of both Provinces (DKI Jakarta and West Java) - Jabotabek Coordination Office - Bappeda of both Kabupaten (Bekasi and Tangerang)

II. TECHNICAL DATA/INFORMATION

I T E M	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAILABILITY	PLACE OF DATA AVAILABLE	
1. Maps to be used for field investigation	(1) Topographic maps covering the Study area (of smaller scale)	Yes for DKI (S=1/5000, 1/2000) Yes for West-Java (S=1/5000)	- Dinas of Mapping - Dinas of City - Bappeda of West Java	Topographic Map
2. Availability, coverage and production year of aerial photos and topographic maps	(1) Aerial photos (1/5,500) (2) Topographic maps (1/1,000), etc.	(1) Yes for DKI Jakarta and Surrounding Area. (Details are now under checking)	National Land Agency (BPN) and Dinas of Mapping, DKI	Aerophoto (1989-1990)
3. Geological data	(1) Geological maps covering the Study area (2) Existing report about such data/information as: - Location of soft ground - Results of geological/soil investigation	(1) Yes by (S=1/50,000) (2) Yes by many of Project/Study Reports	Directorate General of Geology Bina Marga and PT Jasa Marga	Geological Map of West Java -Harbour Road Project -Cengkareng Access Project -Airport Project -JKT-Cikampek Tollway Project -JKT Outer Ring Road Project

I T E M	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAILABILITY	PLACE OF DATA AVAILABLE	
4. Geodetic data in the area in DKI JKT and JABOTABEK area.	(1) Triangulation point network (2) Bench-mark network (3) Points description (Control points, Bench-mark) (4) Triangulation point data lists	Yes but details are now under checks.		
5. Meteorological data in the DKI JKT and JABOTABEK area.	(1) Monthly rainfall data (daily rainfall data, if possible) (2) Temperature (3) Others	Yes, by day (Monthly data are attached).	Directorate of Water Resources	Rainfall data.
6. Hydrological data of rivers	(1) Road maps of DKI JKT and JABOTABEK area	Yes	Directorate of Water Resources	River data
7. Data/information on related roads in the Study area	(1) Road maps of DKI JKT and JABOTABEK area	(1) Yes	Dinas of Public Works of 2 Provinces.	Road Map
	(2) Maps showing points of traffic congestion/traffic bottlenecks/vehicle speed	(2) Yes	By Study Report	-Ring Road Project, -JIUT Study Report.
	(3) Road inventories (class, length, surface type, etc.)	(3) Yes	-Dinas of Public Works of 2 Provinces -Bina Marga (National & Provincial Road)	Road and Bridge inventories.
	(4) Record of past disaster (Flood, slope failure, etc.)	(4) Yes	Flood Control Office (DKI & West Java)	(But not enough) To be surveyed by each project.

I T E M	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAILABILITY	PLACE OF DATA AVAILABLE	
8. Traffic survey system	<p>(1) Location of periodic traffic count stations in the Study area</p> <p>(2) Period (ex. once a year, seasonal, etc.)</p>	(1) & (2)	<p>Location map should be submitted by DKI Jakarta, utilizing automatic traffic counters for a week per year but not classified by vehicle categories. (but the locations are not fixed because of equipment limit).</p> <p>By Bina Marga, once or twice a year by 12 vehicle categories. (but limited number of locations)</p> <p>By Consultants, almost each year in many locations with 12 vehicle categories. (latest is November 1992).</p> <p>By PT Jasa Marga (Persero), tollway traffic volume is regularly (monthly) reported as monthly Report. (latest is for August 1992)</p>	
9. Traffic data on the related roads	<p>(1) Traffic volume by vehicle types</p> <p>(2) Number of registered vehicles</p> <p>(3) Record of traffic accidents (type, causes, location, etc.)</p>	(1) As answered for No. 8. (2) Yes (3) Yes	<p>Traffic Poice but by City and Kabupaten basis.</p> <p>-Traffic Pokice -PT Jasa Marga limited on Tollways)</p>	

I T E M	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAILABILITY	PLACE OF DATA AVAILABLE	
10. Land use plans and maps		Yes	-Sappeda and Dinas of City Planning of 2 provinces and 2 Kabupaten	
11. Mode-wise transportation statistics (buses, vehicles, railroads, boats, etc)		Yes	-Directorate of Land Transport -Directorate General of Sea Transport -Dinas of Land Transport of 2 provinces -Regional office of Communications.	
12. Mode-wise future development plans		Yes but as study outputs (not authorized) and keep going of implementation one by one.	(Bus route improvement, bus fleet increase, rail road development road development etc. by project basis with regular coordination meeting between Bina Marga, Perhubungan Darat and DKI Jakarta).	

I T E M	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAILABILITY	PLACE OF DATA AVAILABLE	
13. Legislation	(1) Highway act (2) Toll road act (3) Traffic code (4) Vehicle code	(1) Yes (2) Yes (3) Yes (4) Yes	Min. of Public Works Min. of Public Works Min. of Communications Min. of Communications	
14. Basic data for cost estimation	(1) Unit cost of material (2) Labour cost (3) Others	Yes Yes	Statistical Office of Public Works Statistical office of Public Works for equipment, Directorate of Road Equipment.	

III. SOCIO-ECONOMIC DATA/INFORMATION

I T E M	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAILABILITY	PLACE OF DATA AVAILABLE	
1. Latest socio-economic indexes	<ul style="list-style-type: none"> (1) GNP and GDP (National, DKI JKT, JABOTABEK) (2) Population (National, DKI JKT, JABOTABEK) (3) Past and future population growth rate (National, DKI JKT, JABOTABEK) (4) Land use plan and maps (DKI JKT, JABOTABEK) (5) Others 	<ul style="list-style-type: none"> Yes Yes Yes 	<ul style="list-style-type: none"> Central Statistik office and Provincial Statistic office. 	<ul style="list-style-type: none"> -Statistical Year Book (Indonesian DKI Jakarta, West Java -Province in figures -1990 Population Census Report.
2. Existing development plans and reports	<ul style="list-style-type: none"> (4) Land use plan and maps (DKI JKT, JABOTABEK) (5) Others 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> -Bappeda, Dinas of City Planning of 2 provinces. -Jabotabek Coordination office. 	
3. Existing and on-going road development plans and road development projects	<ul style="list-style-type: none"> (1) National Development Plan (REVELITA V) (2) JABOTABEK Development Plan 2005 (3) DKI structure Plan 2005 (4) Other urban development plans in DKI JKT and JABOTABEK area 	<ul style="list-style-type: none"> Yes Yes (But under review Cipta Karya by Cipta Karya Consultant) Yes Yes (Many) 	<ul style="list-style-type: none"> -Bappenas -But under review Cipta Karya by Cipta Karya Consultant) Bappeda DKI Jakarta. -As study outputs. 	
	<ul style="list-style-type: none"> (1) Design, implementation schedule and current project status (2) Mapas showing future road network 	<ul style="list-style-type: none"> Yes (details are under preparation) Yes 	<ul style="list-style-type: none"> Bina Marga and DKI Jakarta, West Java. DKI Jakarta, West Java and Bina Marga. 	

I T E M	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAILABILITY	PLACE OF DATA AVAILABLE	
4. Economic data for economic evaluation	(1) Time evaluation value (2) Running Cost	Yes Yes (based on the Consultant's studies)	Bina Marga and Jasa Marga Bina Marga and Jasa Marga	

IV. ENVIRONMENTAL ISSUES

I T E M	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAILABILITY	PLACE OF DATA AVAILABLE	
1. Legislation	(1) Law/guidelines on environmental impact assessment (2) Quality standards	Yes	Min. of Public Works	As attached
2. International conventions on environmental conservation	(1) Bilateral convention (2) Multilateral convention	Not yet Not yet		
3. Present situation of the project area	(1) Socio-economic environment <ul style="list-style-type: none"> . Number of people to be resettled and plan of resettlement or compensation . Main industry or source of income of the residents . Number and distribution of schools, hospitals, religious facilities . Location of the community which might be split by the project . Cultural property or archaeological site . Use of river/lake water, i.e. domestic industrial and agricultural . Existence of common land (2) Natural environment <ul style="list-style-type: none"> . Availability of meteorological data . Availability of land use and vegetation map . History of natural disaster, landslide earthquake and flood . Areas affected by soil erosion 	Depends on the study.		Depends on the study.

I T E M	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAILABILITY DATA AVAILABLE	PLACE OF DATA AVAILABLE	
	<ul style="list-style-type: none"> . Change of water level of river and lakes in recent years . Location of environmentally vulnerable areas such as wetland . Species of valuable animals and plants living in the project area . Location of particular areas officially protected such as national parks . Distribution of important landscape or-scenery for tourism <p>(3) Quality of life</p> <ul style="list-style-type: none"> . Present air quality . Regulation on emission gas . Present water quality . Regulation on effluent . Regulation for prevention of soil contamination . Present condition of noise and vibration . Regulation for prevention of noise and vibration 	Some are available.	Ministry of Population and Environment Population.	

THE LIST OF REGULATIONS AND DECREE FOR PIL
(ENVIRONMENTAL INFORMATION STUDY)

The PIL is requested for the Feasibility Study level.

- 1 - Republic of Indonesia Law No.4 of 1982 about the Principal Formulation of Managing Living Space.
 - Republic of Indonesia Law No.13 of 1980 on Road.
- 2 - Government Regulation No.29 of 1986 about the Analysis of Environmental (AMDAL).
 - Government Regulation No.26 of 1985 on Road.
- 3 - Decree of the Minister of Population and Environment No.49/MENKLH/1987 about Guideline of Determining Important Impact.
- 4 - Decree of the Minister of Population and Environment No.51/MENKLH/6/1987 about Guideline of Formulizing Evaluation Study of Environmental Impact.
- 5 - Decree of the Minister of Population and Environment No.52/MENKLH/6/1987 about Time Limit of Formulizing Evaluation Study of Environment Impact.
- 6 - Decree of the Minister of Population and Environment No.02/MENKLH/1988 Determining Environmental Quality Standard.
- 7 - Decree of the Minister of Public Works No.557/KPTS/1989 about implementing Environmental Management of Road Construction.
- 8 - Decree of the Minister of Public Works No.46/PRT/1990 AMDAL Technical Guideline in General Work Sector.
- 9 - Decree of the Minister of Public Works No.779/KPTS/1990 about AMDAL Guideline in road and Bridge Sector.
- 10 - Decree of the Minister of Public Works No.367/KPTS/1992 about Defining Project General Work which Need AMDAL/SEMDAL.

V. OTHER INFORMATION

I T E M	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAILABILITY DATA AVAILABLE	PLACE OF DATA AVAILABLE	
<p>1. Future budgetary plan for the implementation of the Project</p> <p>2. Any specific restrictions related to the Study</p> <p>3. Availability of the Government's equipment/instruments/apparatus for the Study</p>	<p>(1) List up equipment/instruments/apparatus which are available for the Study by the following category with the following information:</p> <p>(a) Category</p> <ul style="list-style-type: none"> - Instrument for geodetic survey - Apparatus for geological/soil investigation - Apparatus for traffic survey - Computer - Services vehicle - Others <p>(b) Information</p> <ul style="list-style-type: none"> - Name - Type (or model/maker) - Characteristics (or capacity) - Number of units - Condition 	<p>Not yet</p>	<p>(by Bina Marga or by Private Sector)</p>	
		<p>Difficulties in land acquisition are expected. (but implementation of projects depend on the study).</p> <p>-Those equipment are available but all of equipment are utilized by the implementation directorates of Bina Marga and Regional project offices. -For JICA study, Bina Marga is expecting strongly supplies by JICA study team.</p>		

I T E M	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAILABILITY	PLACE OF DATA AVAILABLE	
4. List of consultants/contractors for survey and investigation of natural conditions, environment and traffic conditions		To be prepared as soon as possible.		

収 集 資 料 リ ス ト

1. 統 計

- Jakarta Dalam Angka~Jakarta in Figures, 1991
 - Jakarta Statistical Office
- Statistik Indonesia~Statistical Yearbook of Indonesia, 1991
 - Biro Pusat Statistik
 - statistik Kendaraan Bermotor Dan Panjang Jalan ~ Vehicles and Length of Road Statistics, 1990
 - Biro Pusat Statistik
- Data Volume Lalu Lintas Jalan tol
 - PT. Jasa Marga (Persero)

2. 計 画

- Jakarta 2005
 - DKI Jakarta BAPPEDA
- Jakarta Mass Transit System Study, 1992
 - BPPT/GTZ
- Bina Marga Jakarta 首都圏道路計画図
- 運輸省 Mass Transit Network 図

3. 環 境

- Studi Evaluasi Lingkungan, Proyek Peningkatan Jalan Arteri Yogyakarta, 1992
(環境影響調査 T/R の一例)
- East Jakarta Flood Control Project, Environmental Evaluation Study, 1992
(環境影響調査の一例)

JICA