8.3 Five Conceptual Alternatives

(1) Combination of Options

By combining the options A and B with K, G, and D, six (2×3) conceptual alternatives are obtained; in other words, the combination of options results in conceptual alternatives. Among the six, however, the combination of B and K is incompatible. This is because a terminal that is exclusively for commuter service (Option B) should not be built at a site where a dead-end type of track layout is going to exist (Option K). This combination must therefore be eliminated (see Table 8.1).

Table 8.1 Combination of Options

Site	K-		lang 3)	Depot (D)		
Role	Dual (A)	Single (B)	(A)	(B)	(A)	(B)
Conceptual Alternative Code	101		102	104	103	105

(2) Illustration of Conceptual Alternatives

The remaining five Conceptual Alternatives (101 through 105) are given in Table 8.2 with their respective train routes and they are illustrated in Fig. 8.1.

Regarding Conceptual Alternative 102, three track layouts are conceivable (102-1, 102-2, and 102-3). Sub-alternatives 102-1 and 102-2 are in line with the Project, and have one and two grade-separated crossings with the Eastern Line respectively. Sub-alternative 102-3, which is in contradiction with the Project, is a plan that has the Tanjung Priok and Eastern Line platforms built in parallel and at the same ground level.

Table 8.2 Conceptual Alternatives

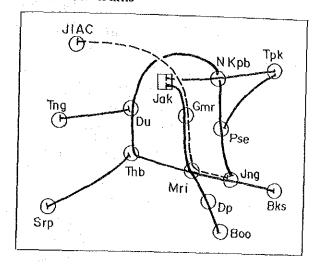
Code	Commuter Train Operation Routes	Role of the Terminal	Site		
101	W - E, C, T	Commuter & long-distance trains	Present Jakarta Kota Station		
102	W - E, C, T	Commuter & long-distance trains	Present Jakarta Gudang Station		
103	W - E, C - T	Commuter & long-distance tranis	Present Jakarta Kota Passenger Car Depot		
104	W - E, C, T	Commuter trains	Present Jakarta Gudang Station		
105	W - E, C - T	Commuter trains	Present Jakarta Kota Passenger Car Depot		

Notes: 1) The Cengkareng Airport Line is to be connected to the Central Line.

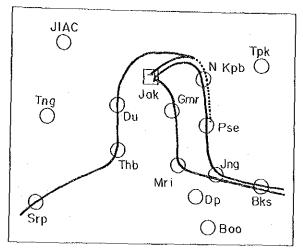
- 2) W-E: Through train operation between the Western and Eastern Lines
 - C-T: Through train operation between the Central and Tanjung Priok Lines
 - C: Shuttle train operation between New Jakarta Kota and Bogor Stations
 - T: Shuttle train operation between New Jakarta Kota and Tanjung Priok Stations

Conceptual Alternative

Commuter trains



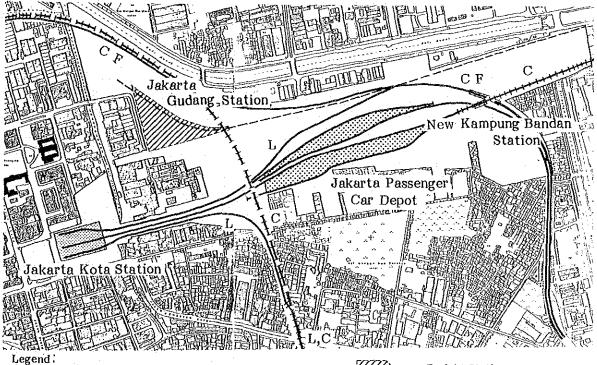
Long-distance passenger trains



Operation routes:

- 1) Bks-Mri-Thb-N Kpb-Pse-Jng
- 2) Boo-Mri-Gmr-Jak
- 3) Tpk-N Kpb-Jak, 4) Tpk-Pse,
- 5) Srp-Thb, 6) Tng-Du, 7) JIAC-Gmr-Mri-Jng

- -Bks-Jng-Pse-N Kpb-Jak
 -Bks-Mri-Gmr-Jak
- 3) -Srp-Thb-Du-Jak (or N Kpb-Pse)

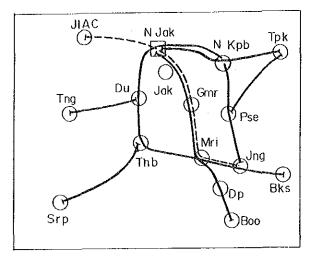


Legend:			Freight Station
	Commuter/Long-Distance Passenger Train Line	~~~~	Passenger Car Depot
	Freight Train Line	C	Tracks for Commuter Trains
ннинн	Proposed Cengkareng Airport Line (Elevated)	L	Tracks for Long-Distance Passenger Trains
+11111111)	Elevated Track	F	Tracks for Freight Trains
-	Passenger Station		Ť

Fig. 8.1 (1) Representation of Conceptual Alternative 101

Conceptual Alternative 102 - 1

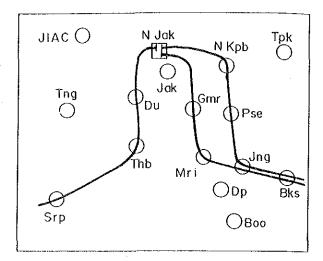
Commuter trains



Operation routes:

- 1) Bks-Mri-Thb-N Jak-N Kpb-Pse-Jng
- Boo-Mri-Gmr-N Jak
- 3) Tpk-N Kpb-N Jak, 4) Tpk-Pse,
 5) Srp-Thb, 6) Tng-Du,
 7) JIAC-N Jak-Gmr-Mri-Jng

Long-distance Passenger trains



- 1) -Bks-Jng-Pse-N Kpb-N Jak
- 2) -Bks-Mri-Gmr-N Jak
- 3) -Srp-Thb-Du-N Jak

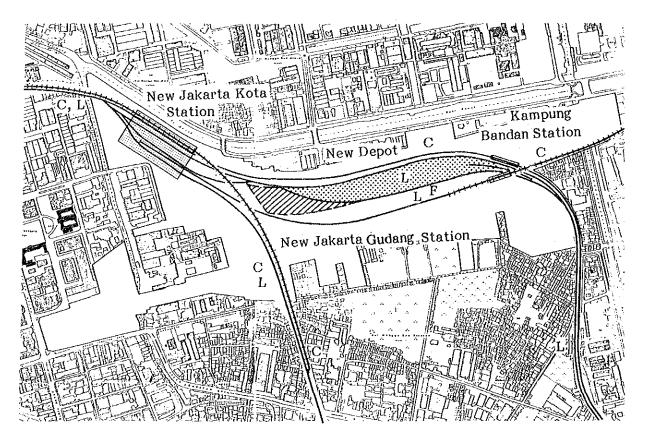
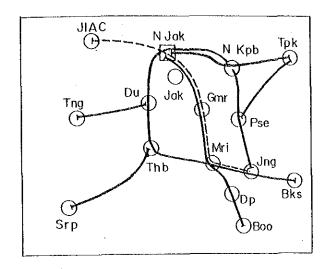


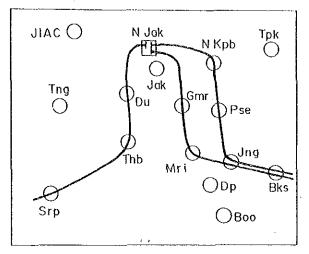
Fig. 8.1 (2) Representation of Conceptual Alternative 102-1

Conceptual Alternative 102 - 2

Commuter trains



Long-distance Passenger trains



Operation routes:

- Bks-Mri-Thb-N Jak-N Kpb-Pse-Jng
 Boo-Mri-Gmr-N Jak
- 3) Tpk-N Kpb-N Jak, 4) Tpk-Pse,
 5) Srp-Thb, 6) Tng-Du,
 7) JIAC-N Jak-Gmr-Mri-Jng

- -Bks-Jng-Pse-N Kpb-N Jak
 -Bks-Mri-Gmr-N Jak
- -Srp-Thb-Du-N Jak

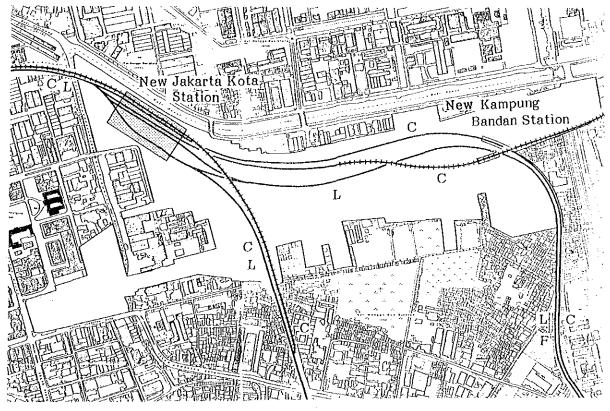
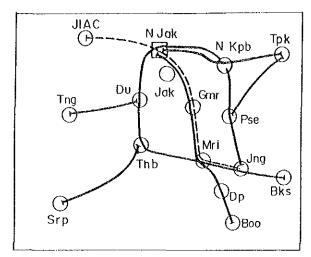


Fig. 8.1 (3) Representation of Conceptual Alternative 102-2

Conceptual Alternative 102-3

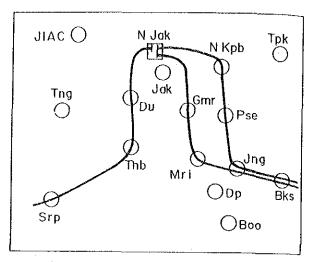
Commuter trains



Operation routes:

- 1) Bks-Mri-Thb-N Jak-N Kpb-Pse-Jng
- 2) Boo-Mri-Gmr-N Jak
- 3) Tpk-N Kpb-N Jak, 4) Tpk-Pse, 5) Srp-Thb, 6) Tng-Du, 7) JIAC-N Jak-Gmr-Mri-Jng

Long-distance Passenger trains



- 1) -Bks-Jng-Pse-N Kpb-N Jak
- 2) -Bks-Mri-Gmr-N Jak
- 3) -Srp-Thb-Du-N Jak

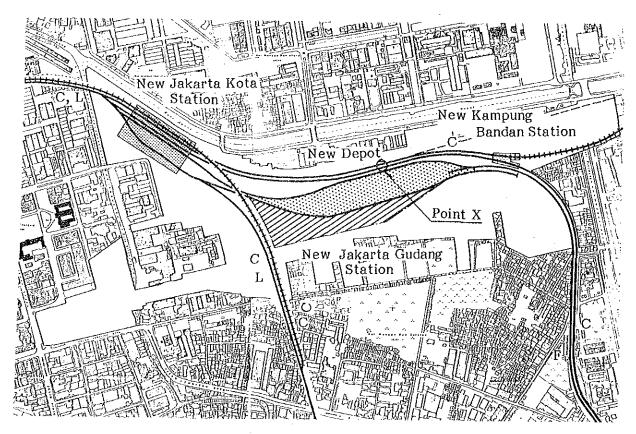
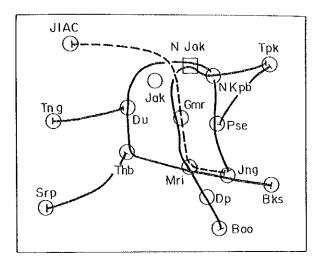


Fig. 8.1 (4) Representation of Conceptual Alternative 102-3

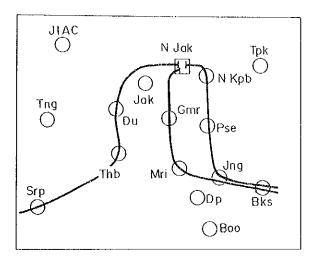
Commuter trains



Operation routes:

- 1) Bks-Mri-Thb-N Jak-N Kpb-Pse-Jng
- 2) Boo-Mri-Gmr-N Jak-N Kpb-Tpk
- Tpk-Pse, 4) Srp-Thb, 5) Tng-Du,
- 6) JIAC-Gmr-Mri-Jng

Long-distance Passenger trains



Operation routes: (Same as Concept. Alt. 102)

- -Bks-Jng-Pse-N Kpb-N Jak
 -Bks-Mri-Gmr-N Jak
- 3) -Srp-Thb-Du-N Jak

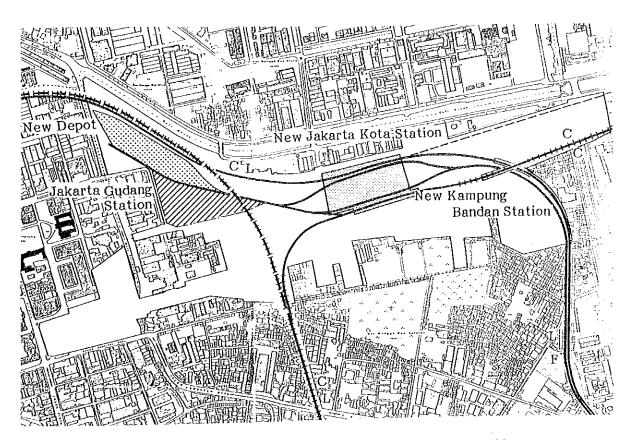
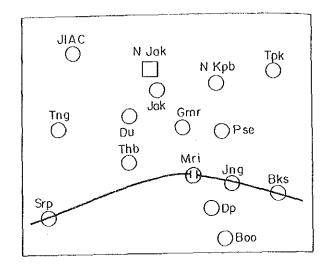


Fig. 8.1 (5) Representation of Conceptual Alternative 103

Commuter trains

JIAC N Jak Tpk **(**-) NKpb Jak Tng (P) Pse Jng hb Mri Bks **S**) Boo Srp

Long-distance Passenger trains



Operation routes:

1) Bks-Mri-Thb-N Jak-N Kpb-Pse-Jng(or Mri) 1)

- Boo-Mri-Gmr-N Jak
- 3) Tpk-N Kpb-N Jak, 4) Tpk-Pse,
 5) Srp-Thb, 6) Tng-Du,
 7) JIAC-N Jak-Gmr-Mri-Jng

Operation routes:

-Bks-Mri 2) -Srp-Mri

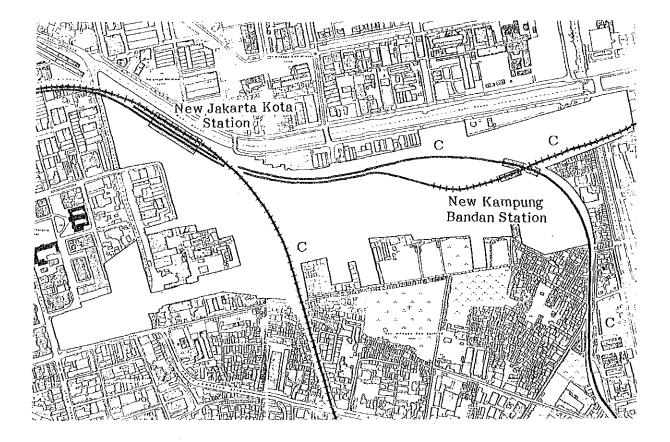
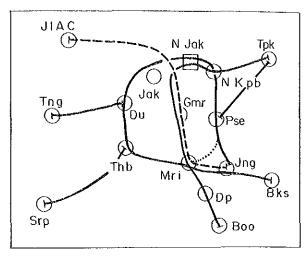


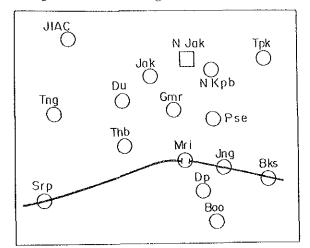
Fig. 8.1 (6) Representation of Conceptual Alternative 104

Conceptual Alternative 105

Commuter trains



Long-distance Passenger trains



Operation routes:(same as Concept. Alt. 104)

- 1) Bks-Mri-Thb-N Jak-N Kpb-Pse-Jng(or Mri) 1) -Bks-Mri 2) Boo-Mri-Gmr-N Jak-N Kpb-Tpk 2) -Srp-Mri
- 2) Boo-Mri-Gmr-N Jak-N Kpb-Tpk
- 3) Tpk-Pse, 4) Srp-Thb, 5) Tng-Du,
- 7) JIAC-Gmr-Mri-Jng

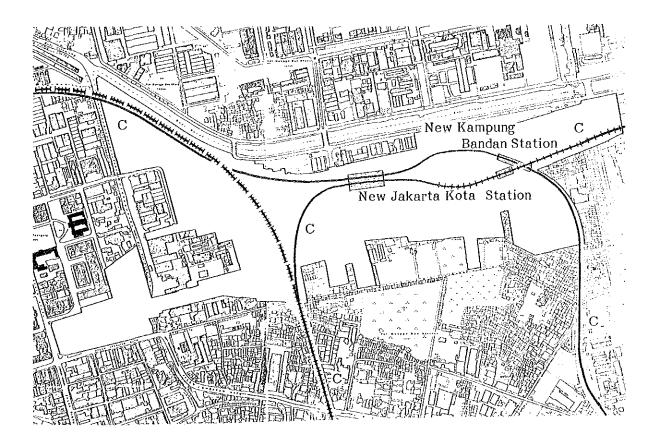


Fig. 8.1 (7) Representation of Conceptual Alternative 105

8.4 Validity of Conceptual Alternatives

In order to make real use of the above-mentioned Conceptual Alternatives, the viability of the options must be verified under which the Conceptual Alternatives have been formulated. For this, another study that takes into consideration the national transportation and development policies, focusing on the whole JABOTABEK Railway Project and DKI Jakarta development and redevelopment programs, must be conducted. Without this verification, the Conceptual Alternatives can not be used except for such limited purposes as the following:

- 1) Checking the validity of the Project by focusing on the required alterations, if any, for the Project's construction program
- 2) Delineating the scope of work for further studies
 The relationship between the Project and these Conceptual Alternatives are shown below.

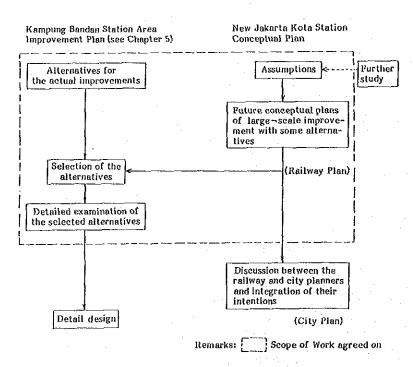


Fig. 8.2 Flow of Improvement Planning

8.5 Checking Project Validity from the Perspectives of Conceptual Alternatives

The Project must be checked to see if it can withstand situations which may reasonably emanate from the implementation of the future design of the New Jakarta Kota Station.

Incidentally, when going through all these checking processes, it should be kept in mind that the Project intentionally avoided the construction of a large-scale structure.

(1) Conceptual Alternative 101

Train routes and the location and role of the new terminal will be the same both in the Project and in this Conceptual Alternative. No conflicts exist between them.

(2) Conceptual Alternatives 102-1, 102-2, and 104

(a) Train Routes

Train routes these Conceptual Alternatives are identical with the train route Alternative 1 of the Project (CHAPTER 4).

(b) Location of the New Terminal

No conflict is conceivable. Problems can be solved outside of, and separately from the Project.

(c) Role of the New Terminal

In Conceptual Alternative 104, the role of the new terminal is single-purposed for commuter service. No conflicts are conceivable, since problems can be solved outside of the Project.

(3) Conceptual Alternative 102-3

(a) Train Routes

Train routes for this Conceptual Alternative will be as shown in Fig. 8.1
 (4).

According to the train routes in this Conceptual Alternative, the Tanjung Priok Line track and the Eastern Line track will be laid parallel to each other, while in train route Alternative 1 of the Project, they intersect with a grade separation at the New Kampung Bandan Station.

The track layout for this Conceptual Alternative offers a better platform arrangement at the New Jakarta Kota Station than in the other conceptual alternations; this is because the Tanjung Priok Line platform will be grouped with other platforms used by commuters.

- 2) But, until the relocation of the New Jakarta Kota Station is determined, the Tanjung Priok Line track in the Project will have a double-track level crossing with the Western and Eastern Line commuter tracks, unless an expensive grade separation is constructed at point "X" as indicated in Fig. 8.1 (4). This Conceptual Alternative cannot be adopted for the following reasons:
 - a) It is against the basic concept stated in 5.2.1, 2) (No level crossing of commuter train tracks)
 - b) when grade-separated, it is against the basic concept stated in 5.2.1,1) (No large-scale construction).
 - c) It will require a longer passageway in NKpb Station to the Tanjung Priok Line platforms from Jl. Mangga Dua.

This Conceptual Alternative is, however, to be reexamined upon implementation of the New Jakarta Kota Station Plan. Reconstructuion of the New Kampung Bandan Station would not be difficult.

(d) Location and Role of the New Terminal

In this Conceptual Alternative, the location of the new terminal will be at the present Jakarta Gudang Station. This differs from the Project, but ploblems, if any, could be solved outside of, and separately from the construction program of the Project.

(4) Conceptual Alternatives 103 and 105

1) Train Routes

Train routes for these Conceptual Alternatives are shown in Figs. 8.1 (5) and 8.1 (7). No conflicts are conceivable, since the same W-E connection is supposed as in the Project; C-T connection, will not contradict the train route Alternative 1.

2) Location of the New Terminal

In both Conceptual Alternatives 103 and 105, the location of the New Jakarta Kota Station will be at the present Jakarta Kota Passenger Car Depot. Accordingly, the distance between the New Kampung Bandan Station of the Project and the New Jakarta Kota Station of these Conceptual Alternatives will be only 400 m.

This distance may be adequate or it may be too short. It depends on the progress of development of the surrounding area. It would not be too late to consider to discuss whether the New Kampung Bandan Station should be maintained there at the time when the implementation of the New Jakarta Kota Station is decided.

3) Role of the New Terminal

In Conceptual Alternative 105, the role of the New Jakarta Kota Station has a single purpose. This difference would not produce any problems for

the Project, since problems can be solved outside the domain of the Project.

(5) Project Validity

Therefore, in all the cases above, the Project will withstand any criticism made from the various viewpoints of the Conceptual Alternatives, and can be justifiably started prior to the implementation of the New Jakarta Kota Station Plan.

8.6 Delineation of Issues in a Further Study

As mentioned in 8.4, the viability of the options, from which the Conceptual Alternatives have sprung, should be verified in a further study from the perspectives of national and/or regional transportation and development.

8.6.1 Railway's Viewpoint

- (1) Policies Dealing with Long-distance Passenger Trains in JABOTABEK Area
- (a) Determination of Train Routes and Terminals
 - 1) Whether they should extend deep into the center of Jakarta City or be terminated, for example, at Jatinegara or Manggarai.
 - Whether the long-distance passenger trains should be treated at a single terminal or several terminals when introduced into the center of Jakarta City.
 - 3) Whether the single terminal for long-distance trains should be located in the Kota area or elsewhere, and, if at Kota, how many trains are to be treated there.
- (b) Clarification of Role of New Passenger Terminal in Kota Area
 - 1) A terminal exclusively for long-distance passenger trains.
 - A terminal only for commuter trains, not for long-distance passsenger trains.
 - A terminal for the two purposes described above.
- (c) Determination of the Role, Scale, and Location of Depots
 - The passenger car depot is to be attached to the long-distance passenger terminal.

- 2) The electric railcar depots are to remain as it is, or relocated and reassigned in the overall review of the JABOTABEK Railway Project.
- (d) Determination of Scale and Location of Station Plaza
- (2) Policies Dealing with Freight Trains in JABOTABEK Area
- (a) Determination of Freight Train Routes and Terminals
 - 1) Whether Jakarta Gudang Station could be abolished.
 - 2) Whether it can be unified with the Tanjung Priok Gudang Station or others.
- (b) Scale and Location of Terminals

The scale and location of the terminal(s) including the space required for modernizing freight handling facilities, and the possibility of improving easy transfer of freight to/from roads should be determined.

- (c) Better Flow of Freight Traffic
 - Whether the new train routes or new location of the freight station when taking into account government policies (ex. coal transport), would contribute to a better flow of freight traffic.
- (3) Policies Dealing with Participation of PJKA in Land Development Business

8.6.2 City's Viewpoint

- (1) Elaboration of the Redevelopment Plan for the Kota Area
 - Future characteristics of the Kota area (business district, shopping center, etc.)
 - The harmonization of the Plan with railway functions in the Area

(2) Elaboration of Road Plan

- Future road network
- Harmonization of the Plan with railway station plazas for better feeder service

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CHAPTER 9 CONCLUSION

CONTENTS

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CHAPTER 9 CONCLUSION

9.1 Evaluation-

9.1.1 Significance of the Project

The Project promotes the JABOTABEK Railway network development by producing a more efficient commuter train operation through the elimination of the switch-back operation at Kampung Bandan Signal Station. It will considerably reduce the number of rolling stock required, furthermore, it will distribute radial line passengers to their ultimate destinations (i.e. densely populated city centers, of which many are located along the Eastern and Western Lines). Because a Western-Eastern Line connection and loop train operation is realized.

The Project will also contribute to balanced city growth by encouraging development of the western and eastern parts of the JABOTABEK Area.

9.1.2 Economic and Financial Evaluation

The Project will yield social benefits at the acceptable EIRR of 17.8 %. Its implementation is even more justifiable when the various indirect and unquantified benefits are taken into account.

The Project is also expected to make a sizable financial contribution to PJKA, while only requiring a reasonable government subsidy.

9.1.3 Concurrent Measures

The Project could be more effectively accomplished if the factors that are naturally concurrent with it are implemented. The following would serve this end:

- 1) Education and training of related railway staff
- 2) Careful Coordination of the Project with the city's plan so that the station plaza, access roads, and feeder transportation may function

successfully and enjoy the support of the citizens

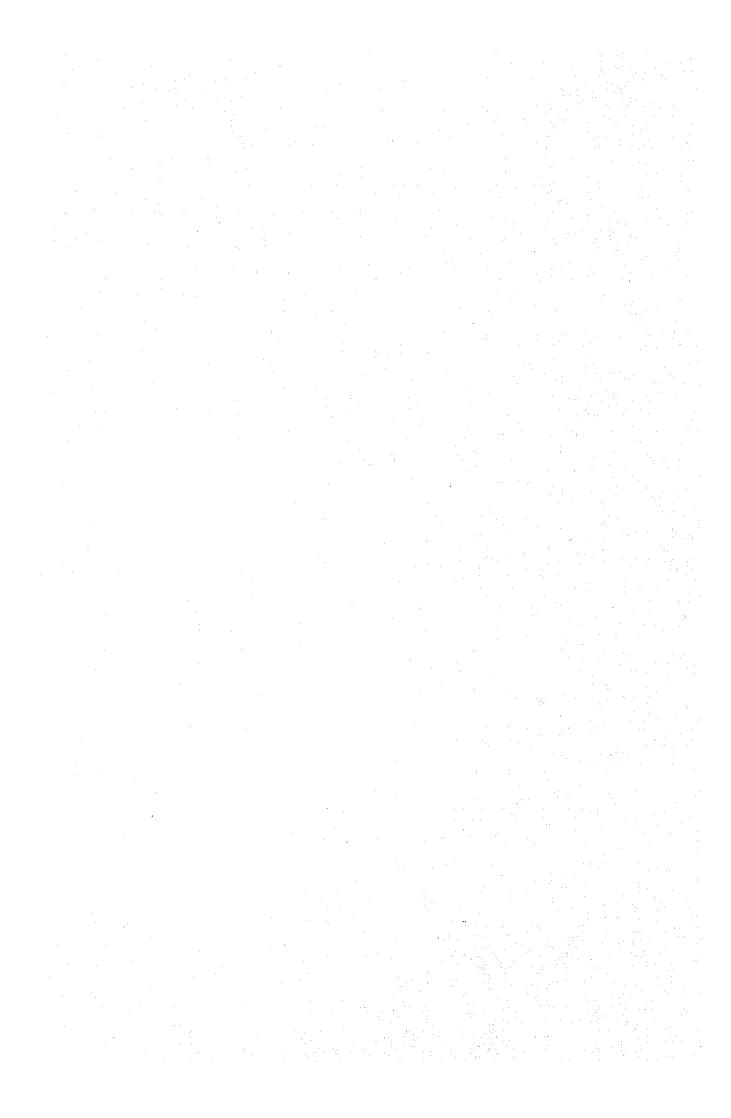
- 3) Urgent implementation of some concurrent items of the Functional Improvement of Railway Fundamentals in the Master Program
 - The achievement of these items, with or without completion of other items of less concurrent nature, would enable the Project to materialize its core objective of loop train operation.

9.2 Conclusion

The Project is significant and feasible because of its technical and economic advantages. In addition, inquiry has shown that the Project will not cause major problems for the implementation of the New Jakarta Kota Station plan.

Therefore, it is recommended that the Project be started as soon as possible, with primary consideration given to Alternative P1-1.

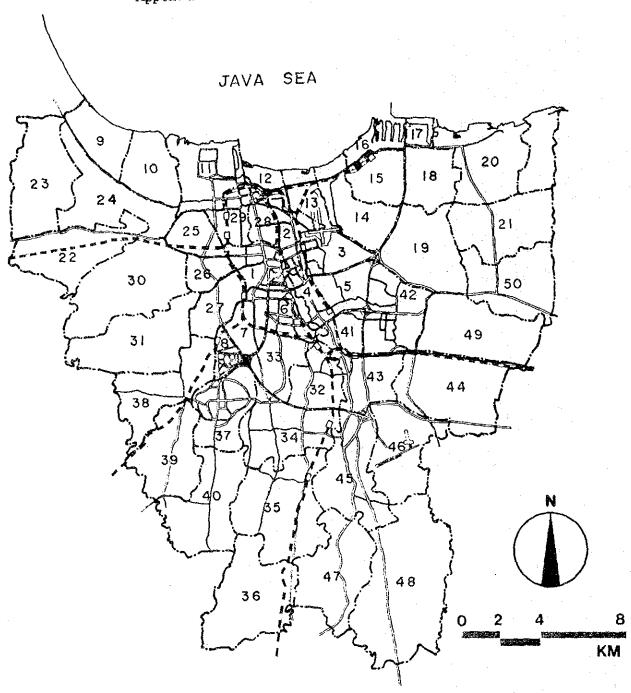
APPENDICES



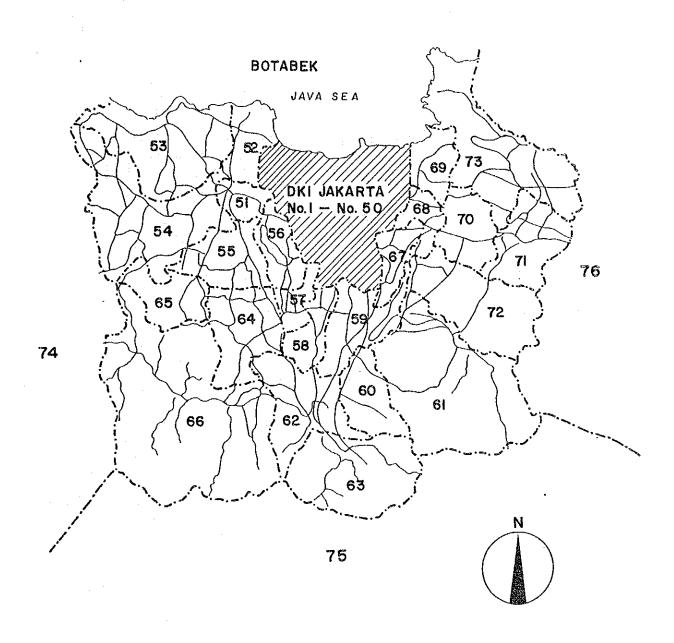
Appendix 3.1 Zone Code List

No.	Zone Name	No.	Zone Name
DKI JAKARTA		44	Klender
		45	Cililitan
1	Gambir	46	Halim Perdana Kusuma
2	Sawah Besar	47	Gedong
3	Kemayoran	48	
4	Senen	49	Lubang Buaya Penggilingan
5	Cempaka Putih	50	Cakung
6	Menteng	30	Cakung
7	Kebon Melati	ļ	
8	Gelora		ВОТАВЕК
9	Kamal Muara		
10	Kapuk Muara	51	Tangerang
11	Pejagalan	52	Teluk Naga
12	Mangga Dua Utara	53	Mauk
13		54	Cikupa
	Pademangan Sunter	55	Serpong
14		56	Ciputat
15	Pepanggo	57	Sawangan
16	Tanjung Priok	58	Depok
17	Koja	59	Cibinong
18	Tugu	60	Citeureup
19	Pegangsaan Dua	61	Cileungsi
20	Semper	62	Bogor
21	Sukapura	63	Ciawi
22	Semanan	64	Rumpin
23	Pegadungan	65	Parung Panjang
24	Cengkareng	66	Leuwiliang
25	Jelambar	67	Pondok Gede
26	Tomang	68	Bekasi
27	Palmerah	69	Babelan
28	Taman Sari	70	Tambun
29	Tambora	71	Cikarang
30	Kembangan	72	Setu
31	Kebon Jeruk	73	Sukatani
32	Tebet	13	Savatan
33	Setia Budi	 	
34	Mampang Prapatan		OUTSIDE BOTABEK
35	Pejaten		
36	Srengseng Sawah	74	West Java - 1
37	Kebayoran Baru	75	West Java - 2
38	Grogol Utara	76	West Java - 3
39	Kebayoran Lama	77	Central Java
40	Cilandak	78	East Java
41	Matraman	79	South Sumatra
42	Pulo Gadung	80	Outside of Jave Island
43	Cipinang Besar		
70	Opiniong Desait		

Appendix 3.2 Zone Division in DKI Jakarta



Appendix 3.3 Zone Division in BOTABEK Area



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Appendix 3.4 Detailed Zone Code List

Zone		Kodya/Kabupaten		Kecamatan		Kelurahan		
No.	Name	No.	Name	No.	Name	No.	Name	
1.	GAMBIR	11.	Central Jakarta	1.	Gambir	01.	Cideng	
					····	02.	Duri Pulau	
						03.	Petojo Utara	
						04.	Petojo Selatan	
	and the second second	<u> </u>				05.	Kebun Kelapa	
						06.	Gambir	
2.	SAWAH BESAR	<u> </u>		2.	Sawah Besar	01.	Mangga Dua Selatan	
						02.	Karang Anyar	
·						03.		
		ļ <u>.</u>				04.	Pasar Baru	
						05.	Gn. Sahari Utara	
3.	KEMAYORAN			3.	Kemayoran	01.	Gn. Sahari Selatan	
		<u> </u>				02.	Kemayoran	
						03.		
		L				04.	Serdang	
						05.	Harapan Mulya	
4.	SENEN	<u> </u>		4.	Senen	01.	Senen	
]				02.	Kwitang	
			·			03.	Kenari	
						04.	Kramat	
						05.	Paseban	
						06.	Bungur	
5.	CEMPAKA PUTIH			5.	Cempaka Putih	01.	Tanah Tinggi	
						02.	Johar Baru	
						03.	Galur	
						04.	Kampung Rawa	
							Rawa Sari	
		<u> </u>				06.		
						07.	Cempaka Putih Timu	
6.	MENTENG			6.	Menteng		Kebon Sirih	
						02.		
		l					Cikini	
						04.	Menteng	
					<u> </u>	05.	Pegangsaan	
7.	KEBON MELATI			7.	Tanah Abang	01.		
						02.	Kebon Kacang	
						03.	Kebon Melati	
						04.	Petamburan	
						05.	Karet Tengsin	
						06.	Bendungan Hilir	
8.	GELORA					07.	Gelora	
9.	KAMAL MUARA	12	North JKT	1.	Penjaringan	01.		
10.	KAPUK MUARA					02.		
11.	PEJAGALAN				····	03.		
						04.		
						05.	Muara Angke	
<u> </u>						06.	managa lua litara	
12.	MANGGA DUA UTARA	<u> </u>				07.	Mangga Dua Utara Pademangan Barat	

	Zone	Kody	a/Kabupaten	K	Kecamatan		Kelurahan		
No.	Name	No.	Name	No.	Name	No.	Name		
14.	SUNTER	12.	North JKT	2.	Tanjung Priok	01.	Sunter		
15.	PEPANGGO		· · · · · · · · · · · · · · · · · · ·			02.	Pepanggo		
· · · · · · · · · · · · · · · · · · ·						03.	Sungai Bambu		
						04	Kebon Bawang		
16.	TANJUNG PRIOK					05.	Tanjung Priok		
17.	KOJA			3.	Koja	01.	Koja Utara		
						02.	Koja Selatan		
18.	TUGU					03.	Lagoa		
						04.	Tugu		
						05.	Rawabadak		
19.	PEGANGSAAN DUA				ļ -	06.	Kelapa Gading		
						07.	Pegangsaan Dua		
20.	SEMPER			4.	Cilincing	01.	Kali Baru		
						02.	Cilincing		
						03.	Semper		
21.	SUKAPURA					04.	Marunda		
	OTT CLAY 1-31		T.V.			05.	Sukapura		
22.	SEMANAN	13.	West JKT	1.	Cengkareng	01.	Semanan		
						02.	Duri Kosambi		
22	PECADUMOAN	_				03.	Rawa Buaya		
23.	PEGADUNGAN					04.	Kamal		
						05.	Tegal Alur		
					 	06.	Pegadungan Kali Deres		
24.	CENGKARENG					08.	Cengkareng		
24.	CENGRARENG					09.	Kapuk		
						10.	Kedaung Kali Angke		
25.	JELAMBAR			2.	Grogol	01.	Grogol		
	OBRADIA			£. •	Petamburan	01.	Grogor		
		1			1 CCG III GCG	02.	Jelambar		
26.	TOMANG	1 1			<u> </u>	03.	Tanjung Duren		
		1				04.	Tomang		
27.	PALMERAH	1				05.	Jati Pulo		
		1					Kota Bambu		
							Slipi		
		11					Palmerah		
28.	TAMAN SARI	1		3.	Taman Sari		Pinangsia		
							Mangga Besar		
							Tangki		
						04.	Glodok		
						05.	Keagungan		
						06.	Krukut		
						07.			
							Maphar		
29.	TAMBORA			4.	Tambora		Pekojan		
						02.	Malaka		
						03.	Tambora		
	······					04.	Jembatan Lima		
							Angke		
			<u> </u>		<u> </u>	06.	Jembatan Besi		

	Zone	Kody	a/Kabupaten	K	lecamatan		Kelurahan
No.	Name	No.	Name	No.	Name	No.	Name
29.	TAMBORA	13.	West JKT	4.	Tambora	07.	Krendang
						08.	Tanah Saeral
		ļ				09.	Duri
		ļ				10.	Kali Baru
30.	KEMBANGAN			5.	Kebon Jeruk	01.	Kembangan
		\	~			02.	Kedoya
		ļ				03.	Duri
		<u> </u>				04.	Meruya Ilir
31.	KEBON JERUK					05.	Meruya Udik
		-		ļ.		06.	Joglo
		ļ				07.	Srengseng
						08.	Kebon Jeruk
						09.	Sukabumi Ilir
						10.	Kelapa Dua
						11.	Sukabumi Udik
32.	TEBET	14.	South JKT	1.	Tebet	01.	Menteng Dalam
						02.	Tebet Barat
		L				03.	Tebet Timur
						04.	Kebon Baru
						05.	Bukit Duri
						06.	Manggarai Selatan
						07.	Manggarai
33.	SETIA BUDI			2.	Setia Budi	01.	Setia Budi
					· · · · · · · · · · · · · · · · · · ·	02.	Guntur
						03.	Karet
		1				04.	Karet Semanggi
						05.	
						06.	
		 				07.	
		 				08.	Menteng Atas
34.	MAMPANG PRAPATAN			3.	Mampang Prapatan	01.	Kuningan Barat
		<u> </u>				02.	Mampang Prapatan
				\···		03.	Pela Mampang
						04.	Tegal Parang
		 				05.	Bangka
						06.	Pancoran
		1				07.	
		 				08.	Kali Bata
		 -				09.	Cikoko
		1		 		10.	Pegadegan
		-			· ·	11.	Rawa Jati
35.	PEJATEN			4.	Pasar Minggu	01.	Pejaten
		+-				02.	Pasar Minggu
		 				03.	Tanjung Barat
~		 		L	 	04.	Jati Padang
	······································					05.	Ragunan
						06.	Cilandak

	Zone	Kody	a/Kabupaten	ķ	(ecamatan		Kelurahan
No.	Name	No.	Name	No.	Name	No.	Name .
36.	SRENGSENG SAWAH	14.	South JKT	4.	Pasar Minggu	07.	Jaga Karsa
						08.	Lenteng Agung
				· · · · · · · · · · · · · · · · · · ·		09.	Srengseng Sawah
						10.	Ciganjur
37.	KEBAYORAN BARU			5.	Kebayoran Baru	01.	Senayan
						02.	Rawa Barat
	·					03	Selong
						04.	Gunung
						05.	Kramat Pela
				_		06.	Melawai
						07.	Petogogan
						08.	Pulo
			<u> </u>			09.	Gandaria Utara
		-				10.	Cipete Utara
38.	GROGOL UTARA			6.	Kebayoran Lama	01.	Grogol Utara
						02.	Grogol Selatan
						03.	Cipulir
						04.	Petukangan Utara
						05.	Petukangan Selatan
						06.	Ulujami
						07.	Pesanggrahan
39.	KEBAYORAN LAMA					08.	Kebayoran Lama
				_		09	Pondok Pinang
						10.	Bintaro
40.	CILANDAK			7.	Cilandak	01.	Gandaria Selatan
						02.	Cipete Selatan
						03.	Cilandak
						04.	Lebak Bulus
						05.	Pondok Labu
41.	MATRAMAN	15.	East JKT	1.	Matraman	01.	Kebon Manggis
						02,	Pal Meriam
					-	03.	Kayu Manis
					······································	04.	Utan Kayu
						05.	·Pisangan Barat
42.	PULO GADUNG			2.	Pulo Gadung	01.	Kayu Putih
]						02.	Jati Rawa Mangun
						03,	Pisangan Timur
						04.	Cipinang
		1				05.	Pulo Gadung
					· · · · · · · · · · · · · · · · · · ·	06.	Jati Negara Kaum
43.	CIPINANG BESAR	1		3.	Jati Negara	01.	Kampung Melayu
		1			-0	02.	Bali Mester
			 			03,	Bidara Cina
	······································					04.	Cipinang Cempedak
	· · · · · · · · · · · · · · · · · · ·			¬∤		05.	Rawa Bangke
				~ -		06.	Cipinang Muara
						07.	Cipinang Besar

	Zone	Kody	a/Kabupaten	K	ecamatan		Kelurahan
No.	Name	No.	Name	No.	Name	No.	Name
44.	KLENDER	15.	East JKT	3.	Jati Negara	08.	Pondok Bambu
						09.	Klender
						10.	Duren Sawit
						11.	Malaka
						12.	Pondok Kelapa
45.	CILILITAN			4.	Kramat Jati	01.	Cawang
						02.	Cililitan
		-				03.	Kramat Jati
			·			04.	Kebon Pala
						05.	Batu Ampar
	· · · · · · · · · · · · · · · · · · ·					06.	
		_				07.	Makasar
						08.	Kampung Tengah
						09.	Dukuh
46.	HALIM PERDANA KUSUMA					10.	Cipinang Melayu
						11.	Halim Perdana Kusuma
47.	GEDONG			5.	Pasar Rebo	01.	Gedong
						02.	Rambutan
						03.	Susukan
						04.	Ciracas
						05.	Cijantung
						06.	Baru
_						07.	Kali Sari
						08.	Pekayon
48.	LUBANG BUAYA					09.	Lubang Buaya
						10	Ceger
						11.	Bambu Apus
						12.	Setu
						13.	Cipayung
						14.	Kelapa Dua Wetan
						15.	Munjul
						16.	Cilangkap
						17.	Cibubur
						18.	Pondok Ranggon
49	PENGGILINGAN			6.	Cakung	01.	Rawa Terate
						02.	Jati Negara
						03.	Penggilingan
50.	CAKUNG					04.	Cakung
						05.	Ujung Menteng
				L		06.	Pulo Gebang

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	Zone	Kod	lya/Kabupaten	Kecamatan		
No.	Name	No.	Name	No.	Name	
71.	Cikarang	23.	Bekasi	307	Cikarang	
72.	Setu		٠	308 309	Lemah Abang Setu	
73.	Sukatani			310 311	Cibarusa	
]		312	Cabang Bungin Sukatani	
				313	Pebayuran	
74.	West Java - 1	31.	Serang Pandeglang Rangkasbitung			
75.	West Java ~ 2	32.	Sukabumi Cianjur Bandung Garut Tasikmalaya Ciamis Majalengka Kuningan Sumedang			
76.	West Java - 3	33.	Karawang Purwakarta Subang Indramayu Cirebon			
77.	Central Java	34.				
78.	East Java	35.				
79.	South Sumatra	36.				
80.	Out of Java Islands	37.				

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Appendix 3.5 Residential Population by Zone (estimated)

(Unit: 1000 persons)

Zone No.	Zone Name		onti: 1000 pe	
Zione Ro.	Zone Name	1984	1995	2005
1	Gambir	147.7	156.5	162.7
2	Sawah Besar	162.4	179.9	187.6
3	Kemayoran	234.9	250.5	260.4
4	Senen	136.7	141.1	144.3
5	Cempaka Putih	219.3	231.8	239.8
6	Menteng	118.8	129.3	139.9
7	Kebon Melati	234.1	248.8	258.0
8	Gelora	10.3	12.7	15.8
9	Kamal Muara	5.1	11.7	21.0
10	Kapuk Muara	16.7	38.7	69.8
11	Pejagalan	169.6	204.0	232.8
12	Mangga Dua Utara	40.0	51.0	60.8
13	Pademangan	105.7	134.3	147.
14	Sunter	61.6	126.2	182.
15	Pepanggo	161.2	185.1	195.
16	Tanjung Priok	39.9	46.0	48.
17	Koja	63.4	56.4	56.
18	Tugu	186.8	226.6	248.
19	Pegangsaan Dua	39.3	56.6	74.
20	Semper	153.6	219.7	265.
21	Sukapura	28.1	58.4	95.
22	Semanan	69.2	143.8	220.
23	Pegadungan	67.1	87.8	105.
24	Cengkareng	138.4	162.3	188.
25	Jelambar	141.1	187.1	214.
26	Tomang	100.6	121.1	135.
27	Palmerah	187.7	210.9	227.
28	Taman Sari	151.9	157.5	161.
29	Tambora	271.8	276.0	278.
30	Kembangan	132.9	310.8	542.
31	Kebon Jeruk	144.5	307.0	491.
32	Tebet	271.1	315.3	345.
33	Setia Budi	241.1	273.0	288.
34	Mampang Prapatan	282.4	446.1	542.
35	Pejaten	215.1	375.3	442.8
36	Srengseng Sawah	74.9	113.9	136.7

(Unit: 1000 persons)

Zone No.	Zone Name	1984	1995	2005
37	Kebayoran Baru	218.6	273.0	305.6
38	Grogol Utara	223.1	363.8	440.4
39	Kebayoran Lama	169.1	279.5	355.0
40	Cilandak	146.9	244.8	286.2
41	Matraman	184.5	198.6	204.2
42	Pulo Gadung	278.5	351.5	383.1
43	Cipinang Besar	270.1	315.0	333.4
44	Klender	210.0	408.8	563.3
45	Cililitan	248.5	309.5	355.7
46	Halim Perdana Kusuma	53.7	97.8	112.7
47	Gedong	154.5	225.1	274.7
48	Lubang Buaya	108.9	235.9	343.3
49	Penggilingan	114.4	228.7	319.0
50	Cakung	91.3	165.4	295.7
	(Jakarta Total)	7296.9 (7300.0)	9950.0	12000.0
51	Tangerang	210.6	367.2	531.5
52	Teluk Naga	204.8	301.2	373.5
53	Mauk	364.9	458.9	568.5
54	Cikupa (Tangerang)	438.5	676.6	935.3
55	Serpong	157.9	254.8	488.2
56	Ciputat	270.9	424.3	532.1
57	Sawangan	98.5	180.0	148.2
58	Depok	210.2	379.0	353.6
59	Cibinong	415.1	690.3	647.0
60	Citeureup	111.7	216.8	279.2
61	Cileungsi	262.6	389.0	555.9
62	Bogor (Bogor)	734.7	1283.0	1298.0
63	Ciawi	343.1	456.0	716.8
64	Rumpin	191.6	316.8	443.5
65	Parung Panjang	66.3	84.4	115.0
66	Leuwiliang	497.4	700.0	734.9

(Unit: 1000 persons)

Zone No. Zone Name 67 Pondok Gede 68 Bekasi 69 Babelan 70 Tambun (Bekasi) 71 Cikarang 72 Setu 73 Sukatani (BOTABEK Total) (Total of JABOTABEK) 74 West Java - 1 75 West Java - 2 76 West Java - 3 77 Central Java 78 East Java 79 South Sumatra (Outside JABOTABEK					
Zone No.	Zone Name	1984	1995	2005	
67	Pondok Gede	119.1	287.9	349.7	
68	Bekasi	252.6	366.9	371.2	
69	Babelan	76.3	108.5	133.6	
70	Tambun (Bekasi)	181.4	400.5	364.4	
71		203.0	311.9	636.0	
72	_	177.9	289.8	436.3	
73	Sukatani	256.5	294.4	425.8	
	(BOTABEK Total)	5845.6	9239.0	11438.2	
(Total of JABOTABEK)		13142.5	19189.0	23438.0	
74	West Java - 1	2647.0	3038.0	3544.0	
75	West Java - 2	14898.0	17740.0	20792.0	
76	West Java - 3	5910.0	7037.0	8248.0	
77	Central Java	30335.0	37313.0	44164.0	
78	East Java	30883.0	35986.0	41354.0	
79	South Sumatra	5276.0	7303.0	9348.0	
	(Outside JABOTABEK Sub-Total)	89949.0	108417.0	127450.0	
	(Total)	103091.0	127606.0	150888.0	

Sources:

- 1) DKI Jakarta Master Plan 2005
- 2) JABOTABEK Metropolitan Development Plan
- 3) Study of Strategic Development Planning Group for DKI Jakarta Master Plan 2005
- 4) JIUT

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Appendix 3.6 Residential Population by Income Group in Jakarta (estimated)

Zone No.	Zone Name		1984			1995			2005	
cone Ro.	voite Maille	A	В	c	A	В	C	A	В	C
1	Gambir	60.7	73.7	13.3	40.0	84.1	32.4	23.7	79.5	
2	Sawah Besar	68.6	83.4	10.4	50.1	99.4	30.4	32.1	99.5	59.5
3	Kemayoran	96.8	129.1	9.0	76.3	144.9	29.3	50.7		56.0
· 4	Senen	51.4	76.4	8.9	36.2	81.2	23.7	21.4	154.5	55.
5	Cempaka Putih	89.1	116.4	13.8	66.0	127.3	38.5		79.0	43.
6	Menteng	48.8	56.6	13.4	30.8	66.0	32.5	41.6 18.2	126.7	71.
7	Kebon Meleti	98.5	122.0	13.5	73.6	136.0	39.2	46.8	60.7	61.
- 8 Ì	Gelora	4.8	4.7	0.7	3.7	6.2	2.8		138.2	13.
9	Kamal Muara	2.7	2.2	0.1	7.6	3.8		3.0	7.0	5.
10	Kapuk Muara	13.0	3.7	0.0	25.7		0.3	12.8	7.4	0.
ii	Pejagalan	86.7	72.9	10.0	66.4	12.0	1.0	42.6	24.6	2.
12	Mangga Dua Utara	18.9	20.0	1.1	18.2	99.2	38.4	49.9	107.8	75.
13	Pademangan	46.7	55.2	3.8		27.1	5.7	15.5	33.9	11.
14	Sunter	25.6	35.0	1.0	42.1	75.5	16.7	31.2	84.9	31.
15	Pepanggo	66.0	89.6		39.6	76.7	9.9	43.7	117.7	21.
16	Tanjung Priok	19.6	19.4	5.8	55.9	108.8	20.4	38.8	118.8	.38.
17	Koia			0.9	17.3	24.8	3.9	12.6	28.1	7.
18		33.6	28.4	1.5	23.3	28.4	4.7	.15,7	31.5	9.
19	Tugu	90.6	91.7	4.4	82.9	122.2	21.5	64.3	142.9	41.
20	Pegangsaan Dua	12.1	23.3	3.9	12.2	33.1	11.3	11.0	40.6	23.
	Semper	71.4	77.7	4.5	70.6	124.2	24.9	61.5	155.1	49.
21	Sukapura	17.4	10.5	0.1	30.7	26.1	1.6	42.8	48.9	3.
22	Semanan	37.6	29.4	2.2	58.8	68.6	16.4	73.9	110.0	36,
23	Pegadungan	40.2	25.5	1.4	40.5	39.2	8.1	37.9	51.1	16.
24	Cengkareng	79.2	55.8	3.4	71.4	74.7	16.2	62.3	93.7	32.
25	Jelambar	61.8	69.0	10.3	48.0	101.5	37.6	35.5	107.8	71.
26	Tomang	43.7	50.8	6.2	31.8	68.2	21.1	22.3	72.5	40.
27	Palmerah	84.6	91 0	12.1	62.4	109.6	38.9	41.8	112.2	73.
28	Taman Sari	59.8	82.1	10.0	41.3	89.2	27.0	24.6	87.0	50.
29	Tambora	132.5	129.3	10.0	102.2	142.2	31.6	68.6	150.2	59.
30	Kembangan	66.4	57.7	8.9	89.1	151.5	70.2	128.4	238.3	175.
31	Kebon Jeruk	66.5	69.9	8.1	105.9	154.3	46.8	141.8	241.2	108.
32	Tebet	112.3	132.3	26.5	76.9	166.4	72.0	49.1	162.1	134.
33	Setia Budi	98.3	132.1	10.6	83,5	154.2	35.3	57.1	165.1	65.
34	Mampang Prapatan	117.2	146.7	18.5	110.7	239.7	95.7	91.6	266.5	184.
35	Pejaten	90.6	112.1	12.4	92.5	211.7	71.1	76.7	235.9	130.
36	Srengseng Sawah	31.1	42.0	1.7	34.8	68.7	10.4	30.0	86.8	20.
37	Kebayoran Baru	94.1	98.0	26.5	62.6	135.8	74.6	40.3	126.9	138.
38	Grogol Utara	88.2	118.7	16.2	82.4	201.7	79.7	66.7	222.5	151.
39	Kebayoran Lama	56.5	99.0	13.6	52.0	159.3	68.2	42.2	178.3	134.
40	Cilandak	52.7	77.9	16.3	46.7	130.8	67.4	34.8	129.2	122.
41	Matraman	63.7	108.9	11.8	47.1	118.4	33.1	27.8	115,6	60.
42	Pulo Gadung	93.5	156.3	28.6	67.7	199.3	84.5	41.3	188.3	153.
43	Cipinang Beser	111.7	142.2	16.3	87.5	173.8	53.7	57.4	176.9	99.
44	Klender	65.5	132.2	12.3	81.9	247.2	79.7	82.0	317.0	164.
45	Cililitan	96.8	140.4	11.3	84.2	179.8	45.5	63.3	203.8	88.
46	Halim Perdana Kusuma	14.4	32.9	6.4	.12.6	59.0	26.2	8.9	57.9	45.
47	Gedong	62.8	85.6	8.1	61.6	132.7	30.8	52.5	161.5	60.
48	Lubang Buaya	55.7	49.8	3.4	103.7	111.1	21.1	130.0	168.5	44.
49		53.1	59.5	1.8	88.0	124,9	15.8	95.4	190.6	33.
50	Penggilingan Cakung	44.2	44,6	2.4	58.7	82.8	23.9	84.3	147.7	63.
	Total	3097.7	3763.6	435.2	2855.6	5403.3	1691.7	2448.4	6252.2	3300.

Note : Income Group A (Monthly income less than Rp. 50.000/household)
Income Group B (Monthly income between Rp. 50.000 - Rp. 200.000/household)
Income Group C (Monthly income over Rp. 200.000/household)

Sources: 1) Study of Strategic Development Planning Group for DKI Jakarta Master Plan 2005

2) JIUT

Appendix 3.7 Estimated Land Uses by Zone in Jakarta

		199	1	19	95	200	5
Zone No.	Zone Name	Commercial Administrative Area	Industrial Warehouse Area	Commercial Administrative Area	Industrial Varehouse Area	Commercial Administrative Area	Industrial Warehous Ares
1	Gambir	327.0	13.0	930.0	14.0	334.0	15.0
2	Sawah Besar	127.0	130.0	127.0	130.0	127.0	130.0
3	Kemayoran	92.0	22.0	99.0	99.0	22.0	106.0
ă	Senen	189.0	2.0	190.0	2.0	191.0	2.0
5	Cempaka Putih	63.0	9.0	65.0	19.0	68.0	30.0
6	Menteng	148.0	18.0	151.0	19.0	155.0	21.0
ĭ	Kebon Melati	91.0	31.0	94.0	33.0	98.0	38.0
è	Gelora	60.0	0.0	60.0	0.0	60.0	0.0
9	Kemel Muara	0.0	5.0	0.0	7.0	0.0	10.0
10	Kepuk Muera	0.0	3.0	0.0	70.0	0.0	137.0
11	Pelagalan	36.0	251.0	36.0	349.0	36.0	447.0
12	Mangga Dua Utara	0.0	233.0	0.0	233.0	0.0	233.0
13	Pademangan	g0.0	32.0	80.0	32.0	80.0	32.0
14	Sunter	0.0	150.0	14.0	165.0	29.0	181.0
15	Pepanggo	0.0	85.0	13.0	85.0	26.0	85.0
16	Tanjung Priok	55.0	384.0	69.0	384.0	84.0	384.0
17	Koja	16.0	95.0	29.0	125.0	42.0	156.0
18	Tugu	17.0	26.0	30.0	126.0	43.0 26.0	100.0
19	Pegangsaan Dua	0.0	67.0	13.0	438.0		371.0
20	Semper	21.0	63.0	21.0	454.0	21.0 8.0	846.0 41.0
21	Sukapura	8.0	41.0	8.0	41.0		409.0
22	Semanan	0.0	75.0	25.0	242.0	52.0	415.0
23	Pegadungan	0.0	44.0	25.0	229.0	50.0	284.0
24	Cengkareng	12.0	157.0	37.0	220.0	62.0	77.0
25	Jelambar	0.0	63.0	0.0	70.0	59.0	11.0
26	Tomang	59.0	0.0	59.0	5.0 32.0	59.0	32.0
27	Palmerah	59.0	32.0	59.0	25.0	60.0	25.0
28	Taman Sari	53.0	25.0	56.0	93.0	9.0	93.0
29	Tambora	9.0	93.0	76.0	0.0	156.0	20.0
30	Kembangan	0.0	0.0	59.0	12.0	109.0	12.0
31	Kebon Jeruk	10.0	12.0	65.0	35.0	69.0	37.0
32	Tebet	62.0	32.0	114.0	104.0	121.0	112.0
33	Setta Budi	108.0 57.0	97.0 45.0	61.0	48.0	65.0	52.0
34	Mampang Prapatan	65.0	7.0	85.0	7.0	115.0	7.0
35 36	Pejaten Srengseng Sawah	0.0	0.0	0.0	0.0	0.0	0.0
37	Kebayoran Baru	137.0	16.0	143.0	17.0	150.0	18.0
38	Grogol Utara	10.0	125.0	25.0	125.0	43.0	125.0
38 .	Kebayoran Lama	19.0	33.0	34.0	62.0	52.0	92.0
40	Cilandak	58.0	0.0	63.0	5.0	68.0	10.0
41	Metraman	16.0	0.0	23.0	0.0	31.0	0.0
42	Pulo Gadung	61.0	94.0	69.0	111.0	77.0	128.0
43	Cipinang Besar	156.0	18.0	163.0	18.0	171.0	18.0
44	Klender	9.0	5.0	24.0	5.0	40.0	5.0
45	Cillitan	55.0	27.0	66.0	37.0	76.0	47.0
46	Halim Perdana Kusuma	11.0	14.0	11.0	14.0	11.0	14.0
47	Gedong	12.0	123.0	38.0	161.0	65.0	200.0
48	Lubang Buaya	29.0	18.0	29.0	23.0	29.0	28.0
49	Penggilingan	91.0	206.0	124.0	336.0	169.0	467.0
50	Cekung	16.0	57.0	16.0	267.0	16.0	478.0
	Total	2504.0	3078.0	2987.0	5051.0	3528.0	6495.0

Sources: 1) Study of Strategic Development Planning Group for DKI Jakarta Master Plan 200

-, 2) J[U]

Appendix 3.8 Estimated Future Person Trips by Zone (Mass Transit)

(Unit : person trip ends/day) Zone No. Zone Name 1984 1990 1995 Cambir 204,210 252,359 292,510 288,585 Sawah Basar 131,164 173,185 173,040 207,346 205,159 223,560 3 Kemayoran 131,854 207,152 Senen 325,524 258,772 201,871 203,670 Cempaka Putih 157,624 193,547 181,395 223,063 257.844 Menteng Kebon Melati 132,722 220,611 239,448 241 838 217,529 229,944 273,068 Gelora 35,841 37,995 39,538 2,213 37,560 Kamal Muara 121 1,257 3,013 17.380 10 11 Kapuk Muara 8,717 11,512 13,870 Pejagalan 42,908 127.672 198,649 31,691 371,529 41,673 13 Mangga Dua Utara 16,537 24,798 13 14 Pademangan 24.870 77,570 121,349 Sunter 45,977 68,836 120,639 58.477 96,541 146,130 15 16 Pepanggo 28,539 104,809 78,810 Tanjung Priok 75,016 36,740 50,173 50,758 17 Koja 35,943 37,438 129,033 45,253 159,783 18 Tugu 53,474 94,609 19 20 Pegangsaan Dua 14,807 41.524 63.835 84,973 180,954 Semper 36,163 144,004 21 22 23 Sukapura 8,926 52,884 13,390 91,169 3.634 19,964 Semanan Pegadungan 7,079 138,706 295,151 1,049 98,244 169,479 24 25 26 Cengkareng 70,616 136,506 83,486 164,294 94,210 187,400 127,451 Jelambar 232,624 Tomang 68,508 107,642 103,395 132,476 151,675 27 28 29 Palmerah 166,544 162,361 215 509 161 946 256,638 223,849 Taman Sari 162,579 166,464 361,599 Tambora 62,134 22,375 119,023 205,762 30 Kembangan 207,171 596.272 31 32 33 34 35 Kebon Jeruk 67,758 253,085 386,072 233,083 377,303 234,494 493,577 393,112 63,186 Tebet 286,314 199,839 175.845 449,929 Setia Budi 157,719 262,993 Mampang Prapatan 295,301 358,310 611,761 Peiaten 227.636 318.158 462,895 36 37 38 Srengseng Sawah 74,318 68 325 78,293 Kebayoran Baru Grogol Utara 380,564 98.190 396,195 265,940 408,962 405,357 473,532 504,024 39 40 41 42 43 44 45 Kebayoran Lama 130,944 351,773 449.880 Cilandak 128,036 92,386 249,046 349,657 185,771 405,797 216,287 Matraman 143,659 Pulo Gadung 252,659 357,530 444,935 514,721 Cipinang Besar 217,581 282,569 336,437 422,628 374,472 103,326 277,753 563,306 Klender 267,377 136,063 220,082 246,030 324,986 46 47 Halim Perdana Kusuma 36,638 90,919 152,161 Gedong Lubang Buaya 48,814 182,084 230,962 43,820 29,992 48 84,587 118,292 163.162 Penggilingen Cakung 91,588 142,932 49 48,587 90,931 126,226 217,753 5,121,651 7,739,101 9,898,159 12,333,280 DKI Total 140,255 247,081 104,187 62,110 51 52 Tangerang 4,363 Teluk Naga 958 2.293 1,413 4,821 1,116 2,266 53 54 55 Mauk 8,780 3,470 2,134 Cikupa 4,818 132,027 3,065 1.618 Serpong 128,449 8,974 195,908 63,890 98,781 56 57 58 Ciputat Sawangen 3.741 6.600 97 670 223,895 291,686 166,531 Depok 56,546 5,419 1,102 136,952 91,454 9,835 120,518 13,490 59 60 61 62 63 64 65 66 67 68 69 70 Cibinong 20,897 Citeureup 2,392 4,096 Cileungsi 98,432 1,698 131.213 159,867 58,954 Bogor 2.178 4,020 1,042 Ciawi 1,829 2,405 2,049 4.051 Rumpin 3,354 1,265 1.689 Parung Panjang Leuwiliang 5,403 74,117 3,393 4,259 2.359 34.894 50.428 16,079 Pondok Gede 204,638 157.626 132,604 90,395 Bekasi 423 36.687 650 227 Babelan 40,188 13,098 25,955 Tambun 20,283 49,737 15,770 10,381 525 71 72 73 Cikarang 1,132 1,559 2.106 1,310 1,040 Sukatani 1,609,768 1,073,630 807,917 492,494 BOTABEK Total 16.877 14,010 11,050 7.512 74 75 76 West Java -1 72,001 59,834 67,698 30,711 46,739 West Java - 2 81,355 52.959 35,276 West Java -3 46,611 38,573 29,933 19,564 2,153 Central Java 4,718 3,173 3,074 4.021 78 East Java 4,097 5,354 1,847 79 South Sumatra 862 Outside of Java Island 188,233 226,916 147,320 97,925 Outside of JABOTABEK 11,160,022 14,169,964 8,694,338 5,712,070 Total

Appendix 3.9 Integrated Zone Code List
The 20 zones A - T were integrated from 80 zones

Zone code	Zone No. in 80 zones (Appendix 3.1)
A	1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 25, 26, 27, 28, 29, 41
В	42, 43, 44, 49, 50
С	14, 15, 16, 17, 18, 19, 20, 21
D	9, 10, 22, 23, 24, 30, 31
E	37, 38, 39, 40
F	32, 33, 34, 45, 46
G	35, 36, 47, 48
Н	51, 52
1	53, 54
J	56
K	55, 64, 65
L	66
M	57, 58, 59
N	60, 62, 63
0	67, 68, 69
P	61
Q	70, 71, 72, 73
R	74
S	75
Т	76

(See Figs 3.2 - 3.5)

Appendix 3.10 Estimated Future Person Trips by Zone (Railway)

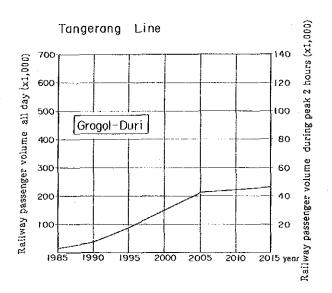
(Unit : person trip ends/day) Zone No. Zone Name 1984 1990 1995 2005 Gambir 9,744 25,942 49,805 73,795 61,780 Sawah Besar 4.284 15,713 30.814 Kemayoran 1,306 13,390 29,400 24,730 59,059 2.061 Cempaka Putih Menteng Kebon Melati 47,005 3,305 14,110 19,231 26,219 53,405 41,276 71,471 1,365 14,530 71,474 Gelora Kamal Muara 2,678 112 5,339 271 9,898 546 10 11 Kapuk Muara 95 650 1,125 1,795 Pejagalan 11,292 1,008 33,689 4,581 147,383 Mangga Dua Utara Pademangan 12 1,951 11.175 13 785 8,902 23,489 51,644 14 15 Sunter 3.093 5,933 28,039 18,046 Pepanggo 11,082 63,435 16 17 Tanjung Prick 10.020 10.454 19,376 Koja 133 4,876 17,735 3,316 8,815 10,636 18 Tugu Pegangsaan Dua 37,881 12,385 19 84 2,893 20 21 50 12,250 24,679 47,223 4,257 Sukapura 1.847 22 Semanan 42 4,136 12,781 13,609 35,087 23 24 Pegadungan 32,846 83,723 Cengkareng Jelambar 241 8,881 15,746 32,077 25 26 487 21,534 43,223 32,636 9.897 Tomang 6,500 27 Paimerah 933 7,783 7,285 19,717 11,587 17,722 38,840 28 29 30 Taman Sari 32.824 90,957 Tambora 4,919 26,541 51,051 Kembangan 8,806 9,750 30,302 21,737 82 72,351 31 Kebon Jeruk 44,216 90 32 33 34 22.287 107,365 6,473 52,422 Setia Budi 2,775 1,720 11,194 31,276 30,534 69,529 59,592 146,657 Mampang Prapatan 35 36 37 6,816 41,987 154,707 Srengseng Sawah Kebayoran Baru 14,624 18,932 18,401 30,615 30,873 57,489 2,376 1,032 38 39 40 Grogol Utara 1,048 15,232 49,000 116,755 Kebayoran Lama Cilandak 518 329 18,127 16,958 39,881 33,362 66,212 62,421 41 42 43 44 45 46 47 48 Matraman 1,849 13,047 30,898 62,576 Pulo Gadung Cipinang Besar 1,135 35,696 16,862 77,350 36,262 137,001 71.731 1,696 57,031 42,008 1,320 21,116 168,553 77,066 Cililitan 732 25,053 7,340 12,768 6,769 Halim Perdana Kusuma 16,427 28,742 45.941 26,630 11,826 Gedong 370 Lubang Buaya Penggilingan 20,831 260 29,491 27,756 49 11.650 54.326 71.544 474 13,027 1,394,926 2,938,712 DKI Total 80,223 651,773 95,229 17,721 38,773 1,482 51 52 Tangerang Teluk Naga 564 415 1,728 808 219 255 53 291 Mauk 655 2,751 54 55 368 Cikupa 744 19.929 1,607 41,864 82,567 80,801 1,286 Serpong Ciputat 56 57 58 1,079 1,764 2,196 1.035 398 Sawangan 89,682 166,328 53,182 11,732 22,401 Depok 17,601 27,621 59 Cibinong 1,127 1,368 641 2,710 1,171 40 60 Citeureup 438 61 Cileungsi 62,958 90,771 41.630 62 19,158 Bogor 923 1,980 172 63 Ciawi 664 1,352 468 64 65 Rumpin 1,657 562 Parung Panjang 936 1,018 1.403 2,038 779 66 Leuwiliang 12.346 4.621 67 68 Pondok Gede 50,673 84.561 115,192 2,045 Bekasi 62 15,628 23 69 Bebelan 13.910 562 7,830 70 Tambun 7,070 20,049 1,184 4.833 71 Cikarang 169 72 Setu 1,281 497 666 484 Sukatani 381,239 739,803 219,757 54,455 BOTABEK Total 6,990 29,814 33,834 5,513 23,275 2,470 74 75 76 West Java -1 35,987 3.026 West Java - 2 40,663 6,136 26,464 14,873 West Java -3 19,182 23,295 0 77 78 79 Central Java 2.351 **East Java** 2,674 2,043 1,534 South Sumatra 175 Outside of Java Island 113,397 93,867 73,414 11,632 Outside of JABOTABEK 3,791,912 1.870.032 146,310 944,944 Total

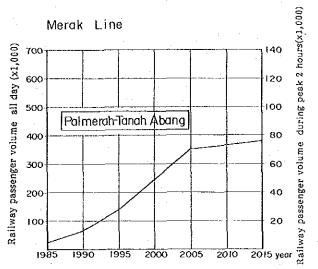
Zone No.	Zone Name	1984	1990	1995	2005
1.	Gambir	194,466	226,417	242,705	214,790
2.	Sawah Besar	126,880	157,472	176,532	161,780
3.	Kemayoran	130,548	159,650	175,759	148,093
4.	Senen	323,463	241,224	177,141	156,665
5.	Cempaka Putih	154,319	179,437	196,844	204,439 170,367
6.	Menteng	124,935	162,164	179,335	201,594
7.	Kebon Melati	216,164	215,414	205,177 34,199	27,662
8.	Gelora	35,781	35,317	1,942	2,467
9.	Kamal Muara	93	1,145	12,745	15,585
10.	Kapuk Muara	8,622 41,900	116,380	164,960	224,146
11.	Pejagalan	16,241	22,847	27,110	30,498
12.	Mangga Dua Utara Pademangan	24,085	68,668	97,860	79,471
13.	Sunter	45,846	55,384	62,903	78,495
14.	Pepanggo	28,196	67,728	92,590	82,695
16.	Tanjung Priok	104,725	64,996	39,719	31,382
17.	Koja	35,810	33,424	32,562	34,617
18.	Tugu	53,079	85,794	111,298	121,902
19.	Pegangsaan Dua	14,723	38,631	57,379	72,588
20.	Semper	36,113	82,653	119,325	133,731
21.	Sukapura	3,625	7,956	11,543	15,707 103,619
22.	Semanan	7,037	48,748	77,560	211,428
23.	Pegadungan	932	85,463	136,639 78,464	95,374
24.	Cengkareng	70,375	74,605 154,397	165,866	189,401
25.	Jelambar Tamana	136,019	96,895	115,087	119,039
26.	Tomang	68,009 106,709	159,259	197,787	217,798
27.	Palmerah Taman Sari	154,796	142,644	129,122	132,892
28. 29.	Taman sari Tambora	57,215	107,436	139,923	154,711
30.	Kembangan	22,293	198,365	331,297	523,921
31.	Kebon Jeruk	67,668	159,024	231,348	341,856
32.	Tebet	169,372	264,027	324,881	342,564
33.	Setia Budi	154,944	188,645	203,960	203,401
34.	Mampang Prapatan	193,581	327,034	424,048	465,104
35.	Pejaten	220,820	276,171	312,881	308,188
36.	Srengseng Sawah	71,942	53,701	44,785	47,420
37.	Kebayoran Baru	379,532	377,263	378,347	416,043
38.	Grogol Utara	97,142	250,708	356,357	387,269
39.	Kebayoran Lama	130,426	233,432	311,892	383,668
40.	Cilandak	127,707	232,088	316,295	343,376
41.	Matraman	90,537	130,612	154,873	153,711 377,720
42.	Pulo Gadung	251,524	321,834	367,585 300,175	302,741
43.	Cipinang Besar	215,885	265,707	365,597	394,753
44.	Klender Cililitan	102,006	256,637 220,977	225,369	247,920
45. 46.	Ciliittan Halim Perdana Kusuma	36,479	83,579	119,636	123,419
46.	Gedong	48,444	108,854	155,454	185,021
48.	Lubang Buaya	43,560	77,818	106,466	142,331
49.	Penggilingan	29,397	79,938	113,441	124,997
50.	Cakung	48,113	77,904	98,470	146,209
	DKI Total	5,041,428	7,087,328	8,503,233	9,394,568
51.	Tangerang	60,628	86,466	101,482	151,852
52.	Teluk Naga	760	2,074	3,799	8,245
53.	Mauk	517	861	998	1,458
54.	Cikupa	1,766	2,815	3,589	6,029
55.	Serpong	332	2,321	3,211	49,460
56.	Ciputat	62,811	78,852	86,585	115,107
57.	Sawangan	3,343	5,565	7,210	7,003 125,358
58.	Depok Cibirona	75,269	113,349	134,213 102,917	109,331
59.	Cibinong	55,419 5,379	79,722 8,956	12,122	18,187
60.	Citeureup Cileungsf	1,096	1,396	1,751	2,925
61. 62.	Bogor	39,796	56,802	68,255	69,096
63.	Cfawi	870	1,054	1,255	2,040
64.	Rumpin	712	1,361	1,741	2,699
65.	Parung Panjang	329	1,127	1,149	1,697
56.	Leuwiliang	1,580	2,375	2,856	3,365
67.	Pondok Gede	16,079	30,273	38,082	48,880
58.	Bekasi	88,350	81,931	83,065	89,446
59.	Babelan	208	308	382	588
70.	Tambun	12,536	18,125	22,777	24,560
71.	Cikarang	9,197	10,937	13,213	29,688
72.	Setu	506	677	846	1,460
73.	Sukatani	556	813	893	1,491
···i	BOTABEK Total	438,039	588,160	692,391	869,965
74.	West Jawa -1	5,042	5,537	7,020	8,450
75.	West Java -2	27,685	23,464	30,020	36,014
76.	West Java -3	29,140	26,495	33,864	40,692
77.	Central Java	19,564	15,060	19,391	23,316
78.	East Java	2,153	1,593	2,017	2,367
79.	South Sumatra	1,847	1,540	2,054	2,680
	Outside of Java Island	862	217	0	
80.	Outside of JABOTABEK	86,293	73,906	94,366	113,51

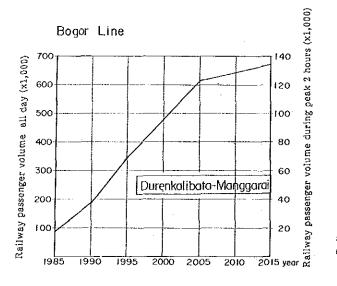
Estimated Distribution between Major Railway Stations (Year 2005) Appendix 3.12

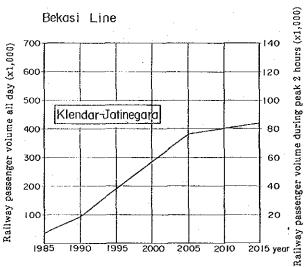
Holng on/off 8 174 99 8 223 117 256 214 197 86 257 28 23 179 Passengers 7 53 22 41 33 92 200 52 179 691 (Unit: 1,000 passengers/day, getting on/off) Number of 35 22 က Others 2 85 # 26 99 59 32 27 = tO m 28 당 12 27 15 63 42 631 23. Tg. Priok 4 ∞ 0 07 o, 4 0 0 0 က 5 13 42 22. Ancol çų Š 0 ٠. c» 0 ¢η 0 0 0 es S t-22 21. Jatinegara 2 6 5 Ħ 6 S 3 0 ∞ 13 63 200 20. Pasar Senen 0 0 0 თ ø 0 က N 0 0 13 60 2 19. Кетауогап ï 0 0 0 C/ 0 0 13 'n 23 83 ilawajan .81 0 0 0 Ó 12 ij gnadA danaT . Vi ø o, 4 က 7 ¢ 0 O က C 0 O è ¢, 31 <u>--</u>3 0 0 es iaud .at က 0 0 O O m 67 15. Kota intan ဖာ 28 9 0 Ċ1 0 0 0 0 3 m ~ Ç3 ø 13 113 14. Kampung Bandan 0 0 0 O 0 0 0 0 0 0 0 0 0 0 二 13. Cikini ဖ 0 0 က 0 0 ø 0 0 0 0 0 0 0 u) 28 12. Gambir 0 0 0 o 67 9 9 O 0 0 0 0 0 0 c) 47 II. Jakarta Kota 0 0 m 0 0 0 ۲3 0 ~ 157 00 0 0 10 17 37 257 1030B .01 ß 0 Ŋ œ ø 0 က 0 32 တ္တ Берок 26 69 .6 2 33 197 ø 0 ß 00 9 u) 0 8 ဖ S က 6 99 4 00 4, 25 56 7 2.4 Pasar Minggu .8 0 0 マ ¢ 0 0 O 0 C 0 0 26 Manggarai 22 21 23 256 L ۲. اسم 44 0 0 0 23 11, r) Веказі . 9 9 c ? က 82 4 ø 0 23 0 00 6 0 H o, 6 10 223 Klendar Baru .c က 0 0 0 0 0 0 84 0 0 28 0 Serpong ţ. 0 21 o 0 0 0 ¢) 0 4 99 3. 0 14 влатіри2 s S 4 ω 22 g 0 3 ٠2 00 7 Керауогап 00 ဖ 2 67 35 S. 4 ₹ 0 ~ ,--8 0 4 35 cv: Tangerang •1 14. Kampung Bandan Number of Passengers Getting on/off 11. Jakarta Kota 17. Tanah Abang Pasar Minggu Klendar Baru 20. Pasar Senen 19. Kemayoran 15. Kota Intan 21. Jatinegara Kebayoran Manggarai Tangerang Tg. Priok 18. Rajawali Sudimara 12. Gambir Others Serpong Depok 22. Ancol Bogor 13. Cikini Bekasi 16. Duri 23. .01 တ် 8. ٠, ê.

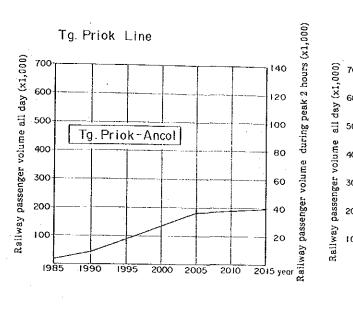
Appendix 3.13 Railway Passenger Volume of Major Railway Link by Stage (All day and peak 2 hours)

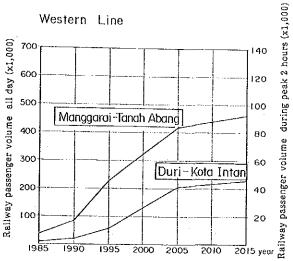


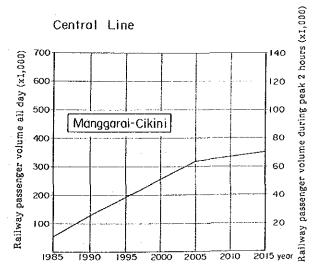


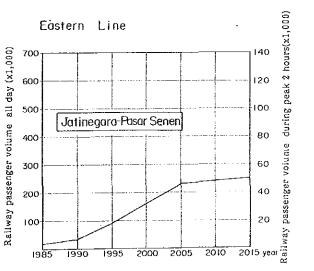










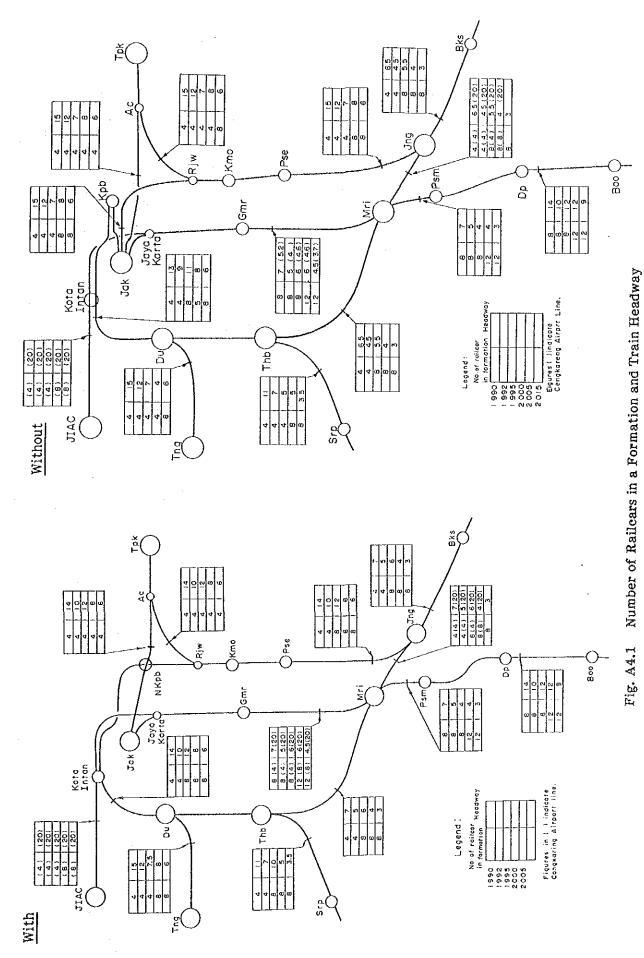


Appendix 4.1 Number of Rolling Stock Required

1,448 WITHOUT PROJECT 1,076 1,380 t WITH PROJECT 1,052 Cengkareng Line Total Total $\mathsf{Condition}$ ∞ တ ß $^{\circ}$ က G ~ Train Route Year. Grand Total Total Central Line (Jak-Mri-Boo) Jak-Tpk Pse-Tpk Tangerang Western Eastern Line Merak Other lines

Number of Rolling Stock Required

Table A 4.1



- 199 -

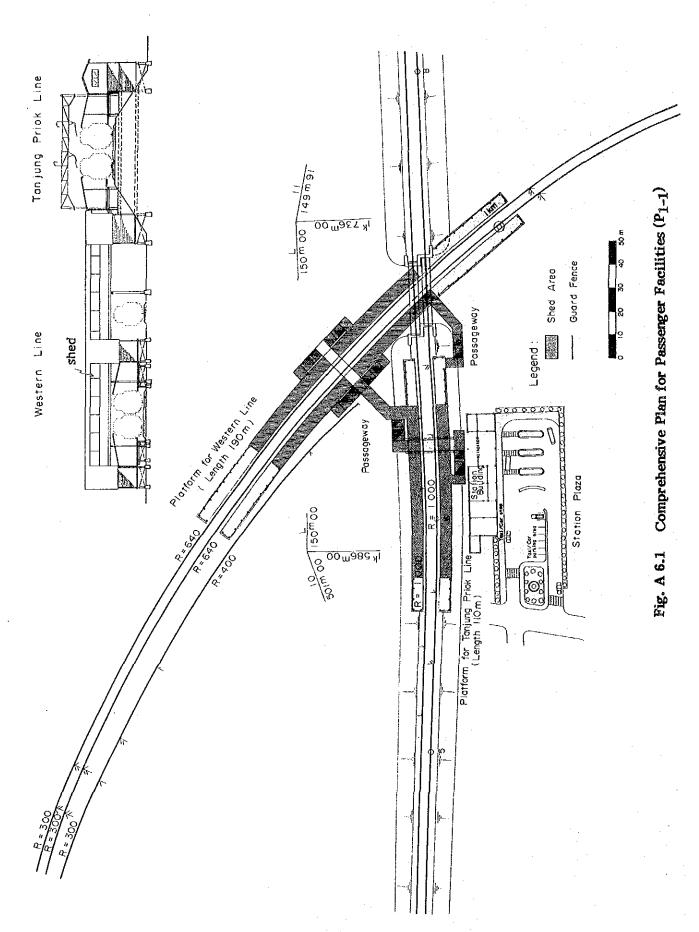
- 200 -

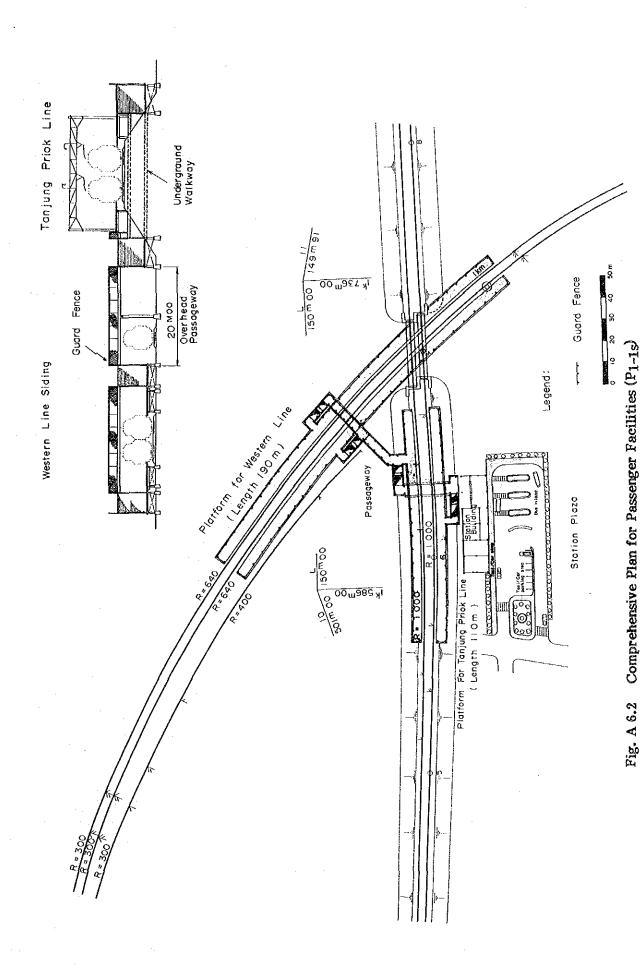
Appendix 6.1 Simplification of Passenger Facilities in New Kampung Bandan Station

Railway facilities involving train operation safety should be kept intact, but simplification of passenger facilities is still conceivable. An example of a simplified plan is P_{1} -1s. The Modified parts of facilities and costs are shown in Figs. A 6.1 and A 6.2, and Tables A 6.1 and A 6.2.

Table A 6.1 Items Simplified in P_{1-1s}

Items	P ₁₋₁	P _{1-1s}
Platform Shed		
Western line	100 m for each platform	No shed
Tanjung Priok Line	70 m for each platform	No shed
Passage way	With shed	Without shed but with guard fence
Platform Staircase	7 places	4 places
Station Building	650 m ²	520 m ²





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Table A 6.2 Comparison of Estimated Construction Costs

(Unit: Million Rp)

		Estimat	ed Construc	tion Cost	Remarks
]	Investment item	P ₁₋₁	P _{1-1s}	Difference	Remarks
1)	New Kampung Bandan Station	1,739	1,180	559	(Includes electric lights)
-	Platform Passageway Station Building Station Plaza	821 347 512 59	442 269 410 59	379 78 102 0	
2)	Track	1,933	1,933	0	
3)	Electrification	355	355	0	· · · · · · · · · · · · · · · · · · ·
4)	Signalling	842	842	0	
5)	Telecommuni- cation	178	178	0	
6)	Track Raising	304	304	0	
	Tanjung Priok Line	185	185	0	Includes bridge raising
	Western and Eastern Lines	119	119	0	
7)	Others	308	308	0	
-	Temporary Road	11	11	0	1
	Level/Crossing	15	15	0	
	Drainage	282	282	U	
8)	Compensation	16	16	0	
9)	Engineering Service	340	306	34	
10)	Supervision of Construction	340	306	34	
11)	Contingency	789	697	92	
	Grand Total	7,144	6,425	719	

Proportion of Electric Railcar (or Train) Kms within the Project Area to that of Entire JABOTABEK Area Appendix 7.1

		:		-				(Per day)
	61	066)T	1992	, 	1995	2	2005
	With	Without	With	Without	With	Without	With	Without
JABOTABEK Area								
A. Railear - kms (x1,000)	131.0	133.3	179.1	181.6	219.2	231.6	464.6	478.1
B. Train - kms (x1,000)	24.5	25	33.2	33.9	31.9	38.5	52.0	52.5
Project Area								
C. Railcar - kms (x1,000)	2.8	8.8	3.9	5.0	5.0	8.5	6 6	15.0
D. Train - kms (x1,000)	0.6956	0.9526	0.9768	1.255	0.814	1.719	1.628	2,266
Proportion								
C/A (%)	2.1	2.9	2.2	2.8	2.3	3.7	2.1	ಣ ಣ
D/B (%)	2.8	3.8	2.9	3.7	2.6	4.5	3.1	4.3

(Note): All day both ways

Appendix 7.2 Construction Cost by Item for "Without Project"

(Unit: Million Rp, In Feb. 1985 price)

Construction Item	Market Price	Economic Price
Civil work	204	190
Track	233	210
(sub total)	(437)	(400)
Electric facility	60	57
Signalling facility	737	727
(sub total)	(797)	(784)
Grand total	1,234	1,184

Note : Figures do not include reinvestment.

Remarks: In the case of "Without Project", the following construction items are considered to be necessary.

- An automatic block system for the Western (includes the Kampung Bandan Signal Station) and Eastern Lines in the Project area.
- 2) Tracks must be raised by 50 cm on the Western and Eastern Lines to prevent them from being inundated; this will make it necessary to raise the bridge at the Tanjung Priok and Eastern Line crossing by 50 cm also.

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Appendix 7.3 ECONOMIC ANALYSIS FOR THE F/S ON THE RAILWAY IMPROVEMENT IN KAMPUNG BANDAN STATION AREA

Economic Ayalysis Base Case

(Unit: MIL RP.)

	1986	1987	1788	1989	1970	1991	1992	1993	1994	1995	1996	1797	1798
INVESTHENT	266.0	112.0	2278.4	3007.8	2277.1	-52.3	-117.4	-52.3	~52.3	-4999.6	-45.6	··107.4	97.7
WITH	288.0	115.0	2772.3	3478.1	5533.2	0.	2278.4	<u>, a</u>	.0	2278,4	.0	.0	
CIVIL WORK	230.0	57.0	2349.2	2514.2	0	.0	.0	.0	- 0	.0	.0	.0	. o . o
SIGNAL & TELECOH	36.0	53.0	643.1	964.0	9.	.0	2278.4	.0	. o	2278.4	. 0	. e	ŏ
-201 ARE ANTOE -201 ARE ANTOE	. o . ø	.0	.0 .0	. o	5533.2 .0	.0	.0	.0	.õ	.0	.0	ñ.	.0
MITHOUT		. 0	713.9	470.3	7810.3	52.3	2395.7	52.3	52.3	7277.9	45.6	109.4	97.9
CIAIF ADEK	.0	.0	400.0	0	.0	.0	.0	.0	0	.0	.0	.0.	.0
SIGNAL & TELECON	. 0	. 0	313.9	470.3	.0	.0	.0	. 0.	.0	.0	.0	0.	.0
ROLLING STOCK	.0	.0	.0	.0	7746.4	0	2343.5	. 0	0	7225.7 52.3	.0 45.6	102.4	.0 27.9
PUS	٠0	-0	.0	.0	63.0	52.3	52.3	57.3	52.3 .0	.0	0.0	0.0	.0
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	,0	. 0	.0	.0	.0		.0
DEE, A HAINT, COST DIFF.	10	.0	0. =0=0=0	.0	199.8	163.3	119.2	D2.7	46.1	-25&.f	-208.0	~319.9	351.7
WITH	.0	.9	.0	.0.	737.3	737.3	866.4	066.4	866.4	981.8	981.8	201.0	981.8
PERSONNEL COST	.0	.0	.0	.0	23.0	23.0	30.7	30.7	30.7	26.9	26.9	26.9	26.9
ENERGY COST	.0	, ō	.0	.0	103.8	103.8	145.5	145.5	145.5	184.9	184.9	184.9	184.9
MATHY, COST (RATEWAY)	.0	. 0	.0	. 0	610.5	610.5	670.2	690.2	690.2	770.0	770:0	770.0	770.0
WI THINUT	.0	.0	.0	.0	537.5	574.1	747.2	783.8	820.3	1237.9	1269.8	1301.7	1333.6
PERSONNEL COST	.0	.0	0	.0	31.7	31.9	41.5	41.5	.41.5	- 41 - 1	41.1	41.1	41 1
EMERGY COST	.0	.0	.0	.0	141.8	141.B	186.8	106.8	186.B	315.2	315.2	315.2	315.2
HAINT, COST (RAILWAY)	.0	.0	-0	.0	319.1	317-1	401.2	401.2	401.2	654.1	654.1 257.4	654.1 251.3	654.1 323.2
OPERATING COST (NUS)	.0	.0	.0	. 0	44.6	B1.2	117.8	154.3	190.9	227.5	237.4	.31.3	323.2
DENEFIL	.0	.0	.0	.0	68.1	78.8	86.9	72.3	75.1	95.1	160.0	226.5	274.6
	242000	******	======	en a to or an a	======	=====		=====	95.1	95.1	160.0	224.5	274.6
TIME SAVING BENEFIT	.0	.0	-0	.0	68.1	78.B	86.9	92.3	•				1
NET FLOW	-266.0	-112.0	-2278.4	-3007.8	2145.4	-32.1	85.0	61.9	101.2	5350.8	473.6	655.8	744.2
PV AT EIRR	-266.0	-95.1	~1641.9		1114.1	~14.2	31.8	19.7	27.3	1224.9	95.9	108.2	104.2
EIRR X	17.9	17.8	17.B	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.9	17.0	17.8

1999	2000	5001	5903	5002	2004	2005	5098	2007	2008	2009	2010	2011	2012	2013	2014	2012
97.2	-877.0	-97.9	-97.9	-91,2	-155.0	-2486.9	-97.9	77.9	-97.9	-97.7	820.6	-155.0	-143.5	-97.2	~97.9	159.0
= 12 to 12 t	******	202022	******	naamyb	4117705	*****	****	7.7 # 14 = ±	========		u marana		DESCRIPTION OF THE PARTY OF THE	:0 75 T T T T	g und du	
.0	4296.3	.0	0	.0	.0	4491.6		.0	.0	.0	1696.1	.0	.0	.0	.0	-7125.5
. 5	.0	.0	.0	.0	. 0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1696.1	. 0	. 0		. 0	
.0	4274.3	٠0	.0	.0	.0	4491.6	.0	.0	.0	.0	.0	.0	0	.0	.0	7567.1
.0	.0	•0	۰,	.0	.0	. 0	.0	.0	.0	.0	. 0	.0	.0	0	.0	16671.6
27.2	5175.4	97.9	97,9	91.2	155.0	4978.4	97.7	97.9	97.7	97.7	B75.4	155.9	143.5	97.9	97.9	-7283,4
. 9	.0	.0	.0	.0	.0	.0	.0	.0						***********		0
ŏ	.0	, o	.0	ŏ	.0	.0	.0		.0	.0	0, 784.2	.0	.0 e.	.0	.0	.0
.0	5077.5	. 0		.0	.ŏ	6835.1	.0	.0	.0	.0	.0	.0	.0	0		13540.0
27.7	97.9	97.9	97.2	31.2	155.0	143.5	27.7	97.9	27.9	97.7	91.2	155.0	143.5	27.9	97.9	77.7
.0	.0	.0	. 0	0	0,	a.	.0	.0	.0	.0	.0	, ŏ	.0	6,		20721.3
-393.4	-457.0	400.7	-520.8	-552.7	-584.6	-751.9	-751.7	-751.9	-751.9	-751.9	751.7	-751.9	-751.7	751.9	-751.7	031.1
*****	======		======		****		프루프루큐루	*****			*****	*****	T = = = # 12	SECECS	******	
781.8	1238.7	1230.7	1230.7	1238.7	1239.7	1501.2	1501.2	1501.2	1501.2	1501.2	1501.2	1501.2	1501.2	1501.2	1501.2	1716.5
26.9	40.7	40.7	10.7	40.7	49.7	53.8	53.8	53.0	53.8	53.9	53.0	53.9	53.9	53.0	53.0	39.8
184.9	277.6	277.6	277.6	277.6	277.6	369.9	369.9	369.9	369.7	367.7	369.9	369.7	369.9	369.9	369.7	457.2
770.0	920.3	720.3	720.3	720.3	929.3	1077.6	1077.6	1077.6	1077.6	1077.6	1077.6	1077.6	1077.6	1077.6	1977.6	1218.8
1365.4	1695.7	1727.6	1759.5	1791.4	1923.3	2253,1	2253.1	2253.1	2253.1	2253.1	2253.1	2253.1	2253.1	2253.1	2253.1	2347.2
41.1	56.8	56.0	56.8	56.8	56.8	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	54.9
315.2	420.2	420.2	420.2	420.2	420.2	560.0	560.0	560.0	560.0	540.0	560.0	560.0	540.0	560.0	560.0	672.8
654.1	831.8	031.0	831.8	831.8	831.B	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1273.3
355.0	396.7	418.8	450.7	482.6	514.5	516.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4
364.3	135.7	500.8	593,4	659.7	737.6	817.2	917.2	817.2	817.2	817.2	817.2	817.2	817.2	017.2	317.2	017.2
	*****	=====		REMERT	******	***	£====	******	=====	11#48==		*****		345672	612.2	917.0
364.3	435.7	508.8	583.4	659.7	737.6	817.2	817.2	817.2	817.2	817.2	. 817.2	817.2	917.2	917.2	917.2	a17.1
815.9	1771.0	1095.6	1202.1	1303.6	1477.3	4056.0	1666-7	1666.9	1666.9	1666.7	748.4	1724.1	1712.5	1666.9	1666.7	1490.3
100.6	178.8	73.9	27.1	80.5	77.4	180.4	63.0	53.4	. 45.4	38.5	14.7	28.7		20.0	17.0	12.7
17.8	1.7.8	17.8	17.8	17.8	17.B	17.8	17.8	17.9	17.9	17.8	17.3	17.9	17.8	17.9	17.8	17.8

Economic Analysis Case 1 (UNIT: MIL RP.)

	1986	1987	1988	1989	1990	1991.	1992	1993	1994	1995	1996	1997	199B
INVESTMENT	292.6	123.2	2506.2	3308.6	-2504.8	-57.5	-129.1	-57.5	##=#=#	-5499.5	-50.2	-120.4	-107.7
WITH	292.6	123.2	3291.5	3926.0	6086.5 		2506.2	.0		2506.2	.0		0 0
CIVIL WORK	253.0	64.9	2584.1	2765.6	.0 .0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	39.6	50.3	707.4	1060.4	6086.5	.0	2506.2	ě.	.0	2506.2	. 0	.0	.0
ROLLING STOCK	.0	.0	.0	.0	0,0013	.0	.0	. 0	.0	.0	.0	.0	. 0
-SALVAGE VALUE	.0	.0	. •		**		•						
WITHOUT	.0	.0	785.3	517.4	8591.3	57.5	2635.3	57.5 	57.5	8005.7	50.2	120.4	107.7
	.0	.0	440.0	.0	.0	. 0	.0	.0	.0	.0	.0	. 0	.0
CIVIL WORK	.0	.0	345.3	517.4	. 0	. 0	.0	0	.0	.0	.0	. 0	. 0
SIGNAL & TELECOM	.0	Ö	.0	.0	8521.1	.0	2577.8	.0	9	7948.2		0.	.0 107.7
ROLLING STOCK BUS	.0	. 0	.0	. 0	70.2	57.5	57.5	57.5	57.5	57.5	50.2	120.4	
-SALVAGE VALUE	. 0	.0	. 0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
-3HCANGE THEOL									75.0	-244.5	-276.4	-308.3	-340.2
OPE. & HAINT, COST DIFF.	.0	.0	. 0	.0	227.0	192.4	148.1	111.6	75.0	******	-210.4	-30013	======
O, E. C. MILICI COL.	=42===	=======	= # = # = #	22222	-4853E	22244	22222 075 5	935.5	935.5	1058.8	1058.9	1058.8	1058.8
HIIH	.0	. 0	.0	.0	798.4	79B.4	935.5	733.3			1035.2		
1			.0	.0	23.0	23.0	30.7	30.7	30.7	26.9	26.9	26.9	26.9
PERSONNEL COST	.0 .0	0	.0	.0	103.8	103.8	145.5	145.5	145.5	184.9	184.9	184.9	184.9
ENERGY COST	.0	.0	.0	.0	671.5	671.5	759.3	759.3	759.3	847.0	847.0	847.0	847.0
HAINT, COST (RAILWAY)	.0	.0	.0		0								
RITHOUT	.0	.0	.0	.0	569.4	6.868	787.3	823.9	860.5	1303.3	1335.2	1367.1	1399.0
		.0	.0	.0	31.9	31.9	41.5	1.41.5	41.5	41.1	41.1	41.1	41.1
PERSONNEL COST FNERGY COST	.0	ŏ	.0	.0	141.8	141.0	186.8	186.8	186.8	315.2	315.2	315.2	315.2
MAINT, COST (RAILWAY)	.6	. 6	, õ	.0	351.1	351.1	441.3	441.3	441.3	719.5	719.5	719.5	719.5
DPERATING COST (BUS)	. 0	. 0	.0	.0	44.6	81.2	117.8	154.3	190.9	227.5	259.4	291.3	323.2
DI EMPITA COST (POST						-	:	92.3	95.1	95.1	160.0	226.5	294.6
BENEFIT	. 0	.6	.0	.0	88.1	70.9	86.9	72.3	73.1	73.1	100.0	220.5	
	=====	**====	40====	======	======	20.0	86.9	92.3	95.1	95.1		226.5	294.6
TIME SAVING BENEFIT	.0	.0	.0	.0	68.1	78.8	06.7	72.3	,,,,	. ,,,,,			
	002 1	- (27.2	-2504.2	_3366 4	2343.9	-56.1	67.9	38.2	77.6	5839.2	486.5	655.1	742.4
NET FLOW	-292.6 -292.6		-1827.8		1246.7	-25.5	26.3	12.7	21.9	1410.7	100.4	115.4	111.7
PV AT EIRR	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1
EIRR X	17.1	1741			,								

Economic Analysis Case 2 (UNIT: MIL RP.)

	1986	1987	1986	1989	1990	1991	1772	1993	1994	1995	1996	1997	1998
INVESTMENT	292.6	123.2	2506.2		-2277.1	- 52.3		-52.3	-52.3	-4999.6	-45.6	-109.4	-97.9
	****	****	=====		634536	nessta	2023##	.0	.0	2278.4	.0	. 0	.0
WITH	292.6	123.2	3291.5	3826.0	5533.2	θ.	2278.4			221017			
CIVIL WORK	253.0	64.9	2584.1	2765.6	, θ	.0	.0	.0	.0	.0	. 0	. 0	.6
SIGNAL & TELECOM	39.6	58.3	707.4	1060.4	. 0	. θ	.0	.0	.0	.0	.0	.0	.0
ROLLING STOCK	.0	.0	.0	.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
-SALVAGE VALUE	.õ	.0	.0	.0	. 0	.0	.0	.0	٠.6	.0	.0	. 0	.0
MITHOUT	.0	.0	785.3	517.4	7810.3	52.3	2395.7	52.3	52.3	7277.9	45.6	189.4	97.9
CIVIL WORK	.0	.0	440.0	.0		.0	.0	0	. 0	.0	.0	.0	.0
ZIGNAL & TELECOM	.0	. e	345.3	517.4	.0	.0	.0	.0	.0	.6	.0	.0	.0
ROLLING STOCK	ě	. 0	.0	.0	7746.4	. 0	2343.5	.0	.0	7225.7	.0	0	0
RUS RUS	.ŏ	.0	. 0	0	63.8	52.3	52.3	52.3	52.3	52.3	45.6	109.4	97.9
-SALVAGE VALUE	.õ	.0	.0	.0	.0	.0	.0	.0	.0	0	. 0	.0	.0
	.0	. 0	.0	.0	240.8	207.5	166.8	133.6	100.3	-198.5	-227.5	-256.5	-285.5
OPE. & HAINT, COST DIFF.		-=====			E23235	22222	385555	##==##	дезтта	**===#	*====	****	****
WITH	.0	.0	.0	.0	779.0	779.0	908.1	908.1	908.1	1023.5	1023.5	1023.5	1023.5
								30.7	30.7	26.9	26.9	26.9	26.9
PERSONNEL COST	.0	. ⊖	.0	.0	23.0	23.0	30.7 145.5	145.5	145.5	184.9	184.9	184.9	184.7
ENERGY COST	.0	.0	.0	.0	103.8	103.8	731.9	731.9	731.9	811.7	811.7	811.7	811.7
MAINT. COST (RAILWAY)	.0	.0	.0	.0	652.2	652.2	131.7	131.7	13117				
TUOHTIN	.0	.0	.0	.0	538.2	571.5	741.3	774.5	807.8	1222.0	1251.0	1280.0	1309.0
*				.0	31.9	31.9	41.5	41.5	41.5	41.1	41.1	41.1	41.1
PERSONNEL COST	.0	.0	.0	0	141.8	141.8	186.8	186.8	186.8	.315.2	315.2	315.2	315.2
ENERGY COST	.0	.0	.0	.0	323.9	323.9	406.0	406.0	406.0	658.9	658.9	658.9	658.9
HAINT, COST (RAILWAY)	.0	.0	.0	.0	40.6	73.8	107.1	140.3	173.6	296.8	235.8	264.8	293.8
OPERATING COST (BUS)	.0	.0	.0	.0	4010	,,,,							
	.0	.0	.6	.0	68.1	78.8	86.9	92.3	95.1	95.1	160.0	226.5	294.6
BENEFIT		-====	~=====	*****	540225	#52555	*****	=====	型 医	BEFEE	****	======	======
BENEETT	.0	.0	.0	.0	68.1	78.8	86.9	92.3	95 i	95.1	160.0	226.5	294.6
TIME SAVING BENEFIT	. 0												
UET 51.00	-292.6	-123 2	-2506.2	-3308.4	2104.4	-76.4	37.5	11.0	47.0		433.1	592.4	678.0
NET FLOW	-292.6	-106.5	-1872.6	-2136.9	1174.9	-36.9	15.6	4.0	14.6	1426.1	100.9	119.3	118.0
PV AT EIRR	13.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
EIRR %	,,,,,,	,	,,,,	. = =								1.	

•																
					•											
1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
-107.7		~107.7	-107.7	~100.3	-170.5	-2735.6	-107.7	-107.7	-107.7		902.7	-170.5			-107.7	173.8
.0	4726.0	.0	.0	.0	.0	4940.8	.0	.0	0.	.0	1865.7	.0	.0	.0		-7838.0
.0	.0	.0	.0	.0	.0	.0	. 0	.0	.0	.0	.0	.0	.0	.0		.0
.0	4726.0	.0	.0	.0	. 0	4940.B	.0	.0	.0 .0	.0	1865.7 .0	.0 .0	.0 .0	.0	.0	.0 1052ბ.0
				.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0		18364.0
107.7	5692.9	107.7	107.7	100.3		7676.4	107.7	107.7	107.7	107.7	962.9	170.5	157.8	107.7		-8011.B
.0	.0	.0 .0 .0	.0	.0	.0	.0	.0	.0	.0	.0	.0 862.6	.e .o	.0	.0	.0 .0	.0
107.7	5585.2 107.7	107.7	107.7	100.3	0. 170.5	7518.6 157.8	.0 107.7	.0 107.7	.0 107.7	.0 107.7	100.3	.0 170.5	.0 157.B	107.7	197.7	14894.0 107.7
.0	.0	.0	.0	.0	.0	.0	.0	.0	0	.0	۰.	.0	۰.	.0	.0	23013.4
-372.0 ======		-480.1		-543.8 =====	-575.7	****	-751.2	~====	=====	-751.2 Renase	-751.2 =====	======	======	-751.2 -****	-751.2	-836.6 =======
1058.B	~~~	1330.7	1339.7	1330.7	1330.7	1609.0	1609.0	1609.0	1609.0	1609.0	1609.0	1609.0	1609.0	1609.0	1609.0	1939.7
26.9 184.9	40.7 277.6	40.7 277.6	40.7 277.6	40.7 277.6	40.7 277.6	53.B 369.9	53.8 369.9	53.8 369.9	53.8 369.9	53.8 369.9	53.8 369,9	53.8 369.9	53.8 369.9	53.8 369.9	53.8 369.9	38.8 459.2
847.0	1012.4	1012.4	1012.4	1012.4	1012.4	1185.3	1185.3	1185.3	1185.3	1185.3	1105.3	1185.3	1185.3	1185.3	1185.3	1340.7
1439.8	1778.9	1810.8	1842.7	1874.5	1906.4	2360.2	2360.2	2360.2	2360.2	2360.2	2360.2	2360.2	2360.2	2360.2	2360.2	2675.3
41.1 315.2	56.8 420.2	56.8 420.2	56.8 420.2	56.8 420.2	56.8 420.2	75.4 560.0	75.6 560.0	75.6 560.0	75.6 560.0	75.6 560.0	75.6 560.0	75.6 560.0	75.6 560.0	75.6 560.0	75.6 560.0	54.9 672.8
719.5 355.0	915.0 386.9	915.0 418.8	915.0 450.7	915.0 482.6	915.0 514.5	1178.1 546.4	1178.1 546.4	1178.1 546.4	1178.1 546.4	1178.1 546.4	1178.1 546.4	1178.1 546.4	1178.1 546.4	117B.1 546.4	1178.1 546.4	1401.2 546.4
364,3	435.7	508.0	583.4	659.7	737.6	817.2	817.2	B17.2	817.2	817.2	817.2	817.2	817.2	817.2	817.2	817.2
364.3	435.7	508.8	583.4	659.7	737.6	817,2	817.2	B17.2	817.2	817.2	817.2	817.2	817.2	917.2	B17.2	917.2
844.1	1850.8	1096.5	1203.0	1303.9	1483.9	4304.0	1676.1	1676.1	1676.1	1676.1	665.7	1738.9	1726.2	1676.1	1676.1	1480.0
108.5	203.1	102.B 17.1	96.3 17.1	89.1 17.1	86.6 17.1	214.5	71.3	60.9	52.0 17.1	44.4	15.1	33.6	28.5 17.1	23. A 17. 1	20.2 17.1	15.2 17.1
		.,				, , , , ,										
														,		
													2010	204		
1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011				
-97.9	-879.0	-97.9	-97.9	-91.2	*****	~24B6.9	-97.9	-97.9		-97.9 =====	911.8	-155.0	**==	======		
	4296.3	.0	.0		.0	4491.6	.0		.0		1865.7	.0				.0 -7424.5
. 0	.0	.0	.0	0. 0.	.0 .0	.0	.0 .0	.0	.0	.0	0. 1865.7	0.	.0) .	.0 .0
.0	4296.3 .0	.0	.0	.0	.0	4491.6	. 0	.0	.0	.0	.0 .0	.0				0 9569 1 0 16993.6
97.9	5175.4	97.9	97.9	91.2	155.0	6978.6	97.9	97.9	97.9	97.9	953.8	155.0	143.5	97.9		9 -7352.3
	.0		.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	. (.0 .0
. 9	.0 5077.5	.0	.0	.9	.0	9. 1.2584	.0	.0	.0	.0	862.6 0.	.0	.0	.0	٠.	0 13540.0
97.9	97.9	97.9	97.9 0	91.2	155.0	143.5	97.9 .0	97.9 .0	97,9 .0	97.9 .0	91.2	155.0 .0				97.9 0.20990.2
344 5	0 20E A					-665.3		-665.3	-665.3	-665.3	-665.3	-665.3		-665.3		
22222	***	*=4===		****		1542.9	======	1542.9	*****	=====	1542.9	1542.9	1542.9	1542.5		9 175B.5
1023.5	1280.4	1280.4	1280.4	1280.4	1280.4		53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8		
26.9 184.9	40.7 277.6	40.7 277.6	40.7 277.6	40.7 277.6	40.7 277.6	53.8 369.9	369.9	369.9	369.9	369.9	369.9	369.9	369.9	369.9		9 459.2 2 1260.5
811.7	962.0	962.0	962.0	962.0	962.0	1119.2	1119.2	2208.2	2208.2		220B.2	2208.2	2208.2			
1338.0	1665.3	1694.3	1723.3	1752.3	1781.3	2208.2	2208.2		75.6	75.6	75.6	75.6	75.6			
41.1 315.2	E/ 0	56.8	56.8	56.8	56.0	75.6	75.6	75.6				560.0	560.0			
	56.8 420.2	420.2	420.2	420.2	420.2	560.0	560.0	560.0	560.0	560.0	560.0 1825.8					
658.9 322.8	420.2 836.6 351.8					560.0 1075.8 496.7	560.0 1075.8 496.7	560.0 1075.8 496.7	560.0 1075.8 496.7	560.0 1075.8 496.7	1975.8 496.7	1075.8	1075.B 496.7	1075.8	1075.	8 1278.6

364.3 435.7 508.8 583.4 659.7 737.6 817.2

Economic Analysis Case 3 (UNIT: MIL RP.)

	1986	1987	1989	1989	1990	1991	1792	1993	3994	1995	1996	1997	1998
INVESTHENT	266.0	112.0	2278.4	3007.8	-2055.8	-52.3	-110.9	-52.3	-52.3	-4504.9	-45.6	~109.4	-97.9
HIIM	266.0	112.0		3478.1	4979.8	.0	2050.5	0,	.0	2050.5	.0	.0	0
CIVIL WORK	230.0	59.0 53.0	2349.2	2514.2 964.0	.0	.0.	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	36.0	.0	043.7	9	4979.8	.õ	2050.5	.0	.0	2050.5	.0	.0	.0
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TUONTIN	.0	.0	713.9	470.3	7035.6	52.3	2161.4	52,3	52.3	6555.4	45.6	109.4	97.9
CIVIL WORK	.0	.0	400.0	. 0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	.0	.0	313.9	470.3	.0	.0		. 0	. 0	.0	.0	.0	.0
ROLLING STOCK	.0	.0	.0	.0	6971.8	.0	2109.1	.0	.0	6503,1 52,3	.0 45.6	109.4	0.
BUZ	.0	.0	.0	.0	63.8	52.3 .0	52.3	52.3 .0	52.3 .0	0.50	93.0	.0	97.9 .0
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	0.	.0	.0	.0	.0	.0	.0
OPE. & MAINT. COST DIFF.	.0	.0	0	.0	207.6	171.0	127.2	90.6	54.1	~230.8	-262.7	-294.6	-326.5
	=======	======	======	.0	718.0	718.0	839.1	839.1	839.1	946.5	946.5	946.5	946.5
HITH	.0	.0	.0		710.0			03/11		~~~~			
PERSONNEL COST	.0	0	.0	.0	23.0	23.0	30.7	39.7	30.7	26.9	26.9	26.9	26.9
ENERGY COST	.0	.0	.0	.0	103.8	103.8	145.5	145.5	145.5	184.9	184.9	184.9	184.9
HAINT, COST (RAILWAY)	.0	.0	.0	.0	591.1	591.1	662.9	662.9	662.9	734.7	734.7	734.7	734.7
MITHOUT	.0	.0	.0	.0	510.4	546.9	711.9	7,48.5	785.0	1177.3	1209.2	1241.1	1272.9
PERSONNEL COST	.0	.0	.0	.0	31.9	31.9	41.5	41.5	41.5	41.1	41.1	41.1	41.1
ENERGY COST	ě	.0		. 0	141.8	141.8	186.8	186.8	186.8	315.2	315.2	315.2	315.2
HAINT, COST (RAILWAY)	.0	.0	.0	.0	292.0	292.0	365.9	365.9	365.9	593.5	593.5	593.5	593.5
OPERATING COST (BUS)	.0	.0	.0	.0	44.6	81.2	117.B	154.3	190.9	227.5	259 4	291.3	323.2
BENEFIT	.0	.0	.0	.0	68.5	78.8	86.9	92.3	95.1	95.1	160.0	226.5	294.6
		##====	======	#=====	======	5125524	======	3 2FEEE		=====	≈≈≡≡£¤	====	======
TIME SAVING BENEFIT	.0	.0	.0	.0	68.1	78.9	86.9	92.3	95 . i	95.1	160.0	226.5	294.6
NET FLOW	-266.0	-112.0	-2278.4	-3097.B	1916.3	-39.9	70.6	54.0	93.3	4830.B	468,3	630.5	718.9
PV AT EIRR	-266.0	-96.1	-1676.0		1036.9	-18.5	28.1	8.4	27.3	1213.0	100.8	116.5	113.9
EIRR %	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6

Economic Analysis Case 4 (UNIT: MIL RP.)

	1986	1987	1989	1989	1990	1991	1992	1993	1994	1995	1 የዋፊ	1997	1998
INVESTHENT	266.0	112.0	2278.4	3007.B	-2270.7	-47.1	~112.2	-47.1	-47.1	-4994.4	-41.0	-98.5	-88.1
HTIW	266.0	112.0	2992.3	3478.1	5533.2	0.	2278.4	.0	.0	2270.4	.0	.0	.0
-SALVAGE VALUE SIGNAL & TELECOH CIVIL WORK	230.0 36.0 .0	59.0 53.0 .0	2349.2 643.1 .0	2514.2 964.0 .0	.0 .0 5533.2	.0 .0 .0	.0 .0 2278.4	.0 .0 .0	.0 .0 .0	.0 .9 2278.4	.0	.0	.0
WITHOUT	.0	.0	713.9	470.3	7803.9	47.1	2390.5	47.1	47.1	7272.7	41.0	98.5	88.1
CIVIL WORK SIGNAL & TELECOM ROLLING STOCK BUS ~SALVAGE VALUE	.0	.0 .0 .0	400.0 313.9 .0 .0	.0 479.3 .0 .0	.0 7746.4 57.5	.0 .0 .0 47.1	.0 .0 2343.5 47.1	.0 .0 .0 47.1	.0 .0 .0 47.1	.0 .0 7225.7 47.1	.0 .0 .0 41.0	.0 .0 .0 98.5	,0 ,0 ,0 98,1
OPE. & MAINT. COST DIFF.	.0	.0	0.	.0	204.3	171.4	131.0	98.1	65.2	-233.3	-262.0	-290.7	-319.4
WITH	.0	.0	.0	.0	737.3	737.3	866.4	4.48	B66.4	981.8	981.8	981.8	8.189
PERSONNEL COST ENERGY COST HAINT. COST (RAILWAY)	.0 .0	.0 .0	.0	.0	23.0 103.8 610.5	23,0 103,8 610,5	30.7 145.5 690.2	30.7 145.5 690.2	39.7 145.5 690.2	26.9 184.9 770.0	26.9 184.9 770.0	26.9 184.9 770.0	26.9 184.9 770.0
TUOHTIW	.0	.0	. 0	.0	533.0	545.9	735.4	768.3	801.2	1215.1	1243.8	1272.5	1301.2
PERSONNEL COST ENERGY COST HAINT. COST (RAILWAY) OPERATING COST (RUS)	.0	.0	.0 .0 .0	.0	31:9 141.8 319.1 40.2	31.9 141.8 3(9.1 73.1	41.5 186.8 401.2 106.0	41.5 186.8 401.2 138.9	41.5 186.8 401.2 171.8	41.1 315.2 454.1 204.7	41.1 315.2 654.1 233.4	41.1 315.2 654.1 262.1	41.1 315.2 654.1 290.8
PENEFIT	.0	.0	.0	.0	61.3	70,9	78.2	83.1	85.5	85.6	144-0	203.8	265.1
TIME SAVING BENEFIT	.0	.0	.0	.0	61.3	70.9	78.2	83.1	85.5	85.6	144.0	203.8	265.1
NET FLOW PV AT EIRR EIRR X	-266.0 -266.0 17.1		-2278.4 -1662.4 17.1		2127.7 1132.8 17.1	-53.4 -24.3 17.1	59.3 23.1 17.1	32.0 10.6 17.1	67.4 19.1 17.1	5313.3 1286.4 17.1	447.1 92.5 17.1	593.1 104.8 17.1	672.7 101.5 17.1

1 999	2000	2001	2002	2003	2004	2005	2006	2007	S00B	2009	2010	2011	2012	2013	2014	2015
-97.9	-800.9	+97.5	~97.9	-91.2		-2252.6	-97.9	-97. <i>9</i>	-97.9	-97.9	820.6	-155.0	-143.5	-97.9	-97.9	-64.9
2 2 2 2 2 2 E	235252	=====	400000	=====	#=====	*****	======	======	******	24424	- A D 4 - 1	=======	.0	9.00	===== 0.	-6/12.0
.0	3966.7	0.	.0	. D	ð.	4042.5	.0	.0	.0	.0	1696.1	.D				
.0	.0	.70	.0	0	.0	.0	.0	.0	.0	, ө	.0	.0	.0	.0	.0	.0
.0	. 0	.0	.0	.0	.0	.0	.0	.0	.0	Q	1696.1	. €	.0	.0	.0	0,
.ŏ	3866.7	. 0	.0	.0	.0	4042.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	
.0	.0	.0	.0	. 0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	15324.2
97.9	4667.6	97.9	97.9	91.2	1,55 , 0	6295.1	97.9	97.9	97.9	97.9	875.4	155.0	143.5	97.9	97.9	-6647.0
	.0		.0	.0	.9	.0	.0	.0	.0	.0	.0	. 6	.0	.0	.0	.0
.0	ě	o.	.0	.0	.0	,ŏ	, o	, o	.0	.0	784.2	-0	.0	. 0	.0	.0
.0	4569.7	.0	.0	.0	.0	6151.6	.0	.0	.0	.0	.0	.0	.0	.0		12186.0
97.9	97.9	97.9	97.9	91.2	155.0	143,5	97.9	97.9	97.9	97.9	91.2	155.0	143.5	97.9	97.9	97.9
ó	.0	.0	.0	.0	. 0	.0	. 0	.0	.0	.0	.0	-0	.0	.0	.0	18930.9
-358.3	-429.0	-460.9	-492.B	524.7	-556.6					-715.6	-715.6	-715.6	-715.6	-715.6	-715.6	-788.7
=====	P=====		***	======	======	GBH===			======	======	**====	2222XE	202215	1435.1	1435.1	1636.6
946.5	1188.3	1198.3	1188.3	1188.3	1188.3	1435.1	1435.1	1435.1	1435.1	1435.1	1435.1	1435.1	1435.1	143.5.1		
26.9	40.7	40.7	40.7	40.7	40.7	53.8	53.8	53.B	53.B	53.8	53.8	53.0	53.8	53.B	53.8 369.9	38.8 459.2
184.9	277.6	277.6	277.6	277.6	277.6	369.9	369.9	369.9	369.9	369.9	369.9	369.9	369.7	369.9	1011.5	1138.6
734.7	870.0	870.0	870.0	870.0	870.0	1011.5	1011.5	1011.5	1011.5	1011.5	1011.5	1011.5	1011.5	1011.5	1011.3	1130.5
1304.8	1617.3	1649.2	1681.1	1713.0	1744.9	2150.8	2150.8	2150.8	2150.8	2150.8	2150.8	2150.B	2150.0	2150.8	2150.8	2425.3
							75,6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6	
41.1	56.8	56.8	56.8	56 B	56.8 420.2	75.6 560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	672.8
315.2	420.2	420.2	420.2	420.2 753.4	753.4	96B.7	968.7	968.7	968.7	969.7	968.7	968.7	968.7	969.7	968.7	1151.2
593.5	753.4	753.4	753.4	482.6	514.5	546.4	546.4	546.4	546.4	546.4	546.4	548.4	546.4	546.4	546.4	546.4
355.0	386.9	418.8	450.7	482.0	21.41.3	270.7	2,5.1			-						817.2
744 7	435.7	500.0	583.4	659.7	737.6	817.2	817.2	817.2	817.2	817.2	817.2	B17.2	817.2	817.2	917.2	
364.3	433.7	>40.0	303.4	======	======	*=====	=====	*****	****	3±====	======	=====	======	202274	gi7.2	
364.3	435.7	508.8	583.4	659.7	737.6	817.2	817.2	817.2	B17,2	917.2	817.2	817.2	817.2	017.2		
						3785.4	1630.7	1630.7	1630.7	1630.7	712.2	1687.9	1676.3	1630.7	1630.7	
820.6	1665.7	1967.5	1174.1	1275.6	1449.2	204.7	75.6	64.9	55.6	47.7	17.9	36.3	30.9	25.8	22.1	
111.5	194.1	106.7	100.4	93.8	16.6		16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6
16.6	16.6	16.6	16.6	14.6	10.0	16.0	70.0	.0.0								

	2000	2001	2002	2003	2004	2095	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1999	2000	2001	2002							-88.1	829.8	~139.5	~129.1	-88.1	-88.1	134.9
	-869.3	-88.1	~89.1	-82.1	~139.5	-2472.6	-88.1	-88.1	e0-1	-00.1	527.0	*****	****	*******	*****	*=====
-88.1	-89A'2	-DO.1	======	£===##	성도국고조국	돌중류기부족	=======	======	.0	.0	1696.1	.0	.0	.0	.0	-7125.5
	4296.3	.0	.0	.0	.0	4491.6	.0	.0								
.0	4270.5							.0	.0	٥.	.0	.0	.0	.0	.0	.0
.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1676.1	. 0	.0	.0	.0	0,
.0	. ŏ	ě	, e	.0	.0	.0	.0	.0	.0	.ĕ	.0	. Đ	.0	.0	.0	9569.1
.0	4296.3	.o	.0	. 0	.0	4491.6	.0	.0	. ĕ	.0	.0	.0	.0	.0	.0	16674.6
.0	.0	. 0	.0	.0	.0	۰.	.0	.0							00.1	- 7260 . 4
			60.1	82.1	139.5	6964.2	88.1	88.1	88.1	88.1	866.3	139.5	129.1	60.1		
89.1	5165.6	88.i	88.1							.0	, 0	.0	.0	.0	.0	. 0
				.0	.0	.0	.0	.0	.0		784.2	, e	.0	.0	.0	.0
.0	.0	.0	.0 .0	.0	.0	.0	.0	.0	.0	,0 .e	0	, õ	.0	.0	.0	13540.0
.0	.0	.0	.0	.0	.0	6835.1	.6	.0	.o 1.8B	88.1	82.1	139.5	129.1	88.1	88.1	88.1
.0	5077.5	.0	88.1	82.1	139.5	129.1	1.88	88.1	1.88	.0	.0	0.	.0	o.	.0	20888.4
88.1	88.1	gB, i	.6	.0	.0	.0	۔0	.0	.0	. 0	. •					_
, Θ	.0	٥,	.0				•		(07.3	-697.2	-697.2	-697.2	-697.2	697.2	-697.2	-776.4
	-		-475.7	_< a.a. a	-533.1	-697.2	-697.2	-697.2	697.2	=======	####==	220777	21 p = = = =		**====	E## 515 F
-348.1	-418.3	-447.0	-4(),(APR = = =	======	1224T	#42===	22222	=====	1501.2	1501.2	1501.2	1501.2	1501.2	1501.2	1716.8
35F=FF	=====		1238.7	1230.7	1238.7	1501.2	1501.2	1501.2	1501.2	1301.2					====	
981.0	1238.7	1238.7	1230.1							53.8	53.8	53.9	53.8	53.B	53.8	38.8
			40.7	40.7	40.7	53.8	53.8	53.0	53.8 369.9	369.9	369.9	369.9	369.9	369.9	369.9	459.2
26.9	40.7	40.7	277.6	277.6	277.6	369.9	369.9	369.9	1077.6	1077.6	1077.6	1077.6	1077.6	1077.6	1077.6	1218.8
184.9	277.6	277.6	920.3	920.3	920.3	1077.6	1077.6	1077.6	1077.0	10.,.0						2493.2
770.0	920.3	920.3	720.5				5. 55 A	2198.4	2198.4	2198.4	2178.4	2198.4	2198.4	2198.4	2198.4	2473.2
1.7300 O	1657.0	1685.7	1714.4	1743.1	1771.8	2178.4	2198.4	2170.7						2E 4	75.6	54. <i>9</i>
1329.9	1001.0	100277					75.6	75.6	75.6	75.6	15.6	75.6	75.6	75.6 560.0	560.0	472.8
41.1	56.8	56.8	56.8	56.8	56.8	75.6	5,0.0	560.0	540.0	560.0	560.0	560.0	560.0 1071.0	1071.0	1071.0	
315.2	420.2	420.2	420.2	420.2	420.2	560.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	491.7	491.7	491.7	491.7
654.1	831.B	831.8	831.8	831.8	831.8	1071.0	491.7	491.7	491.7	491.7	491.7	491.7	471.7	47121	••••	
319.5	348.2	376.9	405.6	434.3	463.0	491.7	471.1	.,,				F	735.5	735.5	735.5	735.5
317.3	340.2	0,					735.5	735.5	735.5	735.5	735.5	735.5	. 22222	======	202022	
327.9	392.2	457.9	525.i	593.7	663.9	735.5		SEM===	arees.	±====	42222F	735.5	735.5	735.5	735.5	735.5
321.7	17212	******	=====	======		735.5	735.5	735.5	735.5	735.5	735.5	733.3	133.3	,,,,,		
327.9	392.2	457.9	525.1	593.7	463.9	133.2	,,,,,,					1572.2	1561.8	1520.8	1520.8	1377.0
321.7	3,2.2					700F 7	1520.8	1520.8	1520.B	1520.8	602.9	30.6	25.9	21.6	18.4	
764.1	1679.7	993.0	1088.9	1180.2	1336.5		65.0	55.6	47,5	40.5	13.7	17.1	17.1	17.1	17.1	
78.5	184.9	93.4	97.5	81.0	78.3	17.1	17.1	17.1	17.1	17.1	17.1	17.1		,,,,,		
17.1	17.1	17.1	17.1	17.1	17.1	17,1										
17.1	11															

Appendix 7.4 FINANCIAL ANALYSIS FOR THE F/S ON THE RAILWAY IMPROVEMENT IN KAMPUNG BANDAN STATION AREA

Financial Analysis Base Case (Unit: MIL RP.)

									1501		1007	1997	1000
	1986	1987	1988	1989	1990	1991	1992	1993	1640.5	1995	1996	2421.7	1998
OPERATING REVENUE					271.6	8.813	956.0						
DEFERATING EXPENSE	.0	.0	.0	.0	760.0	760.0	890.4	890.4	890.4	1006.9	1006.9	1006.9	1006.9
PERSONNEL COST ENERGY COST HAINT. COST	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0	23.0 104.9 630.1	23.0 106.9 639.1	30.7 149.8 709.9	30.7 149.8 709.9	30.7 149.8 709.9	26.9 190.4 789.4	26.9 190.4 789.6	26.9 190.4 789.6	26.9 190.4 789.6
OPERATING PROFIT PRE DEFR.	.0	.0	.0	.0	-488.5	-146.2	65.7	407.9	750.1	975.9	1195.3	1414.8	1634.3
DEPRECIATION	. 9	.0	.0	.0	443.3	443.3	534.5	534.5	534.5	625.6	625.6	625.6	825.8
OPERATING PROFIT AFR DEPR.	.0	9.	.0	.0	-931.B	-589.5	-468.8	-126.6	215.7	350.3	569.7	789.2 386.0	367.2
INTEREST ON TOTAL ASSETS	٠.0	, ė	.0	.6	367.0	353.7	406.0	390.0	374.0 -158.3	423.5	404.8 165.0	403.2	641.5
NET PROFIT	.0	0. =====	0. ====	0. ∓⊐≃⊄¤₽	-1298.8	-943.3 	-874.8	-516.5	#######	=====	*****	#=====	Z=====
WORKING RATIO CUM WORKING RATIO OPERATING RATIO CUM OPERATING RATIO	.00 .00 .00	.00 .00 .00	.00 .00 .00	.00 .00 .00	2.80 2.80 4.43 4.43	1,24 1,72 1,96 2,72	.93 1.31 1.49 2.98	1.05 1.10 1.67	.54 .88 .87	.51 .77 .82 1.23	.46 .69 .74 1.11	.42 .63 .67 1.92	.38 .59 .62 .94
1NAE ZIMENI	286.0	112.0	3132.0	3634.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	٠.٥	.0
FOREIGN TOTAL	266.0	112.0	2183.0	2539.0	5533.2	.0	2278.4	0.	.0	2278.4	Ø.	9.	9.
LOCAL TOTAL	.0	.0	949.0	1096.0	.0	۰,0	.0	.0	.0	.0	.0	.0	.0
CIVIL WORK	230.0	59.0	2473.0	2646.0	.0 0	9. 9.	.0	.0	.0				.0
FOREIGN CURRENCY LOCAL CURRENCY	230.0	59.0 .0	1694.0 779.0	1806.0 840.0	.0	. 6	.0	.0	.ě	. 0	.0	, 0	.0
KOJSJST & JANDIZ	36.0	53.0	659.0	988.6	.0		.0	.0	.0	0		.0	
FOREIGN CURRENCY LOCAL CURRENCY	36.9 .0	53.0 .0	489.0 170. 0	732.0 256.0	.0	.0	.0	.0	.0	.0	.6	.0	.0
ROLLING STOCK	.0	.0	.0	.0	5533.2	.0	2278.4	.0	.0	2278.4	.0		.0
FOREIGN CURRENCY LOCAL CURRENCY	. 0	.0	.0	.0 .0	5533.2 .0	, 0 , 0	227B.4	.0	.0	2278,4 ,0	.0	.0	.0
-SALVAGE VALUE	. 0	.0	.0	.0	.0	.0	.0	. 6	. 0	, 0	.0	.0	.0
INT. DURING CONST.	7.0	12.6	71.7	160.7	.0	.0	.0	.0	. 0	.0	.0	.0	.0
FINANCE PROGRAM		•									4	à	.0
HORROWING REPAYHENT BALANCE INYEREST	273.0 .0 273.0 .0	124.6 .0 397.6 .0	3203,7 ,0 3601,3 ,0	3794.7 0 7396.0 0	7396.0 187.3	7396.0 187.3	6. 0. 7396.0 187.3	.0 .0 7396.0 187.3	.0 .0 7396.0 187.3	.0 .0 7396.0 187.3	13.7 7382.3 186.9	19,9 7362.4 186.3	132.6 7229.8 182.6
FINANCE IN FOREIGN CCY													.0
Borrowing Repayhent Ralance Interest	273.0 .0 273.0 .0	124.6 .0 397.6	2254.7 .0 2652.3	2698.7 .0 5351.0 .0	.0 .0 5351.0 187.3	.0 .0 5351.0 187.3	.0 .8 5351.0 187.3	.0 .0 5351.0 197.3	.0 .0 5351.0 187.3	.0 .0 5351.0 187.3	13.7 5337.3 186.9	.0 19.9 5317.4 186.3	132,6 5184.8 182.6
FINANCE IN LOCAL CEY 1		•				_	σ'		٥	0	.0	.0	. 6
BORROWING REPAYMENT BALANCE INTEREST	.0 .0 .0	.0 .0 .0	949.0 .0 949.0 .0	1096.8 .0 2045.0 .0	.0 .0 2045.0 .0	.0 2045.0 .8	2045.0 .0	.0 .0 2045.0 .0	.0 .0 2045.0	.0 .0 2045.0 .0	2045.0	.0 2045.0 .0	.0 2045.0 .0
FINANCE IN LOCAL CCY 2 FORROWING REPAYMENT BALANCE INTEREST	.0	. 0 . 0 . 0	.0	.0	.0	.0	.0	.0	.0	.0 .0 .0	.0	.0	.0
CASHFLOW PROJECTION										•			
CV2H IM	273.0	124.6	3203.7	3794.7	-488.5	-146.2	65.7	407.9	750.1	975.9	1195.3	1414.8	1634.3
GPERATING PROFIT AFR DEPK. DEPRECIATION BORROWING	.0 .0 273.0	.0 .0 124.6	.0 .0 3203.7	.0 3794.7	-931.8 443.3 .0	-589.5 443.3 .0	-468.9 534.5 .0	-126.6 534.5 .0	215.7 534.5 .0	350.3 625.6 .0	569.7 625.6 .0	789.2 625.6 .0	625.6 .0
CASH OUT	273.0	124.6	3203.7	3794.7	5720.4	187.3	2465.6	187.3	187.3	2465.6	200.6	206.2	315.2
INVESTHENT INI. DURTHG CONST. REPAYHENT INTEREST	266.0 7.0 .0 .0	112.0 12.6 .0	3132.0 71.7 .0	3634.0 160.7 .0	5533.2 .0 .0 187,3	.0 .0 .0 187.3	2278.4 .0 .8 187.3	.0 .0 .8 187.3	.0 .0 .0 187.3	2278.4 .0 .0 187.3	.0 .0 13.7 186.9	.0 .0 19.9 106.3	.0 132.6 182.6
NET CASHFLOW	.0	.0	.0		-6208.9		-2400.0	220.6	克莱尔特克森	-1469.B	994.8	1208.7	1319.1
CUH NET CASHFLOW	.0	.0	.0	.0	-620B.9	-6542.4	-8942.4	-8721.7	-8158.9	-9648.7	~8653.9	-7445.2	-6126.2

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
2840.7	3080.2	3299.6	3519.1	3738.6	3958.1	4172.4	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6
1006.9	1266.5	1246.5	1246.5	1266.5	1246.5	1531.8	1531.8	1531.8	1531.8	1531.0	1531.8	1531.8	1531.8	1531.8	1531.8	1750.0
26.9	40.7	40.7 285.0	40.7	40.7 285.8	40.7 285.8	53.8 380.9	53.6 380.9	53.8 380.9	53.8 380.9	53.8	53.B 380.9	53.8 380.9	53.8 380.9	53.8 380.9	53.8 380.9	38.8 472.8
789.6	940.0	940.0	940.0	940.0	940.0	1097.2	1097.2	1097.2	1097.2	1097.2	1097.2		1097.2		1097.2 2649.8	1239.4 2422.6
1853.8 625.6	797.4	797.4	797.4	797.4	797.4	977.1	977.1	977.1	977.1	977.1	977.1	977-1	977,1	2640.B 977,1	977.1	1138.6
1228.2	1016.2	1235.7	1455.2	1674.8	1894.1	1663.7	1663.7	1663.7	1463.7	1663.7	1663.7		1663.7	1663.7	1663.7	1284.0
348.5	453.4	429.5	405.6	381.7	357.7	463.2	433.9	404.6	375.2	345.9	368.7	339.4	310.1	200.9	251.4	504.4
679.7	562.8	806.2	1049.6	1293.0	1536.4	1200.5	1227.8	1259.1	1288.5	1317.8	1295.0	1324.3	1353,6	1302.9	1412.3	779.7
.35	.41	.38	.36	.34	.32	.37	.37	.37	.37	,37	.37	.37	.37	.37	.37 .41	. 42
.55 .57	.53 .67	.51 .63	. 49 . 59	.47 .55	.45 .52	.44	.43	.43	.42	.42	, 42 , 40 , 48	.41 .60 .67	.41 .60 .67	.41 .60 .66	.60	.69
.88	.85	.82	.79	.76	.73	.72	.70	. 70	. 69	. 48	,00	.01	.81	.00		
.0	4298.3	0. ****	.0 =====	0.	Ø.	4491.6		0. ======	.0 ======	.0. 	1736.0	.0	0, **====	0. ======	0. ======	9569.1 ====== 9569.1
0.	4294.3	.0	.0	.0	.0	4491.6	.0	.0	.0 .6	.0	1310.0 426.0	.0	.o.	.0	.0	7504.1
.0	.0	.0	.0	.0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0	0,	.0
.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0 .0	.0	.0	.0	.0
.0	.0	.0	.0	.0	.υ .υ	.0	.9	.8	.0	.0	1736.0	, 0	.0	.0	.0	.0
	.0		.0			.0	.0	.0	.0	.e 0.	1310.0	, o 0 ,	.0	.0	.0	.0
.0	.0	.0	.0	.0	.0	6,	.0	٥.	0. 0.	.e.	420.0 ÷.	.0			.0	9569.1
.0		.0	.0	.0	0. 0,	4491.6	.0		.0	.9	.0	0	.0	.0	.0	9569.1
.0 .0		ø. ø.			.0	.0	.0	.0	.0	.0	.0	e. e.			ه.	16812.0
.0	.0	. 0	.0	.0	.0	.0	.0	.0		٥.	. 0	.0		0	.0	.0
.9	.0	.0	.0	.0	.0	.0	.0								-	
																.0
.0 267.5	.0 267.5	.0 247.5	.0 267.5	.0 267-5	.0 267.5	.0 267.5	.0 267.5	.0 267.5	.6 267.5	267.5	267.5	.0 267.5 3751.7	.0 267.5 3484.1	267.5	.0 267.5 2949.0	267.5 2681.5
6962.3 174.4		8427.2 155.7		5892.1 137.0	5624.5	5357.0 118.3	5087.4 108.9	4821.9 99.5	4554.3 90.2	4286.B 80.8	71.4	62.1	52.7		34.0	24.6
													٥	.0	.0	.0
.0 267.5	.0 267.5	.0 267.5	.6 267.5	.0 267.5	.0 267.5	.e 267.5	.0 267.5	.6 267.5	.0 267.5	.0 267.5	.0 267.5 1974.2	.0 267.5 1706.7	.6 267.5 1439.1	267.5	267.5 904.0	267.5 636.5
4917.3		4382.2 155.7	1114.6	3847.1 137.0	3579.5 127.6	3312.0 118.3	3044.4 100.9	2776.9 99.5	2509.3 90.2	90.3	71.4	62.1	52.7		34.0	24.6
													. a	.0	. 0	.0
<i>0</i> . 0.	<i>9.</i> 0.	.0 .0	.0	.0	.0	, 0 , 0	.0	.0 .0	.0	0.	0. 0.	.0 .0 2045.0	.0 2045.€	.0	.0	2045.0
2045.0	2045.0	2045.0	2045.0	2045.0 .0	2045.0 .0	2045.0	2045.0 .0	2045.6	2045.0	2045.0	.0	.0	.0		.0	.0
												_	,	0	.0	.0
.0	.0	.0	.0	.0	.0	.0 .0	0,	.0 .0	. 0	.0	.0	.0 .0 .0	. 6 . 6	. 0	0. G.	
.0 .0 .0	.0 .0 .0	0. 0. 0.	.0	.0	.0	.0	.0 ,0	.0	.0	.0	.0	.0	. 6		.0	, в
.0		**				•										
			2252.8	2422.3	2691.6	2640.8	2540.8	2640.B	2540.8	2640.8	2640.8	2640.8	2640.6	2640.8		
		1235.7			_	1663.7	1663.7	1663.7	1063.1	1663.7	1663.7	1663.7	977.1		977.1	1284.0
1228.2 625.6 .0	1016.2 797.4 .0	797.4	797.4	797.4	797.4		977.1	977.5 .0	977.1	.0	.0	.0	720			.0 -6950.7
442.0	4729.0	423.3	413.9	404.5	395.2	4877.4	376.4	367.1	357.7	348.4		.0	328.3	· · ·		-7242.9
.0	4296.3	.0	.0	.0	.0	4491.5	.0	.0	.0	.0 .0 267.5	1736.0 0 267.5	.0 .0 267.5	267.5	267.5	.0 267.5	.0 267.5
267.5	267.5	.0 267.5 155.7	144.4	267.5 137.9	247.5 127.6	267.5 118.3	267.5 108.9	267.5 99.5	70,2	80.8	71.4	: 82.1	52.7	43.3	34.0	
174.4				2047 5	2204.4	-2236.6	2264.4	2273.7	2283.1	2192.5	545.8	****		2329.9 2529.9 14587.4	322528	26300.0
-4714.4	-7629.7	-6019.9	1838.7 -4181.1	-2113.6	182.8	-2053.8	210.5	2484.3	4767.4	7059.9	7625.7	4490.4	*****			

Financial Analysis Case 1 (Unit: MIL RP.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1998	1997	1998
OPERATING REVENUE	.0	.0	.0		271.6	613.8	956.0	1298.3	1640.5	1982.8	2202.2	2421.7	2641.2
OPERATING EXPENSE	.0	.0	.0	.0	760.0	740.0	890.4	890.4	890.4	1004.9	1004.9	1004.9	1004.9
PERSONNEL COST ENERGY EOST MAINT, COST	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0	23.0 104.9 630.1	23.0 106.9 630.1	30.7 149.8 709.9	30.7 149.8 709.9	30.7 149.8 709.9	24.9 190.4 789.6	26.9 190.4 789.6	26.9 190.4 789.6	26.9 190.4 789.6
OPERATING PROFIT PRE DEPR.	.0	.0	.0	.0	-488.5	-146.2	65.7	407.9	750.1	975,9	1195.3	1,414.B	1634.3
DEPRECIATION	.0	.0	.0	.0	443.3	443.3	534.5	534.5	534.5	625.6	625.6	625.6	625.6
OPERATING PROFIT AFR DEPR.	.0	.0	.0	.0	-931.8	-509.5	-448.8	-126.6	215.7	350.3	569.7	789.2	1008.7
INTEREST ON TOTAL ASSETS	.0	.0	. 0	.0	367.0	353.7	406.0	390.0	374.0	423.5	404.8	386.0	367.2
NET PROFIT	.0	0. *******	.0	.0	-1298.8	~943.3	-874.8	-516.5	~150,3 =====	-73.3	165.0	403.2	641.5
WORKING RATIO CUH WORKING RATIO	.00	.00	.00	.00	2.80 2.80	1.24 1.72	.93 1.31	.69 1.05	.54 .88	.51 .77	. 46 . 69	.42 .63	.38 .59
OPERATING RATIO CUM OPERATING RATIO	.00	.00	.00 .00	.00	4,43 4,43	1.96	1.49 2.08	1.10	.87 1.40	.82 1.23	1.11	1.02	.62 .94
INVESTMENT	286.0	112.0	3132.0	3634.0	5533.2	<i>0.</i>	2278.4	٠٠. •••===	.0	2278.4	ø. =====	0. ======	Ø.
FOREIGN TOTAL LOCAL YOTAL	246.0 .0	112.0	2183.0 949.0	2538.0 1096.0	5533.2 .0	.0 .0	2278.4 .0	.0	. 0 . 0	2278.4 .0	.0	.0	.0
CIVIE MORK	230.0	59.0	2473.0	2646.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FOREIGN CURRENCY	230.0 .0	59.0 .0	1694.0 779.0	1805.0 840.0	.0	.0	.0	.0 .0	.0	.0	.0	.0 .0	.0
SIGNAL & TELECOH	36.0	53.0	659.0	988.0	.0	.0	.0	.0	٥.	.0	.0	.0	.6
FOREIGN CURRENCY LOCAL CURRENCY	36.9 .0	53.0	489.0 170.0	732.0 256.0	.0 .0	.0 .0	.0	.0	. 0 . 0	.0 .0	.0	.0	.0
ROLLING SIDCK	. 0	.0	.0	.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	. 0	.0
FOREIGN CURRENCY LOCAL CURRENCY	.0	.0	.0	.0	5533.2 .0	.0	2278.4	.0	.0	2278.4 .8	.0	.0	.0
-SALVAGE VALUE	.0	.0	.0	.0	. 0	.0	.0	.0	.0	.0	.0	.0	.0
INT, DURING CONST.	7.0	12.6	132.0	322.2	.0	.0	.0	.0	.0	.θ	.0	.0	.0
FINANCE PROGRAM FINANCE TOTAL													
NORROWING REPAYMENT MALANCE INTEREST	273.0 .0 273.0	124.6 .9 397.6	3264.0 .0 3661.6 .0	3956.2 .0 7617.9 .0	.0 7617.9 392.6	.0 7617.9 392.6	.0 69.1 7529.7 381.6	.0 207.4 7321.3 352.2	207.4 7113.9 318.0	207.4 6906.5 283.8	.0 221.1 6685.5 249.2	.0 227.3 6458.2 214.4	.0 250.9 6297.3 197.5
FINANCE IN FOREIGN CCY													
BORROWING	273.0	124.6	2254.7	2698.7 .0	.0	.0	.0	.0 .0	.0	.0	.0 13.7	.0 19.9	.0 132.6
REPAYMENT BALANCE INTEREST	273.0	397.6 .0	2652.3	5351.0	5351.0 187.3	5351.0 187.3	5351.0 187.3	5351.0 187.3	5351.0 187.3	5351.0 187.3	5337.3	5317.4 186.3	5184.8 182.6
FINANCE IN LOCAL CCY 1				,									
Porrowing Repayment Balance Interest	.0	.0 .0 .0	474.5 .0 474.5	548.0 .0 1922.5 .0	.0 1022.5 .0	.0 .0 1022.5 .0	.0 1022.5 .0	.0 1022.5	.0 .0 1022.5	1022.5	.0 .0 1022.5 .0	.0 1022.5	.0 .0 1022.5 .0
FINANCE IN LOCAL CCY 2		•											
RORROWING REPAYMENT RALANCE INJEREST	.0 .0 .0	.0 .0 .0	534.8 .0 534.8 .0	709.6 .0 1244.4 .0	.0 1244.4 205.3	.0 1244.4 205.3	.0 89.1 1155.3 194.3	.0 207.4 947.9 165.0	297.4 740.5 130.7	.0 207,4 533.1 96.5	207.4 325.7 62.3	.0 207.4 118.3 28.1	.9 118.3 .9 4.9
CASHFLOW PROJECTION													
CASH IN	273.0	124.6	3264.0	3958.2	-488.5	-146.2	65.7	407.9	750.1	975.9	1195.3		1634.3
OPERATING PROFIT AFR DEPR. DEPRECIATION BORROWING	.0 .0 273.0	.0 .0 124.6	.0 .0 3264.0	.0 .0 3956.2	-931.8 443.3 .0	-589.5 443.3 .0	-468.8 534.5 .0	-126.6 534.5 .0	215.7 534.5 .0	350.3 62 5. 6	569.7 625.6 .0	789.2 625.6 .0	1008.7 625.6 .0
CASH OUT	273.0	124.6	3244.0	3956.2	5925.8	392.6	2749.1	559.6	525.4	2769.6	470.3	441.6	438.4
INVESTMENT	266.0	112.0	3132.0	3634.0	5533.2	.e	2278.4	.0	.0	2278.4 .0	.0	.0	.0
INT, DURING CONST. REPAYMENT INTEREST	.0	.0	.0	.0	392.6	392.6	381.6	207.4 352.2	207.4 318.0	2 0 7.4 283.8		227.3 214.4	250.9 187.5
NET CASHFLOW	.0	.0	0.		~6414.2	******		-151.7	三甲酸医学	=====	725.1		1195.9
CUM NET CASHFLOW	.0	.0	.0	.0	-6414.2	-6953.0	-9636.5	-9788.2	-9563.4-	11357.1-	10632.1	-9658.9	-8463.9

1999	2000	2001	2002	2003	2004	2005	2003	2007	2008	2009	2010	2011	2012	2013	2014	2015	
2860.7	3080.2	3299.6	3519.1	3730.6	3958.1	4172.6	4172.6	4172.6		4172.6	4172,6	4172.6	4172.6	4172.6	4172.6	4172.6	
1006.9	1266.5	1266.5	1266.5	1265.5		1531.8			1531.8				1531.0		1531.0	1750.0	
26.9		40.7	40.7 285.8	40.7	40.7	53.0 380.9	53.8 380.9	B. E? 9.08E	53.6	53.8			53.B	53.8	53.8	30.8	
789.4		940.0	940.0	940.0		1097.2	1097.2			380.9 1097.2			.097.2	380.9 1097.2	380.9 1097.2	472.9 1238.4	
1053.0	• •	2033,1	2252.6	***		2640.В	2640.8						2640.8	8,0445	2640.8	2422.4	
425.4		797.4 1235.7	797.4	797.4 1474.6		977.1	977.1	977.1	977.1	977.1 1663.7	977.1	977.1	977.1	977.1	977.1	1130.6	
348.5		429.5	405.6	381.7		463.2	433.9	404.6		345.9	348,7	339.4	310.1	1443.7	251.4	504.4	
679.7		2.268	1049.6	1293.0		1200.5	1229.0	1259.1	1288.5	1317.8			1353.6	1302.9	1412.3	779,7	
.35		.39	.36	. 34		.37	.37		.37	.37	.37	.37	**************************************	.37	.37	. 42	
.55 .57	.53 .67	.51 .63	. 49 .59	. 17 . 55	, 45 , 52	. 44 . 80	. 43 . 60	. 4.5 06.	. 42 . 40	.42	. 42	. 41	.37 .41 .60	.41	.41	. 41 . 69	
.88	.85	.82	.79	.76	. 73	.72	. 70	. 70	. 59	88.	.68	.67	.67	.66	. 66	.56	
.0 ===.uu.		0. ==n#e=	0.	0.		4491.6	.0.			.0			.0	0.	0.	9559.1	
.0	4295.3 .0	. 0 . 0	.0	.0		4471.6 .0	.0	.0 .0		.0		.0 .0	.0	.0	.0	7569.1 .0	
.0	.0	.0	.0	.0		.0	.0	.0		.0	.0	.0.	.0	.0	.0	.0	
.0		.0	.0	. 0 . 0		.0	.0	.0 .0		.0			.0	.0.	.0	.0	
.0		٥.	.0	.0	.0	.0	.0	.0	٥.	.0		.0	.0	.0	.0	.0	
.0		.0	.0	.0		.0	.0	.0		.0		.0	.0	.0	.0	.0	
.0		.0	.0	.0	.0	4491.6	.0	. 0	.0	.0	.0	.0	.0		.0	9559.1	
.0	4296.3	.0	.0	.0		4491.6	.0			.0			.0.		.0	9569.1	
.0	.0	.0	.0	.0		٥.	.0	.0		.0			.0			16812.0	
.0	.0	. 0	. 0	.0		.0	.0	.0		.0	.0	.0					
																-	
.0	.0	.0	.0	. 0	.0	.0	.0	.0	.0	.0	.0	.0	. 0	.0	a,	.0	
267.5 5939.8	267.5 5672.2	:67.5 5404.7	267.5	267.5 4869.6	267.5 4602.0	267.5 4334.5	267:5 4066.9	357.5 3799.4	267.5 3531.8	267.5 3264.3	267.5 2996.7	767.5 2729.2	267.5 2461.6 52.7	267.5 2194.1 43.3	287.5 1928.5 34.0	267.5 1859.0 24.6	
174.4	165.1	155.7	146.4	137.0	127.6	118.3	100.9	99.5	95.2	8.00	71.4	62.1	34-1	4.7.0	31.0	,	
.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	. 0	. 0	.0	.0	.0 267.5	.0 257.5	.0 267.5	
267.5 4917.3	267.5 4649.7	267.5 4382.2	267.5	267.5 3847.1	267.5 3579.5	267.5 3312.0	267.5 3044.4	267.5 2776.9	267.5 2509.3 70.2	267.5 2241.8 80.8	267.5 1971.2 71.4	267.5 1705.7 62.1	267.5 1439.1 52.3	1171.6	901.0 34.0	636.5 24.6	
174.4	165.1	155.7	146.4	137.0	127.6	110.3	108.9	99.5	70.2	av.6	73.4	02.1					
۰,۵	.0	.0	.0	.0	.0	.0	.0	ö,	.0	ø.	ą.	٥.	.Q .0	.0	.0	.0	
0. 1022.5	.0 1022.5	1022.5	.0 1022.5	1022.5	1022.5	.0 1022.5 .0	0. 1022.5 0.	.0 1022.5 .0	.0 1022.5 .0	.0 1022.5 .0	1022.5 0	.0 1022.5 .0	1027.5		1622.5	1022.5 .6	
,0	.0	.0	.0	.0	.0	,0	.•		.,								
σ, `	.6	.0	.0	.0	.0	٠,٠	.0	.0	.0	.0	.0	.0	.0	.0	0,	. o . o	
.0	.0	0. 0.	0.	d, 0,	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0	.0	.0	.0	.o. 0.	.0	.0	.0	
.0	. 0	.0	.0	.0													
					2691.6	2/45 P	7146 0	9848 B	2840.8	2540.8	2640.8	2640.8	2640.8	2640.8	2640.B	2422.6	
1853.0			2252.6 1455.2		1894.1	1663.7	1363.7	1665.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7 977.1	1663.7		
1228.2 625.6 .0	1016.2 797.4 .0	797.4	797.4	797.4	797.4	977.1	977.1	977.1	977. i . 0	977.1	977.1	977.1	.0	.0	.0	.0	
442.0	4729.0	423.3	413.9	404.5	395.2	4877.4	376.4	367.1	357.7	340.4		329.6	320.3	310.9		-6950.7 -7242.9	
.0	4296.3	0,	.0	0	.0	1491.6	.0	.0	.0 0.	.0 .0	1736.0 .0 267.5	.0 .0 267.5	0, 0, 267,5			0	
267.5 174.4	267.5 165.1	267.5 155.7	267.5 146.4	267.5 137.0	267.5 127.6	267.5 118.3	267.5 100.9	257.5 99.5	267.5 90.2	267.5 80.8	71.4	62.1	52,7	43.3	34.0	24.6	
LALE R	-2915.3	1607.7	1830.7	2067.5	2296.4	-2236.5	2284.4	2273.7	2283.i	2292.5	======	2311.2	はまけまざり	2329.9 manes 12250.6	Sumpre	9373.3 ===== 23963.2	
7051.2	-9986.5	B356.6	4517.9	 -4450.4	-2154.0	-4390.6	-2126.2	147.5	2430.6	4723.1	5288.9	7600.1	1120,1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	. ,,		

Financial Analysis Case 2 (Unit: MIL RP.)

•								1007	1004	1995	1998	1997	1998
	1986	1987	1988	1989	1990	1991	1992	1993	1994		2202.2	2421.7	2641.2
OPERATING REVENUE	.0	.0	.0	.0	271.6	8.514	954.0	1298,3	1640.5	1982.8	2202.2		
OPERATING EXPENSE	.0	.0	. 0	.0	760.0	760.0	890.4	890.4	870.4	1006.9	1006.9	1006.9	1006.9
PERSONNEL COST ENERGY COST HAINT. COST	.0 .0 .0	.0 .0 .0	.0	.0 .0 .0	23.0 106.9 630.1	23.0 1.06.9 1.064	30.7 149.8 709.9	30.7 149.8 709.9	30.7 149.8 709.9	26.9 190.4 789.6	26.9 190.4 789.6	26.9 190.4 789.6	26.9 190.4 789.6
OPERATING PROFIT PRE DEPR.	.0	.0	.0	.0	-488.5	-146.2	65.7	407.9	750.1	975.9	1195.3	1414.8	1634.3
DEFRECIATION	.0	.0	. 0	.0	443.3	443.3	534.5	534.5	534.5	625.6	625.6	625.6	625.6
DPERATING PROFIT AFR DEPR.	.0	٥	.0	.0	8. 189-	-589.5	-468.8	-126.6	215.7	350.3	569.7	789.2	1008.7
INTEREST ON TOTAL ASSETS	.0	.0	.0	.0	367.0	353.7	406.0	390.0	374.0	423.5	404.8	386.0	367.2
NET PROFIT	.0	0, *****	0. ======	0, =====	-1298.8	-943.3 =====	-874.8	-514.5 	~158.3 ==≠===	-73.3	165.0	403.2	641.5 ======
WORKING RATIO CUM WORKING RATIO OPERATING RATIO CUM OPERATING RATIO	.00 .00 .00	.00 .00 .00	.00 .00 .00 .00	.00 .00 .00	2.80 2.80 4.43 4.43	1.24 1.72 1.96 2.72	.93 1.31 1.49 2.08	1.05 1.10 1.67	.54 .88 .87 1.40	.51 .77 .82 1.23	.46 .69 .74 1.11	.42 .63 .67 1.02	.38 .57 .62 .94
INVESTMENT	286.0	112.0	3132.0	3634.0	5533.2	0. =====	2278.4	.0	9. *****	2278.4	0. =====	0. *====	**************************************
FOREIGN TOTAL LOCAL TOTAL	266.0	112.0	2183.0 949.0	2538.0 1096.0	5533.2 .0	.0	2278.4 .0	.0	.0	2278.4 .0	. 0 . 0	.0	.0
CIVIL NORK	230.0	59.0	2473.0	2646.0	.0	.0	.0	.0	.0	.0	.6		.0
FOREIGN CURRENCY LOCAL CURRENCY	230.0	59.0	1694.0 779.0	1806.0	. 0	.0	.0	. 0 . 0	.0	. 0 . 0	.0	.0	.0
SIGNAL & TELECON	36.0	53.0	459.0	988.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FOREIGH CURRENCY LOCAL CURRENCY	36.0	53.0	489.0 170.0	732.6 256.6	.0	.0	.0 .0	.0	.0	.0	.0	.0	.0
ROLLING STOCK	.0	.0	.0	.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
FOREIGN CURRENCY LOCAL CURRENCY	.0	.0	.0	.0	5533.2 .0	.0	2278.4 .0	.0	. 0 . 0	2278.4 .0	.0 .0	.0	.0
-SALVAGE VALUE	.0	. 0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
INT, DURING CONST.	18.2	33.8	189.1	431.B	.6	.0	в.	.0	.0	.0	.0	.0	.0
FINANCE PROGRAM FINANCE TOTAL		•											
BORROWING REPAYHENT BALANCE INTEREST	284.2 .0 284.2 .0	145.8 .0 430.1	3321.1 .0 3751.2 .0	4065.B .0 7816.9	.0 25.8 7791.1 517.7	.0 39.1 7752.0 514.5	,0 254,7 7497,3 496,4	.0 524.7 6972.5 455.3	524.7 6447.8 408.1	.0 524.7 5923.1 369.8	524.7 5398.4 313.6	.0 524.7 4873.7 266.4	.0 524.7 4348.9 219.2
FINANCE IN FOREIGN CCY													
AORROUINE REPAYHENT BALANCE INTEREST	284.2 .0 284.2 .0	145.8 .0 430.1	2372.1 .0 2802.2	2969.8 .0 5771.9	.0 25.8 5746.1 517.7	39.1 5797.6 514.5	.0 254.7 5452.3 496.4	.6 524.7 4927.5 455.3	.0 524.7 4402.8 408.1	.0 524.7 3878.1 360.8	.0 524.7 3353.4 313.6	524.7 2828.7 266.4	.0 524.7 2303.9 219.2
FINANCE IN LUCAL CCY 1										•			
Borrowing Repayment Balance Interest	_0 .0 .0	.0 .0 .0	949.0 .0 949.0	1096.0 .0 2045.0	.0 .0 2045.0	.0 .0 2045.0 .0	.0 .0 2045.0	.0 .0 2045.0 .0	,0 ,0 2045,6 ,6	.0 .0 2045.0 .0	.0 .0 2045.0 .0	.0 .0 2045.0 .0	.0 .0 2045.9 .0
FINANCE IN LOCAL CCY 2													
DORROWING KEPAYMENT BALANCE INTEREST	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0	.0	0 0	.0 .0 .0	.0 .9 .9	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0
CASHFLOW PROJECTION							••						
CASH IN	284.2	145.8	3321.1	4065.8	-488.5	-146.2	65.7	497.9	750.1	975.9	1195,3	1414.8	1634.3
OPERATING PROFIT AFR DEPR. DEPRECIATION RORROWING	.0 .0 284.2	.0 .0 145.8	.0 .0 3321.1	.9 .9 4065.8	-931.8 443.3	-589.5 443.3 0	-468.8 534.5 0	-126.6 534.5 .0	215.7 534.5 .0	350.3 625.6 .0	569.7 625.6 .0	789.2 625.6 .0	1068.7 625.6 .0
CASH OUT	284.2	145.8	3321.1	4065.B	6076.7	553.4	3029.5	960.0	932.8	3163.9	838.3	791.1	743.9
INVESTHENT INT. DURING CONST. REPAYHENT INTEREST	266.0 18.2 .0	112.0 33.8 .0	3132.0 189.1 .0	3634.0 431.8 .0	5533.2 .0 25.8 517.7	.0 .0 39.1 514.5	2278.4 .0 254.7 496.4	.0 .0 524.7 435.3	.0 .9 524.7 408.1	2278.4 .0 524.7 360.8	.0 .0 524.7 313.6	.0 .0 524.7 266.4	.0 .0 524.7 219.2
NET CASHFLOW	.0 ******	.0 ****** • • • • • • • • • • • • • • • •	0. 0.			-699.8 =**** -7265.6-		-572.1 =x==== 10801.0-	经有或数据表	マロクログロ	357.0 -12814.7-	623,7 ===== 12190.9-	890.4 ====== 11300.5

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2017	2011	0046
2840.7	3080.2	3299.4	3519.1	3738.6	3950.1	4172.6	4172.6				4172.6			2013 4172.6	2014 4172.6	2015
1004.9	1266.5	1266.5	1266.5	1266.5	1266.5	1531.B	1531.8	4524.0	40000				~~~~		~~	
26.9	40.7	40.7	40.7	40.7	40.7	53.8	53.8	1531.8 53.8			1531.6		1531.0	1531.8		1750.0
190.4 789.6			285.8 940.0	285.8 940.0	285.B 940.0		380.9 1097.2	380.9	380.9	380.9	380.9	380.9	380.9 1097.2	380.9	53.8 380.7 1097.2	472.8 1238.4
1853.8			2252.6	2472.1	2691.6		2640.8	2640.8	2640.B		2640.8	2640.8	2440.8	2640.B	2640.8	2422.6
625.6			797.4	797.4	797.4		977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1	1130.6
1228.2			1455.2		1894.1	******		1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1284.0
348.5 879.7			405.6 1049.6	381.7 1293.0	357.7		433.9	404.6	375.2		368,7	339.4	310.1	280.8	251.4	504.4
3213 2 5				840845		1200.5	1229.8	1259.1			1295.0	1324.3	1353.8	1382.9	1412.3	779.7 =====
.35 .55	.53	.51	.36 .49	.34	.32 .45	.44	.37 .43		.37 .42	.37	. 37 . 42	.37 .41	.37	.37	.37	. 42 . 41
.57 .88			.59 .79	.55 .74	,52 .73		. 60 . 70	. 60 . 70	.40 .49	.60	0à. 8à.	08. 78.	.60	06. 28.	.60	.69 .66
.0	4296.3	0	.0	. 0	.0	4491.6		.0	.0	.0	1736.0	.0	.0	.0	.0	9569.1
24222 0.	23222X	ME 3 = 2 %	≠===≠ .0	===== 0.	======	44 484 3	====== 0.	upan:		======	1310.0		.0	 	.0 .0	7567.1 #====# 9569.1
.0		-0	.0	.0	٠0	.0	0	.0	,0	.0	426.0	.0	.0	.0	.0	.0
					.0.		.0.	.0			.0	.0	0	.0		.0
.0			0	.o.	.0		<i>0</i> .	.0	.0	.0 .0	.0	.0	.0	.0 .0	. O	.0
.0	.0	.0	.0	.0	.0	. 0	.0		.0	.0	1736.0	0.	.0	.0	.0	.0
.0		.0	.0	.0	.0 .0		. 0 . 0	.0	.0 .0	.0	1310.0 426.0	.0	.0	.0 .0	.0	.0
. 0	4296.3	.0	.0	.0	.0	4491.6	.0	.0	.0	0	.0	.0	.0	.0	.0	9569.1
.0	4296.3	.0	.0	.0	.0		.0	.0	.0	.0	.0	.0	.0	.0	.0	9569.1
.0		.0	.0	.0	.0		.0		.0	.0	.0	.0	.0	.0		16912.0
.0	.0		.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
															=	
.0 524.7	.0 524.7	.0 498.9	.0 485.∆	.0 270.0	.0	.0	.0	.0	.0 .e	.0	.0	.0	.0	.0	.0	.0 .0
3824.2 171.9	3299.5 124.7	2800.6 79.2	2315.0		2045.0			2045.0 .0		2045.0		2045.0	2045.0	2045.0 ,0	2045.0	2045.0 .0
.0 524.7	.0 524.7	.0 498.9	. მ 4B5 . ბ	.0 270.0	.0	.0	.0	ø.	.0 .0	.o.	.e.	. o . e	.0	.0 .0	.0	.0
1779.2	1254.5	755.6 79.2	270.0 35.2	6.1	.0	.0	.0	.0	.0	.0	.0	.0 .0	.0 .0	.0 .0	.0	.0
.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.e .0	.0	.0	.0	.0
.0 2045.0 .0	2045.0 2045.0	.0 2045.0	.0 2045.0	.0 2045.0 .0	.0 2045.0	2045.0	2045.0	2045.0	2045.0	2045.0	2045.6	2045.0		2045.0	2045.0 .0	2045.0 .0
. •			.0			•										
.0	.0	.0	.0	.0	.0	.0	.0	,0	.0	.0	.0	.0	.0	.0	.0 .0	.0
.0	.0	0. 0.	.0	.0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0 .0	.0 .0	.0	.0 .0	.0	.0	.0	.0	.0
.0	.0	.9	.0	.0	.0					• •						
										2440.0	5/40 0	2440 B	2440 fl	2540.8	2640.B	2422.6
	1813.6				~	2640.8		1663.7	1663.7	2640.8 1663.7	1663.7	1663.7	1663.7	*****	1463.7	
625.6	797.4	1235.7	1455.2	1674.6 797.4	797.4	1663.7 977.1	1663.7 977.1 .0	977.1	977.1	977.1 977.1	977.1	977.1	977.1	977.1 .0		3.0811
0, 7, 898	4745.8	.0 578.1	.0 520.7	.0	.o .e	4491.6	.0	.0	0	.0	1736.0	.0	.0	.0	.0	-7242.9
.0	4296.3	.0	.0	.0	. 0	4491.6	0	.0	.0	.0	1736.0	.0	.0	.0		-7242.9 .0
.0 524.7	0 524.7	.0 498.9	.0 485.6	.0 270.0	.0	.0	.0	.0	.0 .0 .0	.0 .0 .0	0. 0. 0.	.0 .0	.0	.0 .e	.0	.0
171.7	124.7	79.2 1455.0	35.2	6.1		.0 -1850 B	0. B.04AC	2640.9	2146 9	2640 B	204 B	2640.8	2649.8	2640.8	2649.8	9665.5
1157,1 ====== -10143,4-	-3132,1	1455.0	1731.8	2196.0	2671.6 ====== -5201 2	.630.6 .222## -7052.6 -	-4411.2 ·	-1770.3	870.5	3511.3	4= 6 55=	5 T 4 4 4 1		12338.6		
-10143,4-	19512.2-	11020.3-1	Anguin .	1012.1	J20112											

Financial Analysis Case 3

Financial Analysis Case 3 (Unit: MIL RP.)													
				(Unii	: MIL					4005	1004	1997	199B
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1994	2421.7	2641.2
DPERATING REVENUE	.0	.0	. 0.	.0	271.6	613.8	956.0	1298.3	1640.5	1982.6	2202.2	~	
OPERATING EXPENSE	.0	.0	.0	.0	780.0	740.0	890.4	890.4	890.4	1004.9	1004.9	1006.9	1006.9
PERSONNEL COST ENERGY COST WAINT. COST	0	.0	.0 .0	.0	23.0 106.9 630.1	23.0 230.1	30.7 149.8 709.9	30.7 149.8 769.9	30.7 149.8 709.9	26.9 190.4 789.6	26.9 190.4 789.6	26.9 190.4 789.6	26.9 190.4 789.6
OPERATING PROFIT PRE DEPR.	. 0	٥.	.0	. 0	-488.5	-146.2	65.7	407.9	750.1	975.9	1195.3	1414.8	1634.3
DEFRECIATION	.0	.0	.0	.0	443,3	443.3	534.5	534.5	534.5	625.4	625.6	625.6	625.6
OFERATING PROFIT AFR DEPR.	.0	.6	.0		-931.0	-589.5	~468.8	-126.6	215.7	350.3	569.7	789.2	1008.7
INTEREST ON TOTAL ASSETS	.0	. 0	.0	. 0	367.0	353.7	406.0	390.0	374.0	423.5	404.8	386.0	367.2
NET PROFIT	, 0 *******	.0	.0 ⇔=====	.0	-1298.8	-943.3	~874.8 =====	-516.5	-158.3 ======	-73.3	185.0	493,2	541.5
WORKING RATIO	.00	.00 00.	.00	.00	2.80 2.80	1.24	.93 1.31	የል. 1.05	.54 .88	.51	46	. 42 . 63	.38 .59
CUM NORKING RATIO OPERATING RATIO CUM DPERATING RATIO	.00 .00 .00	.00	.00	.00	4.43	1.96	1.49	1.10	.87 1.40	.02 1.23	.74 1.11	1.02	.62 .94
INVESTHENT	266.0	112.0	3132.0	3634.0	5533.2	0.	2278.4	0, =====	.0	2278.4	0.	.0 *****	6.
FOREIGN TOTAL LOCAL TOTAL	266.0	112.0	2183.6 949.0	2538.0 1096.0	5533.2	.0 .0	2278.4	.0	.0	2278.4	.0	.e	.0
CIVIL WORK	230.0	59.0	2473.0	2646.0	. 0	.0	.0	.0	.0	.0	.6	.0	
FOREIGN CURRENCY LOCAL CURRENCY	230.0	59.0	1694.0 779.0	1806.0	.0	.0	.0	.0	.0	.0	.0 .6	.0 .0	.0
SIGNAL & TELECON	9.65	53.0	659.0	988.0	.0	.0	.0	.0	9.	.0	.0	.0	.0
FOREIGH CURRENCY LOCAL CURRENCY	0.8E	53.0	489.0 179.0	732.0 256.0	.0	.0	. 0	.0 .0	. 0 . 0	. 0 . 0	. 0 . 0	.0 . 0	.0
ROLLING STOCK	.0	. 9	.0	.0	5533.2	.0	2278.4	.6	.9	2278.4	.0	. 0	.0
FOREIGN CURRENCY LOCAL CURRENCY	. 9 . 0	.0	.0	.0	5533.2	.0	2278.4	.0 .0	.e .o	2278.4 .0	. 0	.0	.o .o
-SALVAGE VALUE	.0	, θ	. 0	. 0	.0	.0	.6	.0	θ.	.0	.0	.0	.0
INT. DURING CONST.	18.2	33.8	249.5	593.3	.0	.0	· .e	.0	.,0	.0	.0	.0	.0
FINANCE PROGRAM													
FORROWING	284.2	145.8	3381.5	4227.3	.0	.0 39.1	.0 343.9	.:0 732,1	.0 732.1	.9 732.1	732.1	.0 732.1	. 0 გაშ. მ
REFAYHENT BALANCE INTEREST	.0 284.2 .0	, θ 430.1 . θ	3811.5 9.	9038.9 0.0	25.8 8013.0 723.1	7973.9	7630.0 690.7	6897.9 620.2	6165.8 538.8	5433.7 457.3	4701.5 375.9	3969.4 294.5	3326.4 224.0
FINANCE IN FOREIGN CCY													
PORROWING	284.2	145.8	2372.1	2969.8	.0 25.8	.0 39.1	.0 254.7	.0 524.7	.0 524.7	.0 524.7	.0 524.7	.0 524.7	.0 524.7
REPAYMENT FALANCE INTEREST	.0 284.2 .0	.0 430.1 .0	.0 2802.2 0.	5771.9	5746.1 517.7	5707.0 514.5	5452.3 496.4	4927.5 455.3	4402.8 408.1	3876.1 369.8	3353.4 313.6	2828.7 266.4	2303.9
FINANCE IN LOCAL CCY 1													
BORROWING	.0	.0	474.5 .0	548.0	.0	.o.	.e. .0	.e. G.	.0	.0	.e .e	.0	.0
REPAYMENT BALANCE INTEREST	.0 .0. .0	.0 .0 .0	474.5 0	1022.5	1922.5	1022.5	1022.5	1022.5 .0	1022.5 .0	1022.5	1022.5	1922.5 .0	1022.5
EINANCE IN FOCAF CCA 5									.0	.8	. 9	.0	.0
DORROWING REPAYHENT	.0	.0 .0	534.Đ	709.6	.0	.0	.0 89.1	207.4	207.4	207.4 533.1	207.4 325.7	207.4	118.3
BALANCE INTEREST	.0	.0	534.B .0	1244.4	1244.4 205.3	1244.4 205.3	1155.3	947.9 165.0	740.5 130.7	96.5	62.3	28.1	4.9
CASHFLOW PROJECTION													
CASH IN	284.2	145.8	3381.5	4227.3		-146.2	65.7	407.9	750.1	975.9	1195.3	1414.8	1634.3
OPERATING PROFIT AFR DEPR.	.0	.0	.0	.0	-931,8	-589.5	-468.0	-126.6	215.7	350.3	. 569.7	789.2 625.6	1068.7 625.6
DEPARCIATION BORROWING	.e 284.2	.0 145.8	3381.5	.0 4227.3	443,3	443.3	534.5	534.5	534.5	625.6	625.6 .0	1026.6	.e 867.e
CASH OUT	284.2	145.8	3381.5	4227.3	6282.1	750.9	3313.0	1352.4	1270.9	3467.B			.9
INVESTMENT INT. DURING CONST.	266.0 (8.2	112.0 33.8	3132.0 249.5	3634.0 593.3	5533.2	.0	2278.4	.0		2278.4	. Đ 8	.0	643.6
REPAYMENT INTEREST	.0	.0	.0	.0	25.8 723.1	719.8	343.9 690.7	732.1 620.2	732.1 538.8	732.1	732.1 375.9	732.1 294.5	224.0
NET CASHFLOW	.0	.0	0.		~6770.5							本白라리프루	*****
CUM NET CASHFLOW	.0	.0	.6	.0	-6770.5	~7675.7	-10923.9-	-11867,4	-12368.2	14886.1	-14792.8	-14404.6	-1202/13

1989- 1989-	1000	2000	2001	2002	2007	7004	244										
1906.5 1246.5 1246.5 1246.5 1246.5 1246.5 1246.5 1246.5 1251.6 1	1999		3299.4		2003 3738. d	2004 3958.1	2005 4172.A	2006	2007	2008	2009	2010	2011				
18	~~~=	,u-,								4172.0		4172.0		41 /2 46	4172.6	4172.6	4172.6
1991 1995 1996																	
1200 1016-2 1235-7 177-4 177-4 177-4 177-4 177-4 177-7 177	190.4	285.8	562.6	285.8	285.8	285.8	4.685	380.9	380.9	380.9	380.9	380.9	380.9	380.9	480.9	380.9	472.B
1720.2 1016.2 123.7 1955.2 1674.8 1974.1 1863.7 1863.7 1863.7 166														2640.8	2640.8		
360.5 533.4 429.5 605.6 381.7 857.7 468.2 433.3 401.6 375.2 385.9 380.7 380.7 389.4 310.1 280.0 251.4 506.1 377.7 562.8 606.2 1047.6 1293.0 1534.4 1290.5 1299.8 1299.1 1280.5 1317.8 1295.0 1324.3 1351.4 130.0 251.4 130.1 377.7 3																	
1977 1962 1976 1976 1976 1976 1976 1976 1977	~~~~																
1853	679.7	562,8	806.2	1049.6	1293.0	1536.4	1200.5	1227.8	1259.1	1288.5	1317.8	1295.0	1324.3	1353.6	1382.9	1412.3	777.7
187	. 35											.37	.37		.37	.37	
.0 4994.3 0 0 0 0 0 4991.6 0 0 0 0 0 1734.6 0 0 0 0 0 7597.1 .0 4296.3 0 0 0 0 0 0 4491.6 0 0 0 0 0 1310.0 0 0 0 0 0 0 7597.1 .0 4296.3 0 0 0 0 0 0 4491.6 0 0 0 0 0 0 1310.0 0 0 0 0 0 0 0 9247.1 .0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	.57	.67	63	.59	.55	.52	.60	08.	.40	03.	. 60	.60	. 60	.80	.60	. 50	. 69
0 4294.3000000 4491.6000000000 .		•															
0	22255	=====	⊐≒== #≒	****	222802	****	952528			=====	======		**====	25557	=====		====
.0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .																	
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.0		.0	.0 0.												.0		
. 0	.0	.0				.0	.0	.0	.0	.0	.0	1736.0	.0	.0			
1853.0 1813.6 203.1 1 225.5 1022.5 10		4296.3	.0	.0	.0	.0	4491.6	.0		.0		.0			.0		9569.1
. 0 . 0 . 0 . 0 . 0 . 0 . 0 . 0 . 0 . 0	.0								.0		.0		.0	.0			
.0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .												.0	.0	.0	.0	.0	18812.0
524.7 524.7 498.9 485.6 270.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0				.0	.0	.0	.0	.0	.0	. 0	.0	.0	.0	.0	.0	. 0	.0
524.7 524.7 498.9 485.6 270.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0				٠			•										
524.7 524.7 498.9 485.6 270.0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0	_		Δ.	0	. 0	.0	.0	.0	. ө								٠٥.
1711.9 124.7 79.2 35.2 6.1 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0	524.7	524.7	498.9	485.6	270.0	.0 1 0 22.5	.0 1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5
524.7 524.7 498.9 485.6 270.0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0					6.1	.0	.0	.0	.0		. •						
524.7 524.7 498.9 485.6 270.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		•	•	0	.0	.0	.0										.0
1021.5 1022.5 10	524.7	524.7	498.9	485.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0			
. 0 . 0 . 0 . 0 . 0 . 0 . 0 . 0 . 0 . 0		124.7	79.2	35.2	6.1	, 0	.0										
1022.5 10		۵	٥	.ò	.0	.0	.0		.0							.0	
1853.8 1813.6 2033.1 2252.6 2472.1 2691.6 2640.8 26	.0	.0	.0	.0	0. 1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5					
1853.8 1813.6 2033.1 2252.6 2472.1 2691.6 2640.8 26		.0	.0	.0	.0	.0	,0	.0									
1853.8 1813.6 2033.1 2252.6 2472.1 2691.6 2640.8 26		•		. 0	.0	.0	.0								.0	.0	.0
1853.8 1813.6 2033.1 2252.6 2472.1 2691.6 2640.8 26	.0	.0	.0	.0	.0 .0	.0	.0	.0	.0	.0	.0	.0				.0	
1853.8 1813.6 2033.1 2252.6 2472.1 2691.6 2640.8 26			.0	.0	.8	.0	٠,٠										
1228.2 1016.2 1235.7 1455.2 1674.6 1894.1 1663.7 1663.7 1665.7 177.1 977							_		DZ 40. 9	okan. R	2640.8	2640.8	2640.8	2649.8	2640.8	2640.B	2422.6
1228.2 1016.2 1235.7 1455.2 1674.6 1899.1 1005.1 1077.1 977.1 977.1 977.1 977.1 977.1 977.1 977.1 977.1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1853-0	1813.6	2033.1				2840.8	2640.8	1663.7	1463.7			1663.7	1683.7	1663.7	1663.7	1284.0
.0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .7242.9	1228.2	1016.2 797.4	1235.7 797.4	797.4	797.4	797.4	977.1	977.1	977.1	7//-	977.1	977.1	911.1			.0	.0
0 4491.6 .0 .0 .0 1736.0	.0	.0	.9	.0	.6	,υ		.0	, 0	.0		1736.0					
496.7 499.6 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0						.0	4491.6	.0	.0	.0	.0	1736.0	.0	.0	.0	.0	.0
.0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .	.0	. 0	.0	. 6	.0 270.0	.0	.0	. 0	.0	, 0		.0		.0		.0	.0
171.9 124.7 79.2 35.2 6.1	171.9	124.7	79.2	35.2		2.01 (_4950 B	2640.B	2840.8	2640.8	2640.8		K0===#		건글로프로프	=====	Z3== ZE
1157.1 -3132.1 1455.0 1731.8 2196.0 2691.6 -1850.8 2640.8	1157.1 ******	-3132.1 15412.3	1455.0 14157.3	17317.8 ******* -12425.5	2176.8 ****** 19229.5	-7538.0	9308.0	-6747.9	-4107.1	-1466.3	1174.5	2079.3	4720.1	7361.0	10001.8	12642.6	22308.1

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