

### 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	Kota (K)		Gudang (G)		Depot (D)	
	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 trains	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

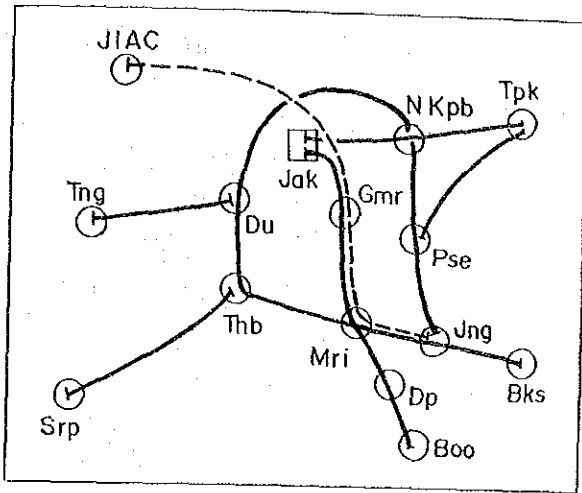
C-T: Through train operation between the Central and Tanjung Priok Lines

C: Shuttle train operation between New Jakarta Kota and Bogor Stations

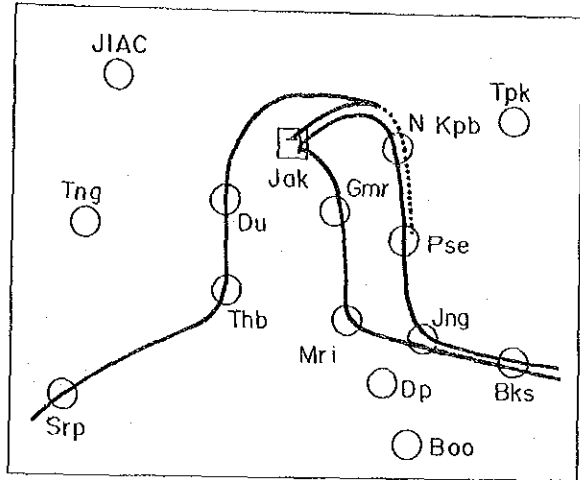
T: Shuttle train operation between New Jakarta Kota and Tanjung Priok Stations

Conceptual Alternative 101

Commuter trains



Long-distance passenger trains

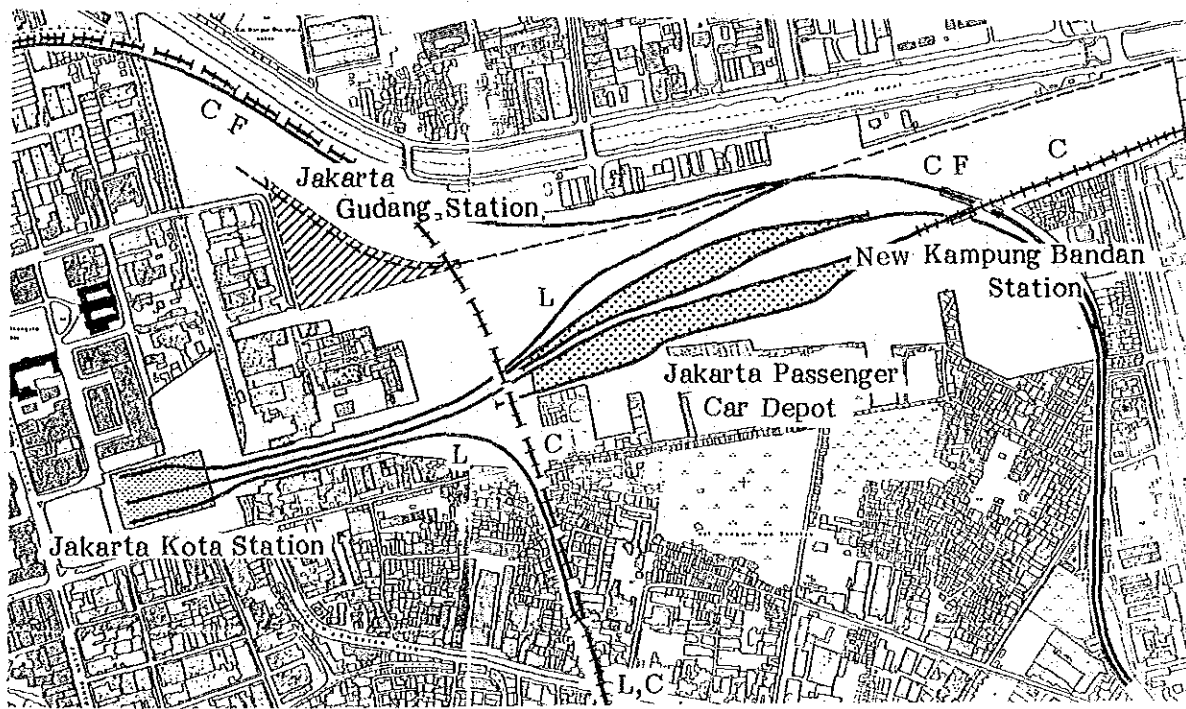


Operation routes:

- 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

Operation routes:

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



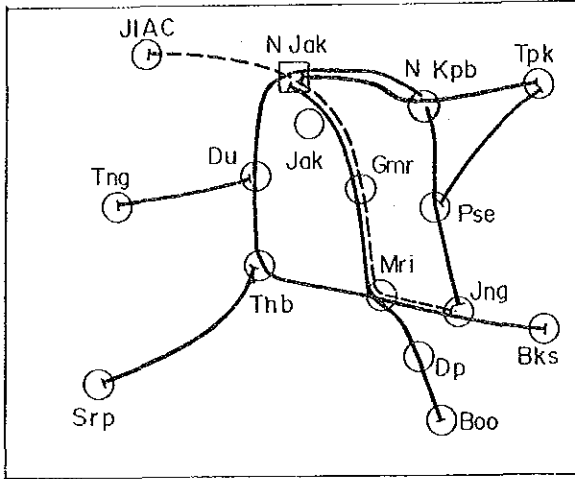
Legend:

- |  |   |   |   |
|--|---|---|---|
|  | Commuter/Long-Distance Passenger Train Line |   | Freight Station                           |
|  | Freight Train Line                          |   | Passenger Car Depot                       |
|  | Proposed Cengkareng Airport Line (Elevated) | C | Tracks for Commuter Trains                |
|  | Elevated Track                              | L | Tracks for Long-Distance Passenger Trains |
|  | Passenger Station                           | F | Tracks for Freight Trains                 |

Fig. 8.1 (1) Representation of Conceptual Alternative 101

Conceptual Alternative 102 - 1

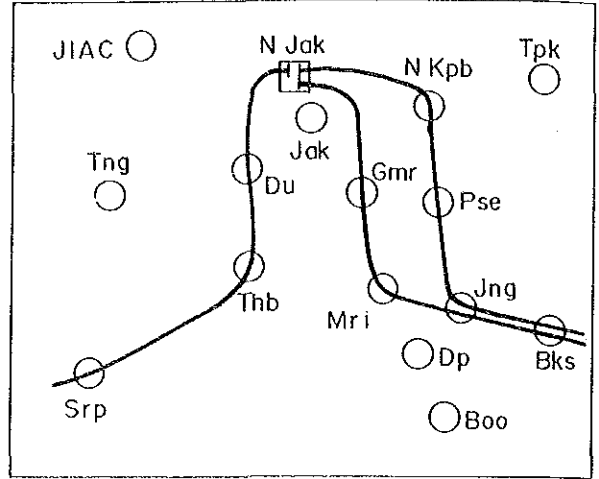
Commuter trains



Operation routes:

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



Operation routes:

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

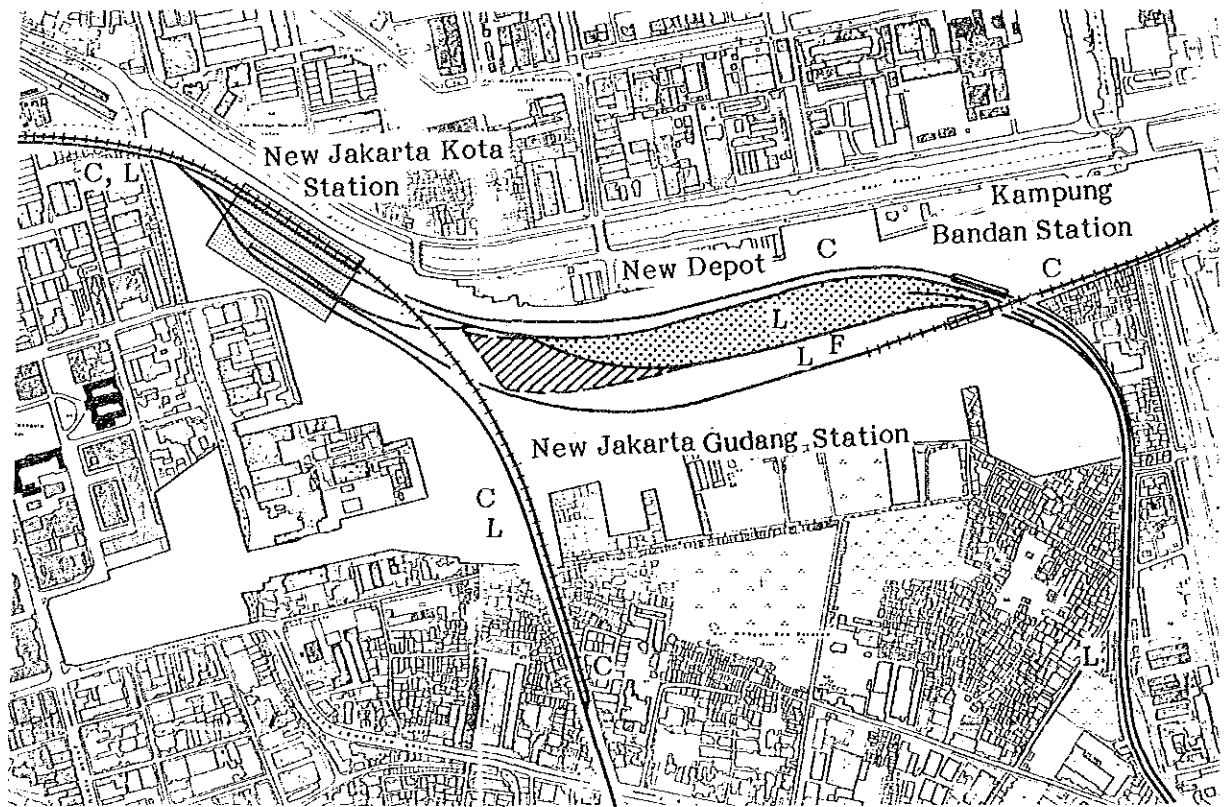
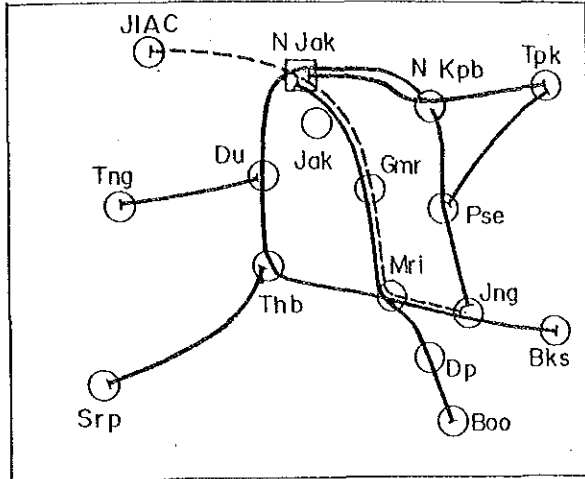


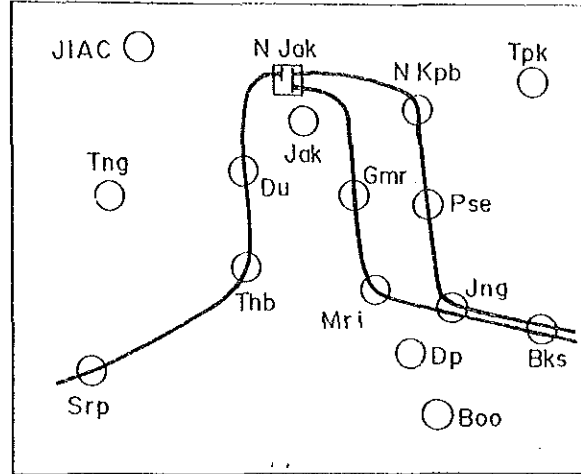
Fig. 8.1 (2) Representation of Conceptual Alternative 102-1

Conceptual Alternative 102 - 2

Commuter trains



Long-distance Passenger trains



Operation routes:

- 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

Operation routes:

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

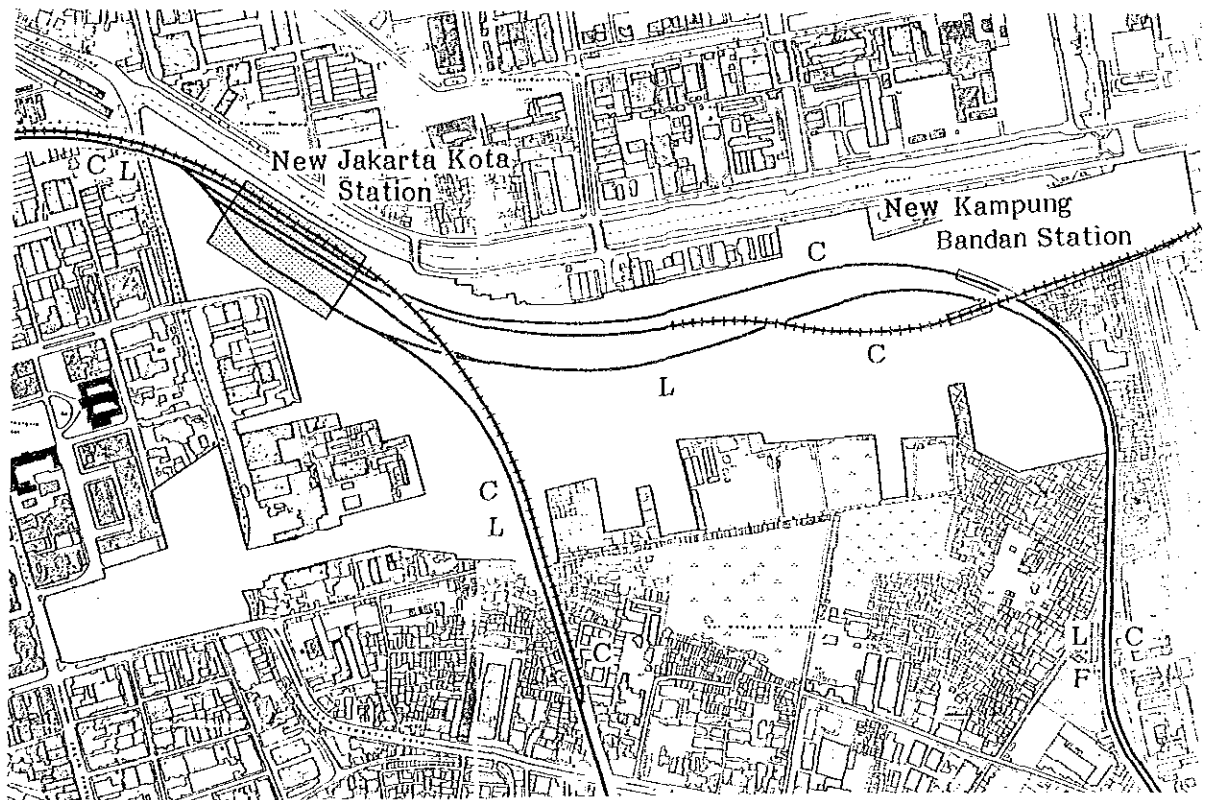
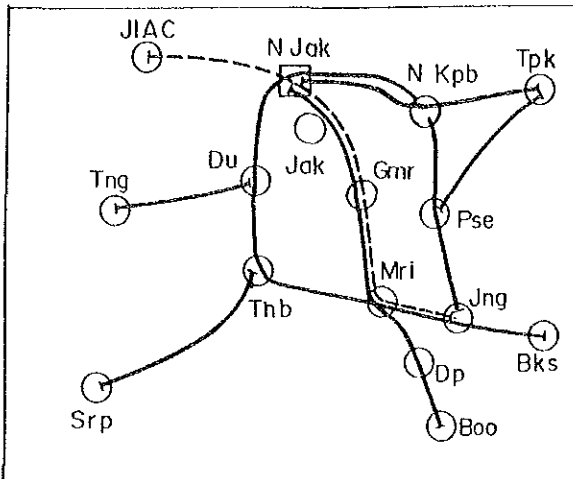


Fig. 8.1 (3) Representation of Conceptual Alternative 102-2

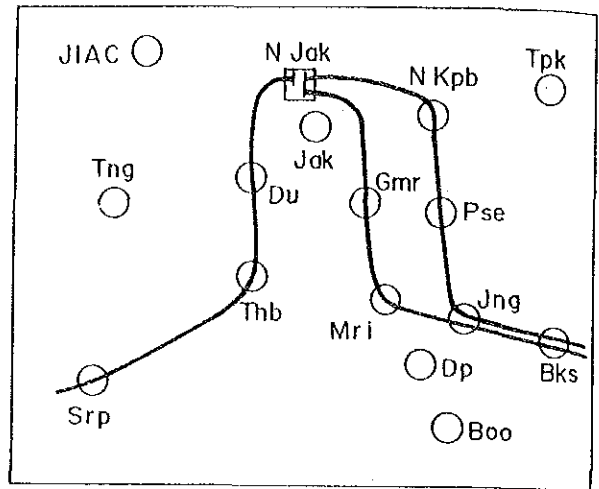
Commuter trains



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



Operation routes:

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

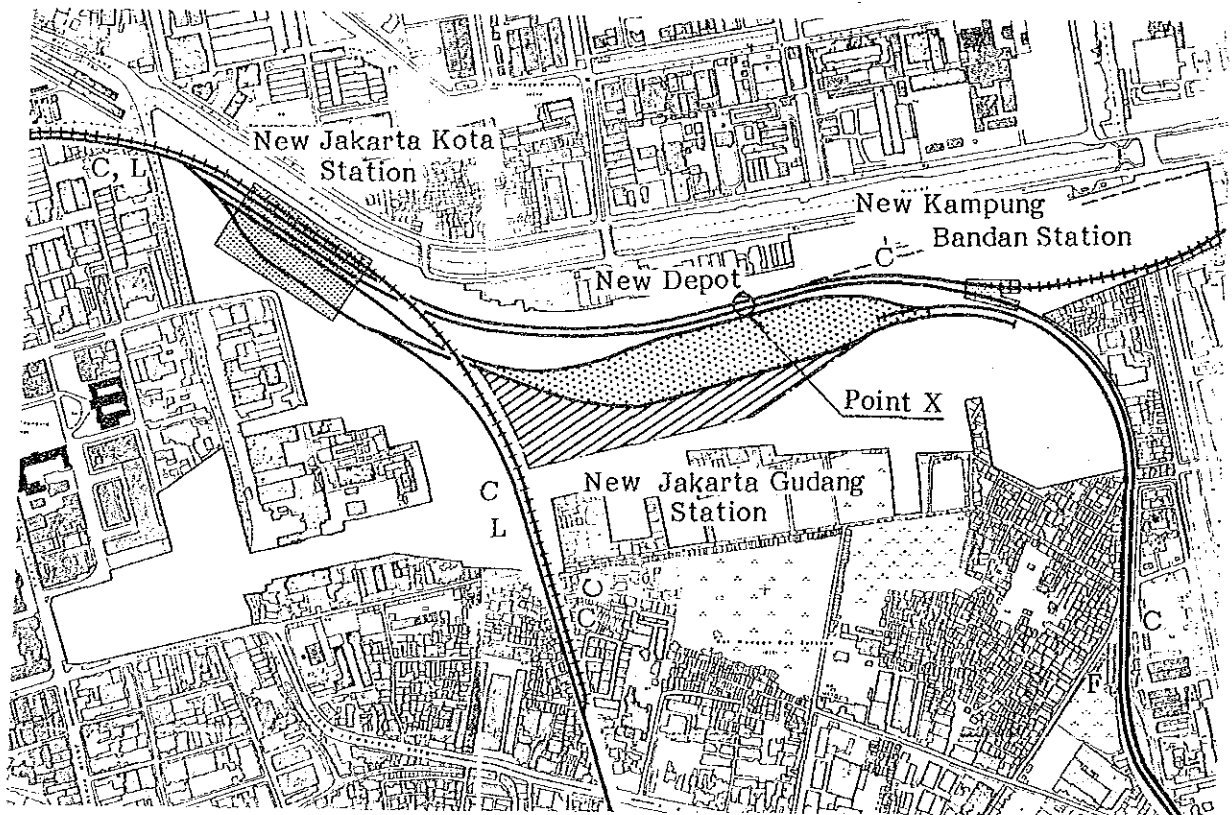
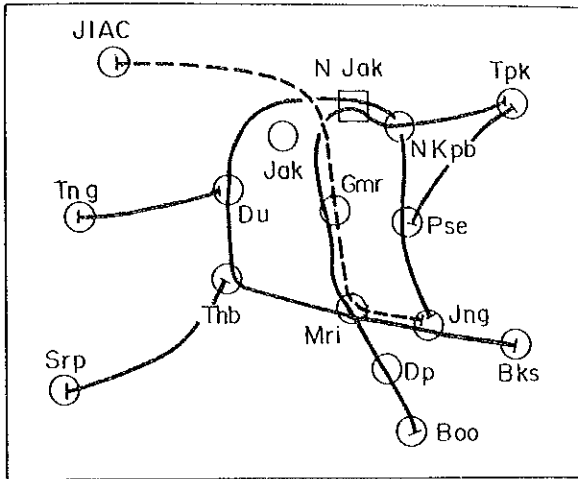


Fig. 8.1 (4) Representation of Conceptual Alternative 102-3

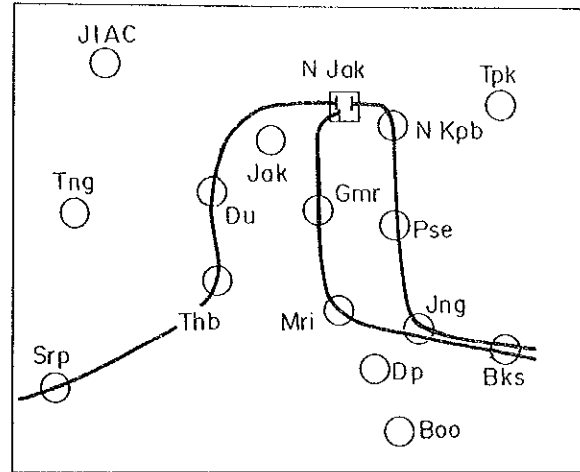
Commuter trains



Operation routes:

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

Long-distance Passenger trains



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

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

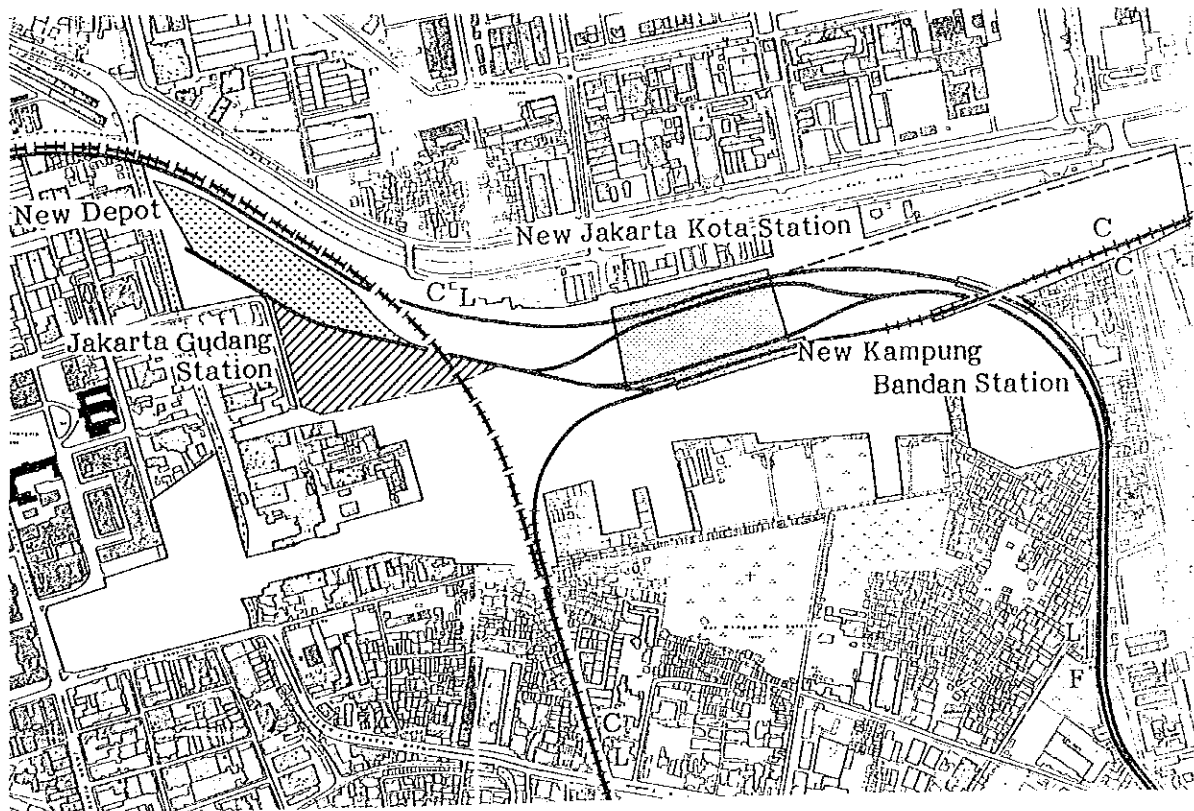


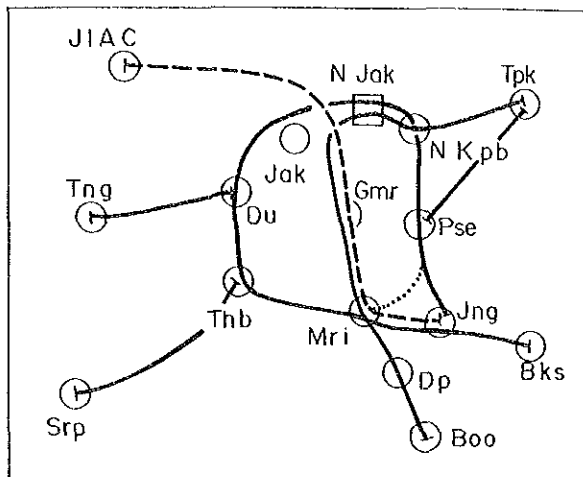
Fig. 8.1 (5) Representation of Conceptual Alternative 103





Conceptual Alternative 105

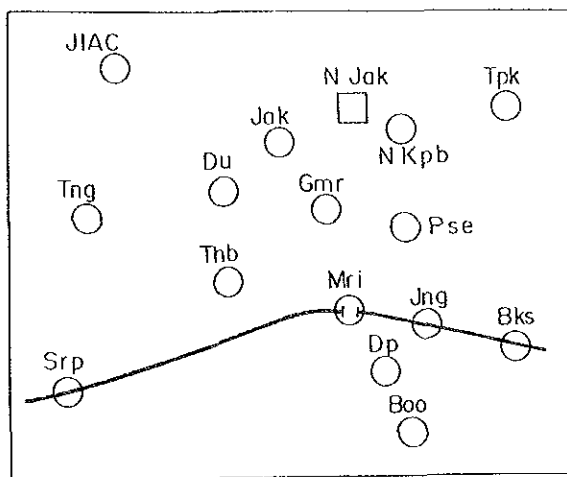
Commuter trains



Operation routes:

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

Long-distance Passenger trains



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

- 1) -Bks-Mri
- 2) -Srp-Mri

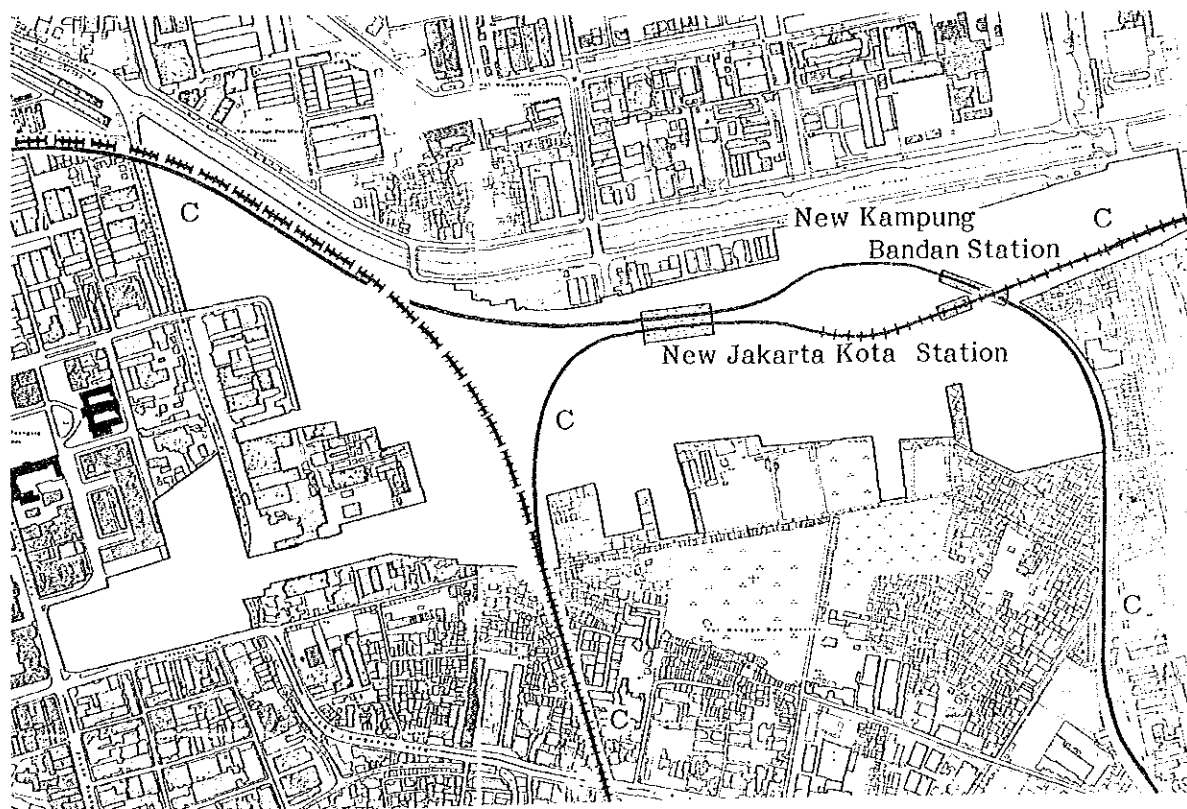


Fig. 8.1 (7) Representation of Conceptual Alternative 105

## 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.

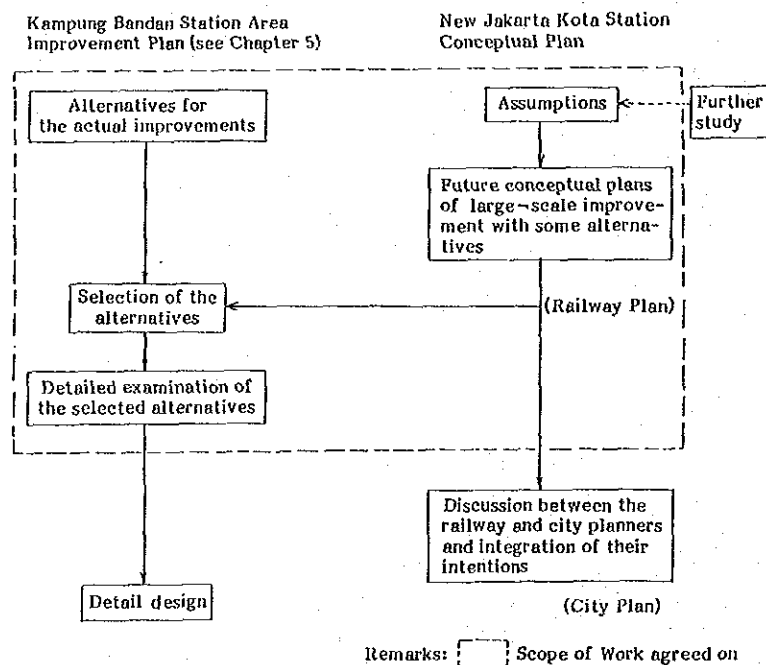


Fig. 8.2 Flow of Improvement Planning

## 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

- 1) 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. Reconstruction 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 problems, 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.
- 2) 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.
- 2) A terminal only for commuter trains, not for long-distance passenger trains.
- 3) A terminal for the two purposes described above.

##### (c) Determination of the Role, Scale, and Location of Depots

- 1) 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



## CHAPTER 9 CONCLUSION

### CONTENTS

	<u>Page</u>
9.1 Evaluation .....	171
9.1.1 Significance of the Project .....	171
9.1.2 Economic and Financial Evaluation	171
9.1.3 Concurrent Measures .....	171
9.2 Conclusion .....	172



## 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**

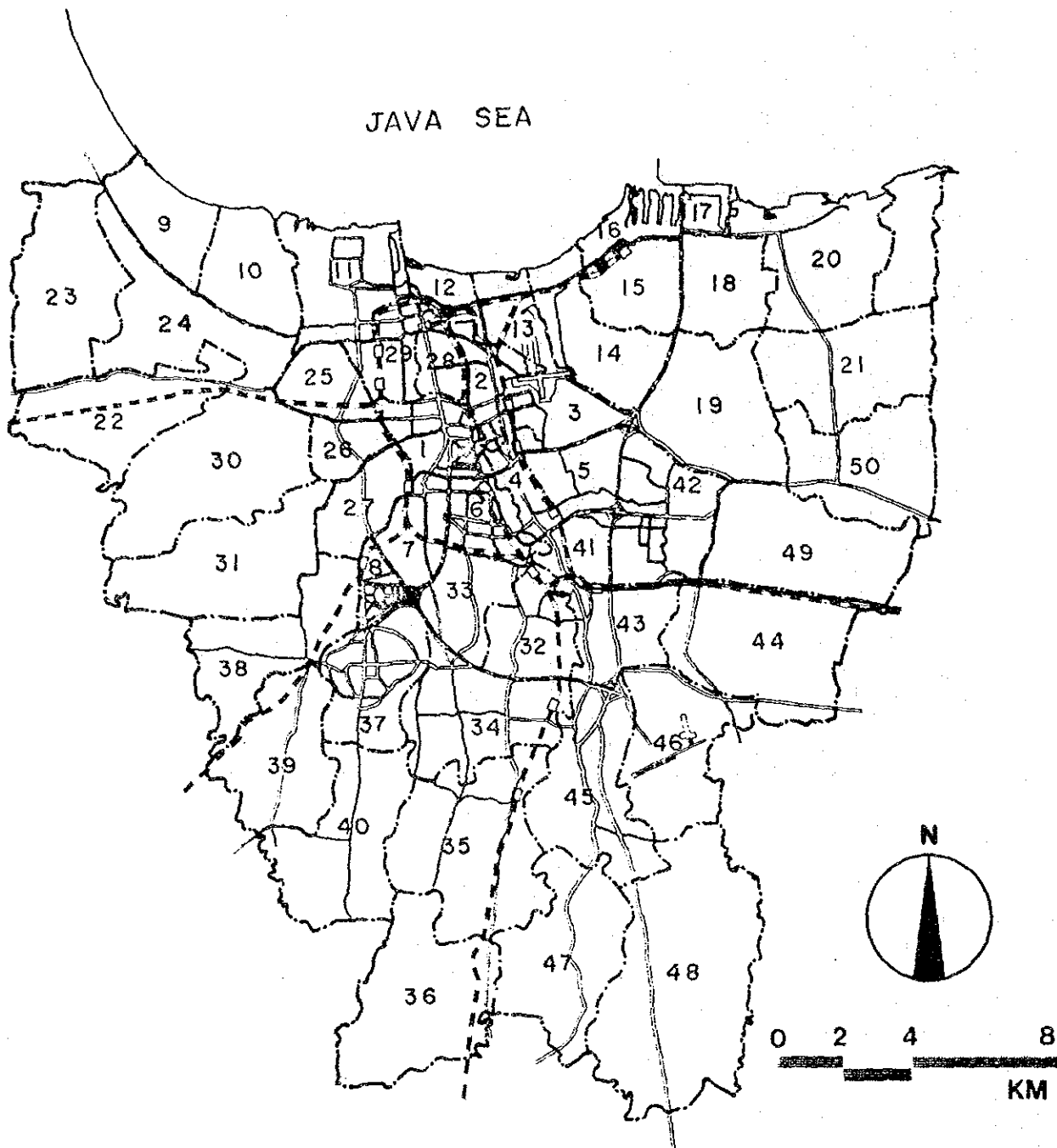




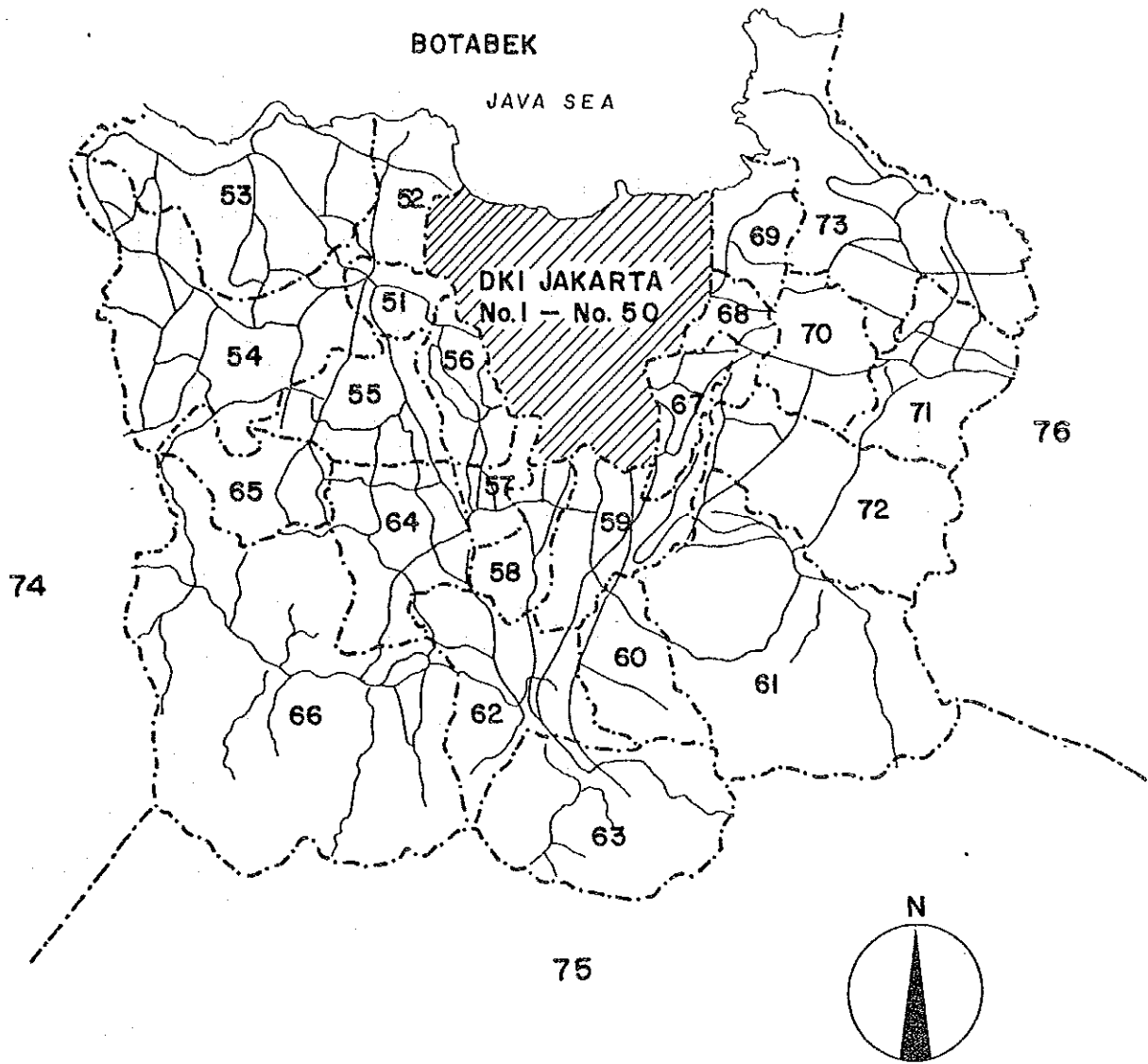
**Appendix 3.1 Zone Code List**

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

Appendix 3.2 Zone Division in DKI Jakarta



Appendix 3.3 Zone Division in BOTABEK Area





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
						05.	Kebun Kelapa
						06.	Gambir
2.	SAWAH BESAR			2.	Sawah Besar	01.	Mangga Dua Selatan
						02.	Karang Anyar
						03.	Kartini
						04.	Pasar Baru
						05.	Gn. Sahari Utara
3.	KEMAYORAN			3.	Kemayoran	01.	Gn. Sahari Selatan
						02.	Kemayoran
						03.	Kebon Kosong
						04.	Serdang
						05.	Harapan Mulya
4.	SEZEN			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
						05.	Rawa Sari
						06.	Cempaka Putih Barat
						07.	Cempaka Putih Timur
6.	MENTENG			6.	Menteng	01.	Kebon Sirih
						02.	Gondang Dia
						03.	Cikini
						04.	Menteng
						05.	Pegangsaan
7.	KEBON MELATI			7.	Tanah Abang	01.	Kampung Bali
						02.	Kebon Kacang
						03.	Kebon Melati
						04.	Petamburan
						05.	Karet Tengsin
						06.	Bendungan Hilir
						07.	Gelora
8.	GELORA						
9.	KAMAL MUARA	12.	North JKT	1.	Penjaringan	01.	Kamal Muara
10.	KAPUK MUARA					02.	Kapuk Muara
11.	PEJACALAN					03.	Pejagalan
						04.	Penjaringan
						05.	Muara Angke
						06.	Mangga Dua Utara
12.	MANGGA DUA UTARA					07.	Pademangan Barat
13.	PADEMANGAN					08.	Pademangan Timur

Zone		Kodya/Kabupaten		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					06.	Kelapa Gading
						07.	Pegangsaan Dua
20.	S E M P E R			4.	Cilincing	01.	Kali Baru
						02.	Cilincing
						03.	Semper
21.	SUKAPURA					04.	Marunda
						05.	Sukapura
22.	SEMANAN	13.	West JKT	1.	Gengkareng	01.	Semanan
						02.	Duri Kosambi
						03.	Rawa Buaya
23.	PEGADUNGAN					04.	Kamal
						05.	Tegal Alur
						06.	Pegadungan
						07.	Kali Deres
24.	CENKARENG					08.	Cengkareng
						09.	Kapuk
						10.	Kedaung Kali Angke
25.	JELAMBAR			2.	Grogol Petamburan	01.	Grogol
						02.	Jelambar
26.	TOMANG					03.	Tanjung Duren
						04.	Tomang
27.	PALMERAH					05.	Jati Pulo
						06.	Kota Bambu
						07.	S l i p i
						08.	Palmerah
28.	TAMAN SARI			3.	Taman Sari	01.	Pinangsia
						02.	Mangga Besar
						03.	Tangki
						04.	Glodok
						05.	Keagungan
						06.	Krukut
						07.	Taman Sari
						08.	Maphar
29.	TAMBORA			4.	Tambora	01.	Pekojan
						02.	Malaka
						03.	Tambora
						04.	Jembatan Lima
						05.	Angke
						06.	Jembatan Besi

Zone		Kodya/Kabupaten		Kecamatan		Kelurahan	
No.	Name	No.	Name	No.	Name	No.	Name
29.	TAMBORA	13.	West JKT	4.	Tambora	07.	Krendang
						08.	Tanah Saeral
						09.	D u r i
						10.	Kali Baru
30.	KEMBANGAN			5.	Kebon Jeruk	01.	Kembangan
						02.	Kedoya
						03.	D u r i
						04.	Meruya Ilir
31.	KEBON JERUK					05.	Meruya Udik
						06.	Joglo
						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
						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.	K a r e t
						04.	Karet Semanggi
						05.	Karet Kuningan
						06.	Kuningan Timur
						07.	Pasar Manggis
						08.	Menteng Atas
34.	MAMPANG PRAPATAN			3.	Mampang Prapatan	01.	Kuningan Barat
						02.	Mampang Prapatan
						03.	Pela Mampang
						04.	Tegal Parang
						05.	Bangka
						06.	Pancoran
						07.	Duren Tiga
						08.	Kali Bata
						09.	Cikoko
						10.	Pegadegan
						11.	Rawa Jati
35.	PEJATEN			4.	Pasar Minggu	01.	Pejaten
						02.	Pasar Minggu
						03.	Tanjung Barat
						04.	Jati Padang
						05.	Ragunan
						06.	Cilandak

Zone		Kodya/Kabupaten		Kecamatan		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.	P u l o
						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
						05.	Pulo Gadung
						06.	Jati Negara Kaum
43.	CIPINANG BESAR			3.	Jati Negara	01.	Kampung Melayu
						02.	Bali Mester
						03.	Bidara Cina
						04.	Cipinang Cempedak
						05.	Rawa Bangke
						06.	Cipinang Muara
						07.	Cipinang Besar



Zone		Kodya/Kabupaten		Kecamatan		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.	Bale Kambang
						07.	Makasar
						08.	Kampung Tengah
						09.	D u k u h
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
						06.	Pulo Gebang

Zone		Kodya/Kabupaten		Kecamatan	
No.	Name	No.	Name	No.	Name
51.	Tangerang	21.	Tangerang	101	Tangerang
52.	Teluk Naga			102	Batu Ceper
53.	Mauk			103	Teluk Naga
				104	Sepatan
				105	Mauk
				106	Rajeg
				107	Kronjo
				108	Pasar Kamis
54.	Cikupa			109	Kresek
				110	Balaraja
				111	Tiga Raksa
				112	Cikupa
				113	Curug
55.	Serpong			114	Serpong
56.	Ciputat			115	Legok
				116	Ciputat
57.	Sawangan			22.	Bogor
58.	Depok	201	Sawangan		
59.	Cibinong	202	Depok		
		203	Cibinong		
		204	Cimanggis		
60.	Citeureup	205	Gunung Putri		
		206	Citeureup		
61.	Cileungsi	207	Jongol		
		208	Cariu		
		209	Cileungsi		
62.	Bogor	210	Bogor		
		211	Ciomas		
		212	Semplak		
		213	Kedung Halang		
		214	Cisarua		
63.	Ciawi	215	Ciawi		
		216	Cijeruk		
		217	Parung		
64.	Rumpin	218	Gunung Sindur		
		219	Rumpin		
		220	Parung Panjang		
65.	Parung Panjang	23.	Bekasi	221	Ciampea
66.	Luwiliang			222	Cibungbulang
				223	Luwiliang
				224	Cigudeg
				225	Jasinga
				301	Pondok Gede
67.	Pondok Gede			302	Bekasi
68.	Bekasi	303	Talmajaya		
69.	Babelan	304	Babelan		
		305	Tambun		
70.	Tambun	306	Cibitung		

Zone		Kodya/Kabupaten		Kecamatan	
No.	Name	No.	Name	No.	Name
71.	Cikarang	23.	Bekasi	307	Cikarang
72.	Setu			308	Lemah Abang
73.	Sukatani			309	Setu
				310	Cibarusa
		311	Cabang Bungin		
		312	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.			



**Appendix 3.5 Residential Population by Zone (estimated)**

(Unit: 1000 persons)

Zone No.	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	147.4
14	Sunter	61.6	126.2	182.7
15	Pepanggo	161.2	185.1	195.8
16	Tanjung Priok	39.9	46.0	48.0
17	Koja	63.4	56.4	56.5
18	Tugu	186.8	226.6	248.3
19	Pegangsaan Dua	39.3	56.6	74.9
20	Semper	153.6	219.7	265.7
21	Sukapura	28.1	58.4	95.5
22	Semanan	69.2	143.8	220.8
23	Pegadungan	67.1	87.8	105.3
24	Cengkareng	138.4	162.3	188.8
25	Jelambar	141.1	187.1	214.4
26	Tomang	100.6	121.1	135.0
27	Palmerah	187.7	210.9	227.7
28	Taman Sari	151.9	157.5	161.6
29	Tambora	271.8	276.0	278.1
30	Kembangan	132.9	310.8	542.0
31	Kebon Jeruk	144.5	307.0	491.9
32	Tebet	271.1	315.3	345.6
33	Setia Budi	241.1	273.0	288.0
34	Mampang Prapatan	282.4	446.1	542.1
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	438.5	676.6	935.3
55	Serpong	157.9	254.8	488.2
56	Ciputat	270.9	424.3	532.1
(Tangerang)				
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	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
(Bogor)				

(Unit: 1000 persons)

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	Cikarang	203.0	311.9	636.0
72	Setu	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





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

(Unit : 1000 persons)

Zone No.	Zone Name	1984			1995			2005		
		A	B	C	A	B	C	A	B	C
1	Gambir	60.7	73.7	13.3	40.0	84.1	32.4	23.7	79.5	59.5
2	Sawah Besar	68.6	83.4	10.4	50.1	99.4	30.4	32.1	99.5	56.0
3	Kemayoran	96.8	129.1	9.0	76.3	144.9	29.3	50.7	154.5	55.2
4	Senen	51.4	76.4	8.9	36.2	81.2	23.7	21.4	79.0	43.9
5	Cempaka Putih	89.1	116.4	13.8	66.0	127.3	38.5	41.6	126.7	71.5
6	Menteng	48.8	56.6	13.4	30.8	66.0	32.5	18.2	60.7	61.0
7	Kebon Melati	98.5	122.0	13.5	73.6	136.0	39.2	46.8	138.2	73.0
8	Gelora	4.8	4.7	0.7	3.7	6.2	2.8	3.0	7.0	5.8
9	Kamal Muara	2.7	2.2	0.1	7.6	3.8	0.3	12.8	7.4	0.8
10	Kapuk Muara	13.0	3.7	0.0	25.7	12.0	1.0	42.6	24.6	2.6
11	Pejagalan	86.7	72.9	10.0	66.4	99.2	38.4	49.9	107.8	75.1
12	Mangga Dua Utara	18.9	20.0	1.1	18.2	27.1	5.7	15.5	33.9	11.4
13	Pademangan	46.7	55.2	3.8	42.1	75.5	16.7	31.2	84.9	31.3
14	Sunter	25.6	35.0	1.0	39.6	76.7	9.9	43.7	117.7	21.3
15	Pepanggo	66.0	89.6	5.6	55.9	108.8	20.4	38.8	118.8	38.2
16	Tanjung Priok	19.6	19.4	0.9	17.3	24.8	3.9	12.6	28.1	7.3
17	Koja	33.6	28.4	1.5	23.3	28.4	4.7	15.7	31.5	9.3
18	Tugu	90.6	91.7	4.4	82.9	122.2	21.5	64.3	142.9	41.1
19	Pegangsaan Dua	12.1	23.3	3.9	12.2	33.1	11.3	11.0	40.6	23.3
20	Semper	71.4	77.7	4.5	70.6	124.2	24.9	61.5	155.1	49.1
21	Sukapura	17.4	10.5	0.1	30.7	26.1	1.6	42.8	48.9	3.8
22	Semangan	37.6	29.4	2.2	58.8	68.6	16.4	73.9	110.0	36.9
23	Pegadungan	40.2	25.5	1.4	40.5	39.2	8.1	37.9	51.1	16.3
24	Cengkareng	79.2	55.8	3.4	71.4	74.7	16.2	62.3	93.7	32.8
25	Jelambar	61.8	69.0	10.3	48.0	101.5	37.6	35.5	107.8	71.1
26	Tomang	43.7	50.8	6.2	31.8	68.2	21.1	22.3	72.5	40.2
27	Palmerah	84.6	91.0	12.1	62.4	109.6	38.9	41.8	112.2	73.7
28	Taman Sari	59.8	82.1	10.0	41.3	89.2	27.0	24.6	87.0	50.0
29	Tambora	132.5	129.3	10.0	102.2	142.2	31.6	68.6	150.2	59.3
30	Kembangan	66.4	57.7	8.9	89.1	151.5	70.2	128.4	236.3	175.3
31	Kebon Jeruk	66.5	69.9	8.1	105.9	154.3	46.8	141.8	241.2	108.9
32	Tebet	112.3	132.3	26.5	76.8	166.4	72.0	49.1	162.1	134.4
33	Setia Budi	98.3	132.1	10.6	83.5	154.2	35.3	57.1	165.1	65.8
34	Mampang Prapatan	117.2	146.7	18.5	110.7	239.7	95.7	91.6	266.5	184.0
35	Pejaten	90.6	112.1	12.4	92.5	211.7	71.1	76.7	235.9	130.2
36	Srengseng Sawah	31.1	42.0	1.7	34.8	68.7	10.4	30.0	86.8	20.1
37	Kebayoran Baru	94.1	98.0	26.5	62.6	135.8	74.6	40.3	126.9	138.4
38	Grogol Utara	88.2	118.7	16.2	82.4	201.7	79.7	66.7	222.5	151.1
39	Kebayoran Lama	56.5	99.0	13.6	52.0	159.3	68.2	42.2	178.3	134.5
40	Cilandak	52.7	77.9	16.3	46.7	130.8	67.4	34.8	129.2	122.2
41	Matraman	63.7	108.9	11.8	47.1	118.4	33.1	27.8	115.6	60.8
42	Pulo Gadung	93.5	156.3	28.6	67.7	199.3	84.5	41.3	188.3	153.5
43	Cipinang Besar	111.7	142.2	16.3	87.5	173.8	53.7	57.4	176.9	99.1
44	Klender	65.5	132.2	12.3	81.9	247.2	79.7	82.0	317.0	164.3
45	Cililitan	96.8	140.4	11.3	84.2	179.8	45.5	63.3	203.8	88.6
46	Hallm Perdana Kusuma	14.4	32.9	6.4	12.6	59.0	26.2	8.9	57.9	45.9
47	Gedong	62.8	85.6	6.1	61.6	132.7	30.8	52.5	181.5	60.7
48	Lubang Buaya	55.7	49.8	3.4	103.7	111.1	21.1	130.0	168.5	44.8
49	Penggilingan	53.1	59.5	1.8	88.0	124.9	15.8	95.4	190.6	33.0
50	Cakung	44.2	44.6	2.4	58.7	82.8	23.9	84.3	147.7	63.7
Total		3097.7	3763.6	435.2	2855.6	5403.3	1691.7	2448.4	6252.2	3300.1

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

Zone No.	Zone Name	1984		1995		2005	
		Commercial Administrative Area	Industrial Warehouse Area	Commercial Administrative Area	Industrial Warehouse Area	Commercial Administrative Area	Industrial Warehouse Area
1	Gambir	327.0	13.0	330.0	14.0	334.0	15.0
2	Sawah Besar	127.0	130.0	127.0	130.0	127.0	130.0
3	Kesyoren	92.0	22.0	99.0	99.0	22.0	106.0
4	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
7	Kebon Melati	91.0	31.0	94.0	33.0	98.0	36.0
8	Gelora	60.0	0.0	60.0	0.0	60.0	0.0
9	Kamal Muara	0.0	5.0	0.0	7.0	0.0	10.0
10	Kepuk Muara	0.0	3.0	0.0	70.0	0.0	137.0
11	Pejagalan	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	80.0	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	100.0
19	Pengsoran Dua	0.0	67.0	13.0	438.0	26.0	371.0
20	Semper	21.0	63.0	21.0	454.0	21.0	846.0
21	Sukapura	8.0	41.0	8.0	41.0	8.0	41.0
22	Senansari	0.0	75.0	25.0	242.0	52.0	409.0
23	Pegadungan	0.0	44.0	25.0	229.0	50.0	415.0
24	Cengkareng	12.0	157.0	37.0	220.0	62.0	284.0
25	Jelambar	0.0	63.0	0.0	70.0	0.0	77.0
26	Tomang	59.0	0.0	59.0	5.0	59.0	11.0
27	Palmerah	59.0	32.0	59.0	32.0	59.0	32.0
28	Taman Sari	53.0	25.0	56.0	25.0	60.0	25.0
29	Tambora	9.0	93.0	9.0	93.0	9.0	93.0
30	Kembangan	0.0	0.0	76.0	0.0	166.0	20.0
31	Kebon Jeruk	10.0	12.0	59.0	12.0	109.0	12.0
32	Tebet	62.0	32.0	65.0	35.0	69.0	37.0
33	Sella Budi	108.0	97.0	114.0	104.0	121.0	112.0
34	Mampang Prapatan	57.0	45.0	61.0	48.0	65.0	52.0
35	Pejaten	65.0	7.0	85.0	7.0	115.0	7.0
36	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
39	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	Matraman	16.0	0.0	23.0	0.0	31.0	0.0
42	Pulo Gedung	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	Cililitan	56.0	27.0	68.0	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 2005  
2) JIUT

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

(Unit : person trip ends/day)					
Zone No.	Zone Name	1984	1990	1995	2005
1	Gambir	204,210	252,359	292,510	288,585
2	Sawah Basar	131,164	173,185	207,346	223,560
3	Kemayoran	131,854	173,040	205,159	207,152
4	Senen	325,524	258,772	301,871	203,670
5	Cempaka Putih	157,624	193,547	223,063	257,844
6	Menteng	132,722	181,395	220,611	241,838
7	Kebon Melati	217,529	229,944	239,448	273,068
8	Gelora	35,841	37,995	39,538	37,560
9	Kamal Muara	121	1,257	2,213	3,013
10	Kapuk Muara	8,717	11,512	13,870	17,380
11	Pejagalan	42,908	127,672	198,649	371,529
12	Mangga Dua Utara	16,537	24,798	31,691	41,673
13	Pademangan	24,870	77,570	121,349	131,115
14	Sunter	45,977	58,477	68,836	96,541
15	Pepanggo	28,539	78,910	120,629	146,130
16	Tanjung Priok	104,809	75,016	50,173	50,758
17	Koja	35,943	36,740	37,438	45,253
18	Tugu	53,474	94,609	129,033	159,783
19	Pegangsaan Dua	14,807	41,524	63,835	84,973
20	Semper	36,163	94,903	144,004	180,954
21	Sukapura	3,634	8,926	13,390	19,964
22	Semanan	7,079	52,884	91,169	138,706
23	Pegadungan	1,049	98,244	169,479	295,151
24	Cengkareng	70,616	83,486	94,210	127,451
25	Jelambar	136,506	164,294	187,400	232,624
26	Tomang	68,508	103,395	132,476	151,675
27	Palmerah	107,642	166,544	215,509	256,638
28	Taman Sari	162,579	162,361	161,946	223,849
29	Tambora	62,134	119,023	166,464	205,762
30	Kembangan	22,375	207,171	361,599	596,272
31	Kebon Jeruk	67,758	168,774	253,085	386,072
32	Tebet	175,845	286,314	377,303	449,929
33	Setia Budi	157,719	199,839	234,494	262,993
34	Mampang Prapatan	295,301	358,310	493,577	611,761
35	Pejaten	227,636	318,158	393,112	462,895
36	Srengseng Sawah	74,318	68,325	63,186	78,293
37	Kebayoran Baru	380,564	396,195	408,962	473,532
38	Grogol Utara	98,190	265,940	405,357	504,024
39	Kebayoran Lama	130,944	251,559	351,773	449,880
40	Cilandak	128,036	249,046	349,657	405,797
41	Matraman	92,386	143,659	185,771	216,287
42	Pulo Gadung	252,659	357,530	444,935	514,721
43	Cipinang Besar	217,581	282,569	336,437	374,472
44	Klender	103,326	277,753	422,628	563,306
45	Cihilitan	220,082	246,030	267,377	324,988
46	Halim Perdana Kusuma	36,638	90,919	136,063	152,161
47	Gedong	48,814	121,622	182,084	230,962
48	Lubang Buaya	43,820	84,587	118,292	163,162
49	Penggilingan	29,992	91,588	142,932	179,823
50	Cakung	48,587	90,931	126,226	217,753
<b>DKI Total</b>		<b>5,121,651</b>	<b>7,739,101</b>	<b>9,898,159</b>	<b>12,333,280</b>
51	Tangerang	62,110	104,187	140,255	247,081
52	Teluk Naga	958	2,293	4,363	9,973
53	Mauk	808	1,116	1,413	2,266
54	Cikupa	2,134	3,470	4,821	8,780
55	Serpong	1,618	3,065	4,818	132,027
56	Ciputat	63,890	98,781	128,449	195,908
57	Sawangan	3,741	6,600	8,974	9,199
58	Depok	97,670	166,531	223,895	291,686
59	Cibinong	56,546	91,454	120,518	136,952
60	Citeureup	5,419	9,835	13,490	20,897
61	Cileungsi	1,102	1,834	2,392	4,096
62	Bogor	58,954	98,432	131,213	159,867
63	Clawi	1,042	1,698	2,178	4,020
64	Rumpin	1,133	1,829	2,405	4,051
65	Parung Panjang	1,265	1,689	2,049	3,354
66	Leuwiliang	2,359	3,393	4,259	5,403
67	Pondok Gede	16,079	34,894	50,428	74,117
68	Bekasi	90,395	132,604	167,626	204,638
69	Babelan	227	331	423	650
70	Tambun	13,098	25,955	36,687	40,188
71	Cikarang	10,381	15,770	20,283	49,737
72	Setu	525	846	1,132	2,106
73	Sukatani	1,040	1,310	1,559	2,772
<b>BOTABEK Total</b>		<b>492,494</b>	<b>807,917</b>	<b>1,073,630</b>	<b>1,609,768</b>
74	West Java -1	7,512	11,050	14,010	16,877
75	West Java -2	30,711	46,739	59,834	72,001
76	West Java -3	35,276	52,959	67,698	81,355
77	Central Java	19,564	29,933	38,573	46,611
78	East Java	2,153	3,173	4,021	4,718
79	South Sumatra	1,847	3,074	4,097	5,354
80	Outside of Java Island	882	392	0	0
<b>Outside of JABOTABEK</b>		<b>97,925</b>	<b>147,320</b>	<b>188,233</b>	<b>226,916</b>
<b>Total</b>		<b>5,712,070</b>	<b>8,694,338</b>	<b>11,160,022</b>	<b>14,169,964</b>

**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
B	42, 43, 44, 49, 50
C	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
H	51, 52
I	53, 54
J	56
K	55, 64, 65
L	66
M	57, 58, 59
N	60, 62, 63
O	67, 68, 69
P	61
Q	70, 71, 72, 73
R	74
S	75
T	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
1	Gambir	9,744	25,942	49,805	73,795
2	Sawah Besar	4,284	15,713	30,814	61,780
3	Kemayoran	1,306	13,390	29,400	59,059
4	Senen	2,061	17,548	24,730	47,005
5	Cempaka Putih	3,305	14,110	26,219	53,405
6	Menteng	7,787	19,231	41,276	71,471
7	Kebon Melati	1,365	14,530	34,271	71,474
8	Gelora	60	2,678	5,339	9,898
9	Kamal Muara	28	112	271	546
10	Kapuk Muara	95	650	1,125	1,795
11	Pejagalan	1,008	11,292	33,689	147,383
12	Mangga Dua Utara	296	1,951	4,581	11,175
13	Pademangan	785	8,902	23,489	51,644
14	Sunter	131	3,093	5,933	18,046
15	Pepango	343	11,082	28,039	63,435
16	Tanjung Priok	84	10,020	10,454	19,376
17	Koja	133	3,316	4,876	10,636
18	Tugu	395	8,815	17,735	37,881
19	Pegangsaan Dua	84	2,893	6,456	12,385
20	Semper	50	12,250	24,679	47,223
21	Sukapura	9	970	1,847	4,257
22	Semanan	42	4,136	13,609	35,087
23	Pegadungan	117	12,781	32,840	83,723
24	Cengkareng	241	8,881	15,746	32,077
25	Jelambar	487	9,897	21,534	43,223
26	Tomang	499	6,500	17,389	32,636
27	Palmerah	933	7,285	17,722	38,840
28	Taman Sari	7,783	19,717	32,824	90,957
29	Tambora	4,919	11,587	26,541	51,051
30	Kembangan	82	8,806	30,302	72,351
31	Kebon Jeruk	90	9,750	21,737	44,216
32	Tebet	6,473	22,287	52,422	107,365
33	Setia Budi	2,775	11,194	30,534	59,592
34	Mampang Prapatan	1,720	31,276	69,529	146,657
35	Pejaten	6,816	41,987	80,231	154,707
36	Srengseng Sawah	2,376	14,624	18,401	30,873
37	Kebayoran Baru	1,032	18,932	30,615	57,489
38	Grogol Utara	1,048	15,232	49,000	116,755
39	Kebayoran Lama	518	18,127	39,881	66,212
40	Cilandak	329	16,958	33,362	62,421
41	Matraman	1,849	13,047	30,898	62,576
42	Pulo Gadung	1,135	35,696	77,350	137,001
43	Cipinang Besar	1,696	16,862	36,262	71,731
44	Klender	1,320	21,116	57,031	168,553
45	Cihilitan	732	25,053	42,008	77,066
46	Halim Perdana Kusuma	159	7,340	16,427	28,742
47	Gedong	370	12,768	26,630	45,941
48	Lubang Buaya	260	6,769	11,826	20,831
49	Penggilingan	595	11,650	29,491	54,326
50	Cakung	474	13,027	27,756	71,544
<b>DKI Total</b>		<b>80,223</b>	<b>651,773</b>	<b>1,394,926</b>	<b>2,938,712</b>
51	Tangerang	1,482	17,721	38,773	95,229
52	Teluk Naga	198	219	564	1,728
53	Mauk	291	255	415	808
54	Cikupa	368	655	1,232	2,751
55	Serpong	1,286	744	1,607	82,567
56	Ciputat	1,079	19,929	41,864	80,801
57	Sawangan	398	1,035	1,764	2,196
58	Depok	22,401	53,182	89,682	166,328
59	Cibinong	1,127	11,732	17,601	27,621
60	Citeureup	40	879	1,368	2,710
61	Cileungsi	6	438	641	1,171
62	Bogor	19,158	41,630	62,958	90,771
63	Ciawi	172	644	923	1,980
64	Rumpin	421	468	664	1,352
65	Parung Panjang	936	562	900	1,657
66	Leuwiliang	779	1,018	1,403	2,038
67	Pondok Gede	0	4,621	12,346	25,237
68	Bekasi	2,045	50,673	84,561	115,192
69	Babelan	19	23	41	62
70	Tambun	562	7,830	13,910	15,628
71	Cikarang	1,184	4,833	7,070	20,049
72	Setu	19	169	288	646
73	Sukatani	484	497	666	1,281
<b>BOTABEK Total</b>		<b>54,455</b>	<b>219,757</b>	<b>381,239</b>	<b>739,803</b>
74	West Java - 1	2,470	5,513	6,990	8,427
75	West Java - 2	3,026	23,275	29,814	35,987
76	West Java - 3	6,136	26,464	33,834	40,663
77	Central Java	0	14,873	19,182	23,295
78	East Java	0	1,580	2,004	2,351
79	South Sumatra	0	1,534	2,043	2,674
80	Outside of Java Island	0	175	0	0
<b>Outside of JABOTABEK</b>		<b>11,632</b>	<b>73,414</b>	<b>93,867</b>	<b>113,387</b>
<b>Total</b>		<b>146,310</b>	<b>944,944</b>	<b>1,870,032</b>	<b>3,791,912</b>

Appendix 3.11 Estimated Future Person Trips by Zone (Bus)

(Unit: person trip ends/day)

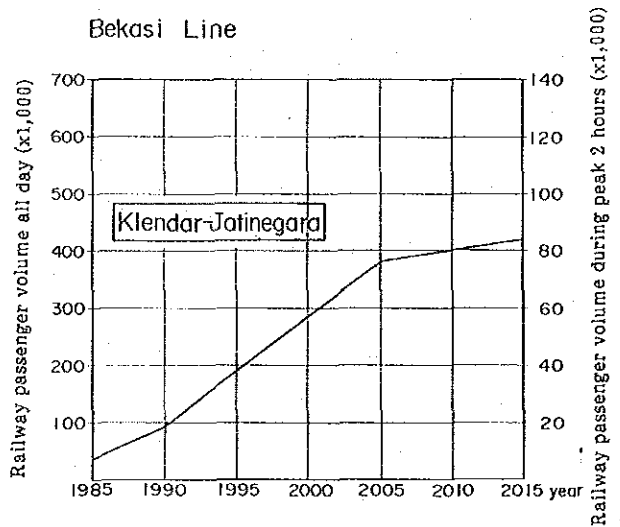
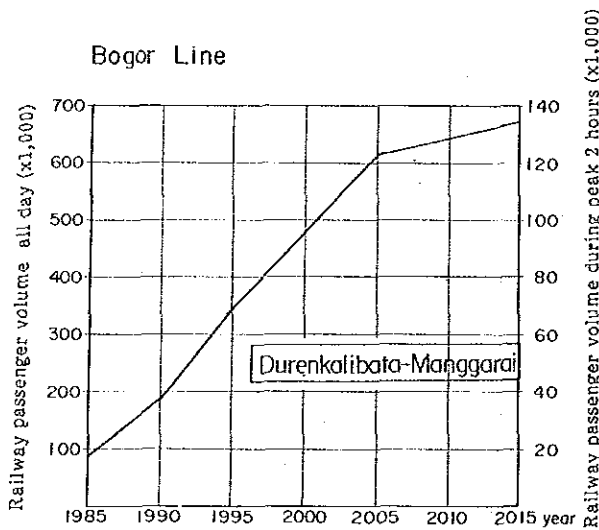
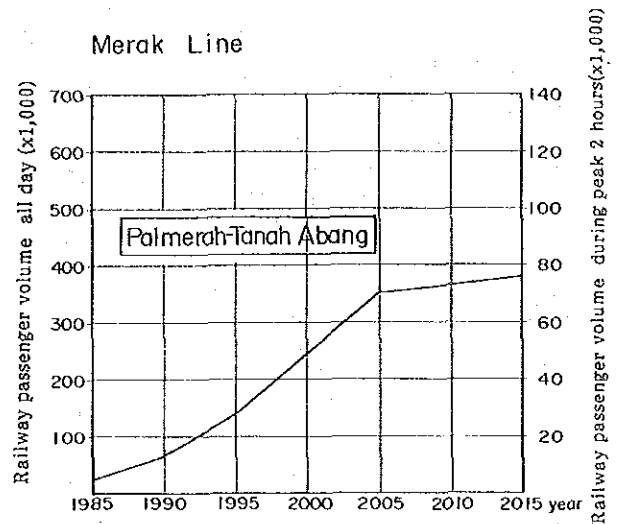
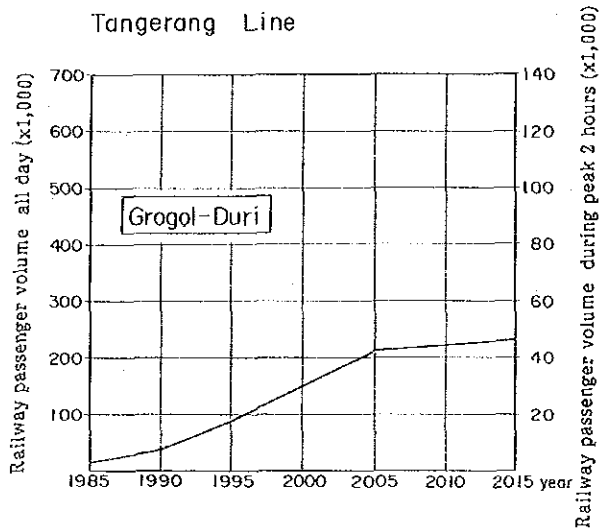
Zone No.	Zone Name	1984	1990	1995	2005
1.	Gambir	194,466	226,417	242,705	214,790
2.	Sawah Besar	126,880	157,472	176,532	161,780
3.	Kemayoran	130,548	159,650	175,759	148,093
4.	Senen	323,463	241,224	177,141	156,665
5.	Cempaka Putih	154,319	179,437	196,844	204,439
6.	Menteng	124,935	162,164	179,335	170,367
7.	Kebon Melati	216,164	215,414	205,177	201,594
8.	Gelora	35,781	35,317	34,199	27,662
9.	Kamal Muara	93	1,145	1,942	2,467
10.	Kapuk Muara	8,622	10,862	12,745	15,585
11.	Pejagalan	41,900	116,380	164,960	224,146
12.	Mangga Dua Utara	16,241	22,847	27,110	30,498
13.	Pademangan	24,085	68,668	97,860	79,471
14.	Sunter	45,846	55,384	62,903	78,495
15.	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
22.	Semanan	7,037	48,748	77,560	103,619
23.	Pegadungan	932	85,463	136,639	211,428
24.	Cengkareng	70,375	74,605	78,464	95,374
25.	Jelambar	136,019	154,397	165,866	189,401
26.	Tomang	68,009	96,895	115,087	119,039
27.	Palmerah	106,709	159,259	197,787	217,798
28.	Taman Sari	154,796	142,644	129,122	132,892
29.	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
42.	Pulo Gadung	251,524	321,834	367,585	377,720
43.	Cipinang Besar	215,885	265,707	300,175	302,741
44.	Klender	102,006	256,637	365,597	394,753
45.	Cililitan	219,350	220,977	225,369	247,920
46.	Halim Perdana Kusuma	36,479	83,579	119,636	123,419
47.	Gedong	48,444	108,854	155,454	185,021
48.	Lubang Buaya	43,560	77,818	106,466	142,331
49.	Pengginginan	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
58.	Depok	75,269	113,349	134,213	125,358
59.	Cibinong	55,419	79,722	102,917	109,331
60.	Citeureup	5,379	8,956	12,122	18,187
61.	Cileungsif	1,096	1,396	1,751	2,925
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
66.	Leuwiliang	1,580	2,375	2,856	3,365
67.	Pondok Gede	16,079	30,273	38,082	48,880
68.	Bekasi	88,350	81,931	83,065	89,446
69.	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
BOTABEK Total		438,039	588,160	692,391	869,965
74.	West Java -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
80.	Outside of Java Island	862	217	0	0
Outside of JABOTABEK		86,293	73,906	94,366	113,519
Total		5,565,760	7,749,394	9,289,990	10,378,052

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

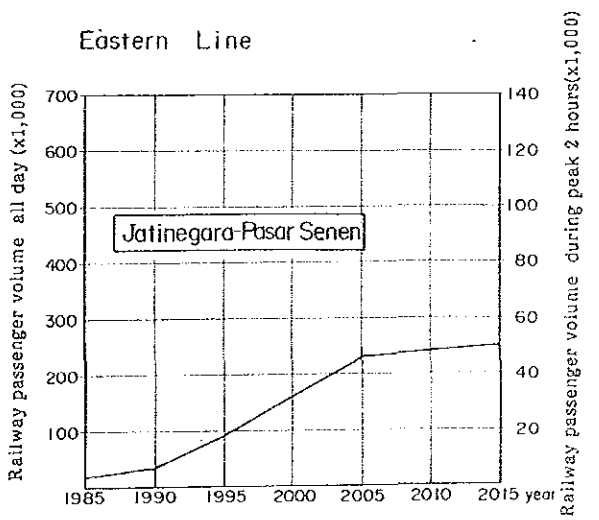
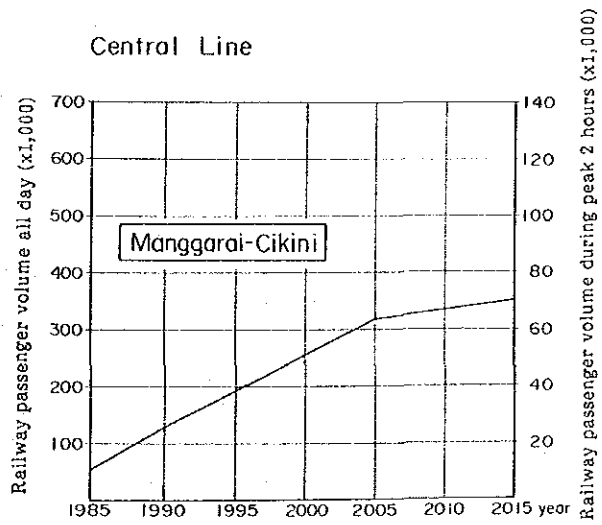
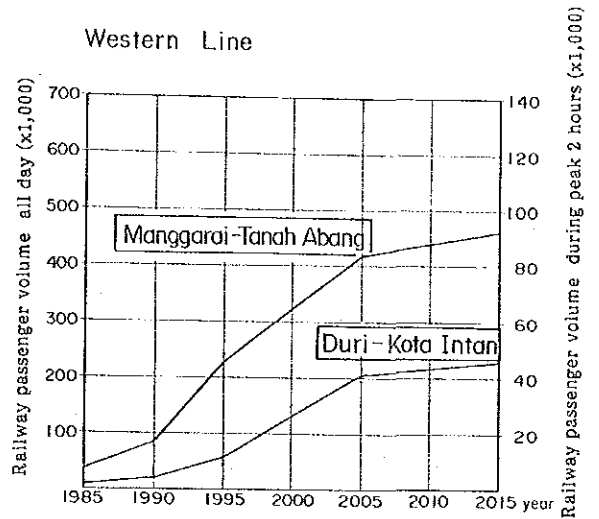
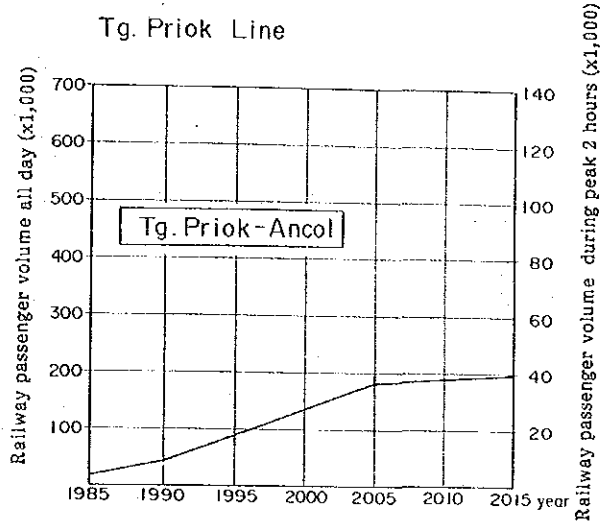
(Unit: 1,000 passengers/day, getting on/off)

	1. Tangerang	2. Kebayoran	3. Sudimara	4. Serpong	5. Klender Baru	6. Bekasi	7. Manggarai	8. Pasar Minggu	9. Depok	10. Bogor	11. Jakarta Kota	12. Gambir	13. Cikini	14. Kampung Bandan	15. Kota Intan	16. Duri	17. Tanah Abang	18. Rajawali	19. Kemayoran	20. Pasar Senen	21. Jatinegara	22. Ancol	23. Tg. Priok	Others	Number of Passengers Getting on/off
1. Tangerang	8	0	0	0	5	2	4	4	0	1	3	0	0	1	8	0	6	2	1	2	4	2	4	35	92
2. Kebayoran	8	14	1	1	14	5	7	6	4	3	0	0	6	1	6	3	9	4	5	0	15	3	8	52	174
3. Sudimara	0	14	0	0	6	0	4	1	1	0	0	0	2	0	1	1	4	1	1	0	4	1	4	21	66
4. Serpong	0	1	0	0	0	0	0	0	0	0	0	0	0	0	78	0	1	0	1	0	0	0	0	3	84
5. Klender Baru	5	14	6	0	13	13	0	18	5	2	3	9	0	1	6	3	3	1	11	9	19	3	10	82	223
6. Bekasi	2	5	0	0	0	0	0	4	1	1	2	3	0	1	3	1	2	1	6	6	15	2	5	44	117
7. Manggarai	4	7	4	0	0	0	25	21	7	157	1	1	1	0	0	1	1	0	0	0	0	0	1	26	256
8. Pasar Minggu	4	6	1	0	18	4	25	26	5	8	6	5	0	2	2	1	6	1	5	3	11	2	9	66	214
9. Depok	0	4	1	0	5	1	21	26	5	37	7	4	0	2	2	1	3	0	4	2	9	2	4	59	197
10. Bogor	1	3	0	0	2	1	7	5	5	8	6	3	0	3	1	1	1	0	5	2	5	4	4	32	98
11. Jakarta Kota	3	0	0	0	3	2	157	8	37	8	0	0	0	0	2	0	0	0	1	2	4	3	10	17	257
12. Gambir	0	0	0	0	9	3	1	6	7	6	0	0	1	0	0	0	0	0	0	0	3	0	0	11	47
13. Cikini	0	6	2	0	0	0	1	5	4	3	0	1	0	0	0	0	1	0	0	0	0	0	0	5	28
14. Kampung Bandan	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	3	11
15. Kota Intan	8	6	1	78	6	3	0	2	2	3	2	0	0	0	0	0	3	3	2	2	8	3	19	28	179
16. Duri	0	3	1	0	3	1	1	1	1	1	0	0	0	0	0	0	1	1	0	1	3	1	3	7	29
17. Tanah Abang	6	9	4	1	3	2	1	6	3	1	0	0	1	0	3	1	0	0	0	0	2	1	2	31	77
18. Rajawali	2	4	1	0	1	1	0	1	0	0	0	0	0	0	3	1	0	0	0	1	1	1	9	15	41
19. Kemayoran	1	5	1	1	11	6	0	5	4	5	1	0	0	0	2	0	0	0	6	11	1	1	5	27	92
20. Pasar Senen	2	0	0	0	9	6	0	3	2	2	2	0	0	0	2	1	0	1	6	4	4	17	15	76	
21. Jatinegara	4	15	4	0	19	15	0	11	9	5	4	3	0	1	8	3	2	1	11	4	5	13	63	200	
22. Ancol	2	3	1	0	3	2	0	2	2	4	3	0	0	0	3	1	1	1	1	4	5	7	7	7	52
23. Tg. Priok	4	8	4	0	10	5	1	9	4	4	10	0	0	3	19	3	2	9	5	17	13	7	42	179	
Others	35	52	21	3	82	44	26	66	59	32	17	11	5	3	28	7	31	15	27	15	63	7	42	691	
Number of Passengers Getting on/off	92	174	66	84	223	117	256	214	197	98	257	47	28	11	179	29	77	41	92	76	200	52	179	691	

**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**

Table A 4.1 Number of Rolling Stock Required

Line	Condition Year Train Route	WITH PROJECT					WITHOUT PROJECT				
		1990	1992	1995	2000	2005	1990	1992	1995	2000	2005
Tangerang	1	28	32	52	80	112	28	32	56	80	112
	2	36	56	72	144	208	36	56	72	144	208
Central Line (Jak-Mri-Boo)	3	120	160	136	204	264	120	160	136	204	264
	4	80	112	96	144	180	80	112	96	144	180
	5	-	-	56	84	108	-	-	56	84	108
	Total	200	272	288	432	522	200	272	288	432	522
Eastern & Western Line	6	56	80	128	192	256	48	68	112	152	208
	7	36	48	80	120	160	36	52	88	120	160
	10	-	-	-	-	-	20	24	36	64	88
	Total	92	128	208	312	416	104	144	236	336	456
Other lines	Jak-Tpk	12	16	16	20	28	12	12	20	20	24
	Pse-Tpk	16	20	16	24	32	12	16	28	24	64
	Cengkareng Line	20	20	20	40	32	20	20	40	32	
	Total	48	56	52	84	92	44	48	68	84	120
	Grand Total	404	544	672	1,052	1,380	412	552	720	1,076	1,448





## 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<sub>1-1s</sub>. 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<sub>1-1s</sub>

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

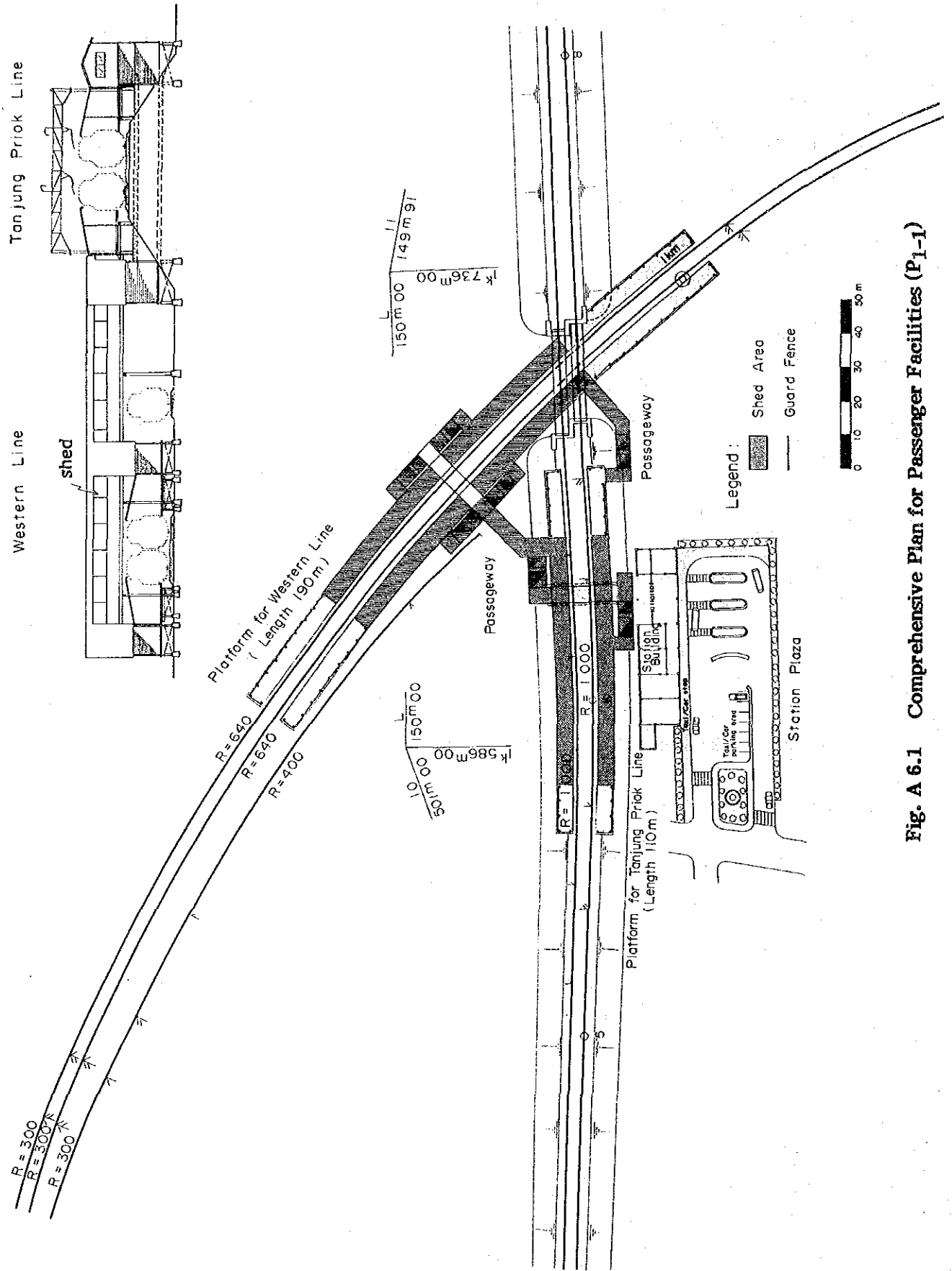


Fig. A 6.1 Comprehensive Plan for Passenger Facilities (P1-1)

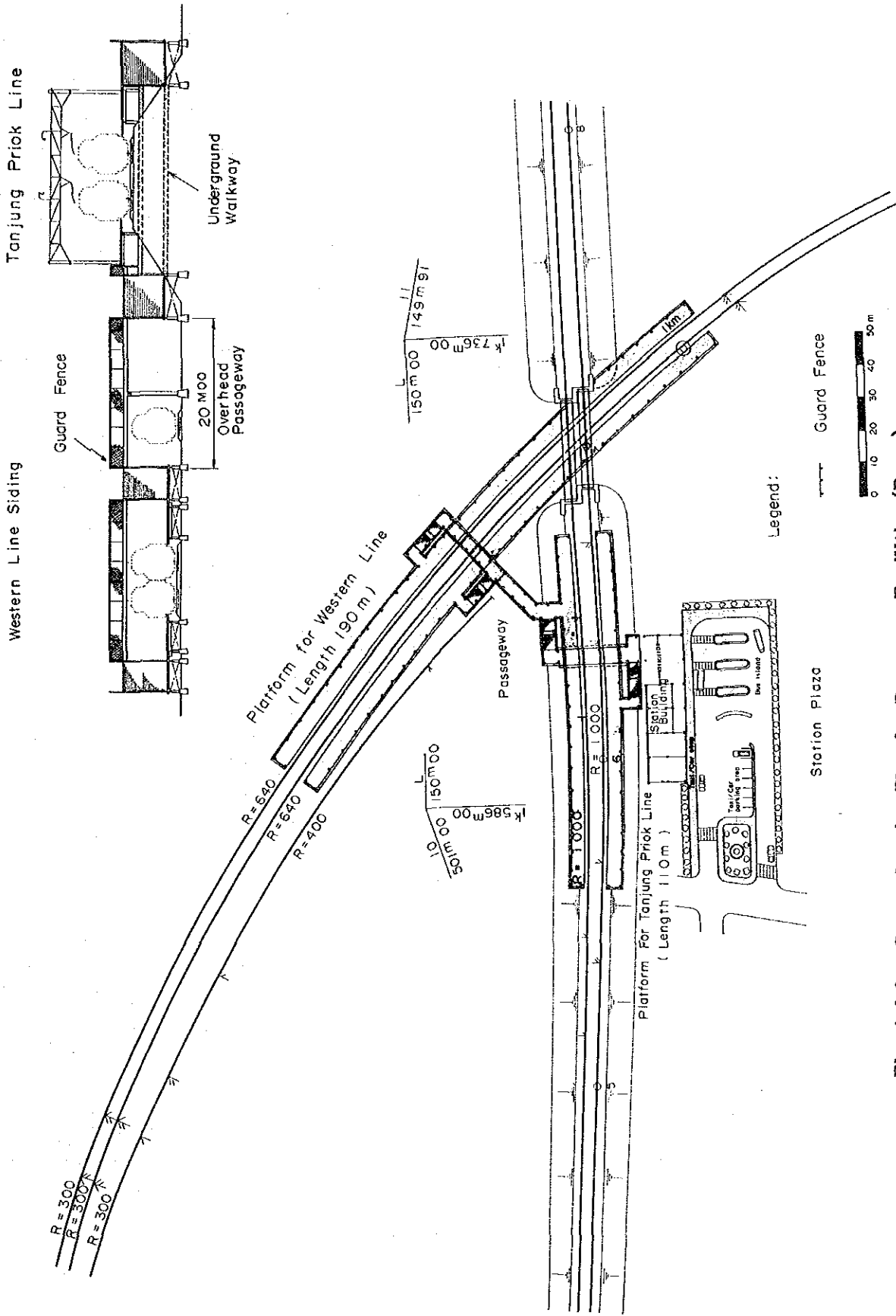


Fig. A 6.2 Comprehensive Plan for Passenger Facilities (P1-1s)

Table A 6.2 Comparison of Estimated Construction Costs

(Unit : Million Rp)

Investment item	Estimated Construction Cost			Remarks
	P1-1	P1-1s	Difference	
1) New Kampung Bandan Station	1,739	1,180	559	(Includes electric lights)
Platform	821	442	379	
Passageway	347	269	78	
Station Building	512	410	102	
Station Plaza	59	59	0	
2) Track	1,933	1,933	0	
3) Electrification	355	355	0	
4) Signalling	842	842	0	
5) Telecommunication	178	178	0	
6) Track Raising	304	304	0	Includes bridge raising
Tanjung Priok Line	185	185	0	
Western and Eastern Lines	119	119	0	
7) Others	308	308	0	
Temporary Road	11	11	0	
Level/Crossing	15	15	0	
Drainage	282	282	0	
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	



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

	(Per day)							
	1990		1992		1995		2005	
	With	Without	With	Without	With	Without	With	Without
<b>JABOTABEK Area</b>								
A. Railcar - 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
<b>Project Area</b>								
C. Railcar - kms (x1,000)	2.8	3.8	3.9	5.0	5.0	8.5	9.9	15.0
D. Train - kms (x1,000)	0.6956	0.9526	0.9768	1.255	0.814	1.719	1.628	2.266
<b>Proportion</b>								
C/A (%)	2.1	2.9	2.2	2.8	2.3	3.7	2.1	3.1
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.

- 1) 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.



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

Economic Analysis Base Case  
(Unit: MIL RP.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
INVESTMENT	266.0	112.0	2278.4	3007.8	2277.1	-52.3	-117.4	-52.3	-52.3	-4999.6	-45.6	-107.4	97.9
WITH	266.0	112.0	2292.3	3478.1	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
CIVIL WORK	230.0	59.0	2349.2	2514.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	36.0	53.0	643.1	964.0	.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
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
WITHOUT	.0	.0	713.9	470.3	7810.3	52.3	3395.7	52.3	52.3	7277.9	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	.0
ROLLING STOCK	.0	.0	.0	.0	7746.4	.0	2343.5	.0	.0	7225.7	.0	.0	.0
BUS	.0	.0	.0	.0	63.8	52.3	52.3	52.3	52.3	52.3	45.6	109.4	97.9
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
OPE. & MAINT. COST DIFF.	.0	.0	.0	.0	199.8	163.3	119.2	82.7	46.1	-256.1	-288.0	-319.9	351.7
WITH	.0	.0	.0	.0	737.3	737.3	866.4	866.4	866.4	981.8	981.8	981.8	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	.0	.0	.0	103.8	103.8	145.5	145.5	145.5	184.9	184.9	184.9	184.9
MAINT. COST (RAILWAY)	.0	.0	.0	.0	610.5	610.5	690.2	690.2	690.2	770.0	770.0	770.0	770.0
WITHOUT	.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	31.9	31.9	41.5	41.5	41.5	41.1	41.1	41.1	41.1
ENERGY COST	.0	.0	.0	.0	141.8	141.8	186.8	186.8	186.8	315.2	315.2	315.2	315.2
MAINT. COST (RAILWAY)	.0	.0	.0	.0	319.1	319.1	401.2	401.2	401.2	654.1	654.1	654.1	654.1
OPERATING COST (BUS)	.0	.0	.0	.0	44.6	81.2	117.8	154.3	190.9	227.5	259.4	291.3	323.2
BENEFIT	.0	.0	.0	.0	68.1	78.8	86.9	92.3	95.1	95.1	160.0	224.5	224.6
TIME SAVING BENEFIT	.0	.0	.0	.0	68.1	78.8	86.9	92.3	95.1	95.1	160.0	224.5	224.6
NET FLOW	-266.0	-112.0	-2278.4	-3007.8	2145.4	-32.1	85.0	61.9	101.2	5350.8	493.6	655.8	744.2
PV AT EIRR	-266.0	-95.1	-1641.9	-1840.0	1114.1	-14.2	31.8	19.7	27.3	1224.9	95.9	108.2	104.2
EIRR %	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
INVESTMENT	-97.9	-879.0	-97.9	-97.9	-91.2	-155.0	-2486.9	-97.9	-97.9	-97.9	-97.9	820.6	-155.0	-143.5	-97.9	-97.9	158.0
WITH	.0	4276.3	.0	.0	.0	.0	4491.6	.0	.0	.0	.0	1696.1	.0	.0	.0	.0	7125.5
CIVIL WORK	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
ROLLING STOCK	.0	.0	.0	.0	.0	.0	4491.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	2569.1
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	16624.6
WITHOUT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
CIVIL WORK	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
ROLLING STOCK	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
BUS	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
OPE. & MAINT. COST DIFF.	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	27.2
WITH	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
PERSONNEL COST	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
ENERGY COST	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MAINT. COST (RAILWAY)	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
WITHOUT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
PERSONNEL COST	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
ENERGY COST	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
MAINT. COST (RAILWAY)	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
OPERATING COST (BUS)	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
BENEFIT	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	27.2
TIME SAVING BENEFIT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
NET FLOW	-383.6	-457.0	-488.7	-520.8	-552.7	-584.6	-751.9	-751.9	-751.9	-751.9	-751.9	-751.9	-751.9	-751.9	-751.9	-751.9	-751.9
PV AT EIRR	981.8	1238.7	1238.7	1238.7	1238.7	1238.7	1501.2	1501.2	1501.2	1501.2	1501.2	1501.2	1501.2	1501.2	1501.2	1501.2	1716.9
EIRR %	26.9	40.7	40.7	40.7	40.7	40.7	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	38.9
NET FLOW	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	369.9	369.9	369.9	459.2
PV AT EIRR	770.0	920.3	920.3	920.3	920.3	920.3	1077.6	1077.6	1077.6	1077.6	1077.6	1077.6	1077.6	1077.6	1077.6	1077.6	1218.0
EIRR %	1365.4	1695.7	1727.6	1759.5	1791.4	1823.3	2253.1	2253.1	2253.1	2253.1	2253.1	2253.1	2253.1	2253.1	2253.1	2253.1	2547.9
NET FLOW	41.1	56.8	56.8	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
PV AT EIRR	315.2	420.2	420.2	420.2	420.2	420.2	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	672.8
EIRR %	654.1	831.8	831.8	831.8	831.8	831.8	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1223.3
NET FLOW	355.0	386.9	418.8	450.7	482.6	514.5	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4
PV AT EIRR	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	817.2	817.2	817.2	817.2
EIRR %	845.9	1771.8	1095.6	1202.1	1303.6	1477.3	4056.0	1666.9	1666.9	1666.9	1666.9	1666.9	1666.9	1666.9	1666.9	1666.9	1490.3
NET FLOW	100.6	178.8	93.9	87.4	80.5	77.4	180.4	63.0	53.4	45.4	38.5	34.7	28.7	24.2	20.0	17.0	12.7
PV AT EIRR	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8

Economic Analysis Case 1

(UNIT: MIL RP.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
INVESTMENT	292.6	123.2	2506.2	3308.6	-2504.8	-57.5	-129.1	-57.5	-57.5	-5499.5	-50.2	-120.4	-107.7
WITH	292.6	123.2	3291.5	3826.0	6086.5	.0	2506.2	.0	.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
SIGNAL & TELECOM	39.6	58.3	707.4	1060.4	.0	.0	.0	.0	.0	2506.2	.0	.0	.0
ROLLING STOCK	.0	.0	.0	.0	6086.5	.0	2506.2	.0	.0	.0	.0	.0	.0
BUS	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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
CIVIL WORK	.0	.0	440.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	.0	.0	345.3	517.4	.0	.0	.0	.0	.0	.0	.0	.0	.0
ROLLING STOCK	.0	.0	.0	.0	8521.1	.0	2577.8	.0	.0	7948.2	.0	.0	.0
BUS	.0	.0	.0	.0	70.2	57.5	57.5	57.5	57.5	50.2	120.4	107.7	.0
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
OPE. & MAINT. COST DIFF.	.0	.0	.0	.0	229.0	192.4	148.1	111.6	75.0	-244.5	-276.4	-308.3	-340.2
WITH	.0	.0	.0	.0	798.4	798.4	935.5	935.5	935.5	1058.8	1058.8	1058.8	1058.8
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	.0	.0	.0	103.8	103.8	145.5	145.5	145.5	184.9	184.9	184.9	184.9
MAINT. COST (RAILWAY)	.0	.0	.0	.0	671.5	671.5	759.3	759.3	759.3	847.0	847.0	847.0	847.0
WITHOUT	.0	.0	.0	.0	569.4	606.0	787.3	823.9	860.5	1303.3	1335.2	1367.1	1399.0
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	.0	.0	.0	.0	141.8	141.8	186.8	186.8	186.8	315.2	315.2	315.2	315.2
MAINT. COST (RAILWAY)	.0	.0	.0	.0	351.1	351.1	441.3	441.3	441.3	719.5	719.5	719.5	719.5
OPERATING COST (BUS)	.0	.0	.0	.0	44.6	81.2	117.8	154.3	190.9	227.5	259.4	291.3	323.2
BENEFIT	.0	.0	.0	.0	68.1	78.8	86.9	92.3	95.1	95.1	160.0	226.5	294.6
TIME SAVING BENEFIT	.0	.0	.0	.0	68.1	78.8	86.9	92.3	95.1	95.1	160.0	226.5	294.6
NET FLOW	-292.6	-123.2	-2506.2	-3308.6	2343.9	-56.1	67.9	38.2	77.6	5839.2	486.5	655.1	742.4
PV AT EIRR	-292.6	-105.2	-1827.8	-2860.7	1246.7	-25.5	26.3	12.7	21.9	1410.7	100.4	115.4	111.7
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

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
INVESTMENT	-107.7	-966.9	-107.7	-107.7	-100.3	-170.5	-2735.6	-107.7	-107.7	-107.7	-107.7	902.7	-170.5	-157.8	-107.7	-107.7	173.8
WITH	.0	4726.0	.0	.0	.0	.0	4940.8	.0	.0	.0	.0	1865.7	.0	.0	.0	.0	7838.0
CIVIL WORK	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	.0	4726.0	.0	.0	.0	.0	4940.8	.0	.0	.0	.0	1865.7	.0	.0	.0	.0	.0
ROLLING STOCK	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	10526.0
BUS	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	10364.0
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
WITHOUT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
CIVIL WORK	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
ROLLING STOCK	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
BUS	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
OPE. & MAINT. COST DIFF.	-372.0	-448.2	-480.1	-511.9	-543.8	-575.7	-751.2	-751.2	-751.2	-751.2	-751.2	-751.2	-751.2	-751.2	-751.2	-751.2	-836.6
WITH	1058.8	1330.7	1330.7	1330.7	1330.7	1330.7	1609.0	1609.0	1609.0	1609.0	1609.0	1609.0	1609.0	1609.0	1609.0	1609.0	1038.7
PERSONNEL COST	26.9	40.7	40.7	40.7	40.7	40.7	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	38.8
ENERGY COST	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	369.9	369.9	369.9	459.2
MAINT. COST (RAILWAY)	847.0	1012.4	1012.4	1012.4	1012.4	1012.4	1185.3	1185.3	1185.3	1185.3	1185.3	1185.3	1185.3	1185.3	1185.3	1185.3	1340.7
WITHOUT	1430.8	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
PERSONNEL COST	41.1	56.8	56.8	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
ENERGY COST	315.2	420.2	420.2	420.2	420.2	420.2	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	672.8
MAINT. COST (RAILWAY)	719.5	915.0	915.0	915.0	915.0	915.0	1178.1	1178.1	1178.1	1178.1	1178.1	1178.1	1178.1	1178.1	1178.1	1178.1	1401.2
OPERATING COST (BUS)	355.0	386.9	418.8	450.7	482.6	514.5	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4
BENEFIT	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	817.2	817.2	817.2	817.2
TIME SAVING BENEFIT	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	817.2	817.2	817.2	817.2
NET FLOW	844.1	1859.8	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
PV AT EIRR	108.5	203.1	102.8	96.3	89.1	86.6	214.5	71.3	60.9	52.0	44.4	15.1	33.6	28.5	23.6	20.2	15.2
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	17.1	17.1	17.1	17.1

Economic Analysis Case 2

(UNIT: MIL RP.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
INVESTMENT	292.6	123.2	2506.2	3308.6	-2277.1	-52.3	-117.4	-52.3	-52.3	-4999.6	-45.6	-109.4	-97.9
WITH	292.6	123.2	3291.5	3826.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
CIVIL WORK	253.0	64.9	2584.1	2765.6	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	39.6	58.3	707.4	1060.4	.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
BUS	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
WITHOUT	.0	.0	785.3	517.4	7810.3	52.3	2395.7	52.3	52.3	7277.9	45.6	109.4	97.9
CIVIL WORK	.0	.0	440.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	.0	.0	345.3	517.4	.0	.0	.0	.0	.0	.0	.0	.0	.0
ROLLING STOCK	.0	.0	.0	.0	7746.4	.0	2343.5	.0	.0	7225.7	.0	.0	.0
BUS	.0	.0	.0	.0	63.8	52.3	52.3	52.3	52.3	52.3	45.6	109.4	97.9
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
OPE. & MAINT. COST DIFF.	.0	.0	.0	.0	240.8	207.5	166.8	133.6	100.3	-198.5	-227.5	-256.5	-285.5
WITH	.0	.0	.0	.0	779.0	779.0	908.1	908.1	908.1	1023.5	1023.5	1023.5	1023.5
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	.0	.0	.0	103.8	103.8	145.5	145.5	145.5	184.9	184.9	184.9	184.9
MAINT. COST (RAILWAY)	.0	.0	.0	.0	652.2	652.2	731.9	731.9	731.9	811.7	811.7	811.7	811.7
WITHOUT	.0	.0	.0	.0	538.2	571.5	741.3	774.5	807.8	1222.0	1251.0	1280.0	1309.0
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	.0	.0	.0	.0	141.8	141.8	186.8	186.8	186.8	315.2	315.2		

Economic Analysis Case 3

(UNIT: MIL RP.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
INVESTMENT	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
WITH	266.0	112.0	2292.3	3478.1	4979.8	.0	2050.5	.0	.0	2050.5	.0	.0	.0
CIVIL WORK	230.0	59.0	2349.2	2514.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	36.0	53.0	643.1	964.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
ROLLING STOCK	.0	.0	.0	.0	4979.8	.0	2050.5	.0	.0	2050.5	.0	.0	.0
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
WITHOUT	.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	.0
ROLLING STOCK	.0	.0	.0	.0	6971.8	.0	2109.1	.0	.0	6503.1	.0	.0	.0
BUS	.0	.0	.0	.0	63.8	52.3	52.3	52.3	52.3	52.3	45.6	109.4	97.9
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
OPER. & 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
WITH	.0	.0	.0	.0	718.0	718.0	839.1	839.1	839.1	946.5	946.5	946.5	946.5
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	.0	.0	.0	103.8	103.8	145.5	145.5	145.5	184.9	184.9	184.9	184.9
MAINT. COST (RAILWAY)	.0	.0	.0	.0	591.1	591.1	662.9	662.9	662.9	734.7	734.7	734.7	734.7
WITHOUT	.0	.0	.0	.0	510.4	546.9	711.9	748.5	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	.0	.0	.0	.0	141.8	141.8	186.8	186.8	186.8	315.2	315.2	315.2	315.2
MAINT. 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	117.8	154.3	190.9	227.5	259.4	291.3	323.2
BENEFIT	.0	.0	.0	.0	68.1	78.8	86.9	92.3	95.1	95.1	160.0	226.5	294.6
TIME SAVING BENEFIT	.0	.0	.0	.0	68.1	78.8	86.9	92.3	95.1	95.1	160.0	226.5	294.6
NET FLOW	-266.0	-112.0	-2278.4	-3007.8	1916.3	-39.9	70.6	54.0	93.3	4830.8	468.3	630.5	718.9
PV AT EIRR	-266.0	-96.1	-1676.0	-1897.6	1036.9	-18.5	28.1	18.4	27.3	1213.0	100.8	116.5	113.7
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

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
INVESTMENT	-97.9	-800.9	-97.9	-97.9	-91.2	-155.0	-2252.6	-97.9	-97.9	-97.9	-97.9	820.6	-155.0	-143.5	-97.9	-97.9	-64.9
WITH	.0	3866.7	.0	.0	.0	.0	4042.5	.0	.0	.0	.0	1696.1	.0	.0	.0	.0	-6712.0
CIVIL WORK	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1696.1	.0	.0	.0	.0	.0
ROLLING STOCK	.0	3866.7	.0	.0	.0	.0	4042.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	8612.2
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	15324.2
WITHOUT	97.9	4667.6	97.9	97.9	91.2	155.0	6295.1	97.9	97.9	97.9	97.9	875.4	155.0	143.5	97.9	97.9	-6647.0
CIVIL WORK	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	784.2	.0	.0	.0	.0	.0
ROLLING STOCK	.0	4569.7	.0	.0	.0	.0	6151.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	12186.0
BUS	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	-18930.9
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
OPER. & MAINT. COST DIFF.	-358.3	-429.0	-460.9	-492.8	-524.7	-556.6	-715.6	-715.6	-715.6	-715.6	-715.6	-715.6	-715.6	-715.6	-715.6	-715.6	-788.7
WITH	946.5	1188.3	1188.3	1188.3	1188.3	1188.3	1435.1	1435.1	1435.1	1435.1	1435.1	1435.1	1435.1	1435.1	1435.1	1435.1	1636.6
PERSONNEL COST	26.9	40.7	40.7	40.7	40.7	40.7	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	38.8
ENERGY COST	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	369.9	369.9	369.9	459.2
MAINT. COST (RAILWAY)	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	1011.5	1138.6
WITHOUT	1304.8	1617.3	1649.2	1681.1	1713.0	1744.9	2150.8	2150.8	2150.8	2150.8	2150.8	2150.8	2150.8	2150.8	2150.8	2150.8	2425.3
PERSONNEL COST	41.1	56.8	56.8	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
ENERGY COST	315.2	420.2	420.2	420.2	420.2	420.2	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	672.8
MAINT. COST (RAILWAY)	593.5	753.4	753.4	753.4	753.4	753.4	968.7	968.7	968.7	968.7	968.7	968.7	968.7	968.7	968.7	968.7	1151.2
OPERATING COST (BUS)	355.0	386.9	418.8	450.7	482.6	514.5	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4	546.4
BENEFIT	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	817.2	817.2	817.2	817.2
TIME SAVING BENEFIT	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	817.2	817.2	817.2	817.2
NET FLOW	820.6	1665.7	1067.5	1174.1	1275.6	1449.2	3785.4	1630.7	1630.7	1630.7	1630.7	712.2	1687.9	1676.3	1630.7	1630.7	1670.8
PV AT EIRR	111.5	194.1	106.7	100.6	93.8	91.4	204.7	75.6	64.9	55.6	47.7	17.9	36.3	30.9	25.8	22.1	19.5
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	16.6	16.6	16.6	16.6

Economic Analysis Case 4

(UNIT: MIL RP.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
INVESTMENT	266.0	112.0	2278.4	3007.8	-2270.7	-47.1	-112.2	-47.1	-47.1	-4994.4	-41.0	-98.5	-88.1
WITH	266.0	112.0	2992.3	3478.1	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
CIVIL WORK	230.0	59.0	2349.2	2514.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	36.0	53.0	643.1	964.0	.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
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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	.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	.0
ROLLING STOCK	.0	.0	.0	.0	7746.4	.0	2343.5	.0	.0	7225.7	.0	.0	.0
BUS	.0	.0	.0	.0	57.5	47.1	47.1	47.1	47.1	41.0	98.5	88.1	.0
-SALVAGE VALUE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
OPER. & 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	866.4	866.4	981.8	981.8	981.8	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	.0	.0	.0	103.8	103.8	145.5	145.5	145.5	184.9	184.9	184.9	184.9
MAINT. COST (RAILWAY)	.0	.0	.0	.0	610.5	610.5	690.2	690.2	690.2	770.0	770.0	770.0	770.0
WITHOUT	.0	.0	.0	.0	533.0	565.9	735.4	768.3	801.2	1215.1	1243.8	1272.5	1301.2
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	.0	.0	.0	.0	141.8	141.8	186.8	186.8	186.8	315.2	315.2	315.2	315.2
MAINT. COST (RAILWAY)	.0	.0	.0	.0	319.1	319.1	401.2	401.2	401.2	654.1	654.1	654.1	654.1
OPERATING COST (BUS)	.0	.0	.0	.0	40.2	73.1	106.0	138.9					

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.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
OPERATING REVENUE	.0	.0	.0	.0	271.6	513.8	956.0	1298.3	1640.5	1982.8	2202.2	2421.7	2641.2
OPERATING 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	.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	.0	.0	.0	106.9	106.9	149.8	149.8	149.8	190.4	190.4	190.4	190.4
MAINT. COST	.0	.0	.0	.0	630.1	630.1	709.9	709.9	709.9	789.6	789.6	789.6	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
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	-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	165.0	403.2	641.5
WORKING RATIO	.00	.00	.00	.00	2.80	1.24	.93	.69	.54	.51	.46	.42	.38
CUM WORKING RATIO	.00	.00	.00	.00	2.80	1.72	1.31	1.05	.88	.77	.69	.63	.59
OPERATING RATIO	.00	.00	.00	.00	4.43	1.96	1.49	1.10	.87	.82	.74	.67	.62
CUM OPERATING RATIO	.00	.00	.00	.00	4.43	2.72	2.08	1.67	1.40	1.23	1.11	1.02	.94
INVESTMENT	266.0	112.0	3132.0	3634.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
FOREIGN TOTAL	266.0	112.0	2183.0	2538.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
LOCAL TOTAL	.0	.0	949.0	1096.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
CIVIL WORK	230.0	59.0	2473.0	2646.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FOREIGN CURRENCY	230.0	59.0	1694.0	1806.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
LOCAL CURRENCY	.0	.0	779.0	840.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	36.0	53.0	659.0	988.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FOREIGN CURRENCY	36.0	53.0	489.0	732.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
LOCAL CURRENCY	.0	.0	170.0	256.0	.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	.0	.0	.0	.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
LOCAL CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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	71.7	160.7	.0	.0	.0	.0	.0	.0	.0	.0	.0
FINANCE PROGRAM													
FINANCE TOTAL													
BORROWING	273.0	124.6	3203.7	3794.7	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	.0	.0	.0	.0	.0	13.7	19.9	132.6	
BALANCE	273.0	397.6	3601.3	7396.0	7396.0	7396.0	7396.0	7396.0	7396.0	7382.3	7362.4	7229.8	
INTEREST	.0	.0	.0	.0	187.3	187.3	187.3	187.3	187.3	186.9	186.3	182.6	
FINANCE IN FOREIGN CCY													
BORROWING	273.0	124.6	2254.7	2698.7	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	.0	.0	.0	.0	.0	13.7	19.9	132.6	
BALANCE	273.0	397.6	2652.3	5351.0	5351.0	5351.0	5351.0	5351.0	5351.0	5337.3	5317.4	5184.8	
INTEREST	.0	.0	.0	.0	187.3	187.3	187.3	187.3	187.3	186.9	186.3	182.6	
FINANCE IN LOCAL CCY 1													
BORROWING	.0	.0	949.0	1096.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
BALANCE	.0	.0	949.0	2045.0	2045.0	2045.0	2045.0	2045.0	2045.0	2045.0	2045.0	2045.0	
INTEREST	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FINANCE IN LOCAL CCY 2													
BORROWING	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
BALANCE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
INTEREST	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
CASHFLOW PROJECTION													
CASH IN	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
OPERATING PROFIT AFR DEPR.	.0	.0	.0	.0	-931.8	-589.5	-468.8	-126.6	215.7	350.3	569.7	789.2	1008.7
DEPRECIATION	.0	.0	.0	.0	443.3	443.3	534.5	534.5	534.5	625.6	625.6	625.6	625.6
BORROWING	273.0	124.6	3203.7	3794.7	.0	.0	.0	.0	.0	.0	.0	.0	.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
INVESTMENT	266.0	112.0	3132.0	3634.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
INT. DURING CONST.	7.0	12.6	71.7	160.7	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	.0	.0	.0	.0	.0	13.7	19.9	132.6	
INTEREST	.0	.0	.0	.0	187.3	187.3	187.3	187.3	187.3	186.9	186.3	182.6	
NET CASHFLOW	.0	.0	.0	.0	-6208.9	-333.5	-2400.0	220.6	562.9	-1489.8	994.8	1208.7	1319.1
CUM NET CASHFLOW	.0	.0	.0	.0	-6208.9	-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
OPERATING REVENUE	2860.7	3080.2	3299.6	3519.1	3738.6	3958.1	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6
OPERATING EXPENSE	1006.9	1266.5	1266.5	1266.5	1266.5	1266.5	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1750.0
PERSONNEL COST	26.9	40.7	40.7	40.7	40.7	40.7	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	38.8
ENERGY COST	190.4	285.8	285.8	285.8	285.8	285.8	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	472.8
MAINT. COST	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	1097.2	1097.2	1238.4
OPERATING PROFIT PRE DEPR.	1853.8	1813.6	2033.1	2252.6	2472.1	2691.6	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2422.6
DEPRECIATION	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	977.1	977.1	1138.6
OPERATING PROFIT AFR DEPR.	1228.2	1016.2	1235.7	1455.2	1674.6	1894.1	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1284.0
INTEREST ON TOTAL ASSETS	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	280.8	251.4	504.4
NET PROFIT	879.7	562.8	806.2	1049.6	1293.0	1536.4	1200.5	1229.8	1259.1	1288.5	1317.8	1295.0	1324.3	1353.6	1382.9	1412.3	779.7
WORKING RATIO	.35	.41	.38	.36	.34	.32	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37	.42
CUM WORKING RATIO	.55	.53	.51	.49	.47	.45	.44	.43	.43	.42	.42	.42	.41	.41	.41	.41	.41
OPERATING RATIO	.57	.67	.63	.59	.55	.52	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60	.69
CUM OPERATING RATIO	.88	.85	.82	.79	.76	.73	.72	.70	.70	.69	.68	.68	.67	.67	.66	.66	.66
INVESTMENT	.0	4296.3	.0	.0	.0	.0	4491.6	.0	.0	.0	.0	1736.0	.0	.0	.0	.0	9569.1
FOREIGN TOTAL	.0	4296.3	.0	.0	.0	.0	4491.6	.0	.0	.0	.0	1310.0	.0	.0	.0	.0	9569.1
LOCAL TOTAL	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	426.0	.0	.0	.0	.0	.0
CIVIL WORK	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FOREIGN CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
LOCAL CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FOREIGN CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
LOCAL CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
ROLLING STOCK	.0	4296.3	.0	.0	.0	.0	4491.6	.0	.0								

Financial Analysis Case 1

(Unit: MIL RP.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
OPERATING REVENUE	.0	.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	760.0	890.4	890.4	890.4	1006.9	1006.9	1006.9	1006.9
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	.0	.0	.0	106.9	106.9	149.8	149.8	149.8	190.4	190.4	190.4	190.4
MAINT. COST	.0	.0	.0	.0	630.1	630.1	709.9	709.9	709.9	789.6	789.6	789.6	789.6
OPERATING PROFIT PRE DEPR.	.0	.0	.0	.0	-88.5	-146.2	65.7	407.9	750.1	975.9	1195.3	1414.8	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	-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	165.0	403.2	641.5
WORKING RATIO	.00	.00	.00	.00	2.80	1.24	.93	.69	.54	.51	.46	.42	.38
CUR WORKING RATIO	.00	.00	.00	.00	2.80	1.72	1.31	1.05	.88	.77	.69	.63	.59
OPERATING RATIO	.00	.00	.00	.00	4.43	1.96	1.49	1.10	.87	.82	.74	.67	.62
CUR OPERATING RATIO	.00	.00	.00	.00	4.43	2.72	2.08	1.67	1.40	1.23	1.11	1.02	.94
INVESTMENT	266.0	112.0	3132.0	3634.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
FOREIGN TOTAL	266.0	112.0	2183.0	2538.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
LOCAL TOTAL	.0	.0	949.0	1096.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
CIVIL WORK	230.0	59.0	2473.0	2646.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FOREIGN CURRENCY	230.0	59.0	1694.0	1806.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
LOCAL CURRENCY	.0	.0	779.0	840.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	36.0	53.0	659.0	988.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FOREIGN CURRENCY	36.0	53.0	489.0	732.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
LOCAL CURRENCY	.0	.0	170.0	256.0	.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	.0	.0	.0	.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
LOCAL CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.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	.0	.0	.0	.0
FINANCE PROGRAM													
FINANCE TOTAL													
BORROWING	273.0	124.6	3264.0	3956.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
BALANCE	273.0	397.6	3661.6	7617.9	7617.9	7528.7	7321.3	7113.9	6906.5	6685.5	6458.2	6207.3	250.9
INTEREST	.0	.0	.0	.0	392.6	392.6	381.6	352.2	318.0	283.8	249.2	214.4	187.5
FINANCE IN FOREIGN CCY													
BORROWING	273.0	124.6	2254.7	2698.7	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
BALANCE	273.0	397.6	2652.3	5351.0	5351.0	5351.0	5351.0	5351.0	5351.0	5337.3	5317.4	5184.8	132.6
INTEREST	.0	.0	.0	.0	187.3	187.3	187.3	187.3	187.3	186.9	186.3	182.6	.0
FINANCE IN LOCAL CCY 1													
BORROWING	.0	.0	474.5	548.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
BALANCE	.0	.0	474.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5	1022.5
INTEREST	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FINANCE IN LOCAL CCY 2													
BORROWING	.0	.0	534.8	709.6	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
BALANCE	.0	.0	534.8	1244.4	1244.4	1244.4	1155.3	947.9	740.5	533.1	325.7	118.3	118.3
INTEREST	.0	.0	.0	.0	205.3	205.3	194.3	165.0	130.7	96.5	62.3	28.1	4.9
CASHFLOW PROJECTION													
CASH IN	273.0	124.6	3264.0	3956.2	-88.5	-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	-468.8	-126.6	215.7	350.3	569.7	789.2	1008.7
DEPRECIATION	.0	.0	.0	.0	443.3	443.3	534.5	534.5	534.5	625.6	625.6	625.6	625.6
BORROWING	273.0	124.6	3264.0	3956.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
CASH OUT	273.0	124.6	3264.0	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	.0	2278.4	.0	.0	2278.4	.0	.0	.0
INT. DURING CONST.	7.0	12.6	132.0	322.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
INTEREST	.0	.0	.0	.0	392.6	392.6	381.6	352.2	318.0	283.8	249.2	214.4	187.5
NET CASHFLOW	.0	.0	.0	.0	-6414.2	-6953.0	-9636.5	-9788.2	-9563.4	-11357.1	-10632.1	-9658.9	-8463.0
CUR NET CASHFLOW	.0	.0	.0	.0	-6414.2	-6953.0	-9636.5	-9788.2	-9563.4	-11357.1	-10632.1	-9658.9	-8463.0

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
OPERATING REVENUE	2860.7	3080.2	3299.6	3519.1	3738.6	3958.1	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6
OPERATING EXPENSE	1006.9	1266.5	1266.5	1266.5	1266.5	1266.5	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1750.0
PERSONNEL COST	26.9	40.7	40.7	40.7	40.7	40.7	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	30.8
ENERGY COST	190.4	285.8	285.8	285.8	285.8	285.8	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	472.8
MAINT. COST	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	1097.2	1097.2	1230.4
OPERATING PROFIT PRE DEPR.	1853.8	1813.6	2033.1	2252.6	2472.1	2691.6	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2422.6
DEPRECIATION	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	977.1	977.1	1130.6
OPERATING PROFIT AFR DEPR.	1228.2	1016.2	1235.7	1455.2	1674.6	1894.1	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1294.0
INTEREST ON TOTAL ASSETS	348.5	453.4	429.5	405.6	381.7	357.7	463.2	433.9	404.6	375.2	345.9	369.7	339.4	310.1	280.8	251.4	504.4
NET PROFIT	879.7	562.8	806.2	1049.6	1293.0	1536.4	1200.5	1229.8	1259.1	1288.5	1317.8	1295.0	1324.3	1353.6	1382.9	1412.3	779.7
WORKING RATIO	.35	.41	.38	.36	.34	.32	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37	.42
CUR WORKING RATIO	.55	.53	.51	.49	.47	.45	.44	.43	.43	.42	.42	.42	.41	.41	.41	.41	.41
OPERATING RATIO	.57	.67	.63	.59	.55	.52	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60	.69
CUR OPERATING RATIO	.88	.85	.82	.79	.76	.73	.72	.70	.70	.69	.68	.68	.67	.67	.66	.66	.66
INVESTMENT	.0	4296.3	.0	.0	.0	.0	4491.6	.0	.0	.0	.0	1736.0	.0	.0	.0	.0	9569.1
FOREIGN TOTAL	.0	4296.3	.0	.0	.0	.0	4491.6	.0	.0	.0	.0	1310.0	.0	.0	.0	.0	9569.1
LOCAL TOTAL	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	426.0	.0	.0	.0	.0	.0
CIVIL WORK	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FOREIGN CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
LOCAL CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1736.0	.0	.0	.0	.0	.0
FOREIGN CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
LOCAL CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1310.0	.0	.0	.0	.0	.0
ROLLING STOCK	.0	4296.3	.0	.0													



Financial Analysis Case 2  
(Unit: MIL RP.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
OPERATING REVENUE	.0	.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	760.0	890.4	890.4	890.4	1006.9	1006.9	1006.9	1006.9
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	.0	.0	.0	106.9	106.9	149.8	149.8	149.8	190.4	190.4	190.4	190.4
MAINT. COST	.0	.0	.0	.0	630.1	630.1	709.9	709.9	709.9	789.6	789.6	789.6	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
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	-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	165.0	403.2	641.5
WORKING RATIO	.00	.00	.00	.00	2.80	1.24	.93	.69	.54	.51	.46	.42	.38
CUM WORKING RATIO	.00	.00	.00	.00	2.80	1.72	1.31	1.05	.88	.77	.69	.63	.59
OPERATING RATIO	.00	.00	.00	.00	4.43	1.96	1.49	1.10	.87	.82	.74	.67	.62
CUM OPERATING RATIO	.00	.00	.00	.00	4.43	2.72	2.08	1.67	1.40	1.23	1.11	1.02	.94
INVESTMENT	266.0	112.0	3132.0	3634.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
FOREIGN TOTAL	266.0	112.0	2185.0	2530.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
LOCAL TOTAL	.0	.0	949.0	1096.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
CIVIL WORK	230.0	59.0	2473.0	2646.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FOREIGN CURRENCY	230.0	59.0	1694.0	1806.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
LOCAL CURRENCY	.0	.0	779.0	840.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	36.0	53.0	659.0	988.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FOREIGN CURRENCY	36.0	53.0	489.0	732.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
LOCAL CURRENCY	.0	.0	170.0	256.0	.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	.0	.0	.0	.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
LOCAL CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.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	431.8	.0	.0	.0	.0	.0	.0	.0	.0	.0
FINANCE PROGRAM													
FINANCE TOTAL													
BORROWING	284.2	145.8	3321.1	4065.8	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	25.8	39.1	254.7	524.7	524.7	524.7	524.7	524.7	524.7
BALANCE	284.2	430.1	3751.2	7816.9	7791.1	7752.0	7497.3	6972.5	6447.8	5923.1	5398.4	4873.7	4348.9
INTEREST	.0	.0	.0	.0	517.7	514.5	496.4	455.3	408.1	360.8	313.6	266.4	219.2
FINANCE IN FOREIGN CCY													
BORROWING	284.2	145.8	2372.1	2969.8	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	25.8	39.1	254.7	524.7	524.7	524.7	524.7	524.7	524.7
BALANCE	284.2	430.1	2802.2	5771.9	5746.1	5707.0	5452.3	4927.5	4402.8	3878.1	3353.4	2828.7	2303.9
INTEREST	.0	.0	.0	.0	517.7	514.5	496.4	455.3	408.1	360.8	313.6	266.4	219.2
FINANCE IN LOCAL CCY 1													
BORROWING	.0	.0	949.0	1096.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
BALANCE	.0	.0	949.0	2045.0	2045.0	2045.0	2045.0	2045.0	2045.0	2045.0	2045.0	2045.0	2045.0
INTEREST	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FINANCE IN LOCAL CCY 2													
BORROWING	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
BALANCE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
INTEREST	.0	.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	407.9	750.1	975.9	1195.3	1414.8	1634.3
OPERATING PROFIT AFR DEPR.	.0	.0	.0	.0	-931.8	-589.5	-468.8	-126.6	215.7	350.3	569.7	789.2	1008.7
DEPRECIATION	.0	.0	.0	.0	443.3	443.3	534.5	534.5	534.5	625.6	625.6	625.6	625.6
BORROWING	284.2	145.8	3321.1	4065.8	.0	.0	.0	.0	.0	.0	.0	.0	.0
CASH OUT	284.2	145.8	3321.1	4065.8	6076.7	553.6	3029.5	980.0	932.8	3163.9	838.3	791.1	743.9
INVESTMENT	266.0	112.0	3132.0	3634.0	5533.2	.0	2278.4	.0	.0	2278.4	.0	.0	.0
INT. DURING CONST.	18.2	33.8	189.1	431.8	.0	.0	.0	.0	.0	.0	.0	.0	.0
REPAYMENT	.0	.0	.0	.0	25.8	39.1	254.7	524.7	524.7	524.7	524.7	524.7	524.7
INTEREST	.0	.0	.0	.0	517.7	514.5	496.4	455.3	408.1	360.8	313.6	266.4	219.2
NET CASHFLOW	.0	.0	.0	.0	-6565.2	-699.8	-2963.9	-572.1	-182.6	-2188.1	357.0	623.7	890.4
CUM NET CASHFLOW	.0	.0	.0	.0	-6565.2	-7265.0	-10228.9	-10801.0	-10983.6	-13171.7	-12814.7	-12190.9	-11300.5

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
OPERATING REVENUE	2060.7	3080.2	3299.6	3519.1	3738.6	3958.1	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6	4172.6
OPERATING EXPENSE	1006.9	1266.5	1266.5	1266.5	1266.5	1266.5	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1531.8	1750.0
PERSONNEL COST	26.9	40.7	40.7	40.7	40.7	40.7	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	30.8
ENERGY COST	198.4	285.8	285.8	285.8	285.8	285.8	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	380.9	472.8
MAINT. COST	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	1097.2	1097.2	1238.4
OPERATING PROFIT PRE DEPR.	1853.8	1813.6	2033.1	2252.6	2472.1	2691.6	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2640.8	2422.6
DEPRECIATION	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	977.1	977.1	1130.6
OPERATING PROFIT AFR DEPR.	1228.2	1016.2	1235.7	1455.2	1674.6	1894.1	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1663.7	1284.0
INTEREST ON TOTAL ASSETS	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	280.8	251.4	504.4
NET PROFIT	879.7	562.8	806.2	1049.6	1293.0	1536.4	1200.5	1229.8	1259.1	1288.5	1317.8	1295.0	1324.3	1353.6	1382.9	1412.3	779.7
WORKING RATIO	.35	.41	.38	.36	.34	.32	.37	.37	.37	.37	.37	.37	.37	.37	.37	.37	.42
CUM WORKING RATIO	.55	.53	.51	.49	.47	.45	.44	.43	.42	.42	.42	.42	.41	.41	.41	.41	.41
OPERATING RATIO	.57	.67	.63	.59	.55	.52	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60	.69
CUM OPERATING RATIO	.88	.85	.82	.79	.76	.73	.72	.70	.70	.69	.68	.68	.67	.67	.66	.66	.66
INVESTMENT	.0	4296.3	.0	.0	.0	.0	4491.6	.0	.0	.0	.0	1736.0	.0	.0	.0	.0	9569.1
FOREIGN TOTAL	.0	4296.3	.0	.0	.0	.0	4491.6	.0	.0	.0	.0	1310.0	.0	.0	.0	.0	9569.1
LOCAL TOTAL	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	426.0	.0	.0	.0	.0	.0
CIVIL WORK	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
FOREIGN CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
LOCAL CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
SIGNAL & TELECOM	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1736.0	.0	.0	.0	.0	.0
FOREIGN CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1310.0	.0	.0	.0	.0	.0
LOCAL CURRENCY	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	426.0	.0	.0	.0	.0	.0
ROLLING STOCK	.0	4296.3	.0	.0	.0												











JICA