464. Passengers at Tanjung Priok are solely domestic besides 436 passengers in 2001. Historically several international cruise vessels call at Tanjung Priok Port, and international passengers amounted 140,343 in 1997. In 2000 no international vessels called at Tanjung Priok Port.

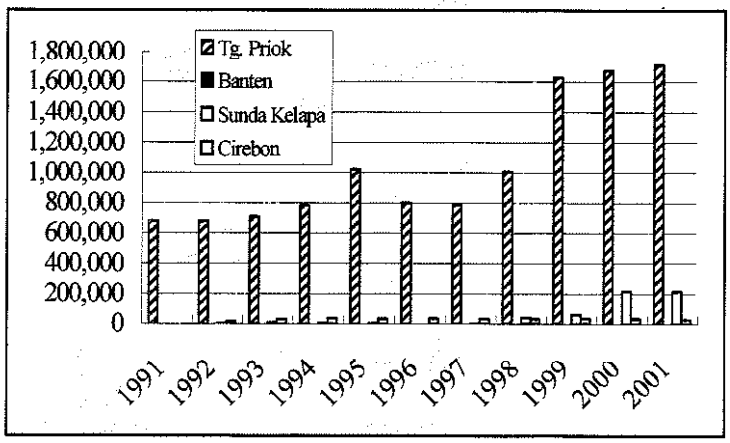
465. Port of Sunda Kelapa handled 213, 992 passengers in 2001. Historically this port has been busy to handle break-bulk cargo loaded onto and unloaded from the wooden vessels plying between this port and local ports. In 1998 big passenger vessels started operation utilizing the port of Sunda Kelapa as a mother port. Currently passenger vessels are plying between Kalimantan ports.

466. Port of Cirebon handled 27,575 passengers in 2001, and number of passengers has been stable for the past decade ranging from 25,000 to 45,000. PENLI passenger vessels are plying between Kalimantan ports.

(Unit: persons)

	Tg. Priok	Banten	Sunda Kelapa	Cirebon	Total
1991	678,649	-	-	-	678,649
1992	674,004	-	3,458	13,040	690,502
1993	707,074	-	6,606	28,490	742,170
1994	781,373	-	3,151	37,125	821,649
1995	1,022,590	-	2,864	32,297	1,057,751
1996	799,681	-	-	33,641	833,322
1997	785,441	-	2,864	32,297	820,602
1998	1,005,980	-	42,398	30,335	1,078,713
1999	1,628,190	-	62,123	34,389	1,724,702
2000	1,671,920	-	215,716	31,883	1,919,519
2001	1,709,368	-	213,992	27,579	1,950,939

Source: PT. (Persero) Pelabuhan Indonesia II



6-D DETAIL SITUATION OF TANJUNG PRIOK PORT

6-D-1 Development History

467. Inauguration of the Suez Canal in 1869 brought a drastic increase of ship calls to Indonesia. Sunda Kelapa, which was a main big port at that time, was not able to accommodate future demand and it was decided to construct a new port to the east of Sunda Kelapa, which was named Tanjung Priok. Construction work started in 1877 and first stage was finished in 1883 with the completion of Port Basin I. Chronology of the development of the port can be summarized as follows:

- 1877-1882 Construction of breakwater with the west gate
- 1883 Completion of Port Basin I
- 1914 Completion of Port Basin II
- 1915-1920 Construction of breakwater in front of Port Basin I & II
- 1921 Completion of Port Basin III
- 1955 Completion of Nusantara Basin I
- 1961- Construction of east breakwater
- 1971 Completion of Nusantara Basin II
- 1972- Construction of breakwater with the east gate

468. Figure 6-D-1 and Figure 6-D-2 show geographical chronology of Tanjung Priok Development, revealing that the port was originally set up far outside of the city where being surrounded by swamp area.

Figure 6-D-1 Chronology of Tanjung Priok Development (1)

Figure 6-D-2 Chronology of Tanjung Priok Development (2)

469. With regard to the management of the port, Port State Company had managed the port since 1960 based on Law of State-Owned Enterprises No.19/1960. The name and status of the company had been changed several times and finally into current Indonesia Port Corporation (*Pelindo*) II in 1992 based on the government regulation PP No.57/1991, in which Pelindo II has given the authority of implementing joint business with private companies.

470. Concerning container terminal, Containerized Cargo Terminal (CCT/TPK) I started to operate in 1980, followed by CCT II in 1992. These two terminals are now managed by Jakarta International Container Terminal (JICT) since 1999, which is a joint-venture company between Pelindo II and former Grossbeak Pie Ltd. CCT III, called Koja container terminal now, were built and managed since 1997 by joint operation between Pelindo II and Humpus Terminal Petikimas.

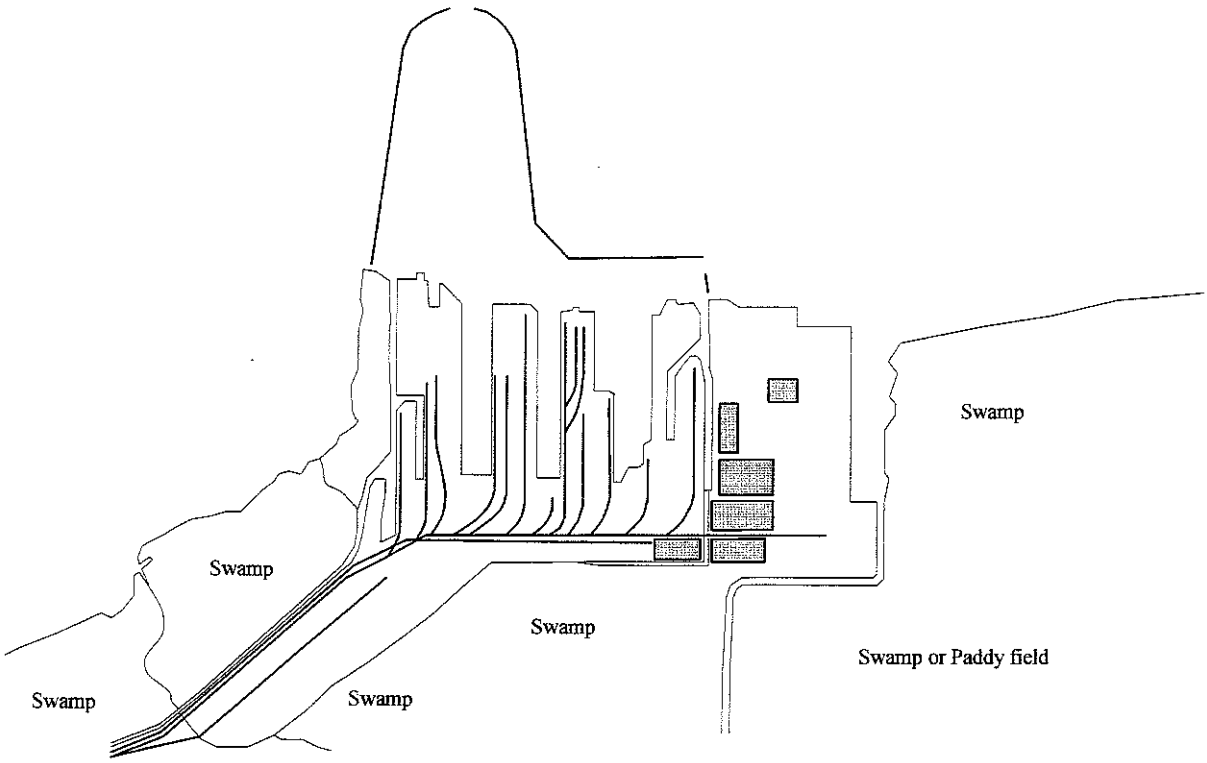
6-D-2 Port Facilities & Equipment

1) Channels, Basins and Breakwater

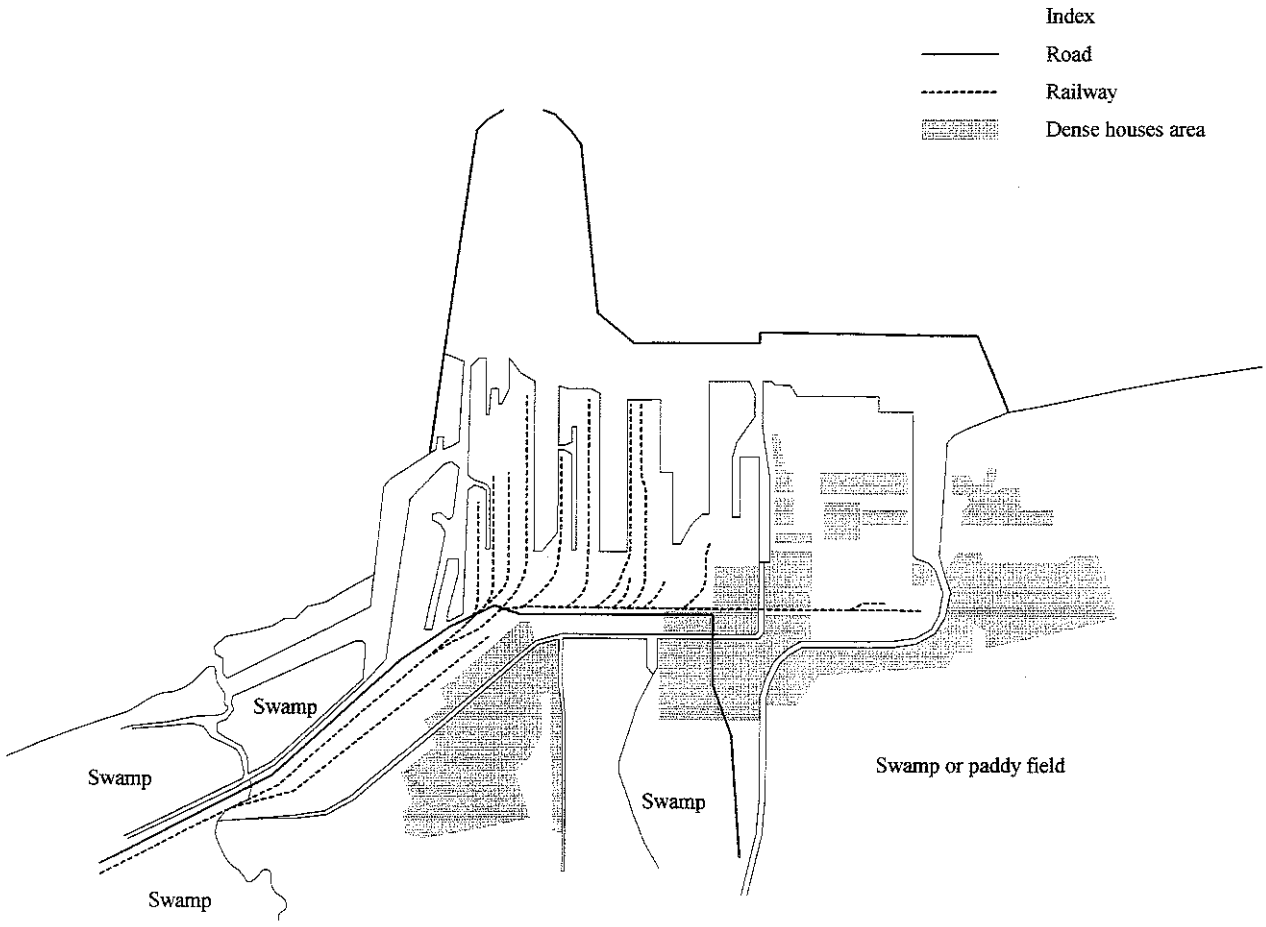
471. Tanjung Priok has a 424ha water area (within the port/breakwater) and a 604ha land area (inside of the port boundary). Configuration of channels, basins and breakwaters is summarized in Table 6-D-1. Figure 6-D-3 shows the layout of the port facilities.

Table 6-D-1 Configuration of Port Facilities

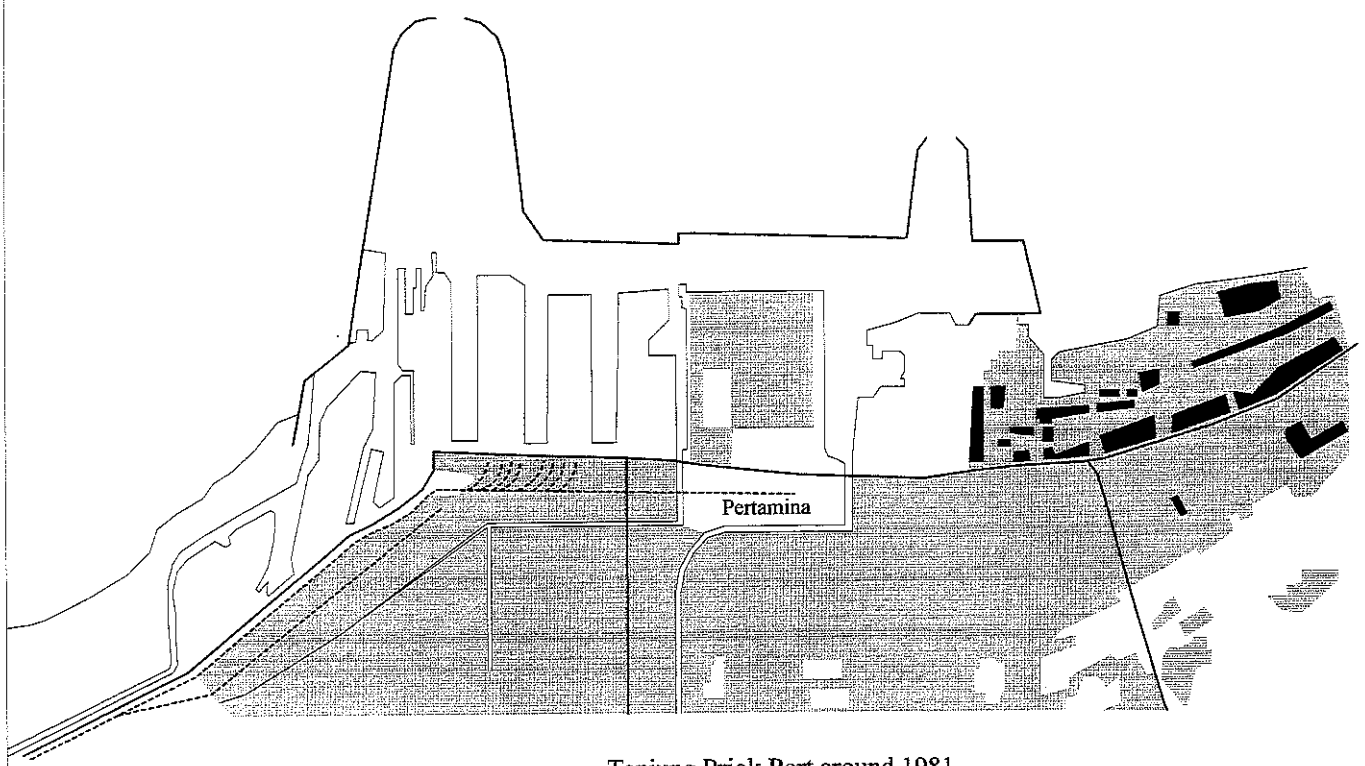
Channels	Location	L (m)	W (m)	Area (ha)	D (m)
Channel -I	DKP ~ North of Port I Basin	3,840	100	38.400	10.0 - 14.0
Channel -II	North of Port I Basin ~ Port Entrance	1,700	100	17.000	14.0
Channel -III	Access to/from the Port	1,463	125	18.288	14.0
Channel -IV	Oil terminal	990	50	4.950	12.0
Channel -V	Kali Japat	1,700	75	12.750	6.0
Total		9,693		91.388	



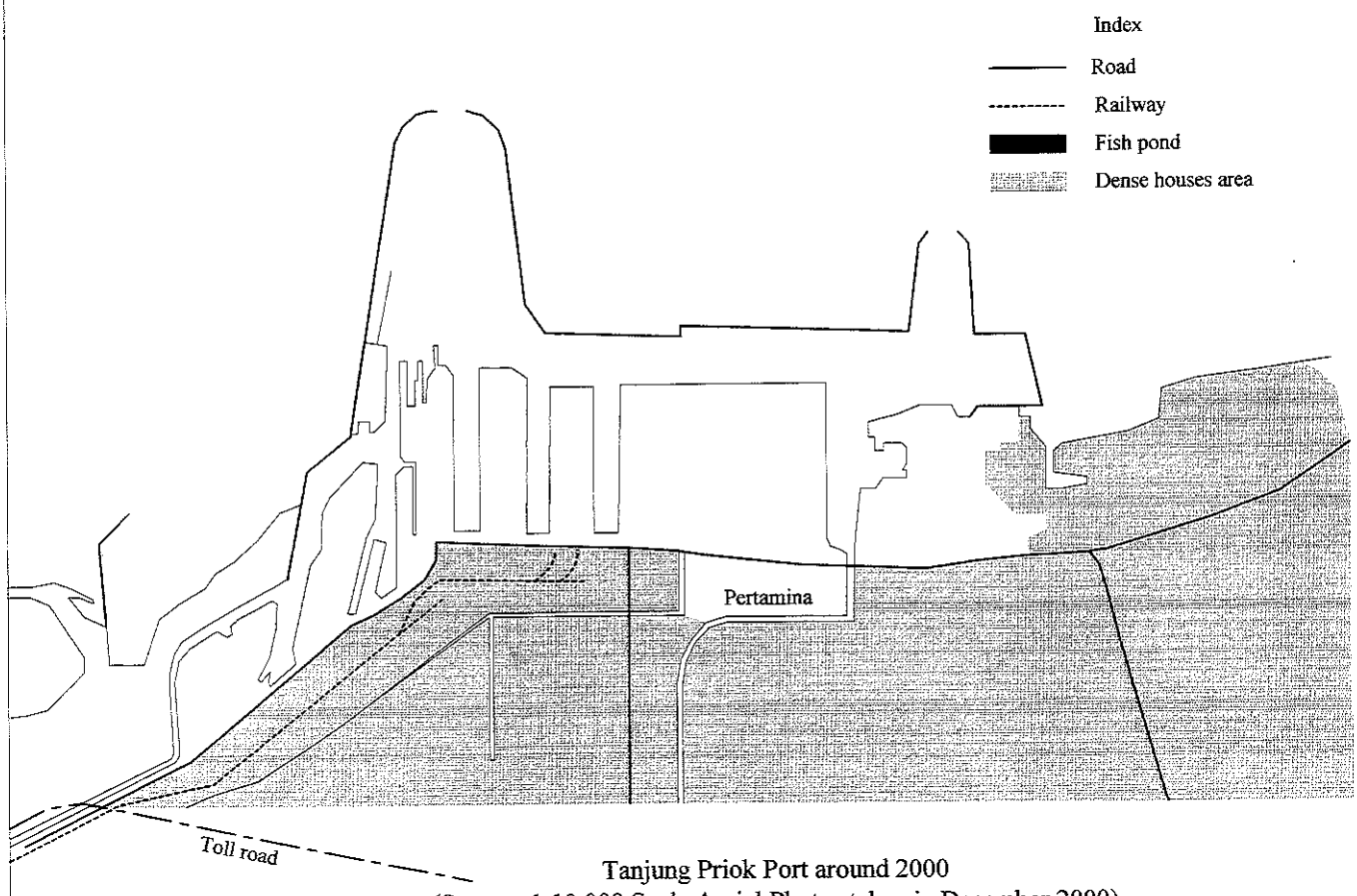
Tanjung Priok Port around 1938
(Source: 1:50,000 Topographic Map by U.S. Army)



Tanjung Priok Port around 1953
(Source: 1:50,000 Scale Topographic Map by U.S. Army)



Tanjung Priok Port around 1981
(Source: 1:25,000 Scale Topographic Map by BAKOSURTANAL)



Tanjung Priok Port around 2000
(Source: 1:10,000 Scale Aerial Photos taken in December 2000)

Basins	L (m)	W (m)	Area (ha)	D (m)
Nusantaral -I	1,700	105	17.850	4.0 - 6.0
Nusantaral -II	1,020	55	5.610	4.0 - 4.0
Port -I	1,080	170	18.360	4.0 - 10.0
Port -II	1,020	142	14.484	4.0 - 12.0
Port -III	1,040	185	19.240	10.0 - 11.5
North Koja Front Basin	265	150	3.975	14.0
TPK Koja Front Basin	450	150	6.750	14.0
Total			86.269	

Source: Pelindo II

Breakwater	L (m)
Nusantara BW -I	591
Nusantara BW -II	659
West BW	1,750
East BW -I	1,479
East BW -II	228
East BW -III	934
East BW -IV	98
East BW -V	1,548
Bogasari BW -West	713
Bogasari BW -East	1,507
Total	9,507

Figure 6-D-3 Layout of the Facilities of Tanjung Priok

2) Berths, Yards and Warehouses

472. Public berths are owned by IPC-II while special dedicated private berths are owned by the private sector. However, management of public berths is carried out by three (3) entities, i.e., IPC-II, JICT and Koja CT. Berth length is summarized in Table 6-D-2, while dimensions and characteristics of each berth are shown in Table 6-D-3.

Table 6-D-2 Berth Length

	L (m)
Pelindo II	7,737
JICT	1,637
Koja CT	450
Private	773
Total	10,597

Source: Pelindo II

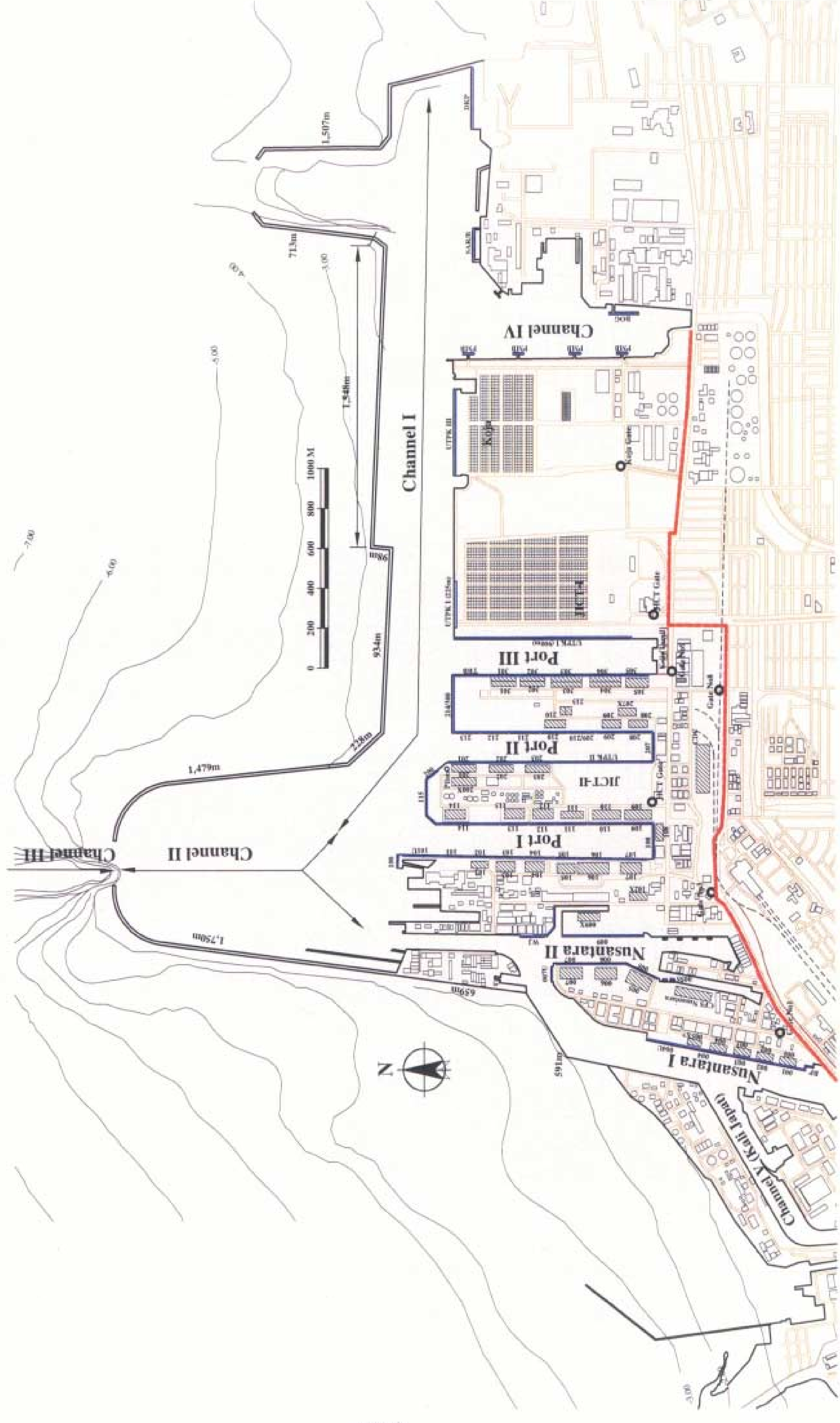
Table 6-D-3 Details of Berths

473. Warehouses and open yards owned by Pelindo II are summarized in Table 6-D-4. The details of each facility are shown in Table 6-D-5.

Table 6-D-4 Warehouse & Open Yards

	Unit	Area (m2)	Capacity (ton)	Capacity (TEU)
Warehouse	45	186,096		
Open Yard for General Cargo	77	381,702		
Open Yard for Container	26	230,297		14,898
Oil Tank (Palm oil)	45		105,720	
Oil Tank (Non palm oil)	20		26,350	

Table 6-D-5 Details of Warehouses and Open Yards


Channel I
Channel II
Channel III
Channel IV
Channel V (Kali Japat)
Port I
Port II
Port III
JICT-II
Nusantara I
Nusantara II
1,507m
713m
1,548m
98m
934m
228m
1,479m
1,750m
659m
591m
0
200
400
600
800
1000 M
N

Type	Berth Name	Explanation	Length (m)	Num. of Berth	Draft (m)	T/O	Cargo Type (% as of Mar.02)					Unl/Ld (% as of Mar.02 Exc.CT)			CT Throughput (box)		
							Bag	LB	DB	GC	Unit.	Major Commodity	Unload	Load	Mar.01	Sep.02	Mar.02
Conv'l	BP	Beaching Point	35.0	1	2.5	Non T/O					100%	Heavy eq.	49%	51%			
Conv'l	001		163.0	1	6.0	T/O(A)	11%			23%	66%	Plywood, Rice	45%	55%	24		
Conv'l	002		130.0	1	6.0	T/O(A)	8%			56%	36%	Plywood, Paper, GC, Rice	67%	33%	108	18	
Conv'l	003		130.0	1	6.0	T/O(A)	9%		26%		65%	Clinker, Pulp, Gypsum, CT	51%	49%			27
Conv'l	004		260.0	2	6.0	T/O(B)	4%	34%	39%	14%	9%	CPO, Clay, Coal	96%	4%	150	215	
Conv'l	004U	KBN	195.0	1	6.0	T/O(B)		39%	28%	34%		CPO, Sand, Gypsum	98%	2%			
Conv'l	005S	2 Jetty, South of 005	11.0	2	5.0	DUT											
Conv'l	005		180.0	1	7.0	T/O(C)			12%	29%	59%	Plywood, GC, Sand, CT	39%	61%	924	1,361	1,608
Conv'l	006		180.0	1	7.0	T/O(C)			5%	41%	53%	GC, Plywood, Sulfer, CT	36%	64%	4,522	2,789	2,544
Conv'l	007		180.0	1	7.0	T/O(C)				22%	78%	Plywood, GC, CT	57%	43%	2,631	942	2,338
Conv'l	007U		75.0	1	5.0	DUT											
Container	009	Utama VTP, front of EX 009	404.0	2	8.0	MPT					100%	CT			6,726	7,010	6,531
Conv'l	WJ	PT. Wali Jaya (Kali Mati)	100.0	1	4.0	Non T/O			100%			Sand, Coal	100%				
Conv'l	100	EX 100	62.0	1	6.0	T/O(D)		94%		6%		CPO	94%	6%			
Conv'l	101U		200.0	1	10.0	T/O(D)			84%	12%	5%	Cement, Clinker	3%	97%			
Conv'l	101	EX 101	121.0	1	7.0	T/O(D)		33%	10%		57%	Ammonium, Soybean, Cow	100%		267	301	
Conv'l	102		121.0	1	7.0	T/O(D)	5%	38%	14%	17%	27%	CPO, GC, Cement	66%	34%		17	
Conv'l	103		159.0	1	7.0	T/O(E)		26%		5%	69%	CPO, CT	98%	2%	2,710	4,241	4,775
Conv'l	104		155.0	1	7.0	T/O(E)					100%	CT			2,759	3,563	3,391
Conv'l	105		140.0	1	7.0	T/O(E)		11%			89%	CPO, CT	100%		2,257	2,676	2,485
Conv'l	106		201.0	1	7.0	DUT						Passenger			221		
Conv'l	107		128.0	1	7.0	DUT						Passenger					
Conv'l	108		175.0	2	3.5	T/O(F)	5%	14%		64%	17%	GC, Oil	35%	65%		5	
Conv'l	109		155.0	1	7.0	T/O(F)	10%	12%		38%	41%	GC, Plywood, Rice, CPO	61%	39%			
Conv'l	110		166.0	1	7.0	T/O(F)	9%	6%		53%	32%	GC, Plywood, Mobil, Pulp	56%	44%	916		
Conv'l	111		153.0	1	7.0	T/O(G)		5%		77%	18%	GC, CT	37%	63%	2,314	3,507	326
Conv'l	112		151.0	1	7.0	T/O(G)		43%		43%	14%	GC, Oil prod., CPO, CT	61%	39%		452	317
Conv'l	113		138.0	1	7.0	T/O(G)		30%	6%	3%	61%	Soda ash, Palm, Oil prod., GC, CT	77%	23%	2,884	2,567	3,103
Conv'l	114	114 & 113/114 (SS)	376.0	2	7.0	DUT			74%	7%	19%	Sement, Soybean, CT	100%	0%	529		300
Conv'l	115	Syahbandar, EX 115	177.0	1	8.0	T/O(P)			4%	49%	48%	Pulp, Cement, GC	51%	49%	604		30
Conv'l	200	EX 200	80.0	1	5.0	T/O(P)	19%	45%		19%	17%	CPO, Sement, Cousitic soda	50%	50%			
Conv'l	201		167.0	1	9.0	T/O(H)			64%		36%	Clinker, CT		100%	702	953	306
Conv'l	202		170.0	1	9.0	T/O(H)				3%	97%	Pulp, Paper, Plywood, Coil, CT	47%	53%	1,895	1,212	423
Conv'l	203		158.0	1	9.0	T/O(H)		8%		18%	74%	GC, Plywood, CT	38%	62%	200	732	874
Container	UTPK2	JICT	510.0	3	9.0	JICT						CT			17,537	15,406	17,645
Conv'l	207		141.0	2	4.0	DUT		48%		21%	31%	CPO, Construction mat.	83%	17%			
Conv'l	208		159.0	1	9.0	T/O(I)				79%	21%	GC, CT	100%			425	271
Conv'l	209		140.0	1	9.0	T/O(I)	26%		22%	39%	13%	GC, Soda ash, CT	93%	7%			
Conv'l	209/210		140.0	1	9.0	T/O(I)	16%			5%	79%	Wood, Pulp, Fertilizer, CT	81%	19%	1,500	852	
Conv'l	210		140.0	1	9.0	T/O(K)	36%				64%	Sugar, Pulp, , Paper,	85%	15%			
Conv'l	211	EX 211	152.5	1	9.0	T/O(K)	62%	7%	21%	10%		Sugar, Rice, Coil, Soda ash	100%				7
Conv'l	212	EX Pertamina Gulf	145.0	1	9.0	T/O(L)			32%		68%	Cement, Clinker, CT	0%	100%	2,931	2,797	2,496
Conv'l	213		140.0	1	9.0	T/O(L)					100%	Cement, CT	82%	18%	2,305	2,544	3,006
Conv'l	214/300	EX Gudan Arang	300.0	2	12.0	DUT	14%		52%		33%	Corn, Fertilizer, Sugar, CT	100%		799	50	4,740
Conv'l	TBB	Terminal Besi Bekas	195.0	1	12.0	Non T/O			100%			Scrap steel	100%				
Conv'l	301		160.0	1	12.0	T/O(N)			51%	6%	43%	Cement, Pulp, Animal feed, CT	33%	67%	2,381	1,753	2,034
Conv'l	302		160.0	1	12.0	T/O(N)			11%	30%	59%	Steel, Pulp, Clinker, GC, CT	88%	12%	21	482	1,037
Conv'l	303		163.0	1	12.0	T/O(J)				47%	53%	GC, Steel, CT	45%	55%	1,411		2,114
Conv'l	304		160.0	1	12.0	T/O(J)				36%	64%	GC, Soybean, CT	79%	21%	4,606	1,529	2,665
Conv'l	305		160.0	1	12.0	T/O(J)			24%	10%	66%	Cement, GC, CT	42%	58%		2,470	1,326
Other	Kolin Lamil	Navy use			3.0												
Other	President Wharf				5.0												
Container	UTPK1W	JICT	900.0	4	11.0	JICT						CT			85,438	73,455	80,036
Container	UTPK1N	JICT	225.0	1	14.0	JICT						CT					
Container	UTPK3	Koja	450.0	2	14.0	Koja						CT			33,424	28,347	31,237
Special	PMB	4 Jetty	100.0	4	9.0	KHUSUS		100%				Chemical, Oil	100%				
Special	BOG	BOGASARI	175.0	1	10.0	KHUSUS			100%			Wheat, Rice	57%	43%			
Special	SAR/B	Sarpindo/BOGASARI	187.0	1	10.0	KHUSUS			100%			Wheat	97%	3%			
Special	DKP	PT. DKP	276.0	1	9.0	KHUSUS		100%				Chemical prod.	100%	0%			

Warehouse

No.	Area	Remarks
102	5,291	
103	5,291	
104	5,291	
105	5,291	
106	5,291	Passenger
107	5,291	
108	2,925	
109	4,907	
110	5,075	
111	3,594	
112	4,950	
113	4,950	
114	4,950	
200X	4,056	
201	4,256	
202	4,171	
203	4,049	
207X	3,000	
208	3,503	
209	3,500	
210	3,514	
213X	2,279	
CDC	11,047	
301	5,589	
302	5,618	
303	7,897	
304	7,895	
305	4,959	
001	4,025	
002	4,025	
003	4,025	
004	4,000	
005	5,655	
005X	1,540	EX. GORO
006	5,655	
007	5,655	
009X	4,950	
102X	1,866	
CFS Nusantara	5,400	CFS
Total	185,228	

Yard

No.	Area	Remarks
EX 101	4,260	
101/102	648	
102/103	1,591	
103/104	2,500	
104X	6,399	Jl. Panaitan
104/105	3,000	
109S	560	
106/107	3,030	
Jl. Alas	7,088	
106X	8,435	
Parkir	14,202	Pass. T/L
107S	5,035	
EX Pertamina	2,290	
109U	1,125	
109/110	525	
110/111	1,376	
111/112	1,418	
112/113	1,755	
113U	5,825	
Indo Cement	1,800	
114S	884	
Syahbandar	9,235	
114U	1,139	
200X-S	2,039	Jl. Ambon
200X-U	4,766	Jl. Ambon
201/202	1,952	
202X	8,854	
202/203	2,206	
203X	8,435	
204X	1,697	
207X	9,548	
Jl. Bawean	6,992	
208S	1,260	
208/209	1,391	
209/210	6,300	
EX 211	5,775	
CDC	12,021	
EX Arang	16,467	
Pasoso	41,902	Utep Jl. Banda
Sisi Barat	10,726	Jl. Bitung
301X	7,828	
301/302	2,030	
302/303	2,244	
303/304	1,530	
304/305	1,402	
305S	3,775	
Jl. Bangka	32,425	
Jl. Banda	25,405	
TBB	11,100	
HJS	1,097	Nusantara I
001S-Nbr	5,342	
001X	3,863	
001X	3,945	Jl. Nusantara
Ex Perca/CFS	30,496	Nusantara II
001/002	1,123	
002/003	1,198	
003/004	997	
004U	689	
005/007	50,897	
005/006	2,828	
005S	1,332	
006/007	3,242	
006XS	300	
007U	2,020	
EX VTP	40,632	
U PT Saptaa Veem	4,830	Jl. Padamarang
ARSA	15,000	
Total	484,020	

6-D-3 Navigational Situation in the Port

1) Navigational Situation in/around the Port

474. Regarding navigation system, VTIS (Vessel Traffic Information System) has been introduced in Tanjung Priok, however, it is not well utilized for actual navigation being used just as a communication system. Furthermore, the current VTIS system does not correspond to AIS (Automatic Identification System).

475. There is a general regulation for navigation, PP No.81/2000, while unwritten rules exist in the port. According to the pilots of Tanjung Priok, the following information/rules are crucial for navigation:

- There are 12 tug boats and 6 pilot boats mooring mainly at berth No.200. The number of pilots is around thirty (30) and there are two (2) shifts, one from early morning to 18:00 and the other from 18:00 until early morning.
- Ship waiting area is located outside of the port/breakwater and at both sides of the channel II.
- All channels in the port are one way except for small ship. Ships can pass each other only outside of the port.
- The only operational entrance, the west entrance (depth of -14m), accommodates commercial ships. East entrance is used only for very small ship such as fisher boat, tug boat etc due to the insufficient water depth (around -5m).
- The number of tug boats that must accompany a ship within the port is determined as follows:

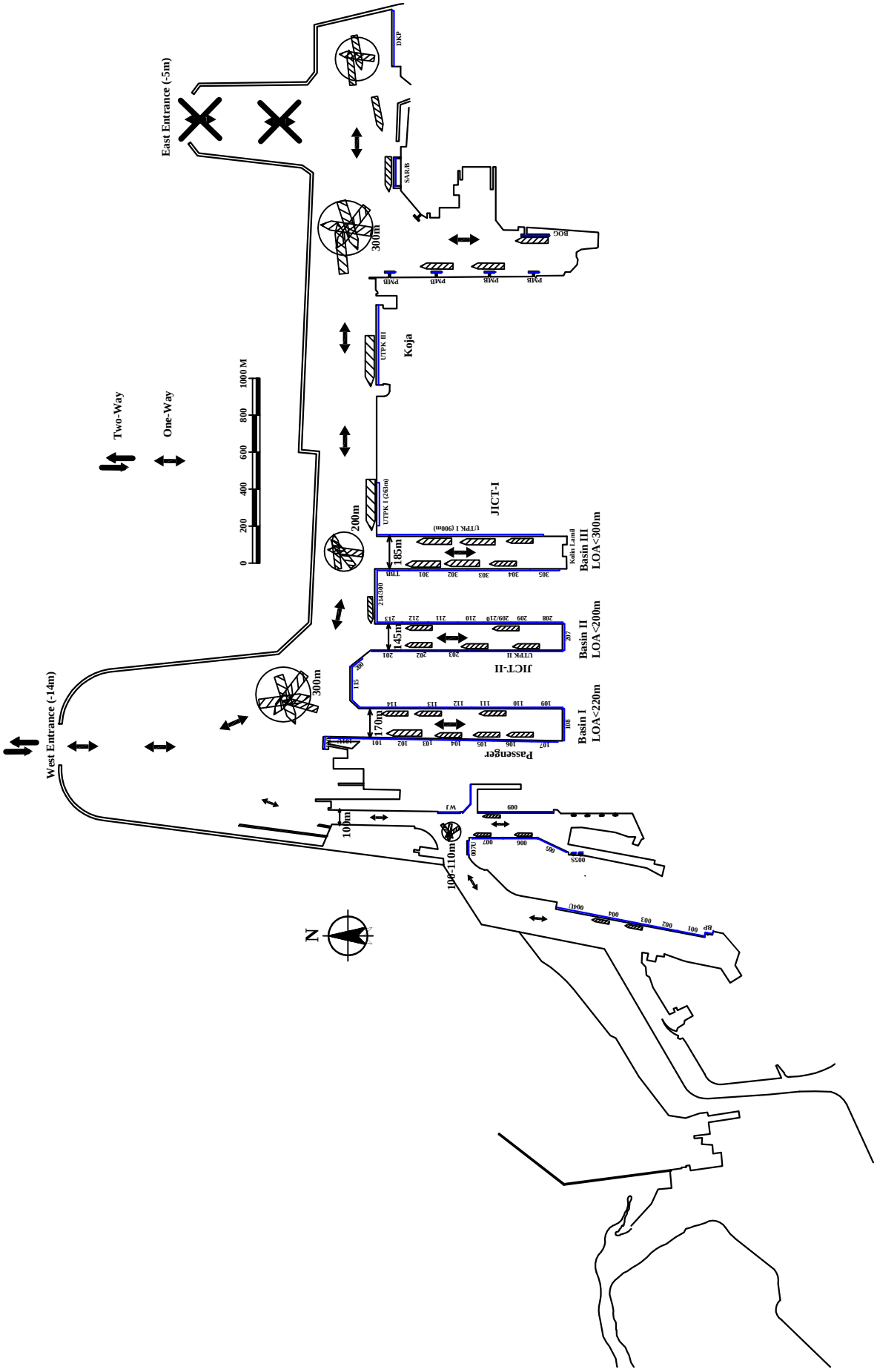
  LOA >= 150m 3 tag boats
  LOA < 150m 2 tag boats

- Maximum LOA of ship to be navigated in the whole port is around 300m. Maximum LOA in each channel and basin is defined as shown in Figure 6-D-4. Location and size of turning basin is also described in the same Figure.
- Average ship speed in the port is around 2 to 3 knots due to the use of tug boats within the port. Thus, for example, it takes more than 1 hour for a container ship to enter the port and berth at Koja terminal.
- Ship bow should be point in the departure direction (head out mooring) when mooring at the quay considering emergency evacuation.
- First priority for berthing is given to passenger ships followed by container ships and naval ships.

Figure 6-D-4 Ship Maneuvering

476. Judging from the above, smooth shipping operation is not always secured in Tanjung Priok. These tight shipping operations mainly stem from insufficient channel width and maneuvering areas as well as the narrow basin between the wharves.

477. According to the pilots, there is a total of 80 ship arrivals/departures per day on average and going 100 ship arrivals/departures per day the maximum case. This latter figure seems to be reaching the limit of the port capacity in terms of smooth operation. The pilots raise the following critical issues/problems from the point of view of shipping operation.


East Entrance (-5m)
West Entrance (-14m)
Two-Way
One-Way
0
200
400
600
800
1000 M
Koja
JICT-I
JICT-II
Passenger
Basin III
LOA<300m
Basin II
LOA<200m
Basin I
LOA<220m
185m
145m
170m
200m
300m
300m
10m
106-110m
N
DKP
SARB
BOG
PMB
UTPK III
UTPK I (260m)
UTPK I (900m)
Kolin Lamal
TRB
214/300
UTPK II
W.J
S500

- Narrow water area for ship transiting and maneuvering

  Main turning basins cannot help being located on the main transit route and it is impossible to secure two way transit in any water area in the port. The port cannot cope with the future increase in ship calls under this situation. If the number of ship calls exceed 100 per day on average, shipping operation especially for liner services would be very hard to manage due to serious congestion in the port. Even liner vessels would be forced to wait for a berth reducing the productivity of the port as a whole. It is necessary to relocate the breakwater and to expand water area for safe, smooth and efficient shipping operation.

- One gate operation

  This means that all passages in the port are *dead ends*, and from the same point abovementioned, it is urgent to ensure at least two gate operation.

478. Anchorage area for various kinds of vessels is set as in Figure 6-D-5 outside of breakwater.

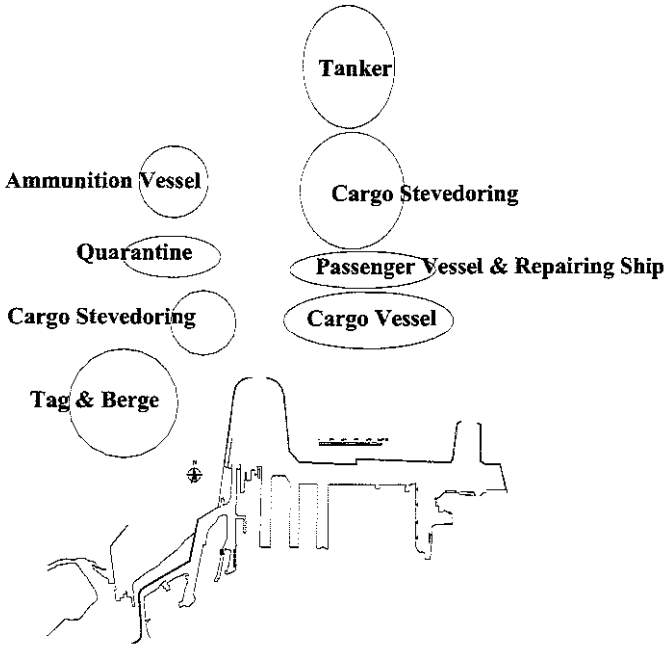


Figure 6-D-5 Anchorage Area

2) Ship Accidents

479. The study team was not able to obtain an official record of ship accidents within the port, however, ship-by-wharf collision accidents have been reported from time to time according to hearing from pilots of the port. They have been often happened especially in west area of the port such as Kali Jabat, Nusantara basin. According to the pilots, these accidents are mainly stem from ship engine trouble while changing gear just before the berthing due to ageing engine and lack of its maintenance, which can be frequently seen in case of small vessels.

480. On the other hand, very few ship-by-ship collision has been reported within the port area. As far as large vessels concerned, they must be companied tag boats within the port and collision accidents have never been reported. Neither grounded accidents have been reported.

6-D-4 Port Traffic

1) Total Throughput by trade Type

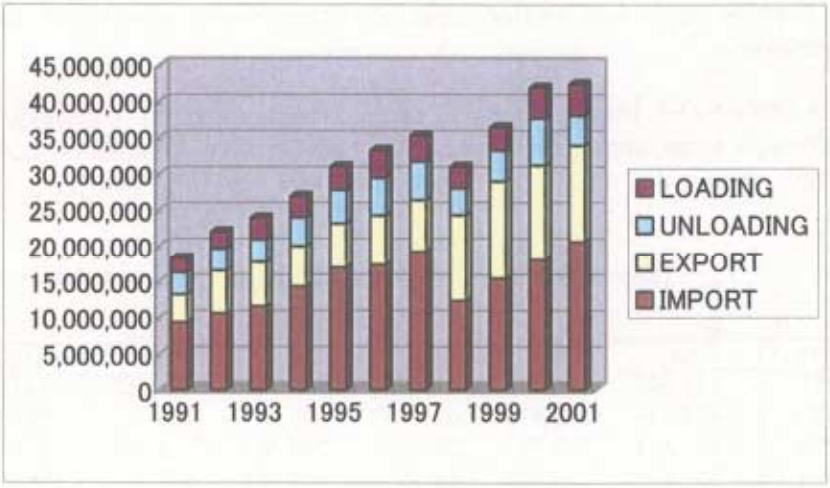
481. Cargo throughputs by trade type are shown in Table 6-D-6 with figure. Total about 42 million tons (excluding oil discharged) are handled at Tanjung Priok Port. Volume of incoming cargo has been exceeding that of outgoing cargo for both international and domestic.

482. Cargo throughput in 1998 showed a significant drop from the previous year, in particular, the import cargo volume fell to less than two thirds of the previous year's level.

Table 6-D-6 Cargo Throughputs by Trade Type

	INTERNATIONAL		INTERISLAND			Oil
Year	IMPORT	EXPORT	UNLOAD	LOAD	TOTAL	Discharged
1991	9,295,204	3,891,509	3,037,751	1,959,896	18,184,360	
1992	10,570,081	5,933,409	3,042,780	2,366,119	21,912,389	
1993	11,544,182	6,160,031	3,119,312	2,975,157	23,798,682	
1994	14,270,818	5,614,000	4,019,213	2,900,622	26,804,653	
1995	16,876,038	6,194,197	4,632,498	3,234,871	30,937,604	
1996	17,302,693	6,847,220	5,183,364	3,880,976	33,214,253	7,021,669
1997	19,113,402	7,177,126	5,353,272	3,617,288	35,261,088	7,314,424
1998	12,264,579	11,926,299	3,736,236	2,976,396	30,903,510	7,439,257
1999	15,403,368	13,499,273	4,265,880	3,166,075	36,334,596	7,101,655
2000	17,963,684	13,144,711	6,503,499	4,241,469	41,853,363	8,109,458
2001	20,474,026	13,381,286	4,117,747	4,339,334	42,312,393	8,462,246

Source: "PORT TRAFFIC up to December 2000" Page 4. PT. Pelabuhan Indonesia II



2) Total Throughput by Packing Type

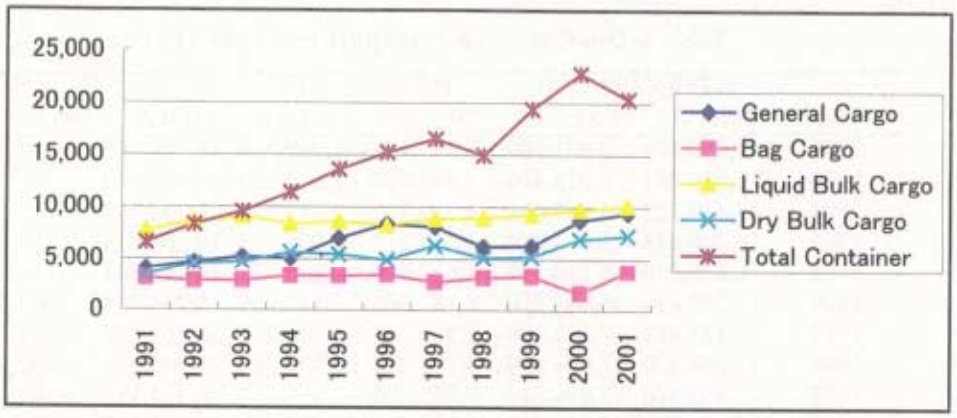
483. Throughput by packing type is shown in the following Table and Figure. Total throughput has nearly doubled during the last ten years, but throughput levels of bag cargo and liquid bulk cargo have remained almost unchanged for the past decade.

484. Average annual growth rates by packing type are as follows; General Cargo 8.7%, Bag Cargo 2.2 %, Liquid Bulk cargo 2.6 %, Dry Bulk Cargo 7.9 %, and Container 11.9 %.

Table 6-D-7 Cargo Throughputs by Packing Type

(Unit:Thousand Ton)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
General Cargo	4,077	4,705	5,203	5,048	6,998	8,355	8,078	6,212	6,255	8,692	9,421
Bag Cargo	3044	2845	2884	3301	3317	3390	2715	3111	3263	1665	3769
Liquid Bulk Carg	7,782	8,567	9,103	8,359	8,591	8,259	8,813	8,934	9,258	9,726	10,094
Dry Bulk Cargo	3,410	4,565	4,719	5,661	5,459	4,949	6,292	5,118	5,242	6,929	7,268
Total Container	6,590	8,320	9,572	11,422	13,623	15,259	16,533	14,969	19,419	22,804	20,361
Total	**24,903**	**29,002**	**31,481**	**33,791**	**37,988**	**40,212**	**42,431**	**38,344**	**43,437**	**49,816**	**50,913**



3) *Major Commodity*

485. According to Operation Report of Tanjung Priok Year 2001, eight commodities are called as strategic cargo; they are rice, sugar, soy beans, maize, animal feed, cement, crude palm oil, and gasoline.

486. In Table 6-D-8, historical trend of cargo throughputs of these strategic commodities are shown although some data are lacking. Among the strategic commodities, cargo volumes of cement and crude palm oil exceed one million tons in 2001, and have shown increasing tendency.

Table 6-D-8 Throughput of Strategic Commodities

(Unit: Ton)

Year	Rice	Sugar	Soy Beans	Maize	CPO	Animal Feed	Cement
1991	155,646	160,789	499,384	267,153	76,967	213,082	1,176,843
1992	328,744	233,016	431,387	90,473	950,045	226,128	1,393,911
1993	171,153	269,762	500,709	269,685	738,286	160,915	1,704,713
1994	557,526	114,519	695,322	620,691	801,441	296,378	1,231,342
1995	1,065,680	357,947	495,445	410,484	480,557	251,618	1,179,470
1996							
1997							
1998	1,574,883	565,475	259,125	147,103	1,255,181	304,821	2,335,205
1999	1,008,787	418,759	562,918	371,555	1,402,461	486,606	2,819,820
2000	533,835	557,954	198,515	506,286	1,401,279	558,631	2,732,016
2001	194,066	192,236	203,612	419,512	1,490,142	658,222	2,659,393

(1991 - 1995) Arus Barang Menurut Jenis Komoditi Tahun 1990 S/D 1995 Sub Dinas Data O
(1998 - 2001) Data Operasional Pelabuhan Tanjung Priok Tahun 2001, PT. (Persero) Pelabuhan In

487. Cargo statistics in Indonesia seem to have no fixed commodity classification system so far. The study team analyzed past yeas' commodity-wise statistics and found that number of

commodities listed in the statistics reached one hundred eighty one (181). Table 6-D-9 shows top 20 commodities and their throughputs in 1995.

Table 6-D-9 Top 20 Commodities in 1995

	Comodity	English Name	T. Throughput	Composition
1	Gandum	Wheat	2,242,508	14.76%
2	Semen	Cement	1,179,470	7.76%
3	Beras	Rice	1,065,680	7.01%
4	BBM	Gasoline	957,159	6.30%
5	Besi Tua	Scrap iron	827,403	5.45%
6	Gen Cargo	General Cargo	498,072	3.28%
7	Kedele	Soya Beans	495,445	3.26%
8	CPO	Crude Palm Oil	480,557	3.16%
9	Pasir Kwarsa	Quarts sand	440,645	2.90%
10	Besi Coil	Steel coil	438,867	2.89%
11	Barang Kimia	Chemical Goods	416,297	2.74%
12	Jagung	Corn	410,484	2.70%
13	Besi Bangunan	Steel Bars	404,692	2.66%
14	Crude Oil	Crude Oil	378,358	2.49%
15	Gula Pasir	Sugar	357,947	2.36%
16	Plywood	Plywood	343,403	2.26%
17	Gypsum	Gypsium	323,275	2.13%
18	Pulp	Pulp	306,890	2.02%
19	Dedak	Animal feed	305,015	2.01%
20	Kertas	Paper	304,542	2.00%

488. Commodity classification by packing type is not sufficient for carrying out traffic demand forecast because this classification system is not necessarily related with port facility classification such as cargo handling equipment and storage facility. For example, both crude palm oil and gasoline are in general classified into liquid bulk cargo category in the packing type classification system. However, these two commodities are usually handled independently and require special storage facilities.

489. On the other hand, subdivision of commodities does not necessarily give better information for planning works. For instance, Besi Bars (steel bars), Besi Beton (steel bars for concrete) and Besi Ulir (steel bars deformed) can be regarded practically as same commodity in the port planning.

490. Suitability for transportation by containers should also be taken into consideration for setting up cargo classification. Containerization has been a general tendency for sea transportation. Therefore, commodities with same tendency for containerization should be classified in the neighborhood with each other.

491. The study team proposes a commodity classification system as shown in Table 6-D-10.

Table 6-D-10 Proposed Commodity Classification

10 Agricultural and Fishery Products	**50 Metal, steel and machinery**
11 Rice	51 Steel and steel products
12 Wheat	52 scrap
13 Other grain (beans,maize, corn), and powder	53 Machinery
14 Crude Palm Oil (CPO)	54 Transportation vehicle
15 Cattle feed	55 Car parts
16 Flower, Fruit and Vegetable	56 Alminum
17 Fish	57 Construction equipment
18 Live Animal	58 Other metal products
19 Other Agri/Fishery products	**60 Textile and textile manufactures**
20 Lumber and wood products	61 Textile fiber
21 Logs	62 Garment
22 Lumber	63 Other textile goods
23 Plywood	**70 Food stuffs**
24 Pulp	71 Sugar
25 Paper and paper products	72 Drinks
26 Other wood products	73 Bottles
30 Minerals	74 Edible and cooking Oil
31 Cement, clinker and gypsium	75 Other food stuffs
32 Fertilizer	**80 Other manufactured goods**
33 Soda ash, sulfur	81 Furniture
34 Coal	82 Electronic equipment
35 Salt	83 Electronic parts
36 Copper, Nickle, Mg, etc	84 Ceramics
37 Ston, sand and clay	85 Glass
38 Other minerals and goods	86 Personal effect
40 Cruide oil and petroleum	87 Other manufactured goods
41 Crude oil	**90 Other cargo**
42 LPG	91 Brick
43 Gasoline and other fuel	92 Construction materials
44 Asphalt	93 Other Cargo
45 Chemical products	0 Unknown
46 Lubricant	
47 Plastic and plastic products	
48 Rubber and rubber products	
49 Other Petro-chemical products	

4) Container Cargo Movement

a) Container Cargo Movement by Terminal

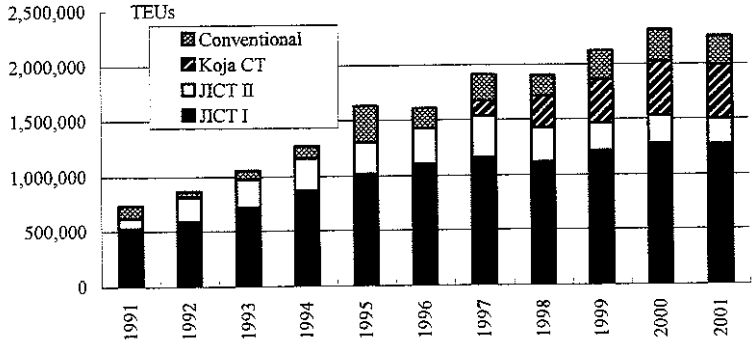
492. Total of 2.25 million TEUs containers passed through the TG. Priok Port in 2001. There are three dedicated container terminals: JICT I & II, and KOJA terminal. These dedicated container terminals handled mainly international containers. Conventional berths are also used for handling containers, which are mainly for inter-island traffic.

493. Market shares among the terminals are as follows: JICT takes two thirds of the total market. KOJA terminal has 22 % share, but its share has been increasingly year by year. Throughput at conventional berths has been unstable for the past decade, but accounted for 12 % in 2001.

Table 6-D-11 Container Cargo Movement by Terminal

unit: TEU

Year	JICT I		JICT II		Koja CT		Conventional		Total
1991	522,792	71%	98,776	13%			114,802	16%	736,370
1992	591,796	68%	224,063	26%			50,858	6%	866,717
1993	723,122	69%	255,183	24%			75,847	7%	1,054,152
1994	871,710	69%	292,422	23%			105,962	8%	1,270,094
1995	1,016,027	62%	284,099	17%			330,194	20%	1,630,320
1996	1,101,530	69%	322,553	20%			182,714	11%	1,606,797
1997	1,157,293	61%	375,784	20%	137,817	7%	237,817	12%	1,908,711
1998	1,119,284	59%	305,663	16%	287,789	15%	185,333	10%	1,898,069
1999	1,210,890	57%	255,147	12%	394,195	19%	258,315	12%	2,118,547
2000	1,273,712	55%	254,001	11%	496,279	21%	285,980	12%	2,309,972
2001	1,266,840	56%	233,379	10%	490,120	22%	261,124	12%	2,251,463



494. Here, we should note that there is some discrepancy in container handling volume in conventional berths (including MTI terminal). Besides the above figure, we have another data shown in Table 6-C-3. According to Table 6-C-3, container handling volume in conventional berths in 2001 was 769,367 TEU, while the above figure shows 261,124 TEU. There must be some confusing on data especially of conventional berth.

495. Actual handling volume in conventional berths seems to be close to Table 6-C-3, around 700,000 ~ 800,000 TEU judging from annual shipping data, which are data for March 2001, September 2001 and March 2002 as below:

Table 6-D-12 Container Handling Volume from Monthly Shipping Data

unit: box

		Mar.01	Sep.01	Mar.02
Unloaded	conv.	18,651	17,480	21,505
	009	2,871	2,145	1,878
	Total	21,522	19,625	23,383
Loaded	conv.	23,920	20,973	21,038
	009	3,855	4,865	4,653
	Total	27,775	25,838	25,691
Total		49,297	45,463	49,074
x 12 (box)		591,564	545,556	588,888
x 1.4 (TEU)		828,190	763,778	824,443

496. In order to grasp the detail situation, we prepared the Table 6-D-13 showing that the details of the figures (769,367 TEU) in Table 6-C-3. It is clear that the empty container handled at conventional berth (excluding 009 berth) is extremely big which portion is more than 80%.

We have not been able to clarify its reason and whether it is a special feature in 2001 or not. Anyhow, we should clarify the real figure in order to secure the proper demand forecasting.

Table 6-D-13 Empty Container Handling in Conventional Terminal

b) Previous/Next Ports of Container Vessels

497. The previous/next ports of container vessels is summarized in Table 6-D-14 analyzing monthly shipping approval data for March 2001, September 2001 and March 2002. It does not mean real origin or destination, however, it presents general configuration of traffic size of container route including domestic lines. It shows that Singapore has a large share of one-third to 40%. As for domestic container, Tanjung Perak, Tg. Emas, Belawan has a relatively large share.

Table 6-D-14 Previous and Next Ports

Number of Unloaded of Boxes

Previous port	Mar.01	Sep.01	Mar.02	Mar.01	Sep.01	Mar.02
Ocean going	62,783	51,775	52,155	70.8%	66.4%	59.7%
Australia	3,146	2,395	2,215	3.5%	3.1%	2.5%
Colombo	2,195	1,294	1,368	2.5%	1.7%	1.6%
Hong Kong	5,487	2,737	4,868	6.2%	3.5%	5.6%
Kaohsiung	0	0	0	0.0%	0.0%	0.0%
Manila	6,055	6,279	4,356	6.8%	8.1%	5.0%
Port Kelang	11,644	9,652	5,354	13.1%	12.4%	6.1%
Singapore	32,010	28,742	32,632	36.1%	36.9%	37.4%
Tanjung Perapas	0	0	0	0.0%	0.0%	0.0%
Others	2,246	676	1,362	2.5%	0.9%	1.6%
Domestic	25,889	26,191	35,207	29.2%	33.6%	40.3%
Belawan	3,138	2,981	4,391	3.5%	3.8%	5.0%
Bitung	602	1,325	2,081	0.7%	1.7%	2.4%
Makasar	3,402	3,012	2,757	3.8%	3.9%	3.2%
Merak	2,150	2,649	3,085	2.4%	3.4%	3.5%
Palembang	619	45	129	0.7%	0.1%	0.1%
Panjang	1,518	809	3,354	1.7%	1.0%	3.8%
Pontianak	3,357	2,215	2,749	3.8%	2.8%	3.1%
Samarinda	352	501	631	0.4%	0.6%	0.7%
Tg. Emas	1,376	1,930	6,466	1.6%	2.5%	7.4%
Tg. Perak	4,654	4,126	3,866	5.2%	5.3%	4.4%
Others	4,721	6,598	5,698	5.3%	8.5%	6.5%
Total	88,672	77,966	87,362	100.0%	100.0%	100.0%

Source: Monthly Shipping Approval Data

Empty Container Handling in Conventional Terminal (2001)

Conventional Berth (Total)

		Box			TEU			ton			ton/TEU		
		20f	40f	Total	20f	40f	Total	20f	40f	Total	20f	40f	Total
Unloaded	Full	30,073	13,727	43,800	30,073	27,454	57,527	405,125	894,192	1,299,317	13.5	32.6	22.6
	Empty	59,132	116,255	175,387	59,132	232,510	291,642	-	-				
Loaded	Full	46,710	31,194	77,904	46,710	62,388	109,098	572,137	575,772	1,147,909	12.2	9.2	10.5
	Empty	72,332	119,384	191,716	72,332	238,768	311,100	-	-				
Total		208,247	280,560	488,807	208,247	561,120	769,367	977,262	1,469,964	2,447,226	4.7	2.6	3.2
Empty total		131,464	235,639	367,103	131,464	471,278	602,742						
empty %		63.1%	84.0%	75.1%	63.1%	84.0%	78.3%						

No.009 Berth (MTI)

		Box			TEU			ton			ton/TEU		
		20f	40f	Total	20f	40f	Total	20f	40f	Total	20f	40f	Total
Unloaded	Full	10,302	4,695	14,997	10,302	9,390	19,692	167,873	150,027	317,900	16.3	16.0	16.1
	Empty	5,708	5,615	11,323	5,708	11,230	16,938	-	-				
Loaded	Full	17,395	10,684	28,079	17,395	21,368	38,763	220,357	246,522	466,879	12.7	11.5	12.0
	Empty	8,800	2,561	11,361	8,800	5,122	13,922	-	-				
Total		42,205	23,555	65,760	42,205	47,110	89,315	388,230	396,549	784,779	9.2	8.4	8.8
Empty total		14,508	8,176	22,684	14,508	16,352	30,860						
empty %		34.4%	34.7%	34.5%	34.4%	34.7%	34.6%						

Other Conventional Berth

		Box			TEU			ton			ton/TEU		
		20f	40f	Total	20f	40f	Total	20f	40f	Total	20f	40f	Total
Unloaded	Full	19,771	9,032	28,803	19,771	18,064	37,835	237,252	744,165	981,417	12.0	41.2	25.9
	Empty	53,424	110,640	164,064	53,424	221,280	274,704	-	-				
Loaded	Full	29,315	20,510	49,825	29,315	41,020	70,335	351,780	329,250	681,030	12.0	8.0	9.7
	Empty	63,532	116,823	180,355	63,532	233,646	297,178	-	-				
Total		166,042	257,005	423,047	166,042	514,010	680,052	589,032	1,073,415	1,662,447	3.5	2.1	2.4
Empty total		116,956	227,463	344,419	116,956	454,926	571,882						
empty %		70.4%	88.5%	81.4%	70.4%	88.5%	84.1%						

Number of Loaded Boxes

Next port	Mar.01	Sep.01	Mar.02	Mar.01	Sep.01	Mar.02
Ocean going	55,848	49,671	57,098	57.6%	58.6%	63.0%
Australia	217	0	714	0.2%	0.0%	0.8%
Colombo	200	0	0	0.2%	0.0%	0.0%
Hong Kong	4,330	4,733	5,550	4.5%	5.6%	6.1%
Kaohsiung	1,405	1,664	1,594	1.4%	2.0%	1.8%
Manila	1,892	1,474	2,277	2.0%	1.7%	2.5%
Port Kelang	13,082	9,524	6,816	13.5%	11.2%	7.5%
Singapore	33,923	31,582	37,419	35.0%	37.3%	41.3%
Tanjung Perapas	0	0	2,518	0.0%	0.0%	2.8%
Others	799	694	210	0.8%	0.8%	0.2%
Domestic	41,176	35,034	33,532	42.4%	41.4%	37.0%
Belawan	4,466	4,063	5,087	4.6%	4.8%	5.6%
Bitung	313	626	0	0.3%	0.7%	0.0%
Makasar	3,025	2,795	2,517	3.1%	3.3%	2.8%
Merak	0	0	846	0.0%	0.0%	0.9%
Palembang	1,777	209	50	1.8%	0.2%	0.1%
Panjang	4,031	3,603	2,547	4.2%	4.3%	2.8%
Pontianak	3,371	2,353	2,159	3.5%	2.8%	2.4%
Samarinda	240	379	348	0.2%	0.4%	0.4%
Tg. Emas	2,345	2,063	1,909	2.4%	2.4%	2.1%
Tg. Perak	12,744	8,047	8,465	13.1%	9.5%	9.3%
Others	8,864	10,896	9,604	9.1%	12.9%	10.6%
Total	97,024	84,705	90,630	100.0%	100.0%	100.0%

Source: Monthly Shipping Approval Data

5) *Passenger Traffic*

498. Tanjung Priok Port has a passenger terminal and about 1.7 million passengers embarked and disembarked at this port in 2001. As shown in the figure below, number of passengers increased rapidly after the economic crisis in the middle of 1997. It is widely believed that many passengers shifted from air transport to sea transport because fare of the latter is lower than that of the former.

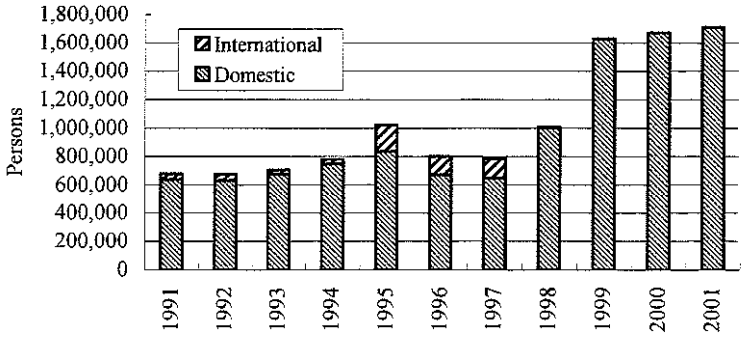
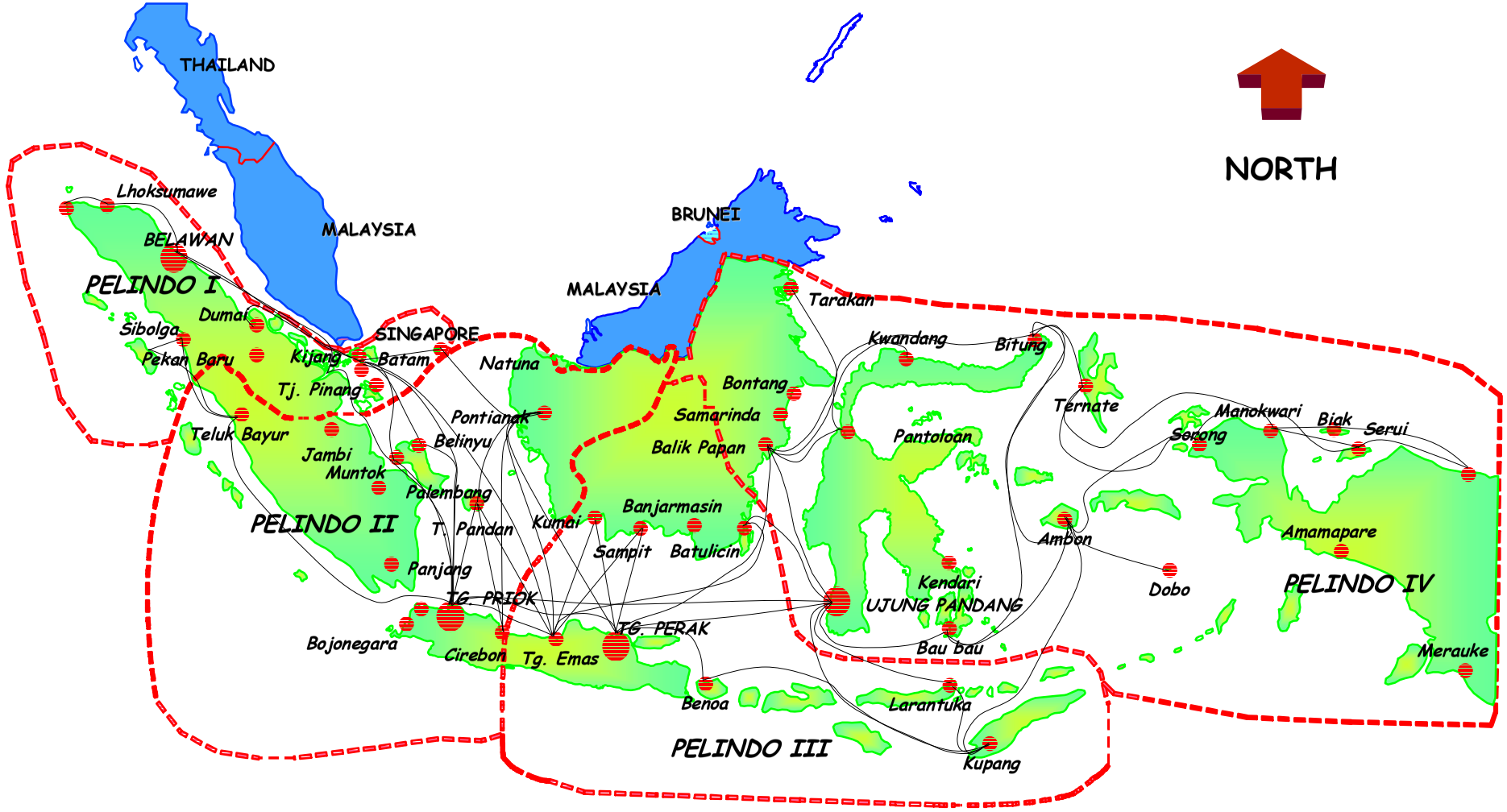


Figure 6-D-6 Passenger Traffic at Tanjung Priok

499. Presently one hundred per cent of passengers are inter-island passengers. Back to the middle of 1990's, nearly 20 percent of the total passengers were international tourists. They came to Tanjung Priok Port aboard cruise vessels.

500. PELNI has a total of 17 pure passenger or Ro/Ro passenger vessels and call this port regularly. Scheduled shipping routes of PELNI are shown in Figure 6-D-7.

Figure 6-D-7 Scheduled Shipping Routes of PELNI


THAILAND
MALAYSIA
BRUNEI
MALAYSIA
NORTH
Lhoksumawe
BELAWAN
PELINDO I
Dumai
Sibolga
Pekan Baru
Kijang
Batam
SINGAPORE
Tj. Pinang
Natuna
Tarakan
Kwandang
Bitung
Bontang
Samarinda
Balik Papan
Ternate
Pontianak
Belinyu
Teluk Bayur
Jambi
Muntok
Palembang
Pantoloan
Manokwari
Biak
Serui
Sorong
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Kumai
Banjarmasin
Sampit
Batulicin
Ambon
Amamapare
Panjang
TG. PRIOK
Kendari
UJUNG PANDANG
Dobo
PELINDO IV
TG. PERAK
Bau Bau
Bojonegara
Cirebon
Tg. Emas
Merauke
Benoa
Larantuka
PELINDO III
Kupang

6-D-5 Shipping Lines and Stevedoring Companies

1) Conferences and Consortiums as Users of Tanjung Priok

501. There are 14 organizations of the container terminal facilities users in Jakarta. Table 6-D-15 shows the details of those organizations. The all shipping lines serving Tanjung Priok, directly or indirectly are listed on the table. Usually, they are functioning separately but the major members of each organization are duplicated or triplicate, and a common subject like a terminal matter is discussed jointly.

Table 6-D-15 Conferences and Consortiums in Jakarta

ORGANIZATIONS	Members, Area of Service, (Secretarial)
ASIA/AUSTRALIA ALL LINES COMMITTEE	ANL, APL, DJAKARTA LLOYD (DL), HANJIN, HYUNDAI, K-LINE, MAERSK-SEALAND (MSL), MISC, MOL, NYK, OOCL, PIL, P&O-N, RCL, SETH Indonesia to Australia (NYK)
A.A.X. (ASIA AUSTRALIA EXPRESS GROUP)	ANL, APL, DL, NYK, P&O-N, South East Asia – Australia Service (DL)
A.W.R.A. (ASIA WESTBOUND RATE AGREEMENT)	APL, CMA-CGM, HAPAG, K-LINE, MSL, MISC, MOL, NSCSA, NYK, OOCL, P&O-N, SENATOR, YANG MING, Far East to European Ports (MSL)
C-5 (CLUB FIVE)	GOLD STAR, MSL, MOL, P&O-N, SAKA DELMAS, West African Ports (MSL)
C.W.R.A. (CANADA WESTBOUND RATE AGREEMENT)	APL, HANJIN, HAPAG, HYUNDAI, K-LINE, MSL, MOL, NYK, OOCL, P&O-N, Canadian Ports (MSL)
E.M.A. (EASTBOUND MANAGEMENT AGREENMENT)	APL, CMA-CGM, EGYPTIAN INT'NAL, HAPAG, HYUNDAI, K-LINE, MSL, MISC, MOL, NSCSA, NYK, OOCL, P&O-N, YANG MING, Far East from European Ports (MSL)
F.E.F.C. (FAR EAST FREIGHT CONFERENCE)	APL, CMA-CGM, HAPAG, HYUNDAI, K-LINE, MSL, MISC, MOL, NSCSA, NYK, OOCL, P&O-N, SENATOR, YANG MING, North Europe (MSL)
G.A.R.S. (ASIA/GULF OF ADEN AND RED SEA PORTS)	APL, CMA-CGM, HAPAG, K-LINE, MSL, MISC, MOL, NSCSA, NYK, OOCL, HYUNDAI, P&O-N, SENATOR, YANG MING Far East to/from Mediterranean Ports (MSL)
G-8	COSCO, CASV, EVERGREEN, GOLD STAR, KIEN HUNG, K-LINE, MSL, MISC, MOL, NORSUL, NYK, P&O-N, SAFMARINE, QUADRANT, YANG MING, Far East to South Africa (K-LINE)

I.A.D.A. (INTRA ASIA DISCUSSION AGREEMENT)	ACL, APL, COSCO, CNC, CHO YANG, DONGNAMA, GOLD STAR, HANJIN, HAPAG, HEUNGA-A, HYUNDAI, KMTC, K-LINE, KARANA, MSL, MISC, MOL, NYK, NORASIA, OOCL, P&O-N, PIL, RCL, SAMUDERA, TSK, UASC, UGMC, WAN HAI, YANG MING, HUB LINE, Inter Asian Ports (TSK)
I.R.A. (INFORMAL RATE AGREEMENT)	APL, COSCO, HYUNDAI, IRISL, MSL, MOL, NYK, OOCL, PIL, P&O-N, UASC, UNIGLORY, W. WILHELMSEN, WAN HAI, YANG MING., Far East/Arabian Gulf/Iranian Ports (NYK)
M.R.A. (MEDITERRANEAN RATE AGREEMENT)	APL, CMA-CGM, HAPAG, HYUNDAI, K-LINE, MSL, MISC, MOL, NSCSA, NYK, OOCL, SENATOR, P&O-N, YANG MING, Far East to/from Mediterranean Ports (MSL)
S.A.R.A. (SOUTH ASIA RATE AGREEMENT)	APL, MSL, MOL, NYK, P&O-N, South Asia, Indian Ports, Pakistan, Sri Lanka, Bangladesh, (APL)
W.T.S.A. (WESTBOUND TRANSPACIFIC STABILIZATION AGREEMENT)	APL, COSCO, EVERGREEN, HANJIN, HAPAG, HYUNDAI, K-LINE, MSL, MOL, P&O-N, NYK, OOCL, YANG MING, Asian Ports to North American Ports (HAPAG)

Source: Indonesia Shipping Gazette, June 27, 2002

2) Shipping lines Association

502. Apart from the Liner shipping lines listed as per Table 6-D-15, there is an independent organization named Indonesian Ship-owners Association (INSA) formed by mainly ship-owners, domestic and foreign. Jakarta Lloyd is the chair man line.

3) Major Shipping Lines directly serving Tanjung Priok

503. All the names of the ports served by direct calling vessels at Tanjung Priok is shown in **Appendix-A**. Detailed information regarding the direct destination from Jakarta was extracted from the Indonesia Shipping Gazette of June, 2002. At the end of July, 2002, 58 ports in the North Europe, the Mediterranean Sea-front, and the East Europe are connected with Jakarta through direct services. The shipping lines providing these direct services are:

Maersk Sealand Line, Grand Alliance, CMA-CGM and some joint operators (ANL, Gold Star, Lykes and Mafret), Norasia.

504. ANL is still maintaining its name but has merged with CMA-CGM. CMA-CGM is the largest container operator of the French flag. The line and its associates are maintaining direct ties with Europe and Mediterranean ports. OOCL and the other three lines of the Grand Alliance are also playing an important role in maintaining a direct route to North Europe and Mediterranean Ports from Jakarta. All destination ports directly connected to Jakarta are listed in **Appendix-A**.

4) Minor Shipping Lines serving Inter-Island Route calling Jakarta

505. There are various kind of services connecting major islands of this country. Table 6-D-16 is the breakdown of the inter-island sea routes network. There are 44 inter-island routes connecting 30 regional and local ports. The shipping lines serving the routes are: Salma Pacific Indonesia Lines (SPIL), Perayaran Meratus (Meratus), Panurjwan, JP Lines (PT. Jayakusuma Perdana Lines), Heung-A Shipping. These four lines are exclusively serving the inter-island traffic. JPL is an agent /operator of Evergreen-Uniglory Line.

Table 6-D-16 Details of Inter-Island Sea Routes Network

From Origin Port	To Port of Discharge
JAKARTA	Balikpapan, Banjarmasin, Batam, Benoa, Makassar, Medan, Padang, Bitung, Panjang, Pontianak, Semarang, Surabaya, Parembang, Palu, Samarinda
AMBON	Kendari, **Jakarta**
BALIKPAPAN	**Jakarta**, Samarinda
BANJARMASIN	**Jakarta**, Sampi, Surabaya
BATAM	**Jakarta**, Palembang
BATULUCIN	Bontan
BENETE	Benoa, Surabaya
BENOA	Benete, Surabaya
BIAK	Paropo, Pontianak
BITUNG	**Jakarta**, Surabaya, Palu
BONTANG	Palu, **Jakarta**, Surabaya
BUATAN	Jakarta
BOJONEGORO	Jakarta
CIGADING	Jakarta, Surabaya
CIREBON	Jakarta
JAMBI	Banjarmasin, Padang, Panjang, Pontianak
KENDARI	Surabaya, Bitung, Jakarta, Palu
KUPANG	Surabaya
MAKASSAR	Jakarta, Surabaya, Kandari, Palu, Bitung
MANOKWARI	Biak, Manokwari
MEDAN	Jakarta, Surabaya
MERAUKE	Waisarisa, Surabaya
PADANG	Jakarta
PAKNING	Jambi, Pontianak
PALEMBANG	Jakarta, Batam
PALU	**Bitum,** Jakarta
PANTOLOAN	Ujung Pandang, Surabaya
PANJANG	Jakarta
PAPUA	Biak, Palopo, Waisarisa, Wanibe
PEKANBARU	Jakarta
PERAWANG	Jakarta, Dumai
POMALAA	Banjarmasin, Taboneo
POTIANAK	Jakarta
SAMARINDA	Bontan, **Jakarta**, Padang, Palu, Surabaya
SAMPIT	**Jakarta**, Banjarmasin, Surabaya
SEMARANG	**Jakarta**, Surabaya
SORONG	Biak, Palopo, Pontianak, Jayapura, Waisarisa
SURABAYA	Barikpapan, Banjarmasin, Benete, Benoa, Bitung, Bontang, **Jakarta**, Makassar, Medan, Padang, Palu, Panjang, Samarinda, Semarang, Ujung Pandang, Sampit, Kendari, Pantoloan
TABONEO	Pmalaa, Pontianak, Temate
TARAKAN	Surabaya
TELOKAYER	Taboneo, Pontianak

From Origin Port	To Port of Discharge
TERNATE	Banjarmasin
WANIBE	Jakarta
WAISARISA	Jakarta

506. The transit time varies from one sailing day to six sailing days depending on the route. Table 6-D-17 shows the standard transit time from Jakarta to discharging ports:

Table 6-D-17 Average Transit Time to Major Discharging Ports from Jakarta

From Jakarta to	Transit Time (Days)
Balikpapan, East Kalimantan	5
Banjarmasin, South Kalimantan	2
Bitung, North Sulawesi	8-9
Makassar South Sulawesi	2-5
Paul, Central Sulawesi	11-13
Panjang, Lumpang Island	2
Pontianak, West Kalimantan	2
Samarinda, East Kalimantan	5

Source: Indonesia Shipping Gazette, June 2002

5) Stevedoring Companies

507. There are many stevedoring companies in Tanjung Priok, major of which are functioning as terminal operators as described in next part. Most of cargo handling equipment in the port is owned by the major stevedoring companies. Small scaled companies provide a gang of workers to the terminal operators and/or IPC on a contract basis.

6-D-6 Terminal Operation

1) Terminal Operating Method

508. The cargo handling terminal at Tanjung Priok port can be classified into conventional terminal and container terminal. Most of conventional terminals are managed and operated by the terminal operators, while container terminals are managed and operated by the following scheme: Joint-operation/management (Joint operation scheme); Joint venture with private/foreign investors in association with maritime employee cooperative (Joint venture scheme).

a) Conventional Terminal

509. Most of the conventional terminals are managed and operated by 14 terminal operators. Each terminal operator has a right to carry out conventional cargo handling operations including container cargo handling at each terminal through the contract between IPC2 and each private company. Table 6-D-18 is a list of terminal operators. The fact that fixed berths are assigned to each operator should be noted.

Table 6-D-18 List of Terminal Operators

No.	Name of Company		Berth No.
1	Terminal Operator – A	PT. Hamparan Jala Segara	001, 002, 003
2	Terminal Operator – B	PT. Srikreasi Unggul Persada	004, 004-U
3	Terminal Operator – C	PT. Prima Nur Panurjwan	005, 006, 007
4	Terminal Operator – D	PT. Batu Pajar Nusantara	100, 101-U, 101, 102
5	Terminal Operator – E	PT. Adipurusa	103, 104, 105
6	Terminal Operator – F	PT. Mahardi Sarana Tama	108, 109, 110
7	Terminal Operator – G	PT. Dwipa Hasta Utama	111, 112, 113
8	Terminal Operator – H	PT. Andalan Tama	201, 202, 203
9	Terminal Operator – I	PT. Gemar Laut Biru	208, 209
10	Terminal Operator – J	PT. Tangguh Samudera Jaya	303, 304, 305
11	Terminal Operator – K	PT. Indo Daya Abadi Sakti	210, 211
12	Terminal Operator – L	PT. Olah Jasa Andal	212, 213
13	Terminal Operator – N	PT. Darma Lautan Nusantara	301, 302
14	Terminal Operator – P	PT. Tri Mulya Baruna Perkasa	115, 200

Figure 6-D-8 Location of Terminal Operator's Terminal

510. This "Terminal Operators System" for the conventional terminal at Tanjung Priok commenced in the mid 1990s based on the IPC2's policy of joint business, management and operation with the third party. Major items in a contract agreement between IPC2 and a terminal operator are as follows:

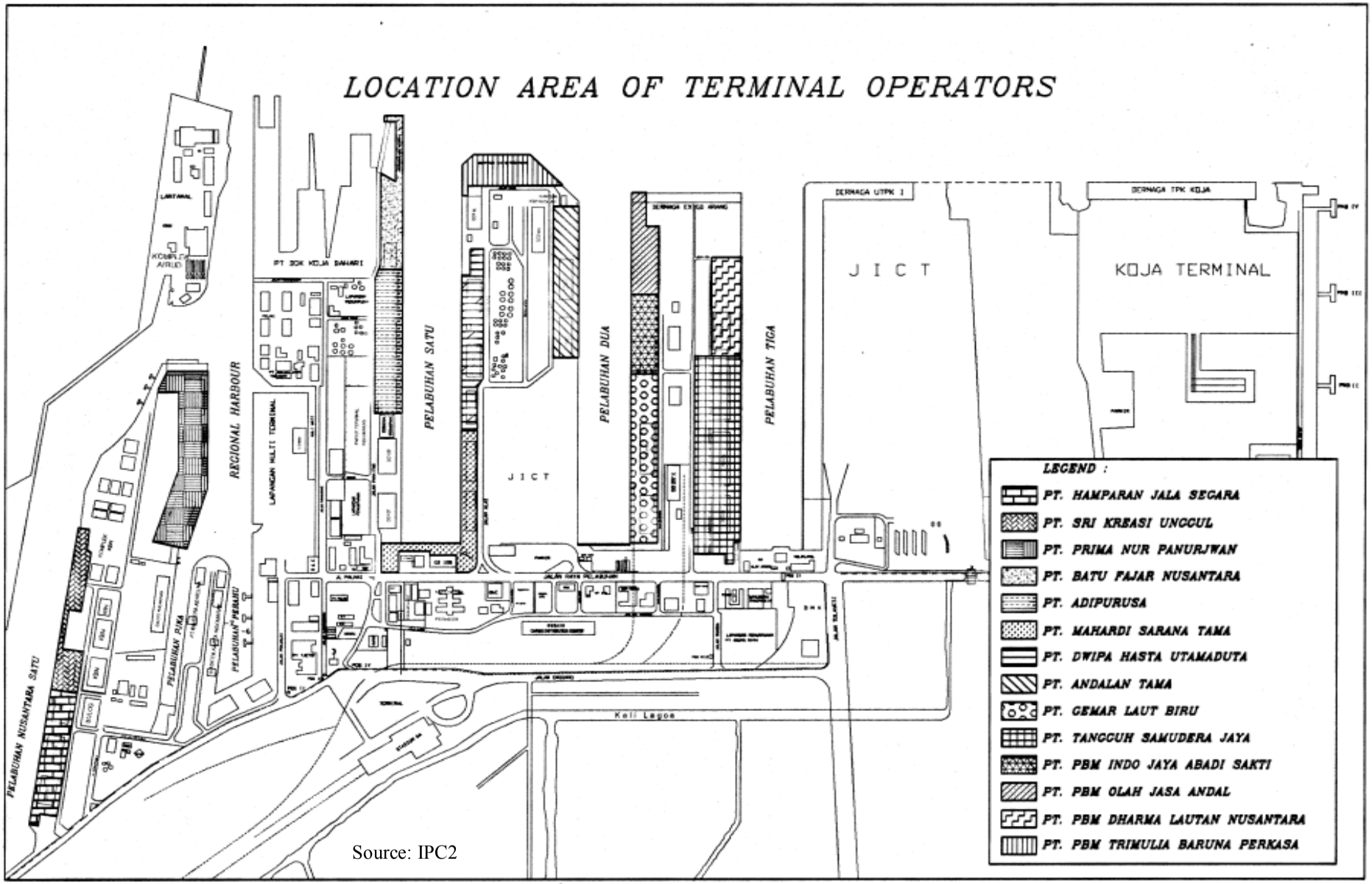
- Period of agreement is five (5) years.
- The Second Party (terminal operator) covers the operation and maintenance, royalty payment, mechanical and non-mechanical stevedoring equipment supply, fee and tax payment, stevedoring experts and operational workers supply, as well as responsibility for the third party handling cargo in the terminal. Working hours are 24 hours a day, 7 days a week and 365 days a year
- The First Party (IPC2) has responsibilities of berth allocation of vessels, as well as pilotage and tug service.
- IPC2 will receive royalty from the revenue of anchorage, stacking, and mechanical equipment service.

Annual target of cargo throughput is determined. (This target seems to be calculated based on IPC2's "Target for Quality of Services" (

- Table 6-D-19).)

Table 6-D-19 Target for Quality of Services

511. In addition to the terminals operated by 14 terminal operators, there is a multi-purpose-used terminal, berth No.009. This terminal is managed and operated by an affiliated company of IPC2 which was established in April 2002 based on cooperation of maritime employee scheme between IPC2 and PT. Multi Terminal Indonesia. The terminal is equipped with two gantry cranes and two transtainers, and mainly handles container cargo. Recorded handling volume at berth No.009 in 2001 was about 70,000 TEUs.



Source: IPC2

Location of Terminal Operator's Terminal

Target for Quality of Service

1. Ship Service		
1.1 Ship safety level	100	%
1.2 Guide Waiting Time (WTP)	20	minutes
1.3 Approach Time (AP)	62	minutes
1.4 Effective Time : Berthing Time	80	%
1.5 Accuracy of mooring ship	95	%
1.6 Berth Occupancy Ratio (BOR)	70	%
2. Cargo Service		
2.1 Loading and Unloading Service		
2.1.1 Cargo	18	B/C/H
2.1.2 General Cargo (GC)	32	T/G/H
2.1.3 Bagged Cargo (BC)	36	T/G/H
2.1.4 Unitized Cargo (UC)	45	T/G/H
2.1.5 Liquid Bulk (CC)	150	T/G/H
2.1.6 Dry Bulk (CK)	100	T/G/H
2.2 Storage Service		
2.2.1 Damage and Loss of Cargo Level as long as in storage/yard	0.01	%
2.3 Receipt and Delivery Service		
2.3.1 Damage and loss or mistake level of Receive/Delivery	0.01	%
3. All kinds of Service		
3.1 Administration settling of Land Rental	26	Days
3.2 Ship Water Service via the Barge	2	Hours
3.3 Ship Water Service via wharf pipe	1	Hour
3.4 Office Phone Connection	6	Hours
3.5 Ship Phone Connection	28	Minutes
4.Complain and Claim Service		
4.1 Complain Responding Time	2	Days
4.2 Claim Responding Time	6	Days
5. Availability of facility and equipment		
5.1 Tug Boat	80	%
5.2 Pilot Boat	80	%
5.3 Mooring Boat	80	%
5.4 Forklift	83	%
5.5 Top Loader	83	%
5.6 Wharf	90	%
5.7 Storage	90	%
5.8 Yard	90	%
5.9 Road	90	%
5.10 Installation of Electricity	87	%
5.11 Installation of water pipe and pump	87	%
5.12 Water Barge, Waste and Tug Boat	80	%
5.13 Telephone	98	%
5.14 Computer Server	99	%
5.15 Mobile of fire extinguisher	93	%
6. Others		
6.1 SPPB/SP3 Process	4	Days
6.2 Bill Payment of Ship Service	6	Days
6.3 Delivery of Equipment to User	2	Days
6.4 Conveying the delivered letter	2	Days
6.5 Publication of agreement supplying equipment or service andI nstruction letter	10	Days
6.6 Employee Safety Level in working area	100	%
6.7 Employee Absence Level	93	%

Source: IPC2

b) Container Terminal

512. In 1997, IPC2 underwent a privatization process through partial strategic partnership of its container terminal units to improve the efficiency and container service provision and to upgrade the management and technology, as well as increase ship and container service performance in the ports. IPC2 determined that the privatization scope should cover the container terminal units. The major items of agreement between the first party and the second party can be summarized as follows: Period of agreement is 20 years. Basically, development of a new terminal including berths and super-structure is the responsibility of the second party, while dredging of the main channel and basin is the responsibility of the first party. Period of tariff adjustment is every 2 years. Royalty is 10% of revenue.

513. Tanjung Priok port has two full-scale container terminals: Jakarta International Container Terminal (Terminals of I and II, JICT) and Koja Container Terminal. Both terminals are separately managed and operated by affiliated companies of IPC2.

i) PT. Jakarta International Container Terminal

514. PT Jakarta International Container Terminal (PT JICT) is an affiliated company of IPC2 and established based on a joint venture scheme between IPC2 and Grosbeak PT. Hong Kong Ltd. on March 1999. Shareholding structure of PT. JICT consists of IPC2 (48%), Grosbeak PT. JICT (51%) and Tanjung Priok Maritime employees Cooperative (1%).

ii) Koja Container Terminal

515. Koja Container Terminal (Koja CT) is an affiliated company of IPC2 and established based on a joint operation scheme between IPC2 and PT. Ocean Container Terminal on March 1999. Shareholding structure of Koja CT consists of IPC2 (52.12%) and PT Ocean Container Terminal (47.88%).

2) Computerized Terminal Management System

a) Container Terminal Management System

516. To support container handling performance, the computerization management application system has been introduced at both container terminals, which is mainly utilized for the following activities:

- Yard and Ship Planning.
- Yard and Ship Operation.
- Gate House
- Billing.
- EDI

517. The computerization management system at Koja Container Terminal has been introduced with the real time of information system, which is utilized with the hardware of IBM RS/600:Parallel System and software of NAVIS for the container handling operation and wireless telecommunication equipment (TEKLOGIX).

b) Electronic Data Interchange (EDI)

518. To support container handling performance, the computerization management application system has been introduced at both container terminals, which is mainly utilized for the following activities: Yard and Ship Planning, Yard and Ship Operation, Gate House, Billing, and EDI.

519. EDI Indonesia's line of business is outlined in Decree of Minister for Tourism, Post and Telecommunications NO.KM/89/HK/501/ppt-95 dated 6 December 1995. According to this decree, EDI Indonesia provides information technology-based technical and consultancy services and network installation related to export-import processes, supply chains, and distribution within the scope of port operations and telecommunications.

520. On 23 January 1996, EDI Indonesia launched a range of container terminal services at the port of Tanjung Priok. Since then, it has diversified into several other business activities, including services for retail chains, manufacturing, banks and other sectors.

521. Decree No. 93/KM/01/1996 issued by the Minister of Finance on 26 February 1996 provides for the establishment of a steering committee to formulate the role of EDI Indonesia in customs and excise operations.

522. Electronic Commerce/Electronic Data Interchange (EC/EDI) technology enables documents to be exchanged through the use of common, agreed standards. EC/EDI technology eliminates errors in data entry, and more, it also reduces the possibilities for human interference, enabling processes to operate faster and errors caused by lapses in manual data entry to be prevented.

523. The application of EC/EDI VAN in customs and excise and port handling operations in support of shipping has convinced corporate players of the potential benefits from similar services for other business activities in Indonesia. VAN come equipped with quality high-technology hardware systems. Located in Jakarta, the main server guarantees 24-hour, non-stop operation. Trouble-free access is available for wide range of data communications and protocols using special lines on public switched telephone network (PTSN), public data network (PDN) and other systems such as Data over Voice (DoV) and VSAT. All customers need to do is choosing between synchronous and asynchronous, and between TCP/IP and frame relay, according to the requirement of their communication protocol.

524. Maximum-security protection ensures that VAN's wide range of features protect the validity and quality of documents according to agreed terms and conditions. As an added benefit, VAN also comes with the capability of authenticating transmitted documents.

525. With a VSAT and submarine cable-based network, VAN's operations are based in two major cities: Bandung and Surabaya. In both cities, users are able to access VAN at local call rates.

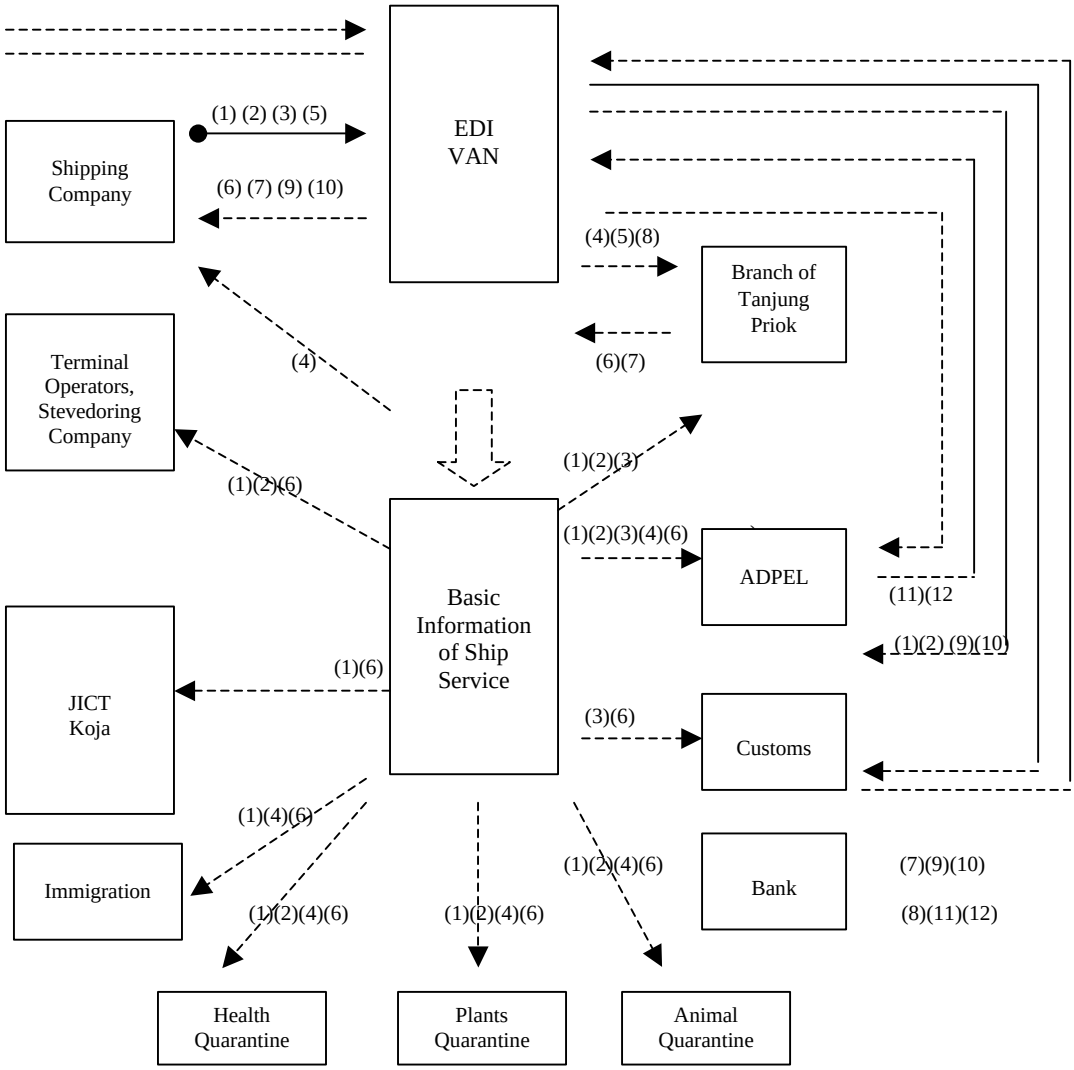
526. Figure 6-D-9 shows EDI program of document exchange flow for ship and cargo service.

Figure 6-D-9 EDI Program of Document Exchange Flow for Ship and Cargo Service

3) Performance of the Terminals

527. To analyze and evaluate the performance of the port, the Study team has gathered the following two kinds of monthly data for March 2001, September 2001 and March 2002:

- Approval/planning basis: "Penetapan Rencana Alokasi Tambat Kapal dan Kegiatan Bongkar Muat" based on PPKB (Request of service for ship and cargo) data (hereinafter referred to as "Approval data"), which covers all ships arriving at Tanjung Priok. March 2002 data, for example, includes ship records which approval date is from 1 to 31 March.



Documents:
(1) Arrival plan of transportation tools
(2) Unloading manifest
(3) Load bay plan/loading list
(4) Mooring plan + Operation Planning
(5) Request to Ship and Cargo Service
(6) Decision of Ship and Cargo Service
(7) Billing Note for Ship Service (4A)
(8) Credit Note (4A)
(9) Note of government Duty
(10) Note of Navigation Aid Fee
(11) Credit Note of Government of Duty
(12) Credit Note of Navigation Aid Fee

Source: IPC2

EDI Program of Document Exchange Flow for Ship and Cargo Service

- Actual operation basis: "Kinerja Pelayanan Kapal dan Barang" (by terminal operator, hereinafter referred to as "Actual data by T/O") and "Ton Gang Hour Pelayanan Bongkar Muat Barang" (by cargo type, hereinafter referred to as "Actual data by cargo type"), which cover ships arriving at conventional berths (including 009 berth (MTI terminal), excluding passenger terminal). March 2002 data, for example, includes ship records which arrival date is from 1 to 31 March.

528. Actual data is more practical to analyze the real berth performance, however, approval data covers all shipping information in Tanjung Priok including JICT and Koja and there appears no problem in grasping and comparing general tendency of berth performance. Further more, approval data clearly separates number of container box from other cargo and includes such information as previous/next port, while some such information as LOA (ship length) is missing in actual data. In addition, cargo volume data in approval data is equal or nearly equal to actual data.

529. On the other hand, approval data has no detail information of berthing time such as berth effective time, idling time, non operating time. In addition, waiting time in approval data, which can be calculated extracting berthing time from arrival time, is not clear due to unclearness of arrival time. Cargo type information such classification as bag, dry and liquid bulk is available only in actual data by cargo type.

530. In consideration of above situations, we selected the data properly according to the characteristic of analysis as follows:

- Berth occupancy: Approval data
- Waiting Time: Actual data by T/O
- Handling Productivity: Actual data by cargo type
- Other analysis for shipping: Approval data

531. Basic profiles of these data are summarized in Table 6-D-20.

Table 6-D-20 Data Profiles

	Approval data			Actual data by T/O			Actual data by cargo type		
	Mar. 01	Sep. 01	Mar. 02	Mar. 01	Sep. 01	Mar. 02	Mar. 01	Sep. 01	Mar. 02
Number of records (ships)	1,273	1,097	1,158	791*	843*	876*	817	867	848
Cargo volume ('000 ton)	2,639	2,644	2,803	1,230**	2,332	2,644	-****	-****	-****
Container ('000 boxes)	186	163	178	-***	-***	-***	-****	-****	-****
JICT	103	89	98	-	-	-	-	-	-
Koja	33	28	31	-	-	-	-	-	-
009 (MTI)	7	7	7	-	-	-	-	-	-
Conventional	43	38	43	-	-	-	-	-	-

* JICT and Koja data is not included.
** Data is missed for special wharves.
*** Container data is mixed by box and ton, not to able to be separated.
**** Container data is not separated from other cargo.

a) Berth Occupancy

532. Monthly/annual Berth Occupancy Ratio (BOR) is provided by IPC-II, but their calculation method is somewhat different than standard one. Usually, monthly BOR can be calculated by the following two methods: Second method is suitable in case of evaluating long sequential berth.

- BOR (1): (Σ Berthing Time for No.(i) berth) / (24hr * 30(31)days * number of berth in No.(i) berth) - berth wise BOR
- BOR (2): (Σ (Berthing Time * LOA(m)) for No.(i) berth) / (24hr * 30(31)days * berth length (m) of No.(i) berth) - berth length wise BOR

533. Second method is suitable in case of evaluating long sequential berth. On the contrary, BOR data in Pelindo is calculated by the following formula, which can be another method but is considered to be not always suitable to evaluate berth performance accurately.

- (Σ Berthing Time for No.(i) berth) / (round up number of berthing days in No.(i) berth * 24hr)

534. Therefore, the Study team calculated BOR again using PPKB (Request of service for ship and cargo) based data "*Penetapan Rencana Alokasi Tambat Kapal dan Kegiatan Bongkar Muat*". Based on the results, the following observations can be made. (See Table 6-D-21):

- Berths in Basin I & II, especially those located at the inner part of basin have a low BOR level. This is likely due to the narrow space of basins, which would put the limits on the number of ship calls to the basins.
- 009 (MTI terminal), 107 ~109, UTPKII (JICTII terminal), 207 ~ 209, 305, for example, are under 50% of berth wise BOR, and far below 50% of berth length wise BOR in March 2002. (See Figure 6-D-10)
- Berths such as No.115 and 007U are not being well utilized, which seems to be because of the narrow maneuvering area in front of them.

Table 6-D-21 Berth Occupancy Ratio

Figure 6-D-10 Low Berth Occupancy Ratio (March 2002)

b) Waiting Time

535. Waiting time is calculated using "*Kinerja Pelayanan Kapal dan Barang*" (Realization of Ship and Cargo Service) data except JICT, the result of which is shown in Table 6-D-22. Ship data for UTPK3 (Koja container terminal) was obtained from TPK Koja, and is included in the table. As for JICT terminal, only average waiting time was available, which is shown in the margin of the table.

536. With regard to container vessels, waiting time is almost negligible, however, there are some cases in which vessels have to wait for berthing judging from Koja terminal data. Moreover, average waiting time has been increasing recently.

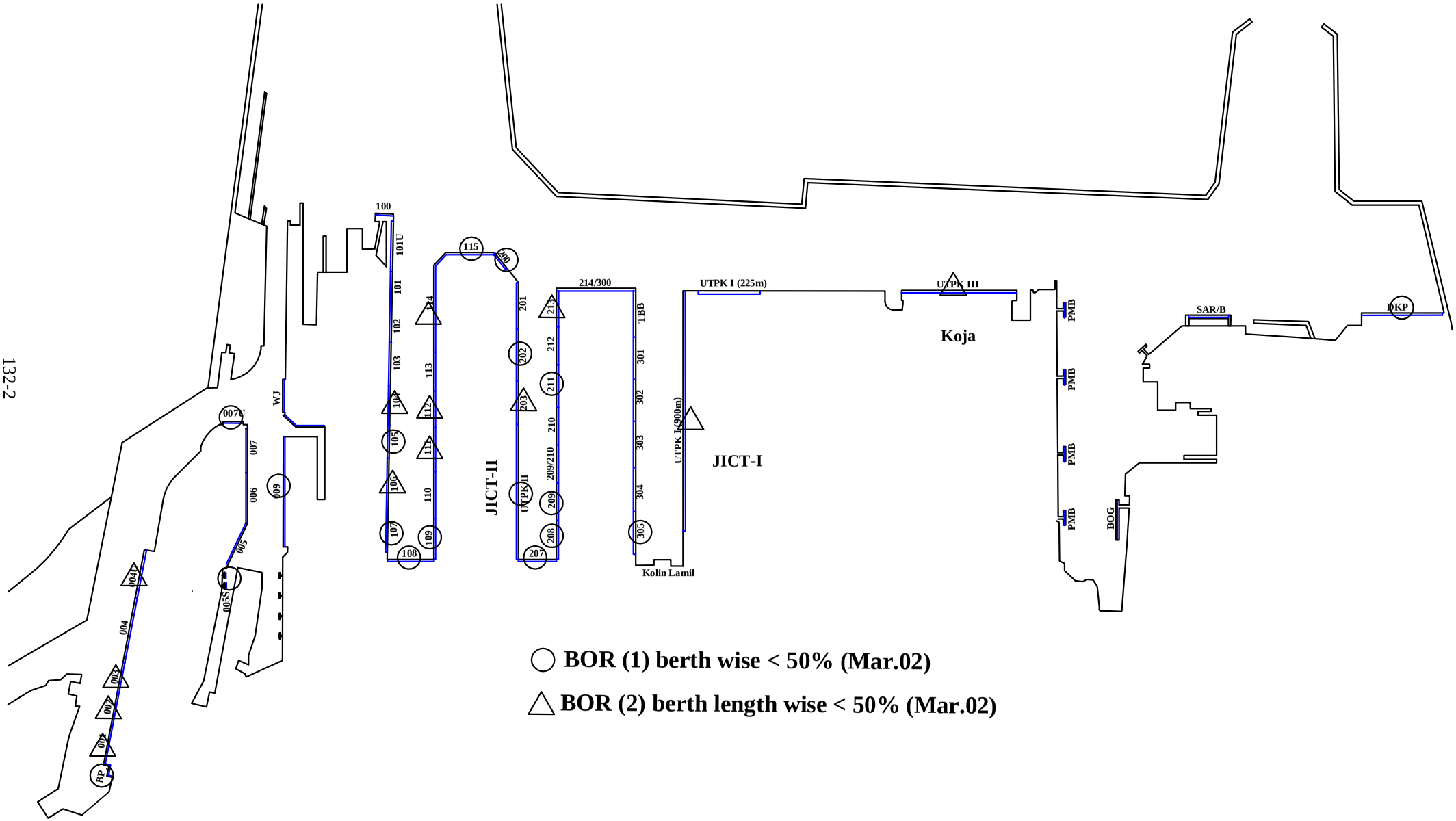
537. With regard to conventional berth, there are a lot of berths with an average waiting time of over 12 hours, and most are concentrated in Basin I. This is due to the heavy congestion in the main channel, especially in front of Basin I. (Figure 6-D-11)

Table 6-D-22 Waiting Time

Figure 6-D-11 Average Waiting Time Over 12 hours (March 2002)

Berth Occupancy Ratio

Berth Name	Length	Num. of Berth	BOR(1) - berth wise			BOR (2) - berth length wise		
			Mar.01	Sep.01	Mar.02	Mar.01	Sep.01	Mar.02
BP	35	1	36%	26%	37%	51%	38%	55%
001	163	1	64%	71%	60%	21%	25%	25%
002	130	1	54%	50%	70%	25%	25%	35%
003	130	1	81%	58%	85%	42%	31%	48%
004	260	2	55%	55%	64%	25%	27%	30%
004U	195	1	109%	55%	87%	40%	20%	31%
005S	11	2	-	6%	3%	-	51%	29%
005	180	1	126%	110%	129%	42%	40%	52%
006	180	1	147%	150%	128%	71%	68%	65%
007	180	1	142%	95%	134%	58%	39%	60%
007U	75	1	25%	8%	-	21%	7%	-
009	404	2	45%	41%	43%	19%	19%	17%
WJ	100	1	457%	116%	105%	255%	70%	65%
100	62	1	69%	63%	55%	67%	56%	50%
101U	200	1	64%	61%	84%	57%	48%	76%
101	121	1	61%	108%	76%	53%	130%	65%
102	121	1	61%	68%	86%	44%	51%	78%
103	159	1	51%	94%	88%	29%	54%	51%
104	155	1	37%	58%	51%	25%	40%	36%
105	140	1	39%	48%	42%	26%	31%	30%
106	201	1	66%	64%	69%	39%	40%	44%
107	128	1	22%	18%	12%	13%	7%	7%
108	175	2	255%	73%	41%	82%	36%	33%
109	155	1	61%	52%	44%	36%	30%	29%
110	166	1	137%	116%	157%	75%	62%	89%
111	153	1	93%	123%	90%	56%	69%	48%
112	151	1	61%	101%	78%	39%	60%	42%
113	138	1	77%	51%	66%	62%	45%	59%
114	376	2	45%	48%	67%	27%	34%	48%
115	177	1	87%	92%	40%	53%	63%	22%
200	80	1	39%	49%	47%	34%	41%	49%
201	167	1	34%	55%	63%	29%	47%	66%
202	170	1	53%	55%	45%	47%	48%	35%
203	158	1	70%	43%	53%	66%	35%	45%
UTPK2	510	3	27%	24%	27%	23%	20%	23%
207	141	2	29%	16%	23%	24%	14%	18%
208	159	1	38%	38%	42%	25%	24%	29%
209	140	1	55%	32%	25%	46%	21%	21%
209/210	140	1	86%	80%	58%	61%	63%	53%
210	140	1	80%	70%	100%	57%	76%	90%
211	153	1	71%	51%	47%	53%	38%	36%
212	145	1	79%	76%	87%	62%	70%	84%
213	140	1	57%	39%	55%	47%	30%	44%
214/300	300	2	74%	42%	55%	77%	45%	55%
TBB	195	1	44%	31%	125%	36%	15%	87%
301	160	1	109%	100%	97%	84%	92%	83%
302	160	1	52%	40%	74%	56%	35%	70%
303	163	1	63%	78%	92%	55%	86%	87%
304	160	1	72%	47%	70%	51%	34%	58%
305	160	1	-	47%	33%	-	33%	23%
UTPK1	1,125	5	61%	48%	57%	46%	37%	44%
UTPK3	450	2	60%	54%	60%	47%	41%	46%
PMB	100	4	99%	89%	79%	589%	535%	473%
BOG	175	1	43%	58%	77%	31%	60%	65%
SAR/B	187	1	156%	137%	192%	147%	153%	198%
DKP	276	1	253%	42%	38%	73%	17%	15%
AVERAGE	10,675	70	82%	63%	69%	61%	54%	58%



○ **BOR (1) berth wise < 50% (Mar.02)**

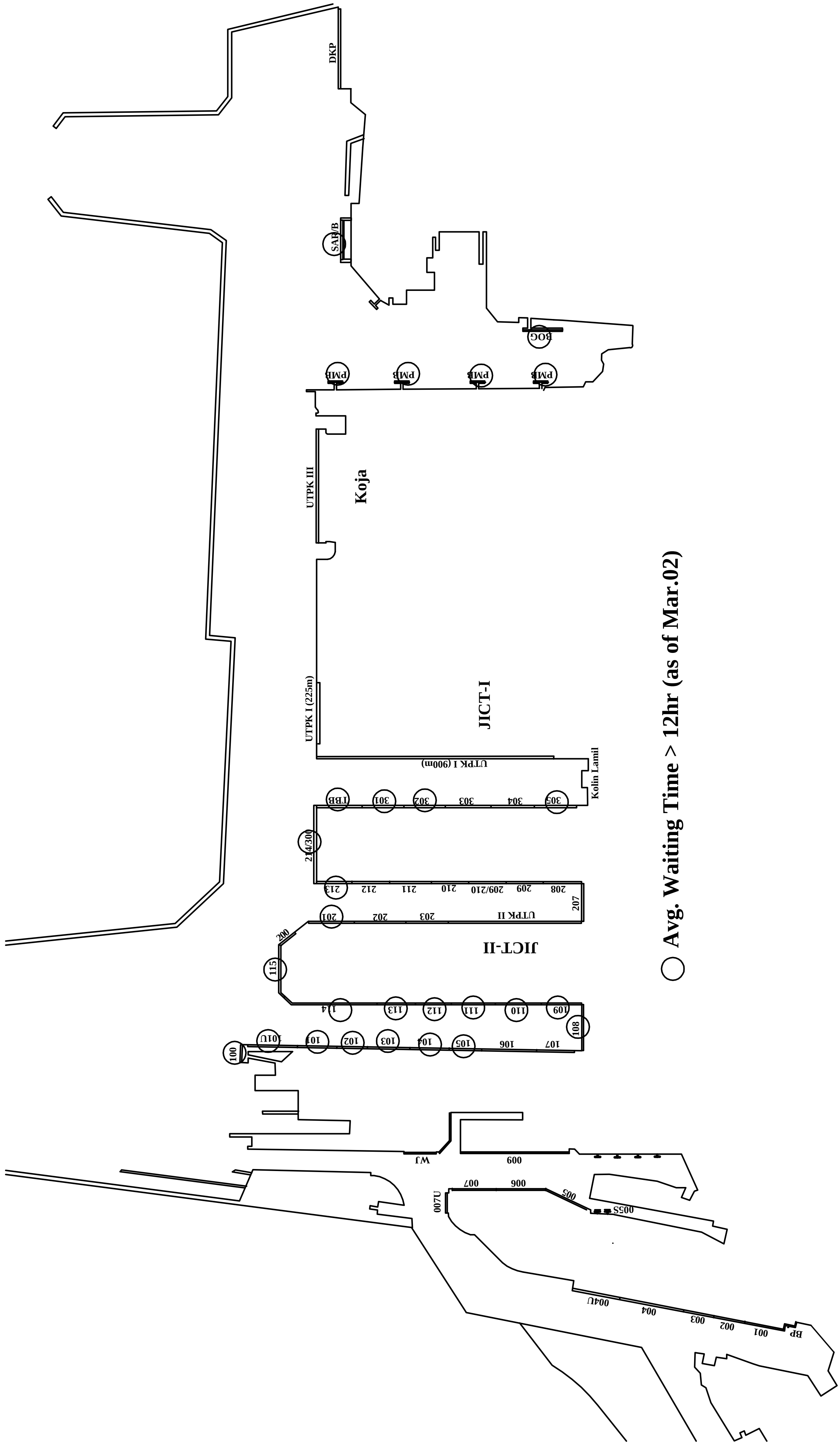
△ **BOR (2) berth length wise < 50% (Mar.02)**

Berth Waiting Time

Berth Name	Length	Num. of Berth	Mar. 2001			Sep. 2001			Mar. 2002															
			WT(hr)	Num. /Call	Ave. WT (hr)	WT(hr)	Num. /Call	Ave. WT (hr)	WT(hr)	Num. /Call	Ave. WT (hr)	0-	2-	4-	6-	8-	10-	12-	14-	16-	18-	20-	22-	>24hr
BP	35	1	93	30	3.1	558	14	39.9	89	14	6.4	5	2		2	1	2	1					1	
001	163	1	106	15	7.1	79	16	4.9	128	15	8.5	3	2	1	1	1	1	1	2	1	2			
002	130	1	64	12	5.3	63	10	6.3	162	18	9.0	4	2	1	2		2	1	3		1	1	1	
003	130	1	69	9	7.7	57	11	5.2	108	16	6.8	3	2	2	3		2	3	1					
004	260	2	183	34	5.4	323	51	6.3	197	40	4.9	10	11	5	4	4	1	1	3	1				
004U	195	1	116	21	5.5				88	16	5.5	5	5	1		1		2			2			
005S	11	2																						
005	180	1	99	22	4.5	190	39	4.9	288	36	8.0	3	9	4	3	2	5	1	5	3			1	
006	180	1	55	21	2.6	151	26	5.8	175	21	8.3	3	5	1	2	1	2	3	1		1	1	1	
007	180	1	177	25	7.1	89	22	4.0	302	28	10.8	1	4	2	3	1	3	4	5		2	1	2	
007U	75	1	71	11	6.5																			
009	404	2	90	33	2.7	132	33	4.0	241	44	5.5	9	11	5	3	9	1	4	2					
WJ	100	1	350	78	4.5	321	57	5.6	110	41	2.7	11	22	1	3	3	1							
100	62	1	1,278	27	47.3	660	16	41.3	669	15	44.6	1	2						3	1				8
101U	200	1				351	5	70.2	143	5	28.6	1	1			1								2
101	121	1				269	11	24.5	37	4	9.3	1	1			1								1
102	121	1	154	13	11.8	251	13	19.3	588	22	26.7	4	5	1	2	1	1					1		7
103	159	1	656	19	34.5	331	13	25.5	175	11	15.9	2	3		1	1		1			1			2
104	155	1	104	8	13.0	275	15	18.3	653	14	46.6	1	2				2		1					8
105	140	1	452	13	34.8	626	27	23.2	433	18	24.1	1	4		1	3	1					1	3	4
106	201	1																						
107	128	1	433	5	86.6	99	3	33.0																
108	175	2	1,544	38	40.6	1,735	34	51.0	589	21	28.0	2				3	2	1	1	1	1		3	7
109	155	1	908	17	53.4	623	12	51.9	283	10	28.3	2	1		2				1					4
110	166	1	243	14	17.4	362	21	17.2	567	21	27.0	1	3	4		1			4		1			7
111	153	1	749	14	53.5	950	19	50.0	560	21	26.7	2	4		1			2	1		1		3	7
112	151	1	528	18	29.3	762	18	42.3	659	23	28.7	4		3	1			1			2		1	11
113	138	1	523	23	22.7	1,002	30	33.4	361	25	14.4	6	5	2	1	2				2				7
114	376	2	769	18	42.7	229	16	14.3	794	13	61.1	3			1			1			1			7
115	177	1	208	11	18.9	271	16	16.9	265	8	33.1	1					1	1					1	4
200	80	1	6	9	0.7	229	13	17.6	86	10	8.6	2	2		1	2					1	2		
201	167	1	27	8	3.4	253	9	28.1	82	5	16.4	1	2											2
202	170	1	4	6	0.7	41	6	6.8	70	7	10.0	2	2		1				1					1
203	158	1	19	8	2.4	277	9	30.8	98	10	9.8	2	3	2					1					2
JICT2 (*)	510	3			----------			----------			----------													
207	141	2	15	11	1.4	52	9	5.8	150	14	10.7	7	1			1			1	1				3
208	159	1	14	15	0.9	119	16	7.4	126	13	9.7	2	4	2					1		2		1	1
209	140	1	39	9	4.3	32	10	3.2	79	9	8.8	3	3			1								2
209/210	140	1	37	10	3.7	197	10	19.7	48	8	6.0	3	3						1					1
210	140	1	3	16	0.2	87	9	9.7	129	14	9.2	6	1			2			1	2				2
211	153	1	41	6	6.8	158	8	19.8	51	8	6.4	4	1		1					1				1
212	145	1	14	13	1.1	311	12	25.9	143	14	10.2	5	3	1		1				1			1	2
213	140	1	48	15	3.2	172	10	17.2	192	13	14.8	3	1	1		1	1		1			1		4
214/300	300	2	20	6	3.3	171	12	14.3	590	17	34.7	2	4	2	1			1						7
TBB	195	1	10	3	3.3	16	3	5.3	387	6	64.5		3											3
301	160	1	198	14	14.1	109	8	13.6	283	13	21.8	3	2			2							2	4
302	160	1	78	8	9.8	181	10	18.1	197	11	17.9	4	2		1					1			1	2
303	163	1	470	12	39.2	206	8	25.8	44	14	3.1	6	3	3	1			1						
304	160	1	175	14	12.5	55	11	5.0	79	16	4.9	7	7											2
305	160	1	173	9	19.2	110	10	11.0	242	10	24.2	3		1	1	1	1			1				2
JICT1 (*)	1,125	5			----------			----------			----------													
Koja CT	450	2	75	50	1.5	85	41	2.1	127	57	2.2	38	8	3	4	2	2							
PMB	100	4				1,633	36	45.4	2,213	53	41.8	7	9	4	3		1	2	1		1	1	1	23
BOG	175	1				366	12	30.5	477	5	95.4				1									4
SAR/B	187	1				2,836	9	315.1	1,221	8	152.6										1			7
DKP	276	1				1,442	14	103.0	146	21	7.0	6	7		2	2	1		1					2
AVERAGE	10,675	70	11,488	791	14.5	19,897	843	23.6	15,924	876	18.2	205	177	52	53	51	33	32	42	16	20	9	23	163

*** UTPK1&2**	**Ave. WT**	**2000**	0.4
		2001	1.2

Source: Tanjung Priok Branch Office of Pelind II, except JICT and Koja CT


Avg. Waiting Time > 12hr (as of Mar.02)
DKP
SAR/B
BOG
PMB
PMB
PMB
PMB
Koja
UTPK III
JICT-I
UTPK I (225m)
UTPK I (900m)
Kolin Lamil
TBB
301
302
303
304
305
214/300
213
212
211
210
209/210
209
208
207
201
202
203
UTPK II
200
JICT-II
115
114
113
112
111
110
109
108
100
101U
101
102
103
104
105
106
107
WJ
009
007U
007
006
005
005S
004U
004
003
002
001
BP

c) Handling Productivity

538. Handling productivity is shown in Table 6-D-23, which include "volume/ET(effective time)" meaning ton/ship/hr (TSH), average "BT(berthing time)-ET" meaning idling and non-operating time, and its ratio "ET/BT".

Table 6-D-23 Handling Productivity (As of March 2002)

539. Although TSH varies among the berths, it is safe to say that handling productivity itself is relatively high. Most bag cargo and general cargo enjoy more than 30 ton/ship/hr, and most dry bulk cargo enjoys more than 100 ton/ship/hr. Rather less productivity (50-100 ton/ship/hr) can been seen in liquid bulk cargo. According to the Operational Division in the Tanjung Priok branch office of IPC2, ton/gang/hr (TGH) can be calculated as follows considering number of gangs, which satisfies the target TGH in Tanjung Priok.

Cargo Type	TGH (ton/gang/hr)	Target TGH in Tg. Priok
Bag cargo	37.34	36
Liquid bulk cargo	150.03	150
Dry bulk Cargo	101.84	100
General Cargo	33.30	32

Source: IPC2

540. Concerning idling and non-operating time, comparatively less BT-ET can be seen in Basin II, berth No. 200, 203, 208, 211, 212 and 213, and in Basin III, berth No. 302, 303 and 304, however, it can be said that BT-ET is long as a whole. There are a lot of berths with more than 10 hours of BT-ET especially on the west side of the port. This implies that there is less motivation for a stevedoring company to increase cargo handling productivity.

541. Crane productivity data for the conventional berths was not available in the Study.

d) Unloading/loading Type

542. Table 6-D-24 shows terminal-wise data of unloading/loading type. Cargoes by direct transport to/from the berth have a large share of total cargo, which means yards and warehouses are not fully utilized. This situation is closely related to the concentration of road traffic at certain times: the long queue of trucks causes traffic jams.

Table 6-D-24 Berth-wise Unloading/Loading Type

Cargo Handling Productivity (except container) - As of March 2002 -

Berth Name	BT (Berthing Time)				ET (Effective Time)				Avg.	Avg.	Major Commodity	Cargo Type (% as of Mar.02)					Volume (ton)				cf. CT	Volume/ET (ton/ship/hr)			
	Bag	LB	DB	GC	Bag	LB	DB	GC	BT-ET (hr)	ET/BT		Bag	LB	DB	GC	Unit.	Bag	LB	DB	GC	(box)	Bag	LB	DB	GC
BP									156.4	9%	Heavy eq.					100%									
001	141			307	89			172	39.5	56%	Plywood, Rice	11%			23%	66%	4,653			2,454		52			14
002	139			932	75			166	57.9	59%	Plywood, Paper, GC, Rice	8%			56%	36%	3,205			2,400		43			14
003	90		264		37		210		19.6	68%	Clinker, Pulp, Gypsum, CT	9%		26%		65%	1,350		22,700		27	36		108	
004	88	759	855	320	50	480	296	110	28.7	48%	CPO, Clay, Coal	4%	34%	39%	14%	9%	500	25,703	26,540	1,660		10	54	90	15
004U		410	293	360		282	125	78	36.1	55%	CPO, Sand, Gypsum		39%	28%	34%			17,132	20,800	1,172			61	166	15
005S																									
005			220	516			89	325	22.2	48%	Plywood, GC, Sand, CT			12%	29%	59%			5,100	13,416	1,608			57	41
006			60	461			25	265	26.9	50%	GC, Plywood, Sulfer, CT			5%	41%	53%			1,500	8,409	2,544			60	32
007				388				227	35.5	44%	Plywood, GC, CT				22%	78%				6,057	2,338				27
007U																									
009									14.6	30%	CT					100%					6,531				
WJ			2,370				588		33.6	29%	Sand, Coal			100%					55,664					95	
100		456		29		232		15	17.0	51%	CPO		94%		6%			15,992		1,100			69		73
101U			482	67			240	40	57.2	49%	Cement, Clinker			84%	12%	5%			98,650	3,500				411	88
101		41	12			20	6		16.0	49%	Ammonium, Soybean, Cow		33%	10%		57%		2,700	996				135	166	
102	40	331	124	146	25	165	61	92	19.4	50%	CPO, GC, Cement	5%	38%	14%	17%	27%	3,057	13,481	10,300	8,731		122	82	169	95
103		117		24		70		10	23.1	42%	CPO, CT		26%		5%	69%		4,500		144	4,775		64		14
104									24.9	50%	CT					100%					3,391				
105		112				70			30.8	43%	CPO, CT		11%			89%		2,000			2,485		29		
106											Passenger														
107											Passenger														
108	45	128		598	20	65		328	20.8	52%	GC, Oil	5%	14%		64%	17%	1,200	2,969		20,444		60	46		62
109	60	78		236	52	40		150	27.6	58%	GC, Plywood, Rice, CPO	10%	12%		38%	41%	5,250	3,000		8,113		101	75		54
110	104	74		647	51	40		377	26.4	55%	GC, Plywood, Mobil, Pulp	9%	6%		53%	32%	2,320	3,999		30,233		45	100		80
111		41		619		20		344	17.7	53%	GC, CT		5%		77%	18%		1,900		23,924	326		95		70
112		338		339		155		214	15.7	53%	GC, Oil prod., CPO, CT		43%		43%	14%		17,080		20,095	317		110		94
113		230	42	23		110	20	10	17.6	44%	Soda ash, Palm, Oil prod., GC, CT		30%	6%	3%	61%		13,990	4,504	410	3,103		127	225	41
114			830	82			400	59	43.4	50%	Sement, Soybean, CT			74%	7%	19%			67,183	3,655	300			168	62
115			34	470			15	78	90.6	41%	Pulp, Cement, GC			4%	49%	48%			3,400	4,300	30			227	55
200	88	212		88	77	177		68	7.7	82%	CPO, Sement, Cousitic soda	19%	45%		19%	17%	5,704	11,196		3,110		74	63		46
201			379				322		25.8	81%	Clinker, CT			64%		36%			83,500		306			259	
202				9				7	14.3	75%	Pulp, Paper, Plywood, Coil, CT				3%	97%				1,724	423				246
203		25		57		21		49	7.9	81%	GC, Plywood, CT		8%		18%	74%		1,500		5,585	874		71		114
UTPK2											CT										17,645				
207		282		121		234		50	14.9	67%	CPO, Construction mat.		48%		21%	31%		10,433		908			45		18
208				212				181	3.6	79%	GC, CT				79%	21%				19,572	271				108
209	110		90	161	53		82	138	10.6	82%	GC, Soda ash, CT	26%		22%	39%	13%	2,600		14,006	20,752		49		171	150
209/210	96			31	75			24	18.4	79%	Wood, Pulp, Fertilizer, CT	16%			5%	79%	5,000			916		67			38
210	254				222				10.3	80%	Sugar, Pulp, , Paper,	36%				64%	19,258					87			
211	407	47	136	62	363	43	120	57	8.6	90%	Sugar, Rice, Coil, Soda ash	62%	7%	21%	10%		35,558	2,136	11,220	15,147	7	98	50	94	266
212			192				178		8.7	78%	Cement, Clinker, CT			32%		68%			53,000		2,496			298	
213									7.8	83%	Cement, CT					100%					3,006				
214/300	112		415		100		328		9.5	80%	Corn, Fertilizer, Sugar, CT	14%		52%		33%	11,969		47,531		4,740	120		145	
TBB			870				704		20.8	78%	Scrap steel			100%					69,090					98	
301			321	36			230	20	14.8	70%	Cement, Pulp, Animal feed, CT			51%	6%	43%			36,093	1,844	2,034			157	92
302			36	98			25	91	6.0	77%	Steel, Pulp, Clinker, GC, CT			11%	30%	59%			5,000	27,050	1,037			200	297
303				307				258	9.7	78%	GC, Steel, CT				47%	53%				27,414	2,114				106
304				229				191	8.8	75%	GC, Soybean, CT				36%	64%				17,062	2,665				89
305			115	46			93	40	14.4	70%	Cement, GC, CT			24%	10%	66%			18,339	11,777	1,326			197	294
UTPK1											CT										80,036				
UTPK3											CT										31,237				
PMB		1,554				1,499			1.1	95%	Chemical, Oil		100%					790,759					528		
BOG			413				407		1.2	98%	Wheat, Rice			100%					62,776					154	
SAR/B			713				705		1.0	98%	Wheat			100%					251,500					357	
DKP		257				236			1.0	89%	Chemical prod.		100%					45,138					191		
Total	1,774	5,492	9,266	8,021	1,289	3,959	5,269	4,234	22.8	60%							101,624	985,608	969,392	313,078	######	79	249	184	74

*** BT: Berthing Time, ET: Effective Time**

Berth-wise Unloading/Loading Type - 1

(Throughput '000ton)

	Unloading Type/Method (Non-container cargo)					Loading Type/Method (Non-container cargo)					Loading Type/Method (Non-container cargo)				
	Direct	Pipe	W/H	Yard	Total	Direct	Pipe	W/H	Yard	Total	Direct	Pipe	W/H	Yard	Total
001-003	387		13	8	409	140		89	31	260	527		103	39	668
004-004U	1,002		0	14	1,017	32		2	2	36	1,034		2	16	1,053
005-007	74		143	43	260	65		292	43	399	139		434	86	659
100-102	1,036	26	0	9	1,071	1,302	22	3	8	1,335	2,338	48	3	16	2,406
103-105	38	13	2		53						38	13	2		53
108-110	399		147	93	639	188	6	337	110	641	587	6	485	203	1,280
111-113	165	102	163	85	516	44		170	98	312	209	102	334	184	829
115-200	261	27	4	10	302	476	55		1	532	737	81	4	11	834
201-203	58	17	149		224	677		112	57	846	735	17	261	57	1,070
208-209	273		246	263	782	81		60	10	151	355		306	272	933
210-211	618			72	690	399	26	19	3	447	1,017	26	19	74	1,137
212-213	203	6	23		233	321	40		10	371	525	46	23	10	604
301-302	565		29	38	633	590		29	9	628	1,156		58	48	1,261
303-305	242		310	44	597	655		76	0	730	897		386	44	1,328
WJ	828			25	853	1				1	829			25	854
107	4		8		12				13	13	4		8	13	26
114	263	415	70	115	863	28		34	3	66	292	415	105	118	929
207	132			2	134	11		3	5	19	143		3	7	153
214/300	654			35	689	85				85	739			35	774
TBB	288			188	476	34				34	321			188	509
PMB	156	9,028			9,183						156	9,028			9,183
BOG		275			275		256			256		532			532
SAR/B	124	2,864			2,988	36	32	5		74	160	2,896	5		3,062
DKP		682			682		1			1		683			683
BP	1			3	4	0	0		9	10	2	0		12	13
Others	478			8	486	1				1	479			8	487
Total	8,250	13,455	1,310	1,055	24,070	5,167	438	1,232	411	7,249	13,417	13,893	2,542	1,466	31,318
Sub Total (001~ 305)	6,151	191	1,232	705	8,278	4,972	148	1,189	380	6,690	11,123	339	2,421	1,085	14,968

(Share of each handling type)

	Unloading Type/Method (Non-container cargo)					Loading Type/Method (Non-container cargo)					Loading Type/Method (Non-container cargo)				
	Direct	Pipe	W/H	Yard	Total	Direct	Pipe	W/H	Yard	Total	Direct	Pipe	W/H	Yard	Total
001-003	95%		3%	2%	100%	54%		34%	12%	100%	79%		15%	6%	100%
004-004U	99%		0%	1%	100%	89%		6%	5%	100%	98%		0%	2%	100%
005-007	28%		55%	17%	100%	16%		73%	11%	100%	21%		66%	13%	100%
100-102	97%	2%	0%	1%	100%	98%	2%	0%	1%	100%	97%	2%	0%	1%	100%
103-105	72%	24%	4%		100%						72%	24%	4%		100%
108-110	62%		23%	15%	100%	29%	1%	53%	17%	100%	46%	0%	38%	16%	100%
111-113	32%	20%	32%	17%	100%	14%		55%	31%	100%	25%	12%	40%	22%	100%
115-200	86%	9%	1%	3%	100%	90%	10%		0%	100%	88%	10%	0%	1%	100%
201-203	26%	7%	67%		100%	80%		13%	7%	100%	69%	2%	24%	5%	100%
208-209	35%		31%	34%	100%	54%		40%	6%	100%	38%		33%	29%	100%
210-211	90%			10%	100%	89%	6%	4%	1%	100%	89%	2%	2%	7%	100%
212-213	87%	3%	10%		100%	87%	11%		3%	100%	87%	8%	4%	2%	100%
301-302	89%		5%	6%	100%	94%		5%	1%	100%	92%		5%	4%	100%
303-305	41%		52%	7%	100%	90%		10%	0%	100%	68%		29%	3%	100%
WJ	97%			3%	100%	100%				100%	97%			3%	100%
107	35%		65%		100%				100%	100%	17%		31%	53%	100%
114	31%	48%	8%	13%	100%	43%		52%	5%	100%	31%	45%	11%	13%	100%
207	99%			1%	100%	57%		15%	29%	100%	94%		2%	5%	100%
214/300	95%			5%	100%	100%				100%	96%			4%	100%
TBB	60%			40%	100%	100%				100%	63%			37%	100%
PMB	2%	98%			100%						2%	98%			100%
BOG		100%			100%		100%			100%		100%			100%
SAR/B	4%	96%			100%	49%	43%	7%		100%	5%	95%	0%		100%
DKP		100%			100%		100%			100%		100%			100%
BP	28%			72%	100%	5%	4%		91%	100%	11%	3%		86%	100%
Others	98%			2%	100%	100%				100%	98%			2%	100%
Total	34%	56%	5%	4%	100%	71%	6%	17%	6%	100%	43%	44%	8%	5%	100%
Sub Total (001~ 305)	74%	2%	15%	9%	100%	74%	2%	18%	6%	100%	74%	2%	16%	7%	100%

* Caluculated by PPKB data (3 months = Mar.01, Se.01, Mar.02)

Berth-wise Unloading/Loading Type - 2

Unit: ton

Cement

Unl-type	Direct	Pipe	Yard	Total
003				
006				
007				
101U				
101				
102				
108				
109				
110				
114	29,153	35,476		64,629
115				
200				
203				
209				
210				
212				
213				
302				
304				
305				
Total	29,153	35,476		64,629
	45%	55%	0%	100%

Ld-type	Direct	Pipe	Yard	Total
003	3,200			3,200
006	1,500			1,500
007	1,600			1,600
101U	109,516			109,516
101	34,000			34,000
102	1,100			1,100
108	5,550		2,200	7,750
109	2,250			2,250
110	5,800			5,800
114				
115	50,018	10,000		60,018
200	12,450			12,450
203	16,598			16,598
209	2,600			2,600
210	10,050			10,050
212	3,800	10,000		13,800
213			2,500	2,500
302	8,000			8,000
304	17,500			17,500
305	3,000			3,000
Total	288,532	20,000	4,700	313,232
	92%	6%	2%	100%

Bag Cement

Unl-type	Direct	Pipe	Yard	Total
005				
006				
110				
115				
200				
201				
211	5,800			5,800
210				
Total	5,800			5,800
	100%	0%	0%	100%

Ld-type	Direct	Pipe	Yard	Total
005	2,000			2,000
006	2,000			2,000
110	1,000			1,000
115	5,904			5,904
200	2,904			2,904
201	13,655			13,655
211				
210	20,000			20,000
Total	47,463			47,463
	100%	0%	0%	100%

Bulk Cement

Unl-type	Direct	Pipe	Yard	Total
100				
101U				
101				
102				
114	68,152	18,409		86,561
210				
212				
213				
301				
302				
303	68,152	18,409		86,561
Total	68,152	18,409		86,561
	79%	21%	0%	100%

Ld-type	Direct	Pipe	Yard	Total
100	800			800
101U	28,350			28,350
101	800	5,500		6,300
102	4,220			4,220
114				
210	22,500			22,500
212	2,193			2,193
213	850			850
301	60,000			60,000
302	850			850
303	6,000			6,000
Total	126,563	5,500		132,063
	96%	4%	0%	100%

Gypsum

Unl-type	Direct	Pipe	Yard	Total
WJ	6,500			6,500
Total	6,500			6,500
	100%	0%	0%	100%

Unl-type	Direct	Pipe	Yard	Total
WJ				
Total				

Clinker

Ld-type	Direct	Pipe	Yard	Total
003	0			0
101U	0			0
101	0			0
102	0			0
114	0			0
115	0			0
201	0			0
211	0			0
212	0			0
214/300	0			0
TBB	0			0
302	0			0
303	0			0
Total	0	0	0	0

Ld-type	Direct	Pipe	Yard	Total
003	13,000			13,000
101U	61,500			61,500
101	46,500			46,500
102	3,200			3,200
114	7,000			7,000
115	39,700			39,700
201	123,500			123,500
211	20,000			20,000
212	73,500			73,500
214/300	21,000			21,000
TBB	8,384			8,384
302	49,000			49,000
303	131,500			131,500
Total	597,784			597,784
	100%	0%	0%	100%

Soda Ash

Unl-type	Direct	Pipe	Yard	Total
114		4,014	4,504	8,518
209			22,991	22,991
210	14,006			14,006
212	6,270			6,270
214/300	17,863			17,863
Total	38,139	4,014	27,495	69,648
	55%	6%	39%	100%

Ld-type	Direct	Pipe	Yard	Total
114				
209				
210				
212				
214/300				
Total				

CPO (Crude Palm Oil)

Unl-type	Direct	Pipe	Yard	Total
004	58,812			58,812
004U	22,836			22,836
100	68,945	3,472	995	73,412
101	20,872			20,872
102	8,190	3,001		11,191
103	9,488			9,488
108	2,001			2,001
109	3,000			3,000
111	4,082			4,082
112	9,940	5,551		15,491
113	5,255			5,255
114	1,000			1,000
115	13,171			13,171
200	14,963	4,011		18,974
207	31,354			31,354
210	12,940			12,940
211	2,136			2,136
212	997			997
Total	289,982	16,035	995	307,012
	94%	5%	0%	100%

Ld-type	Direct	Pipe	Yard	Total
004				
004U				
100				
101				
102				
103				
108				
109				
111				
112	7,400			7,400
113				
114				
115		3,650		3,650
200				
207				
210	1,925			1,925
211				
212				
Total	9,325	3,650		12,975
	72%	28%	0%	100%

Sand

Unl-type	Direct	Pipe	Yard	Total
001	15,865			15,865
004	1,600			1,600
004U	41,000			41,000
005S	10,000		2,000	12,000
WJ	154,737		6,200	160,937
999	109,400			109,400
Total	332,602		8,200	340,802
	98%	0%	2%	100%

Ld-type	Direct	Pipe	Yard	Total
001				
004				
004U				
005S				
WJ				
999				
Total				

General Cargo (unloaded)

B'th GP	Direct	W/H	Yard	総計
114		73	165	238
001-003	10,188	642	1,191	12,021
004-004U	7,276	30		7,306
005-007	8,609	11,789	6,656	27,054
108-110	19,356	23,371	6,216	48,943
111-113		16,839	7,784	24,623
201-203	3,723	9,119		12,842
208-209		378	3,261	3,639
301-302	7,927		0	7,927
303-305	0	13,612	4,684	18,296
総計	57,079	75,853	29,957	162,889
	35%	47%	18%	100%

General Cargo (loaded)

Ld-type	Direct	W/H	Yard	総計
BP			170	170
107			3,374	3,374
114		8,614	545	9,159
207	826	680	307	1,813
001-003	13,773	20,300	4,652	38,725
004-004U	7,870	497	450	8,817
005-007	5,740	71,700	10,675	88,115
100-102	14,507		1,100	15,607
108-110	19,783	84,356	22,291	126,430
111-113	300	42,611	24,581	67,492
115-200	3,800		250	4,050
201-203	15,580	27,970	14,151	57,701
208-209		14,955	2,046	17,001
210-211		500	704	1,204
301-302	22,173	6,391	2,000	30,564
303-305	4,200	18,182	23	22,405
999	250			250
総計	108,802	296,756	87,219	492,877
	22%	60%	18%	100%

*** Figures are total of 3 months PPKB data (Mar.01, Sep.01, Mar.02).**

e) Container Terminal Performance

i) Productivities

543. Container terminal facilities and productivities in Tanjung Priok were summarized in earlier mentioned Table 4-D-10 together with the other major container terminals in Indonesia. Comments on productivities are summarized as follows:

- Berth Occupancy Ratio (BOR) is relatively low in whole JICT terminal. This is partly because JICT-II is located at the inner side of Basin II and physically the number of ships berthing to JICT-II is limited. According to the monthly data, described in Table 6-D-21, BOR of JICT-II is below 30%.
- Berthing Time (BT) and Effective Time (ET) seems to be reasonable in Koja terminal. 2.4 hours for idling and non-operating time in average is also reasonable.
- Crane productivity data for JICT and Koja container terminal are shown in the following table. Productivity (20~25) is low by international standards. Average number of cranes used for one ship is under 2, which is partly due to the relatively small ship size.

Table 6-D-25 Crane Productivity in Container Terminal

Terminal	BCH (box/crane/hr)		BSH (box/ship/hr)		Avg. No. Crane/ship	
	2000	2001	2000	2001	2000	2001
JICT	20.18	20.56	32.02	40.08	1.59	1.95
Koja	24.81	25.71	28.01	30.76	1.13	1.20

Source: JICT, TPK Koja

- Yard Occupancy Ratio (YOR) seems to be moderate since 70 ~ 80% is considered to be the maximum YOR in general.
- Yard Dwell Time (YDT) for import container is long, 10~12 days in JICT. Apparently, a problem in customs clearance is significantly increasing YDT. YDT should be improved in order to secure the efficiency of yard operation.

ii) Vessel Size Distribution

544. Vessel size distribution for container vessels can be described as in Figure 6-D-12 ~ Figure 6-D-15 and , which is drawn by the analysis of monthly shipping approval data for March 2001 and March 2002. The maximum size of vessels is -12m for draft and 300m for LOA, which is partly due to the narrow channels and tuning basins.

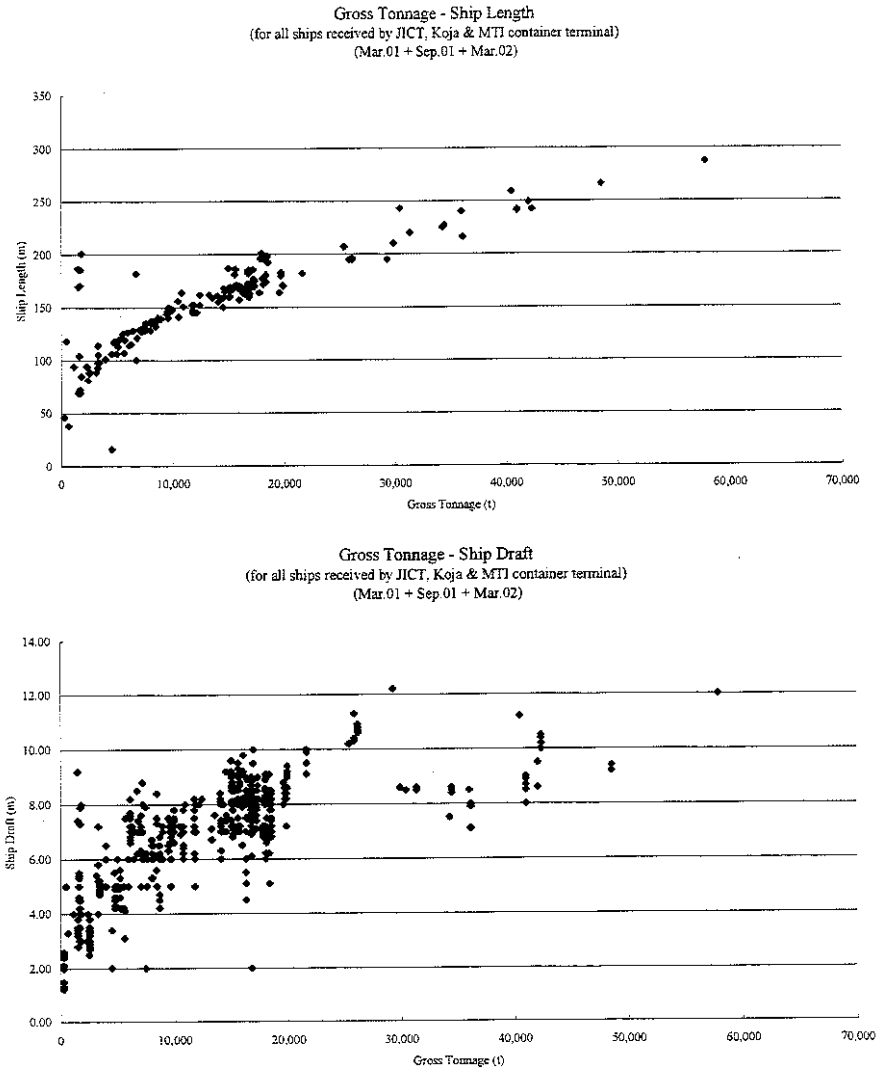


Figure 6-D-12 Ship Size Distribution of Container Vessels

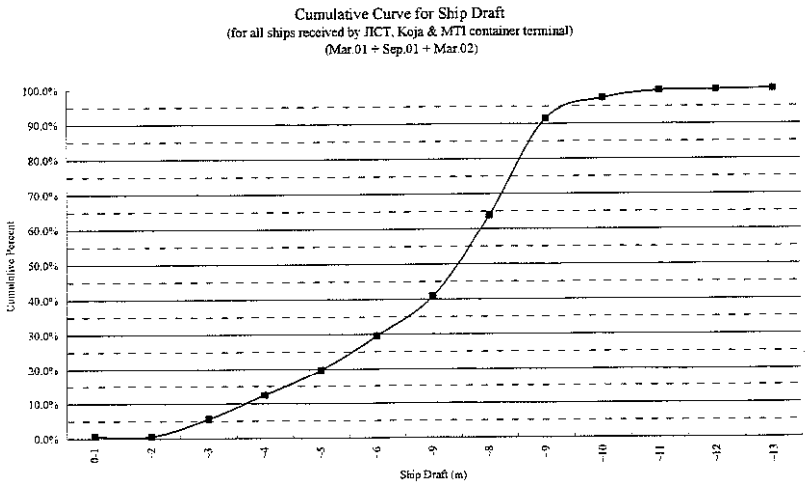


Figure 6-D-13 Ship Size Cumulative Curve for Container Vessels (1)

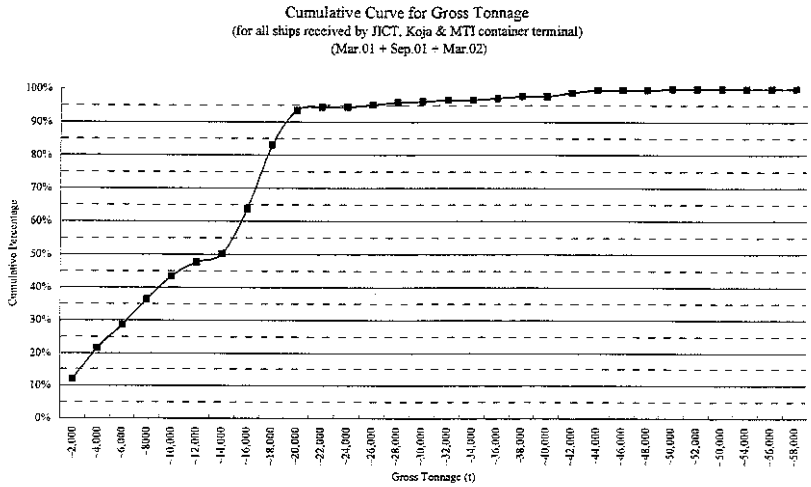


Figure 6-D-14 Ship Size Cumulative Curve for Container Vessels (2)

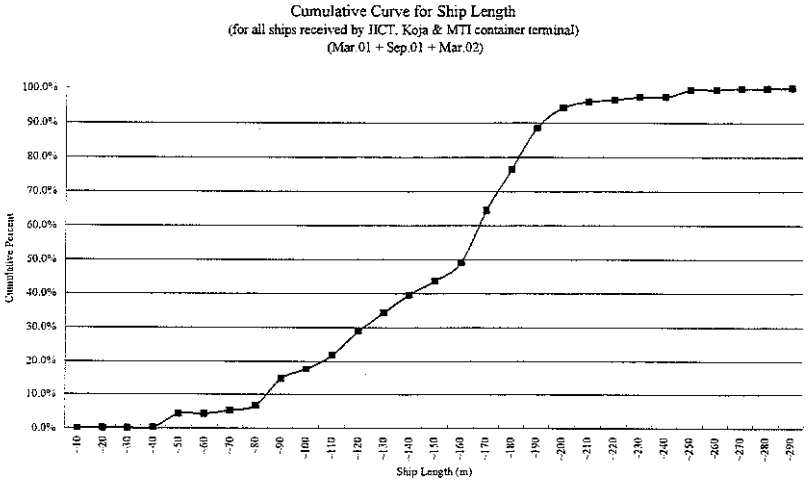


Figure 6-D-15 Ship Size Cumulative Curve for Container Vessels (3)

6-D-7 Hinterland and Origin-Destination of Container Cargo

1) Hinterland of Tanjung Priok

545. Container hinterlands of Port of Tanjung Priok were analyzed through series of interviews with shipping operators and major consignees and operational records provided by terminal operators.

546. Information on the hinterlands is useful and necessary for understanding the present port activities and determination of functional allocation between plural ports in the planning process of future port developments.

547. Container hinterland of Port of Tanjung Priok is defined as an area of land where containers unloaded at the port are devanned and/or where containers to be loaded at the said port are vanned.

548. It is safe to say that the hinterlands of the port of Tanjung Priok in general consist of DKI Jakarta, West Java Province and Banten Province. Disaggregating these provinces into

regency level, however, is more appropriate for the transportation analysis of the specific port and for the functional apportionment among ports. For this reason, DKI Jakarta is divided into five districts; North, Central, West, East and South, and West Java Province and Banten Province should be disaggregated into 20 regencies.

a) Geographical Distribution of a Shipping Line's Customers

549. One of major shipping lines which operates container vessels worldwide provided the study team with information on space distribution of their customers in Java island. According to this piece of information, about 20 % of imported containers go to regencies in Banten Province, about 30 % go to DKI Jakarta, and 50 % go to West Java Province. Cibinong and Cikarang are regencies where their prime customers reside.

550. On the other hand, talking about export containers, 30 % of goods are generated in Banten Province, and Tangerang is the area of the single largest customers for this shipping operator.

Table 6-D-26 Geographical Distribution of a Shipping Line's Customers

		Import (%)	Export (%)
11 JAKARTA	North Jakarta	12.4	14.0
12	Central Jakarta		6.0
13	West Jakarta	9.5	
14	East Jakarta	7.1	2.0
15	South Jakarta		1.0
23 BOGOR	Cibinong	18.2	
	Bogor		3.0
26 BANDUNG	Bandung	3.0	9.0
31 CIREBON	Cirebon		10.0
36 PURWAKARTA	Purwakarta	7.5	3.0
37 KARAWANG	Karawang	3.3	5.0
	Cikampek		6.0
38 BEKASI	Cibitung		3.0
	Cikarang	16.3	8.0
39 TANGERANG	Serpong	5.2	
	Tangerang	9.7	28.0
40 SERANG	Merak		1.0
	Serang	7.9	1.0
Total		100.0	100.0

b) Destination of Container Delivery from JICT

551. Information about the areas where containers are delivered from JICT was obtained. Although duration for the records is limited only for March 2001, trucking activities after unloading at the JICT terminals can be roughly estimated.

552. According to the records, 57.4 % of the total unloaded containers go to Central Jakarta while 33.6 % of the total has other destinations. As it is a general practice to put the headquarters' address as consignee's address, the high percentage of Central Jakarta in Table 6-D-27 reflects this tendency.

553. If Central Jakarta and Others are excluded, then 27 % of the total imported containers go to Bekasi, 22% to Tangerang, and 21 % to North Jakarta. Bandung and Bogor share 12 % respectively.

Table 6-D-27 Destination Transported from JICT (March 2001)

Code	Name	UKURAN 20'	40'	45'	Total Box	Total TEU	%
11	North Jakarta	261	263	0	524	787	1.9%
12	Central Jakarta	9,010	7,501	0	16,511	24,012	57.4%
13	West Jakarta	22	9	0	31	40	0.1%
14	East Jakarta	0	4	0	4	8	0.0%
15	South Jakarta	10	2	0	12	14	0.0%
23	Bogor	70	196		266	462	1.1%
31	Cirebon	12	5		17	22	0.1%
36	Purwakarta	9	46	0	55	101	0.2%
38	Bekasi	326	350		676	1,026	2.5%
39	Tangerang	322	262		584	846	2.0%
40	Cilegon	6	1		7	8	0.0%
41	Bandung	63	193		256	449	1.1%
50	Jawa Tengah		1		1	2	0.0%
70	Jawa Timur				0	0	0.0%
99	Others	4,286	4,779	88	9,153	14,042	33.6%
TOTAL		14,397	13,612	88	28,097	41,819	100.0%

(SOURCE: JICT)

c) Geographical Distribution of Koja Terminal's Customers

554. KOJA terminal also provided the study Team with their top 200 customers' address and their trade volume for the period of November and December 2001.

555. According to the information provided, as shown in Table 6-D-28, among 200 shippers and consignees, 72 per cent located at North Jakarta, 13 per cent at Bekasi , 11 per cent at Tangerang, and 3 per cent at Purwakarta.

556. The reason why North Jakarta has so high percentage among regencies seems coming from the fact that considerable number of container depots are located around the port of Tanjung Priok. Unloaded containers are once stored at these deposit and then transported to the places where their consignees designate.

557. Therefore, it will be wise to say that Table 6-D-28 shows the first hand destination from the container yard, and not necessarily reveals the final destinations where the containers are opened.

Table 6-D-28 Koja Terminal's Main Customers

(Nov. and Dec. 2001)

ADDRESS	Code	BOXES	TEUS	Share
North Jakarta	11	18,193	31,668	72%
Purwakarta	36	764	1,506	3%
Bekasi	38	3,094	5,764	13%
Tangerang	39	2,781	5,050	11%
Total			43,988	100%

Source: KOJA Terminal

d) Distribution to Bandung

558. Some portion of containers handled at Tanjung Priok Port is transported by railways bound for Bandung. Custom clearance for export and import cargoes can be done at Gedebage Container Depot, and custom office at the depot is open for 24 hours a day.

559. Annual throughputs since 1991 are shown in Table 6-D-34 in the next section. In 2001 total 41,183 TEUs of containers are handled at this depot, and volume of outgoing cargoes is larger than that of incoming cargoes.

560. Main items for export include textile, garment, yarn, chair, shoes, jacket, common tree earn, tea, chocolate, stick, marble, and handicraft. On the other hand, main items for import include polyester yarn, filter sand, textile machines, raw material textile, spare part machine, raw cotton, and electric appliance.

2) Import Origin and Export Destination

a) Regions and Countries

561. It is really useful to know in order to understand port activities in general and cargo forecast in particular which countries the cargoes come from and destines for, and how many the cargo volumes are. The knowledge of trading partners and trading activities can be valued for the following analytical works;

- Analysis of transportation network
- Analysis of transportation mode
- Analysis of transportation cost
- Analysis of alternative transportation routes and means
- Forecast of future transport demand

562. The study team collected information on trading partners and trading volume through primary and secondary sources. The primary sources include Manifest, Loading and unloading Plan, and the secondary sources include monthly/annual reports and summary documents.

563. It is appropriate to summarize the trading partners by country, rather than by port or by city. Therefore, the trading partners are classified into countries through analyzing the primary sources, and then categorized into continents/regions. Trading partners are classified into the following the continents and regions; Asia, America, Europe, Arab & Middle East, Africa and Oceania.

b) JICT Terminal

564. JICT provided the study team with origin/destination information of container vessels which berthed at and departed from the JICT terminals in 2001. This secondary source of information includes the name of origin/destination countries and their container volume. (Table 6-D-29)

565. According to this document JICT handled the total of 1,459,731 TEUs in 2000. Breaking the total traffic into discharging and loading, then stuffed loading containers are more prominent than stuffed discharging containers.

566. Europe, America, and Singapore are major destinations of stuffed loading containers while Singapore accounts for 30.0 % of the total stuffed discharging containers. According to this datum, no stuffed containers from America were discharged at Tanjung Priok Port in 2001.

567. If combine TEUs of the stuffed and empty containers of loading and discharging, Singapore was dominant and accounted for 17.95 % of the total, followed by Europe, Korea and America.

568. One of the hindrances of this piece of information is the fact that a region express by "Others" accounted for 62.73 per cent of the total TEUs handled in 2001. Another limitation of this sort of information is easily understandable because this table shows the places where the containers come from and depart for, but does not guarantee the true origin and destination of container traffic.

Table 6-D-29 Import Origin and Export Destination of JICT (2001)

Country/Region	Discharge		Load		Total			
	FL'	MT'	FL'	MT'	FL'	MT'	Total	%
America	0	610	51,207	314	51,207	924	52,130	3.57%
Australia	0	1	5,689	184	5,689	185	5,874	0.40%
Arab	2	0	6,032	481	6,034	481	6,515	0.45%
Europe	2,105	1,014	56,809	3,588	58,914	4,602	63,516	4.35%
Japan	20,913	4,079	20,491	3,800	41,404	7,879	49,283	3.38%
Hongkong	30,094	3,062	14,993	4,083	45,087	7,145	52,232	3.58%
Korea	31,971	6,762	11,058	2,761	43,029	9,523	52,552	3.60%
Singapore	164,008	37,038	48,924	11,995	212,932	49,033	261,973	17.95%
Others	299,656	137,141	464,935	13,911	764,591	151,052	915,656	62.73%
Total	548,749	189,707	680,138	41,117	1,228,887	230,824	1,459,731	100.00%

Source: JICT, Compiled by Study Team

569. The study team analyzed the origin/destination table for March 2001 which was provided by JICT because some of the city/port names were mistakenly classified into "Others." It is also considered that more careful classification could reduce the share of "Others" and improve the reliability of the statistics even though duration of analysis is limited to a month. The result of the analysis is shown in Table 6-D-30 in the same manners.

Table 6-D-30 Import Origin and Export Destination of JICT (March 2001)

(Unit:TEU)

Region	Country	Discharging		Loading		Total	
		FL	MT	FL	MT		
ASIA	MALAYSIA	2,013	1,250	771	68	4,102	3.69%
	THAILAND	0	0	739	0	739	0.67%
	INDONESIA	0	0	3	0	3	0.00%
	SINGAPORE	11,413	2,317	1,458	97	15,285	13.76%
	PHILIPPINES	508	323	1,083	0	1,914	1.72%
	VIETNAM	744	102	398	0	1,244	1.12%
	BRUNAI	0	0	76	0	76	0.07%
	KAMBOJA	0	0	18	0	18	0.02%
	JAPAN	1,199	23	2,243	23	3,488	3.14%
	KOREA	3,163	472	646	278	4,559	4.10%
	CHINA	0	0	877	0	877	0.79%
	TAIWAN	2,184	81	1,232	426	3,923	3.53%
	HONGKONG	1,854	37	741	272	2,904	2.61%
	Rest of Asia	0	0	1,030	4	1,034	0.93%
	TOTAL	23,078	4,605	11,315	1,168	40,166	36.15%
AMERICA	U S A	0	0	4,243	0	4,243	3.82%
	CANADA	0	0	258	0	258	0.23%
	MEXICO	0	0	148	0	148	0.13%
	Rest of America	0	0	642	0	524	0.47%
	TOTAL	0	0	5,291	0	5,173	4.66%
EUROPE	TOTAL	80	6	4,415	49	4,550	4.10%
ARAB & MIDES	TOTAL	235	2,108	1,716	0	4,059	3.65%
AFRICA	TOTAL	0	0	1,013	0	1,013	0.91%
OCEANIA	AUSTRALIA	0	0	848	0	849	0.76%
	Rest of Oceania	0	0	112	0	112	0.10%
	TOTAL	0	0	960	0	961	0.86%
UNKNOWN		16,636	10,886	27,381	283	55,186	49.67%
TOTAL		40,029	17,605	52,091	1,500	111,108	100.00%

Source: JICT, Compiled by Study Team

570. Many countries in the ASEAN and Asia are disaggregated independently in the table because trading activities of Tanjung Priok Port are more intensified with these countries than countries in the other parts of the world.

571. Share of "Others (Unknown)" is reduced to 49.67% of the total which is considered still high. Asian countries account for 36.15 % of the total, and Singapore 13.76 %, Korea 4.10 %, Malaysia 3.69 %, respectively.

572. USA accounts for 3.82 % of the total, and all of the USA related containers are "Loading containers" and no discharging containers which are originated from USA are recorded again.

573. Other characteristics about imbalance between loading and discharging, ratio between stuffed and empty, and share among region/continent are similar to the Table 6-D-29.

574. It is interesting to know that share of China even if Hong Kong is included is nearly equal to or less than that of Taiwan. Malaysia accounts for 3.69 % of the total, and this figure

indicates that most of the feeder vessels plying between Tanjung Priok and hub ports in Malaysia are not accommodated at JICT terminals.

c) Koja Terminal

575. Management of Koja terminal provided the study team with the Port of Destination/Origin table which reveals the name of vessel and the name of port as well as number of containers loaded at the said port for import to Tanjung Priok and number of containers to be discharged at each port for export from Jakarta during January 2002 and May 2002.

576. Study Team summarized the information in Table 6-D-31 and Table 6-D-32. Vessels which came to KOJA terminal loaded import containers to Indonesia at 34 foreign ports and vessels which departed from KOJA terminal discharged export containers at 36 foreign ports during above mentioned five month period.

Table 6-D-31 Import Origin (Koja, Jan.-May 2002)

Unit: Box

Code	Country	Jan.02	Feb. 02	Mar. 02	Apr. 02	May. 02	TOTAL	%
11	Malaysia	646	755	265	323	673	2,662	3.95%
12	Thailand	574	569	582	486	583	2,794	4.14%
13	Indonesia	11	32	47	13	15	118	0.18%
14	Singapore	4,706	4,314	4,354	3,466	4,025	20,865	30.95%
15	Philipines	46	157	449	510	817	1,979	2.94%
21	Japan	1,449	1,820	2,120	1,926	2,235	9,550	14.17%
22	Korea	636	1,012	2,318	2,113	1,987	8,066	11.97%
24	Taiwan	1,499	1,130	1,227	1,467	1,126	6,449	9.57%
25	Hongkong	462	433	478	488	434	2,295	3.40%
	Rest of Asia	0	0	4	1	0	5	0.01%
	Asia	10,029	10,222	11,844	10,793	11,895	**54,783**	81.27%
201	**USA**	61	79	39	10	0	**189**	0.28%
	Europe	0	0	0	72	0	72	0.11%
	Arab & MidEast	0	0	0	148	0	**148**	0.22%
501	**South Africa**	0	306	226	0	193	**725**	1.08%
	Oceania	1,200	1,696	778	593	1,453	**5,720**	8.49%
999	**Unknown**	877	1,891	1,211	740	1,054	**5,773**	8.56%
	Total	12,167	14,194	14,098	12,356	14,595	**67,410**	100.00%

Source: KOJA Terminal, Compiled by Study Team

Table 6-D-32 Export Destination (Koja, Jan.-May 2002)

(Unit: Box)

Code	Country	Jan. 02	Feb. 02	Mar. 02	Apr. 02	May. 02	TOTAL	%
11	Malaysia	2,398	1,723	1,672	1,914	2,466	10,173	14.32%
12	Thailand	295	243	266	181	271	1,256	1.77%
13	Indonesia	12	3	191	235	185	626	0.88%
14	Singapore	4,313	3,782	4,423	3,603	4,300	20,421	28.74%
15	Philipines	30	64	759	893	932	2,678	3.77%
21	Japan	1,275	1,307	1,562	1,434	1,398	6,976	9.82%
22	Korea	1,643	1,542	2,490	2,384	2,866	10,925	15.38%
24	Taiwan	351	330	357	438	532	2,008	2.83%
25	Hongkong	1,423	1,193	1,363	1,533	1,635	7,147	10.06%
99	Rest of Asia	38	50	38	105	37	268	0.38%
	Asia	11,778	10,237	13,121	12,720	14,622	**62,478**	87.94%
201	**USA**	60	28	26	6	27	**147**	0.21%
	Europe	540	576	453	774	653	**2,996**	4.22%
411	**Arab & MidEast**	0	0	0	30	0	**30**	0.04%
	Africa	144	182	125	117	148	**716**	1.01%
601	**Australia**	163	261	353	485	578	**1,840**	2.59%
999	**Unknown**	459	580	92	1,020	687	**2,838**	3.99%
	Total	13,144	11,864	14,170	15,152	16,715	**71,045**	100.00%

Source: KOJA Terminal, Compiled by Study Team

577. An attention should be paid to the fact that figure in the tables are not TEUs, but Boxes. Although TEUs and Boxes are different measures to scale the volume of container traffic, percentage shares may not be different significantly.

578. Unlike JICT OD information, percentage that Origin or Destination ports are unknown is quite low, 8.56 % for import origin and 3.99 % for export destination, in KOJA 's case.

579. According to Koja's OD information, Asian countries account for 81.27 % for import origin and 87.94 % for export destination. Singapore accounts for 30.95 % for import, 28.74 % for export. Japan is also an important trade partner after Singapore, 14.17 % for import and 9.82 % for export. Korea plays a vital role in trade activities at KOJA terminal, accounting for 11.97 % for import and 15.38 % for export.

580. Trade activities with Malaysia is interesting because Malaysia takes a share of 14.32 % for export while import share is only 3.95 %. Hong Kong also shows same tendency as Malaysia. Export share is 10.06 % while import share is only 3.40 %.

581. As long as Koja's origin and destination information is concerned, USA is negligible as a trade partner. These tables are truly useful, but should be carefully treated because majority of containers from/to America and Europe are transshipped at Singapore and other hub ports. These tables do not reveal the container movement after transshipped at the international hub ports.

6-D-8 Land Transport to/from the port

1) Road Network and Traffic

582. The primary traffic flow to/from Tanjung Priok Port through the presently available road network is expected to be as follows:

- Traffic entering from the west, i.e. from Tangerang would use the route of Tangerang – Jakarta – Grogol – Pluit – Tanjung Priok toll road through the harbour toll road.

- The traffic coming from the south would use the Jagorawi – Cawang – Tanjung Priok toll road.
- The traffic coming from Central Java would use the route of Cikampek – Cawang – Tanjung Priok (Cirebon – Cikampek – Jakarta) and from West Java would use Purwakarta – Cikampek or Bandung – Subang – Cikampek – Jakarta

583. A traffic count survey and origin destination (O/D) survey were carried out at the gates of the Tanjung Priok port and two(2) crossing points of the city and port roads. The survey recorded the daily traffic volumes traveling to and from Tanjung Priok as follows.:

Table 6-D-33 Daily Traffic Volume

Vehicle Type	Daily traffic volume 2001
Passenger Car	16,024
Small Bus	1,519
Medium and Large Bus	664
Pick up	315
Medium Truck	531
Large Truck	2,133
Total (vehicle/day)	21,185

584. On the other hand, recent traffic count survey at JICT intersection held on August 16, 2002 reveal that the traffic between Jl. Sulawesi and Jl. Cilincing is extremely heavy, which seems to be traffic to/from container deposit facilities and/or local traffic not directly related to the port. (See **Appendix-B**)

Figure 6-D-16 Traffic Count Survey at JICT Intersection (August 16, 2002)

2) Railway Network and Traffic

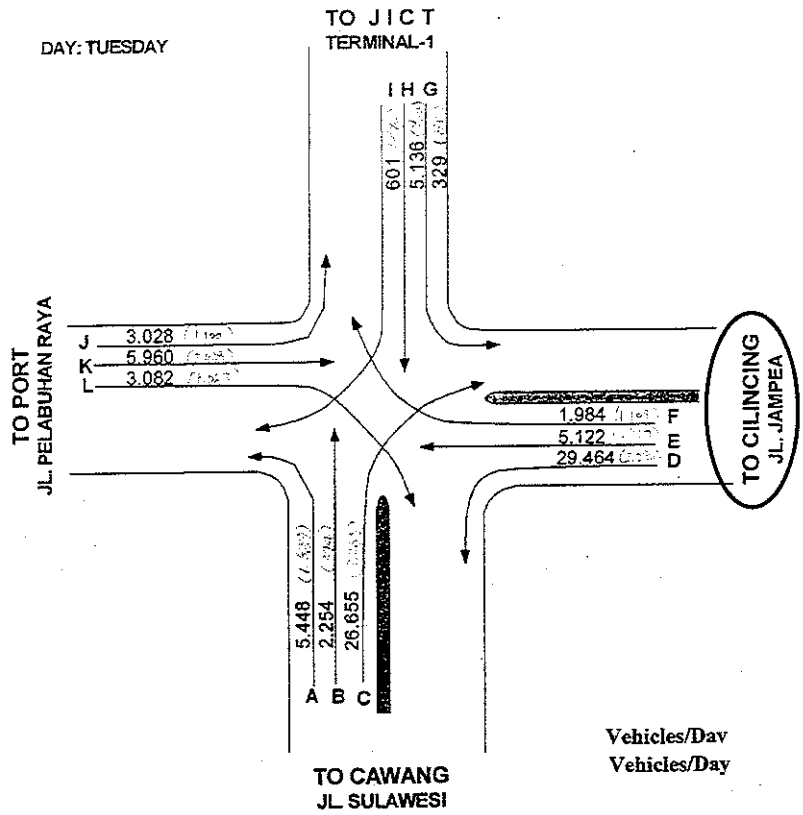
585. The railway began to transport containers from 1987 between the Tanjung Priok (Pasoso deposit operated by PT. Multi Terminal Indonesia) and Bandung Gedebage dry port terminal in an effort to relieve burden for highway traffic. Gedebage is located in the suburbs of Bandung city, 187km to the south east of Jakarta. Gedebage terminal layout is shown in Figure 6-D-17. The outline of facilities is as follows.

Infrastructure	Land area	3 ha
	CFS for export and import	2 buildings
	Warehouse	20m * 15m * 5m
Equipment	Transtainer	1 unit
	Toploader	1 unit
	Forklift	3 units

Figure 6-D-17 Gedebage Terminal

586. At present 4 - 5 trains from Tanjung Priok to Bandung are operated at night. The train take about 6-7hrs to travel between two ports. Each train consists of 17 wagons* with one 40ft container on each wagon, equivalent to 33 TEUs per one way trip, so the capacity can be calculated as follows: (*The 17 wagons per trip is the limitation of the distance of spool lines provided at periodical stations of the railway.)

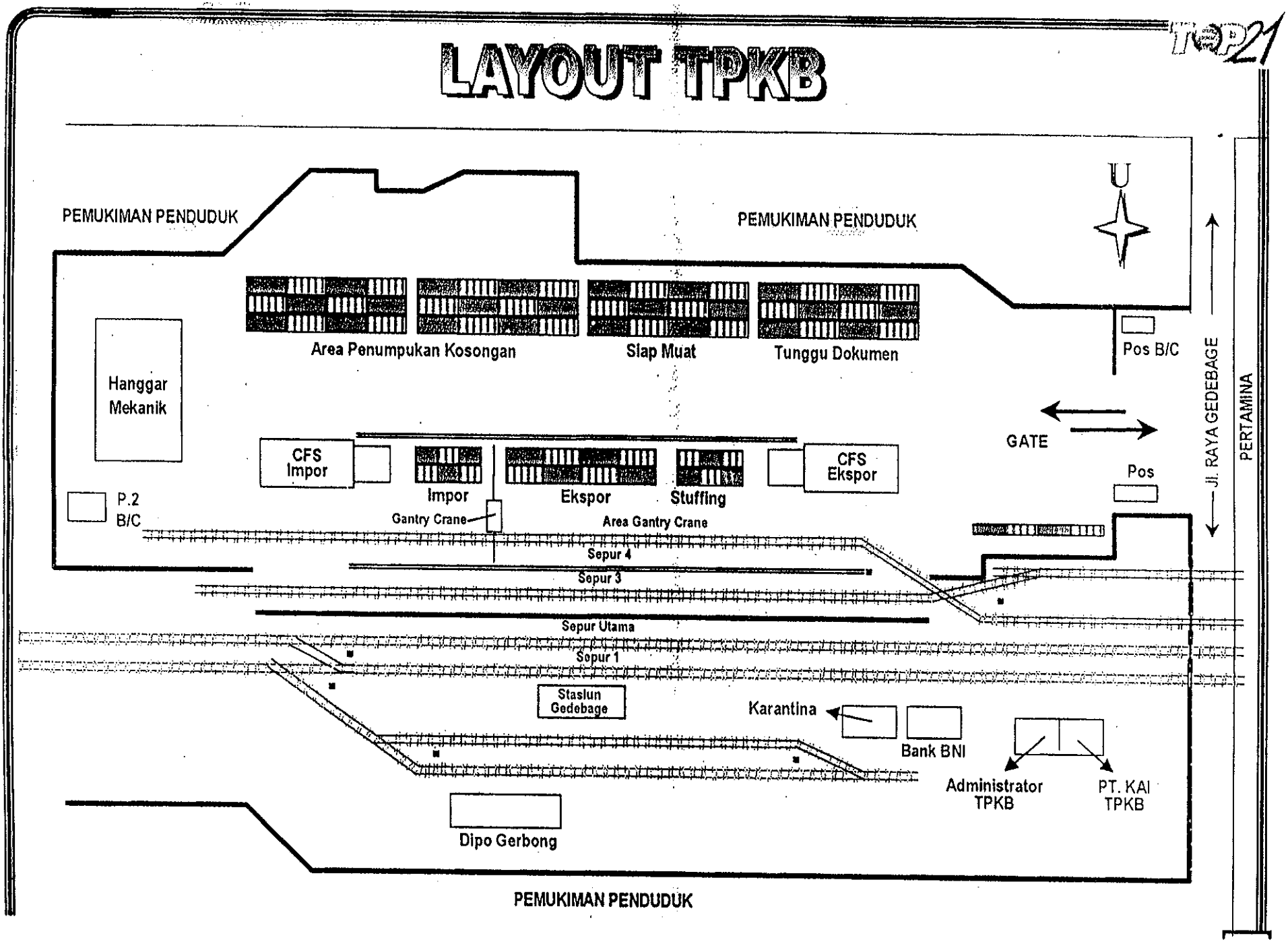
Traffic Counting Survey at Tanjung Priok Intersection on August 16, 2002



Traffic Volume of JL. Jampea (To Cilincing)

	Total	Mtr. Cycle	Total (exc. Mtr. Cycle)	Large Truck
C	26,655	8,601	18,054	3,216
K	5,960	2,429	3,531	2,039
G	329	146	183	85
F	1,984	707	1,277	1,109
E	5,122	158	4,964	2,917
D	29,464	13,613	15,851	2,280
Total	69,514	25,654	43,860	11,646

LAYOUT TPKB


PEMUKIMAN PENDUDUK
PEMUKIMAN PENDUDUK
U
Area Penumpukan Kosongan
Siap Muat
Tunggu Dokumen
Pos B/C
Hanggar Mekanik
CFS Impor
Impor
Ekspor
Stuffing
CFS Ekspor
GATE
Pos
JL. RAYA GEDEBAGE
PERTAMINA
P.2 B/C
Gantry Crane
Area Gantry Crane
Sepur 4
Sepur 3
Sepur Utama
Sepur 1
Staslun Gedebage
Karantina
Bank BNI
Administrator TPKB
PT. KAI TPKB
Dipo Gerbong
PEMUKIMAN PENDUDUK

- Daily capacity: 33 TEUs x 5 trips of one way x 2 =330 TEUs/day
- Annual traffic capacity: 330 x 365 days = 120,450 TEUs from both ways

587. In 2001, the railway carried 23,156 TEU from Bandung to Tanjung Priok and 18,027 TEU from Tanjung Priok. In the last ten years the total container volume transported from Bandung was 298,115 TEUs and that from Tanjung Priok was 249,889 TEUs. Cargo volume has been decreasing recently (See Table 6-D-34.). Inbound and outbound are unbalanced because plenty of empty containers are carried to Gedebage deposit from Tanjung Priok. The large volume of containers was carried mainly by trucks because it is faster than railway transport taking around 4 hrs between Bandung and Jakarta. In addition, it is more flexible than railway in that it can offer door to door service.

Table 6-D-34 Freight volume at Gedebage Terminal, 1992 to 2001

	Loaded						Unloaded						Total
	20'		40'		TEU	'000 ton	20'		40'		TEU	'000 ton	TEU
	Full	Empty	Full	Empty			Full	Empty	Full	Empty			
1992	11,303	310	3,664	6,012	25,825	371	1,634	10,225	1,844	5,318	26,183	252	52,010
1993	13,490	202	6,012	7,374	30,848	446	2,829	10,383	3,056	5,373	30,070	309	60,918
1994	14,591	109	7,374	7,687	30,766	456	2,610	11,322	3,118	5,727	31,622	320	62,388
1995	15,734	7	7,687	7,646	31,127	466	1,271	13,654	1,330	5,653	28,891	264	60,018
1996	17,083	7	7,646	8,618	34,326	515	1,438	13,435	824	5,721	27,963	123	62,289
1997	17,126	13	8,618	7,679	32,509	499	1,074	13,136	671	5,279	26,110	93	58,619
1998	14,519	12	7,679	7,741	30,037	450	455	10,108	119	4,912	20,625	175	50,662
1999	14,756	15	7,741	8,233	31,267	469	1,315	8,907	141	4,814	20,132	177	51,399
2000	14,136	46	8,233	7,004	28,254	423	1,853	7,899	460	4,797	20,266	186	48,520
2001	13,109	51	7,004	4,970	23,156	347	3,116	6,893	156	3,853	18,027	172	41,183

Source: PERUSAHAAN UMUM KERETA API

Table 6-D-35 Freight Train Schedule

	Departure From GDB	Arrival At TPK	
1	09:10	16:34	
2	15:15	21:12	Regular
3	17:05	23:07	Regular
4	18:40	00:49	Regular
5	20:30	02:19	Regular

	Departure From TPK	Arrival At GDB	
1	21:36	10:10	
2	22:44	03:54	Regular
3	00:24	05:32	Regular
4	02:44	08:41	Regular
5	03:29	10:13	Regular

Source: PERUSAHAAN UMUM KERETA API

588. Pasoso deposit is located in Tanjung Priok, which is operated by PT. Multi Terminal Indonesia. The cargo volume handled in Pasoso deposit is decreasing and inbound and outbound are unbalance. Plenty of empty containers are necessary to be carried to Gedebage deposit from Tanjung Priok. The Layout of Pasoso Terminal is shown in Figure 6-D-18

Table 6-D-36 Freight Volume at Pasoso Deposit

	Unloaded				Loaded				Total
	20'		40'		20'		40'		
	Full	Empty	Full	Empty	Full	Empty	Full	Empty	
2000	14,015	24	7,005	1	1,814	7,811	214	4,703	47,994
2001	12,971	49	4,920	25	2,850	6,153	165	3,535	39,311
2002*	5,554	0	2,075	0	376	3,057	99	1,207	15,765

Source) PERUSAHAAN UMUM KERETA API

*) From January until June

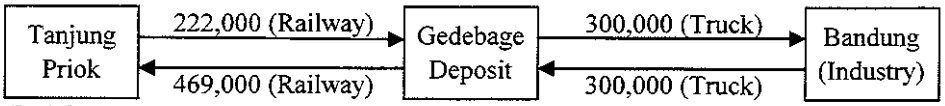
Figure 6-D-18 Layout of Pasoso Deposit

589. The tariff of one-way between Gedebage terminal and Tanjung Priok for a one-way trip is shown as follows.

20'(Full)	469,000Rp
40'(Full)	750,500Rp
20'(Empty)	222,000Rp
40'(Empty)	371,000Rp

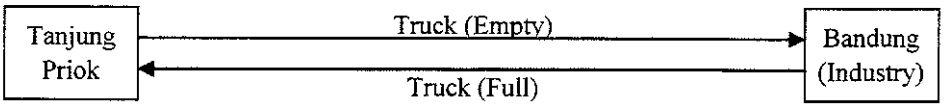
590. The Study team estimates freight rate for 20' containers from Bandung to Tanjung Priok. Results show the railway freight rate is lower than truck freight rate.

Railway



Freight Rate = 1,291,000Rp

Truck



Freight Rate = 1,600,000Rp

591. PT. KAI plans to increase the traffic capacity of containers by increasing the number of daily trips. Since 2002, single track between Cikampek to Purwakarta has been developed to double tracks. Furthermore, the section between Jakarta and Cikampek already has double tracks and there is a plan to expand it to double-double tracks.

592. Furthermore, PT. KAI has an idea to extend the railway from the Pasoso deposit to the middle point between JICT-I and Koja container terminal to enhance container transport. They expect that container transport by rail will increase by direct connecting to the container terminal in Tanjung Priok.

3) Container Inland Deposit

593. Container inland deposit facilities are operated by private companies in/around Tanjung Priok. Their locations, as shown in Figure 6-D-19, are scattered and many of them are along the east side of the port. Major container deposits are listed in Table 6-D-37.

LAY OUT TERMINAL EMPLASEMEN UTEP PASOSO

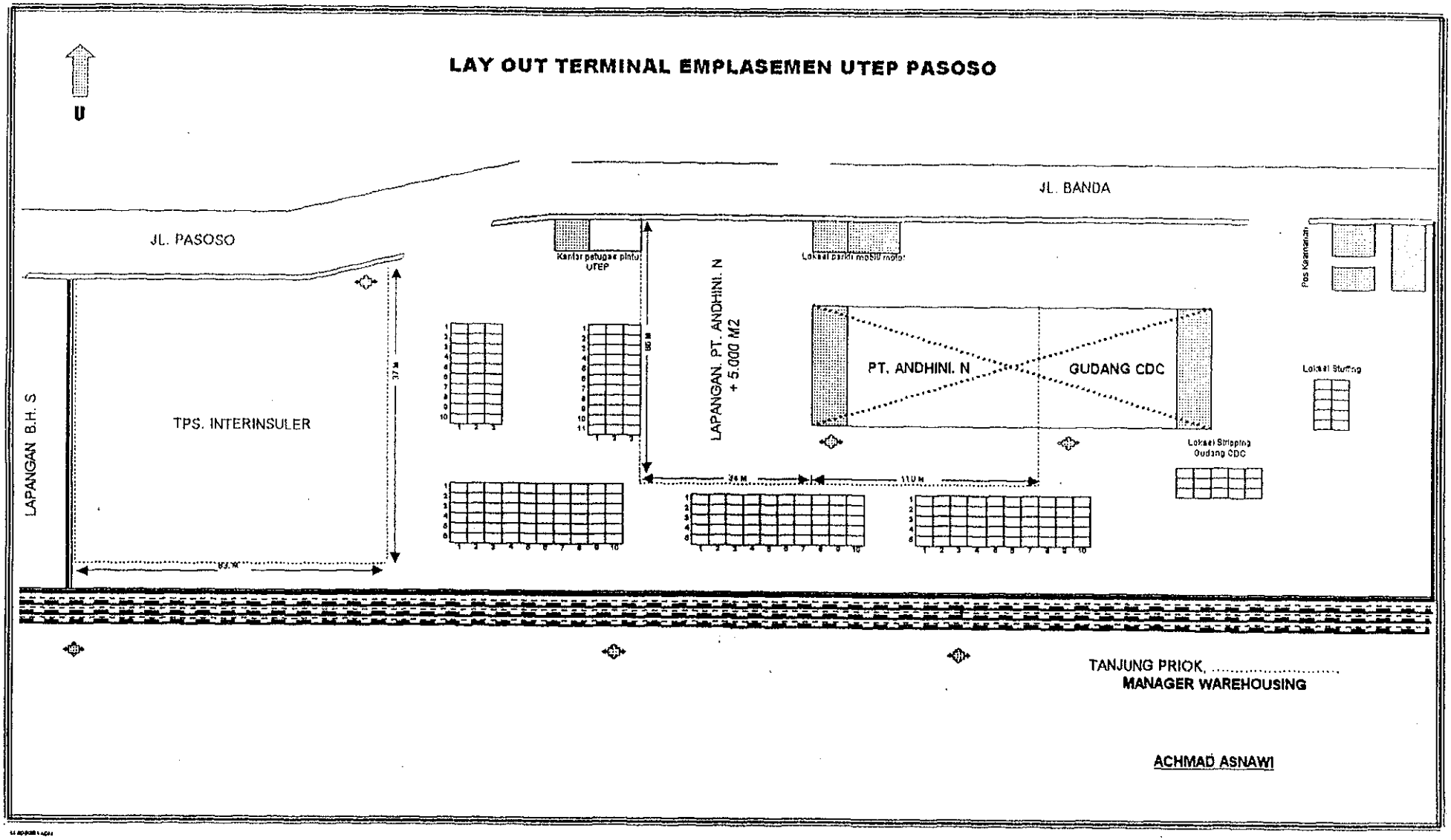


Table 6-D-37 Major Container Deposit

Container Deposit	Space	Capacity
Around Tg. Priok		
Masaji Tatanan Kontainer	5ha	7,000 TEU
Depo Airin	-	around 4,000TEU
PT. Masaji Kargosentra Tama	-	-
PT. Lautan Luas Tatanan Kontainer	-	-
Marunda Jakarta Utara		
Cerana Sentosa Usaha	4ha	2,000TEU
GNS	-	-
Kawasan Berikat Nusantara		
PT. Antartika Adisarana	2.5ha	3,000TEU
Puninar Pacific	5ha	4,000TEU
Dwipa Kharisma	-	-
Jl. Raya Cakung		
Bimaruna	8ha	12,000TEU
Puninar Pacific	2ha	4,000TEU
Inside Tg.Priok		
Andhini Nugraha	0.5ha	200TEU
Global Transarana Indonesia	1ha	2,000TEU
PT. Sarijasa Transutama	-	500TEU
PT. Glorious Interbuana	-	-
PT. Primanata Jasa Persada	-	-

Source) JICA Study Team

Figure 6-D-19 Container Deposit Location

4) Major Truckers serving Jakarta Port Area

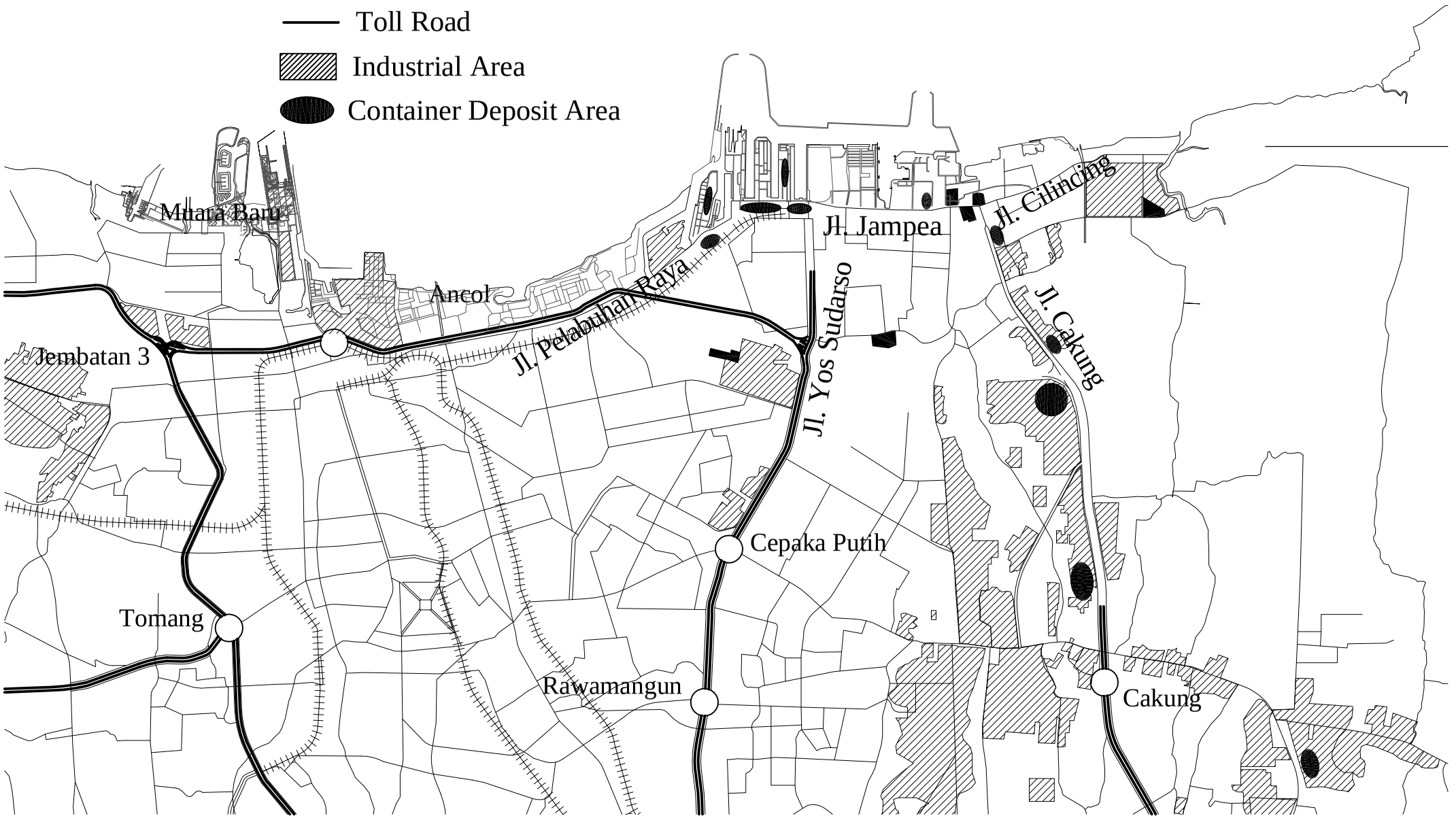
594. There are about 170 trucking companies serving the port area. Most of them are very small companies with one or two track-head and chassis. However, some major truckers are large enough to have some hundreds of trucks and tractor heads and chassis. The major trucking companies are: PT. Galuh Inti Bahari, PT. Indopertama Nusa, PT. Nata Trans, CV. Nusa Jaya Express, CV. Pro Utama, PT. Sepakat Kerja Sejahtera, PT. Unitama Pusaka Sempurrna. These major truckers are experienced in draying containers and have close ties with shipping lines and agents, also with terminal operators.

6-D-9 Existing Port Development Plans & On-going/Future Development Projects

1) Past Studies

595. As for the existing port development plans, following study reports are considered to be important: These two studies will be reviewed critically in chapter 6-G though, here we summarize them as below.

- Ports Development Strategy Study for the Southern Sumatra and Western Java Region (World Bank, July 1996)
- Feasibility Study of Development Plan of Bulk Terminal and Container Terminal for Tanjung Priok Port (Bandung Institute of Technology (BIT), June 2000)


Toll Road
Industrial Area
Container Deposit Area
Muara Baru
Ancol
Jembatan 3
Jl. Pelabuhan Raya
Jl. Yos Sudarso
Jl. Jampea
Jl. Cilincing
Jl. Cakung
Cepaka Putih
Tomang
Rawamangun
Cakung

147-1

a) World Bank

596. World Bank recommended port development concepts taking into account developing a new port in Banten region for accommodating exceeding current capacity - including CT III - for container handling in Tanjung Priok. Thus, as to container terminal facilities, no drastic expansion project except CT III was proposed in the report. The capacity of the container terminal was estimated 2.0 million TEU for CT I & II and 1.25 million TEU for CT III (total 3.25 million TEU). Main recommendations in the report are as follows (target year 2010 for long term):

- Developing a new passenger terminal outside of the port in east Ancol reclamation area to separate its operation from the other port activities.
- Upgrading and expanding of the existing DKP wharf for liquid bulk.

b) Bandung Institute of Technology

597. In contrast to World Bank report, Bandung Institute of Technology proposed a large-scaled development plan in the long-term. Main project prepared in the report are as follows in each stage:

➢ *Short term (2005)*

- Development of bulk terminal (PT. Aneka Kimia Raya and Pertamina berth) outside of breakwater to the north by reclamation connecting with bridge from east side of Koja terminal
- Opening east entrance channel
- Developing toll road through the port area with interchanges at container terminal and Pertamina, which link Sungai Bambu and Outer Ring Road

➢ *Middle term (2010)*

- Developing new international and inter-island container terminal with 2 berths for each in a reclamation area of east Ancol.
- Developing new passenger terminal in the reclamation area of east Ancol.
- Developing dry bulk and liquid bulk terminal in the reclamation area of east Ancol.
- Developing Pertamina berths to the north of breakwater

➢ *Long term (2020)*

- Developing international container terminal with 12 berths in the offshore man-made island as well as inter-island container terminal with 2 berths in ex Pertamina wharf and another 2 berths in the island.
- Removal of all Pertamina wharf.

598. At this moment, there is no authorized port development plan for the long term, however, Tanjung Priok branch office of Pelindo II has formulated the Strategies for year 2002-2006, which includes a draft master plan based on the BIT study.

2) On-going and/or Future Development Projects

599. According to the Strategies for 2002-2006, the principle port development projects to be carried out in the short term (2003 ~ 2006) are as follows:

- Wharf construction in north KBN, ex ARSA etc.
- Yard construction (including demolition of some warehouses)
- Opening of east channel through improvement of breakwater
- Improving road network through widening, restructuring, new construction such as flyover road etc.

600. Concerning the container terminals, JICT and Koja CT are developing their terminals and the facilities will be improved as shown in Table 6-D-38. (JICT-II will be not developed)

Table 6-D-38 Developing Facilities

		Existing	End 2002	End 2003	End 2004	End 2005
Berth	JICT-I	900m (-11m) 225m (-14m)	900m (-11m) 400m (-14m)	900m (-11m) 700m (-14m)	900m (-11m) 700m (-14m)	900m (-11m) 700m (-14m)
	JICT-II	510m (-8.6m)	510m (-8.6m)	510m (-8.6m)	510m (-8.6m)	510m (-8.6m)
	Koja	450m (-14m)	450m (-14m)	650m (-14m)	650m (-14m)	650m (-14m)
Yard	JICT-I	32ha	37ha	43ha	49ha	64ha
	JICT-II	9ha	9ha	9ha	9ha	9ha
	Koja	21ha	21ha	24ha	24ha	24ha
Gantry Crane	JICT-I	10	17	17	18	18
	JICT-II	4	4	4	4	4
	Koja	5	5	6	6	6
RTG	JICT-I	31	39	45	50	50
	JICT-II	11	11	11	11	11
	Koja	21	21	21	21	21

6-D-10 Critical Issues/Problems Facing Tanjung Priok Port

601. Major problems confronting Tanjung Priok are identified in the area of development capacity, efficiency/productivity, and environment among others since Tanjung Priok is considered to play most important role not only for the Metropolitan Area but also for the whole nation at present and in the future. Development Scenarios are then formulated basically both for improvement of current situation and for creating better future of the region.

1) Capacity Constraints on the Development

a) Water Area

602. The ship navigational/maneuvering water area is very limited within the port area. Main channel is just for one-way traffic and is overlapped with ship's turning basin. Each mooring basin is too narrow to secure safe and smooth berthing. Moreover, The port itself has only one entrance gate. Ship traffic has become severely congested recently and the port's capacity to accommodate increasing ship calls and larger-seized vessels is limited.

603. With this limitation of water area, berth facilities will not be able to be optimized due to the limitation of available ship calls. In terms of container handling, potential capacity of the will not be realized under the current navigational situation even after completion of 3 additional berths in JICT and Koja terminal, which surely falls short of the capacity for the future container demand.

b) Road Network

604. The poor linkage with the city road network including toll roads together with inefficient traffic management/control causes severe congestion in/around the port, hampering

smooth cargo movement even within the port. This is partly caused by the situation that a number of cargo deposit facilities are scattered in/around the port and a lot of trucks/trailers move between the port and these depots. Hence port capacity will be limited to a certain level without effective countermeasures

c) Land Space and Facilities

605. There is almost no room for expansion within the existing port area to provide required space for cargo distribution center, stacking yards etc. without re-construction of existing facilities. It is critical to find land space also for additional cargo such as vehicle export/import arising from the AFTA agreement of the ASEAN countries.

606. According to the information given by some leading Japanese car-producers in Jakarta, they are about to start exporting their product (complete cars) from factories in Indonesia to some ASEAN country ports for the first time in their manufacturing history. All major Japanese shipping lines are cooperating with them on this challenging export projects. There is no appropriate facility in Tanjung Priok to be used by shippers and shipping lines for exporting or importing naked cars which is quite high price. A facility for pure car loading or unloading to/from PCC (Pure Car Carrier; Ro/Ro) needs a spacious paved yard with covered building for PTI (Pre Trip Inspection).

607. The container stacking yard is absolutely insufficient at the conventional terminals. Unlike JICT and Koja, the conventional terminal's yard is not well organized due to the limited space with many hindrances such as offices, equipment, etc. Many containers are crowded on aprons or passages and dispersed here and there. Consequently, forklifts and cranes are obliged to slip through narrow and winding passages and carry containers between ship and yard. And the trailer chassis for discharging/loading and delivery/receiving cross each other. This situation makes container transport inefficient and dangerous.

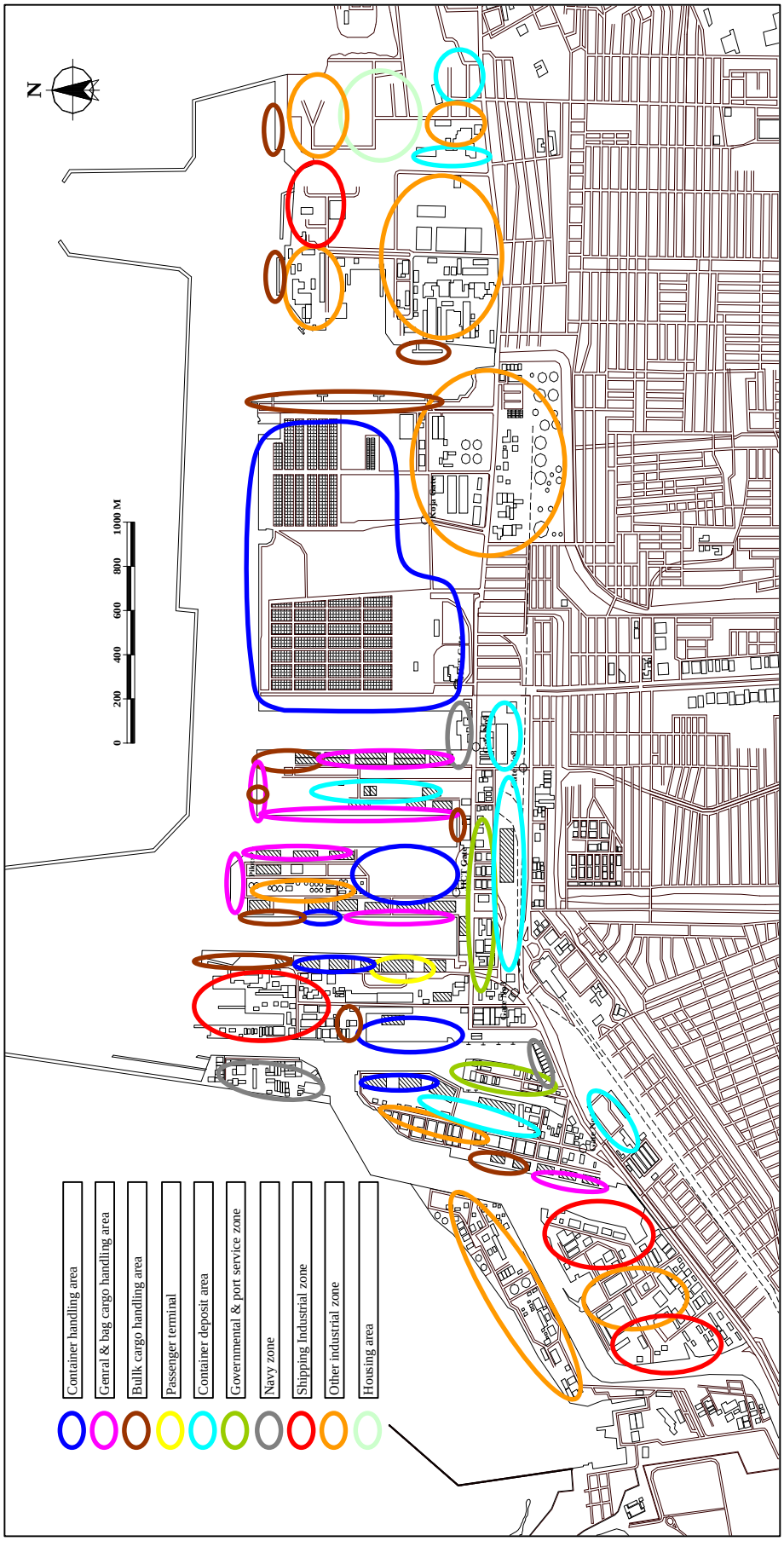
2) Issue on Efficiency/Productivity

a) Land Use

608. Disorderly land use and mixed use of the facilities such as involvement of passenger traffic within cargo handling area, mixed handling of containerized and bulk cargoes, scattered allocation of container depots in and out the port and mixture of industrial estates and cargo handling yards has made the port inefficient and led to low productivity. For example, the following problems are observed in the port.

- Scattering container handling berths and container deposit areas. Some containers are stacked even on the roads.
- Mixed-handling of container and bulk cargo. Car cargo for export/import is also handled among bulk cargo.
- Passengers zone located in the cargo handling zone
- Scattering industrial zone such as shipping industry and mixing in the cargo handling area.
- Navy use in the port area

Figure 6-D-20 Zoning of Existing Land Use


N
0
200
400
600
800
1000 M
Container handling area
Genral & bag cargo handling area
Bulk cargo handling area
Passenger terminal
Container deposit area
Governmental & port service zone
Navy zone
Shipping Industrial zone
Other industrial zone
Housing area

b) Terminal Operations

609. Except the JICT and Koja, many kinds of cargoes are handled at Tanjung Priok port such as passengers, general cargo, container cargo, liquid and dry bulk and dangerous cargo. At present each terminal manages and operates by the each terminal operator through the contract between IPC2 and a private company. This system causes the traffic congestion of inside and out side of port, while IPC2 only manages the berthing allocation and pilotage and tug boat services for port services.

610. As for the container terminal of JICT and Koja, some containers to be handled at JICT are shifted to Koja in case of the fully occupied berth at JICT, and vice versa. This transport reduces the efficiency of cargo handling and requires additional transport/handling fee, which causes dissatisfaction of port users especially shipping lines against terminal operators.

611. The Study team also points out inefficiency and high-cost nature in cargo handling system due to less competitive situation. It can be said that there is some monopoly situation in the light of local export/import container handling for the area, while the competitiveness among the terminal operators in conventional berth is not clear.

c) Voices of Terminal Users (Shipping Lines and Agents)

612. JICA Study Team conducted many interviews with major shipping lines and their agents as users of JICT and TPK (KOJA). The following comments reflect users' opinions and requests in terms of service at JICT and TPK Koja.

i) Gantry Crane Mal-function

613. The gantry cranes of JICT, especially one of the two super Pana-Max cranes, often breaks down, and repair works take a long time to complete: the longest down time experienced was about two weeks. All the users interviewed are requesting that JICT make efforts to effectively maintain cranes.

ii) Terminal Operation Accuracy

614. JICT's operation control by computer is subject to error. Some shippers are suffering mis-operation due to mis-selection of containers from the yard. The latest example; about 600 tons (about 120 x 20') were loaded to a ship causing over load-max of the ship. The excess containers were unloaded before sailing by the instruction of the captain. Re-handling charges of the containers are not negligible (US$ 81 x 240 = US$ 19,440). Generally, this kind of operation is to be carried out by the terminal operator as so called non-productive operation.

iii) Security in Container Yard

615. It is not rare that the seals of containers in the custody of a terminal operator are found cut and carrying a different padlock. An ordinary seal cut and replaced by a padlock means a strong possibility of pilferage. To defend themselves from cargo claims, the member lines of the Grand Alliance are employing at their own cost special checkers to watch loading conditions of their export containers at terminal. It is a practice in the container business that containers once received by a terminal operator and stacked in its custody become its responsibility and this includes security.

iv) Disconnection at Singapore

616. Some feeder boats have been unable to connect with the designated trunk line mother ships at connecting port (most cases Singapore) because gantry cranes were out of commission.

v) Re-scheduling of Direct Call Vessels

617. Also due to crane mal-function, it has been necessary to re-schedule direct calling vessel after Jakarta. Because the daily cost for vessels deployed at trunk lines is very high, shipping lines are seriously considering the possibility of eliminating Jakarta if the situation is not improved.

vi) Increase in Container Handling Charge

618. Many shipping lines using JICT and Koja container terminal complain about high charge of container handling, comparing to that of other countries' container terminal. Moreover, there will be a general increase in terminal handling charges of 15% for both JICT and Koja Terminal from October 1, 2002. It is a standard procedure in world container business for terminal operators to notify users in advance of a rate hike and provide reasons. The shipping lines have not been informed of the rate-hike as of the end of July.

vii) Reefer Container Record Keeping

619. Generally, reefer cargo is of high price. Temperature to be kept during a transportation period is instructed by each shipper and must be strictly maintained. If temperature records are not fastidiously kept throughout the transport of the cargo, a container carrier will have difficulty in defending itself in the event of a law suit. Because temperature charts of a terminal are not reliable for such purpose, some users are deploying special staff to keep the chart of the reefer containers in the yard.

d) Documentation

620. The procedures concerning delivery and receiving cargos in the port are very complicated. Shipping agents and consignees have to submit many documents to many different offices.

621. Concerning the Customs clearance, there are three Customs Offices in the port, these administrative area are divided into three areas at the port area. Therefore, shipping agents and consignees have to submit documents to different offices for the Customs clearance. Shipping lines as port users complaint about lack of coordination among the three customs office in the port, which prevents cargo from smooth and efficient delivery from the port area.

622. IPC2 has been introduced EDI system, however, IPC2 computer system covers only management of vessel arrival/departure, etc. and the system covers no other operation and management works such as operation at conventional and container terminals. However, some shipping lines have already developed their owned world-wide computer system.

e) Institutional Issues

623. It is essential to establish a more useful and attractive port in terms of both facilities and management/operations for the users such as shipping lines, shipping agents, forwarders, shippers, consignees, etc. in order to promote the increased use of the port and to gain a position as one of the main ports of the world. For that purpose, it is necessary to have a real time, broad