and systematic grasp of the users' needs and to consider their needs in the practical development and management/operations of the port.

624. It is also necessary to provide users with useful information and to promote the port aggressively. The keener the competition among various ports, the more important these functions become. However, there are no officers in charge of these activities within the organizational structure of IPC2.

625. The computer system is competent for processing statistics, however, IPC2 cannot fully utilize the potential of this system. The present system does not always provide statistics data consistently.

3) Issue on Environment

626. Environmental situation will be discussed later, however, we would like to raise the following points: Conservation of good amenity and environment is a must for the Metropolitan port for the better cohabitation with city function. The port of Tanjung Priok is however lacking consideration on this point and causes severely deteriorated water quality within the port, chronicle traffic jam and drainage problem of Jakarta.

6-E SITUATION OF OTHER PORTS

6-E-1 Banten/Ciwandan

627. Banten area had been functioning as a transit place for international trade since the 16th century, hence, the port, whose location is not clear, had enjoyed prosperity with foreign trade of such as spices. This old Banten port was destroyed by the Dutch in 1813 and has not functioned since then. In 19th century, a new port was built in Merak as a public port for inter-island trading, however, it has been managed by DGLC as a ferry port linking Sumatra and Java island since 1973. The public port of Merak had just functioned to provide port services to a special port/wharf owned by Pertamina and other private companies, and in 1981, the port with a new name of Banten established with the area from Cigading to Merak, followed by expansion of the "port working area" from Anyer to Bojonegara in 1983. The first public wharf, excluding Merak ferry port, was constructed in 1988 in the district of Ciwandan.

1) Existing Infrastructures

628. Banten has a wide port working water area with a lot of special dedicated wharves under the jurisdiction of IPC2, as mentioned earlier. Ciwandan area is only the public port in Banten and that is why Ciwandan is often used as a port name instead of Banten on the occasion of meaning exact public port in Banten. The port facilities and equipment in Ciwandan are shown in Table 6-E-1 and the port layout is shown in Figure XYZ with some photos.

Table 6-E-1 Port Facilities in Ciwandan

		Dimension (depth)
Channel		(-10m)
Basin		(-7m ~ -10m)
Berth	001 (General)	182m (-10m)
	002 (Coal)	87m (-7m)
	003 (Coal)	93m (-7m)
	004 (Liquid bulk)	56m (-10m)
	005 (Multipurpose)	203m (-15m)
	006 (Beaching)	10m (-2m)
Yard		20,950m^2
Warehouse		1,500m^2
Equipment	Gantry Crane	2 units
	Mobile Crane	-
	RTG	2 units
	Pilot Boat	2
	Tag Boat	11

2) *Land Transport*

629. There is a 2 lanes national road extending from the toll way of Jakarta-Merak and the national road from Jakarta. This national road pavement had been reinforced by overlay but it is not constructed for running the heavy loaded trucks. This road is heavily congested with large trucks carrying industrial products (steel products,) and containers which are traveling to/from Sumatra through ferry transport through the Merak-Bakauheni Ferry terminals.

630. There is a single line railway connecting from the Kurakatau Steel Industrial complex in Anyer to the Cibinon in Jakarta for transporting steel products, cement and coal. The railway had not transported containers, but for passenger/commuter service the daily two round trips between Jakarta and Merak are operating. It is planned to develop the following railway lines and reinforce the passenger transport capacity and cargo transport.

- Mangarai – Cikarang for 40 km to be developed to the double trucks by 2 additional lines to separate fast train running and slow train running.
- Cikampek – Cirebon for 170 km to be developed from the single truck to the double trucks.
- Cikampek – Purwakarta for 20km to be developed to the double trucks.

- Cikampek – Bandung for 180 km to be maintained the existing single truck line

6-E-2 Banten/Merakmas

631. Merakmas is one of the special dedicated ports/wharves managed by a paper company, PT. Indah Kiat Pulp & Paper Corporation. The port exists in the area of Banten port, thus under the jurisdiction of IPC-II, located to the north of Merak ferry port. The port has been in operation since 1999, handling containers and other construction materials. The major container commodity is paper, waste paper for import and new paper products for export.

632. Generally, it is prohibited to use a special port for public interest in the government regulation (Para. 60 in PP No.69/2001), while there are exceptions in such case that neighboring public port cannot serve the demand of cargo due to its limited ability or there is no public port in the neighborhood. Merakmas is considered to be an exception for certain reason, but which is not clear.

633. Containers are being handled at the multipurpose terminal with the berth of 300m length and -11m depth. There are two (2) gantry cranes on the quay side and open-yard around 3ha is available for container stacking yard. Accurate container throughput in Merakmas has not yet been disclosed, however, the Study team estimates more than 20 thousand TEU was handled in 2001 judging from the fact that the total container throughput in Banten, i.e., Ciwandan and Merakmas, reached to 24 thousand TEU in 2001. As of May 2002, three shipping lines, i.e., Wanhai, OOCL and Maersk, provide weekly services between Singapore (Wanhai and OOCL) and Tanjung Pelepas (Maersk). The port facilities and equipment are shown in Table 6-E-2.

Table 6-E-2 Port Facilities in Merakmas

Breakwater	Berth	Yard	Warehouse	Handling Eq.
350m	300m (-11m) 175m (-8m)	4.6ha (3ha is available for CY)	7,872m2	GC: 2 (40 t) Forklift: 13 Reach Stacker: 2

634. The multipurpose terminal is operated jointly by Pelindo and PT. Indah Kiat Pulp Paper Corporation. It is said that asset and/or capital ratio of Pelindo in joint operation is around 10 - 15%. Concession period is 30 years.

6-E-3 Cirebon

635. The port is located on the most eastern side of West Java province. The port is the sole commercial port in the province after Banten province was separated.

636. From the 1860s to 1880s, in order to support increasing trade at that time, Dutch colonial government built the port (Basin I) utilizing an original small port. Corresponding to the investment for such industries as sugar, cigarette etc., the colonial government expanded the port building Basin II in 1919.

637. In 1927, Netherlands government issued a decree delineating the boundaries of the port working area. At that time, the Cirebon port was under the Semarang port. The port came under the jurisdiction of Tanjung Priok port in 1957.

1) Existing Infrastructures

638. Existing port infrastructures are as follows:

Table 6-E-3 Port Facilities in Cirebon

		Dimension (depth)	
Channel			(-7m)
Basin			(-3m ~ -7m)
Breakwater		1,406m	(-7m ~ -10m)
Berth	Samadikun	67m	(-3.5m)
	Perniagaan I~IV	44m	(-3m)
	S. Sumantri I~VI	67.5m	(-3.5m)
	Muara Jati I	275m	(-7m)
	Muara Jati II	248m	(-5.5m)
	Muara Jati III	80m	(-7m)
	Linggar Jati I	131m	(-4.5m)
	Linggar Jati II	40m	(-4.5m)
	Pelita I~III	111m	(-4m)
	Special Wharf (Pelra)	150m	(-2m)
Yard		50,585m^2	
Warehouse		16,159m^2	
	Gantry Crane	-	
	Mobile Crane	3 unit	(25ton)
	RTG	-	
	Pilot Boat	1	
	Tag Boat	2	

2) Land Transport

639. The Cirebon city is located about 160km away from Jakarta connecting by railway and the toll way between Jakarta and Cikampek then extended thereafter by the national road. The toll way is heavily congested by large trucks transporting containers, industrial products between the industrial complexes located along the toll way in the Bekasi, Karawang, Cikampek areas to Jakarta metropolitan region. The pavement of the national road is damaged and not good for traveling heavy loaded trucks.

640. The distance of the 2 lanes asphalt paved national road from Bandung to Cirebon is 180 km. This hilly road which is allowed to run large trucks due to relatively gentle slope of the road compared to another national road between Bandung to Tanjung Priok through the Puncak mountain is heavily congested with trucks carrying containers from Bandung to Tanjung Priok port for export of products and import. It is planned to develop the toll way between the Cirebon and Bandung for reinforcement of the transport capacity of the existing national road.

641. The regular daily railway service for passengers between the Jakarta and Cirebon are operated but not for container transport.

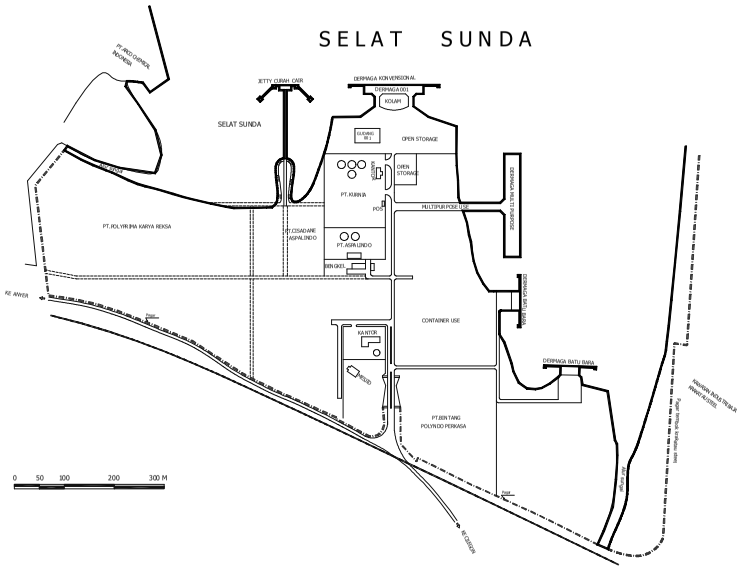
6-E-4 Sunda Kelapa

642. Port of Sunda Kelapa is a natural port, located in the estuary of Ciliwung River in the Jakarta Bay. The port was established in 1527 as an ancient international sailing point during the Portuguese period. Being close to the center of Jakarta City, the port is very busy with many traditional ships (*Rakyat*) handling cargo such as daily consumption goods, timber and construction materials for inter-island bases. Due to its long history, the port has become a tourist destination.

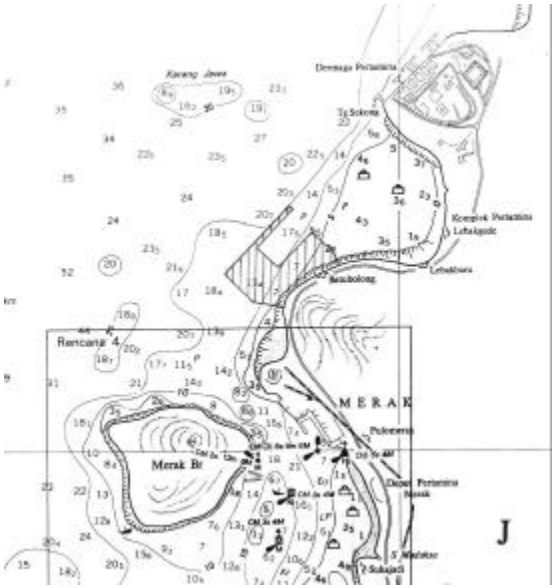
Table 6-E-4 Port Facilities in Sunda Kelapa

	Dimension (depth)	
Channel		(-3~4m)
Basin		(-3~4m)
Berth	3,111m	(-3~4m)
Yard	36,212m^2	
Warehouse	8,305m^2	

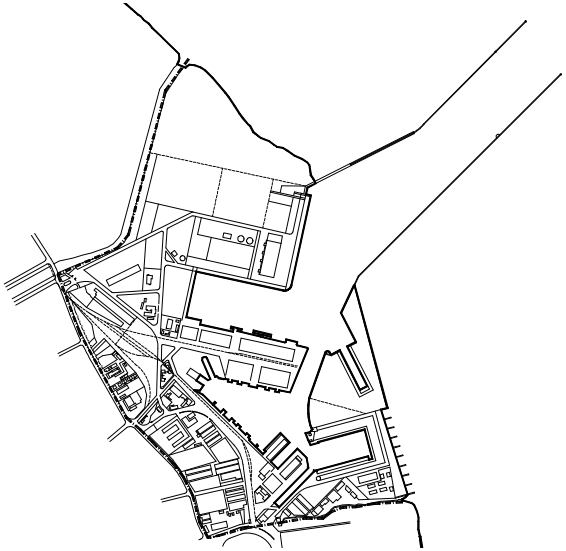
Figure 6-E-1 Port Layout of the Major Port



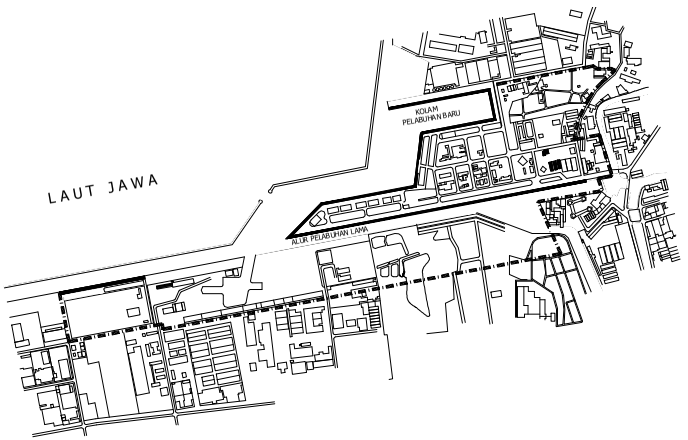
Banten/Ciwandan



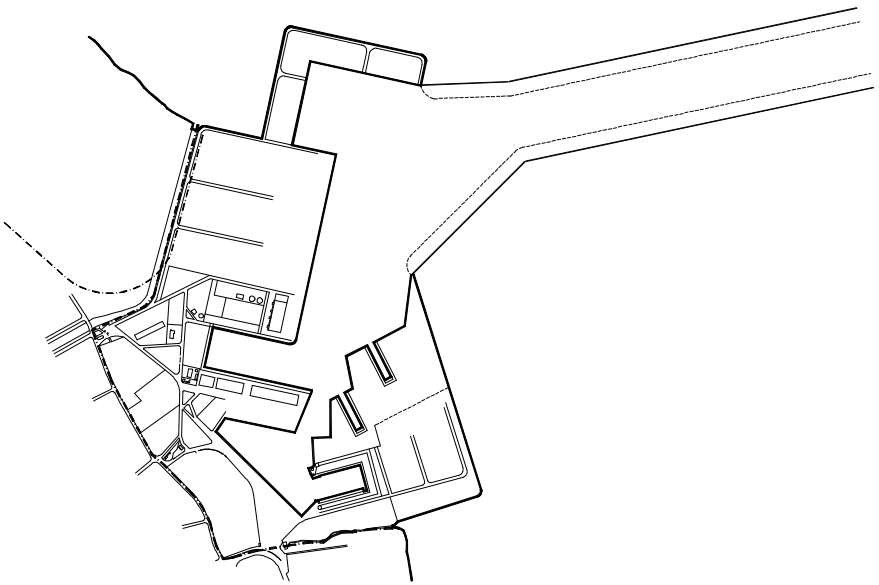
Banten/Merakmas



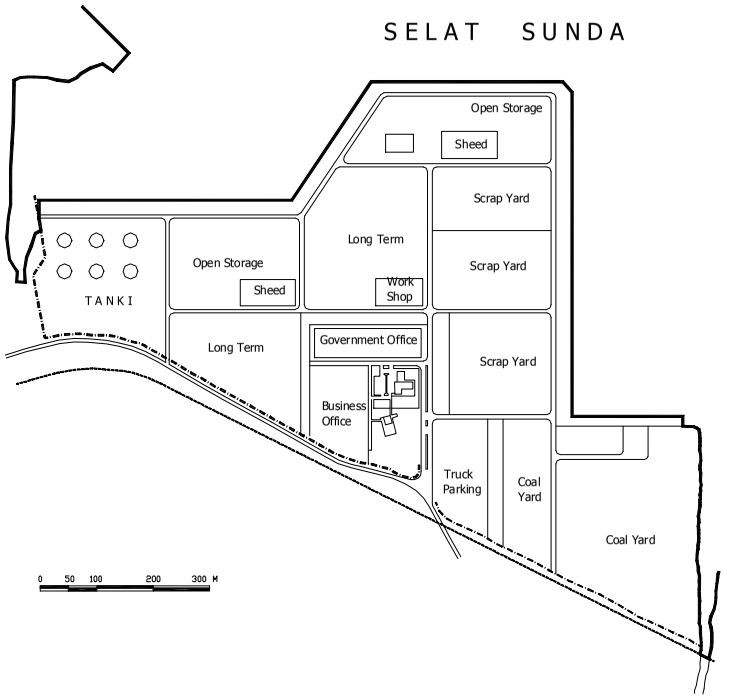
Cirebon



Sunda Kelapa



Current Development Plan of Cirebon



Current Development Plan of Banten/Ciwandan

6-F BOJONEGARA DEVELOPMENT

6-F-1 Existing Development Plan

643. Development concept of Bojonegara area was initially introduced in the early 1990's by IPC-II, being followed by the Feasibility Study on Bojonegara Port Development (MBK, April 1995). The report forecasted that container throughput in Bojonegara would reach 3.4 million in 2010 and 8.1 million TEU in 2020. To accommodate this future container demand, the report proposed a staging plan. The stage-1 development is shown in Figure 6-F-1, which involves building 600m of quays, 6 cranes and 5,570 ground slots together with the breakwater. To meet the demand after 10 years, they recommended providing at least 1,800m of quays with at least 18 cranes and other supporting facilities and equipment.

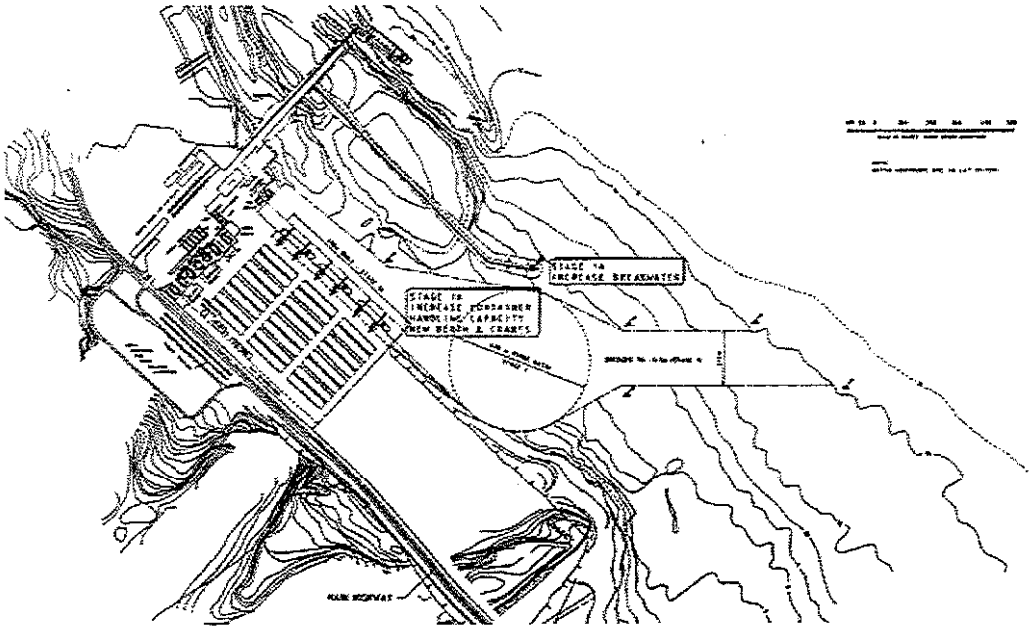


Figure 6-F-1 Bojonegara Development (Stage-1)

644. Figure 6-F-2 shows the layout plan of stage-5 after 10-year development. Proposed major port facilities are listed in Table 6-F-1.

Table 6-F-1 Proposed Port Facilities (Bojonegara Development)

	Stage 1(A)	Stage 2	Stage 3	Stage 4	Stage 5
Berth Length (m)	600	900	1,200	1,500	1,800
Crane No.	6	8	12	14	16
Area (ha)	27	40.5	54	67.5	72
Capacity ('000TEU)	615	903	1,430	1,730	2,100

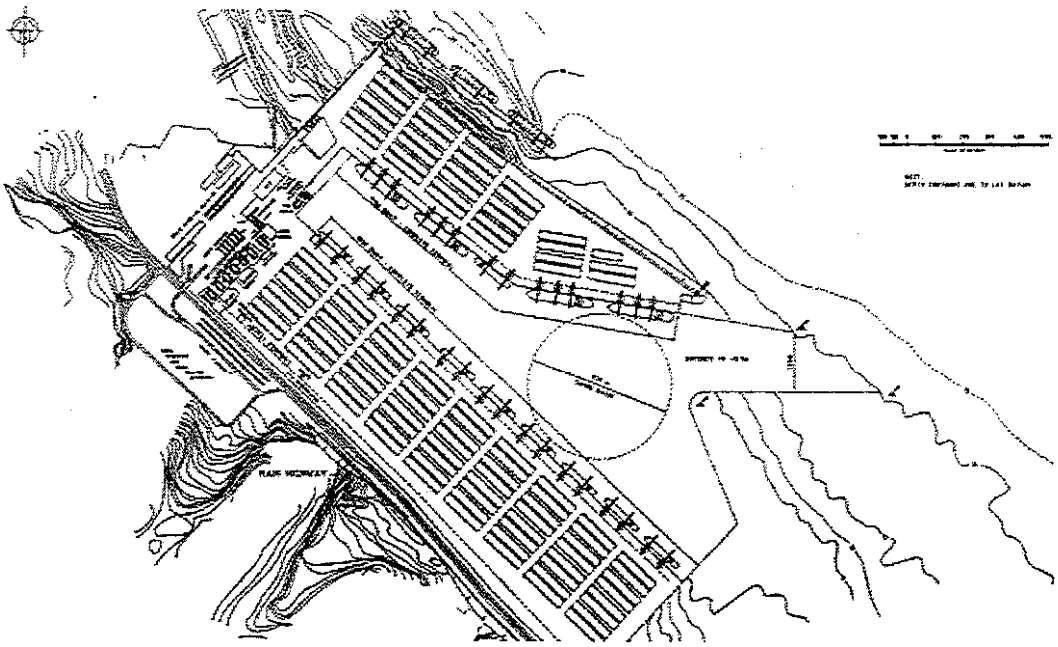


Figure 6-F-2 Bojonegara Development (Stage-5, After 10 Years)

645. WB's study report in 1996 reviewed the above MBK's study and recommended a strategy of "Tanjung Priok then Banten region", meaning "first complete CT III in Tanjung Priok and then concentrate all future development in the Banten area". It was the same direction as in the MBK's study, however, the report did not insist on a specific site in Banten region merely mentioning a new location outside Jakarta, at Bojonegara, Ciwandan or any other site that could be developed in this area. Container throughput in 2018 was forecasted at 9.8 million TEU together with Tanjung Priok and Bojonegara. The initial container terminal development in Bojonegara which would involve the construction of 1,000m of quays providing container handling capacity of 1.25million TEU was illustrated in the report, which corresponded with the proposal in the MBK's report.

6-F-2 Concession Agreement of Container Terminal Development

646. Based on the abovementioned feasibility study implemented by MBK, on April 23, 1997, an agreement was signed by the two parties: Lesser: Pelabuhan Indonesia II (Pelindo II) and Lessee: (PT. TELUK BANTEN PETIKEMAS, the Limited Liability Company) regarding "*the construction and operation of a container terminal in Bojonegara in the working area of Banten Public Seaport*". According to the agreement, concession period is 30years and the first commercial operation shall be commenced within around 2~2.5 years after the agreement. Container throughput in 10 years after the commencement of first operation is estimated around 2 million TEUs. At the construction implementation stage, each of the Parties shall have the following principal obligations:

- The first party (Pelindo II)
  - To implement dredging of the approach channel, the basin phase I up to the depth of -15m, construction of phase I breakwaters, and procurement of navigational aids so that it is safe for the outgoing and incoming activity of the Bojonegara seaport as well as loading and unloading activities, and construction of public seaport support facilities and public seaport utility. (Bojonegara seaport means the seaport located at the working area of public port of Banten.)

- To use its best efforts to procure from the Government that access roads and railways which will lead to the Bojonegara seaport.

➢ The second party

- To implement the construction of the container terminal (including quays), container terminal support facilities such as workshop, offices, parking area, fire extinguisher etc., and container terminal utilities such as drinking water supply, electricity, telecommunication, public sanitation system etc.
- To carry out dredging of the turning circle and basin phase II with the depth of -15m and construction of breakwater phase II.

647. At the construction implementation stage, each of the Parties shall have the following principal obligations from viewpoint of port facilities and services:

➢ The first party

- To provide services to vessels at the Bojonegara Seaport such as anchoring, piloting, towing etc.
- To provide public seaport utility to the container terminal boundary.
- To maintain the approach channel for the Bojonegara seaport up to a minimum depth of -15m.

➢ The second party

- To maintain the container terminal, terminal support facilities and terminal utility., as well as turning circle and basin up to a minimum depth of -15m.

6-F-3 Issues to be Analyzed on the Concession Agreement

648. The concession agreement can be characterized as more or less close to the Hong Kong type rather than the Singapore type. The Indonesian Government (Pelindo II) prepares land and approach way to the terminal, while the Lessee (PT. TELUK BANTEN PETIKEMAS) is responsible for all the other items in regard to construction and operation of the container terminal and affixed facilities. Due to the postponement of the construction works ordered by the Presidential Decree Number 39 as we elaborated in 3-F, a clear-cut interpretation of the existing concession agreement is needed for the total port planning over Tanjung Priok and Bojonegara.

649. It is necessary to mention about a new Presidential Decree Number 15, which has been issued in 2002 to expedite re-investigation of the 71 projects that were suspended. Since the situation has been quickly recovered and stabilized, it is urged by the government to proceed to re-investigate the outstanding projects and re-start them at the earliest occasion.

650. The necessity of constructing container terminal facilities in Bojonegara Port can not be denied. The Port of Tanjung Priok is plagued by extreme congestion and deteriorating facilities. Unfortunately, the rehabilitation of Tanjung Priok facilities and navigational approach to the port, nor have any efforts been made to expedite the Concession Agreement of Bojonegara Port.

651. The Presidential Decree No. 39 of 1997 is essentially responsible for the delay of the Bojonegara Project. Whether the change in the political system that the country underwent in 1997 should be treated as Force Majeure is an important question itself, but it should not be an obstacle to commencing the Bojonegara Project. The water-front situation of Indonesia is

critical and a large scale rehabilitation of Tanjung Priok and construction of a new container facility is a race with time.

652. The following issues are to be clarified for the expediting the development works of Bojonegara Port.

a) Obligation of Both Parties

653. In the Concession Agreement, the obligations of both parties are defined very clearly and minutely. All that is lacking is a contingency clause to be applied in an abnormal but not Force Majeure situation like the situation that occurred in 1997. The review and redefining of the obligation of both parties is necessary.

b) Dredging of the Port up to -15 meters

654. The Concession Agreement stipulates that PELABUHAN II shall implement dredging of the approach channel, dredging of the basin phase 1 and turning circle for phase 1 up to the depth of -15 meters chart datum. The Paragraph also stipulates construction of phase 1 breakwaters. While some ports in the world already have approach channel and quays with the draught of -15 meters or more, it is still an important question whether a facility like this is really needed by user-shipping lines. Even in New York, according to the Port Authority of NY & NJ, an average draught of many container terminal quays and approach channel is -12 meters, although the Port Authority has guaranteed one of the major user-shipping lines that it will dredge up to -16~18 meters if it becomes really necessary.

655. Even in the days of large container ships, -15 meter draught is more than sufficient. Recently, the trend of building larger container ships has been slowing down because of the excessive unbalance of demand and supply of space. Major shipping lines are also beginning to realize the un-economical effects of keeping giant ships. It is widely believed that the optimum size of container ships deployed in East-West trunk lines is around 4,500 to 6,000 TEU.

656. The trade and shipping world will settle upon the optimum ship size in a few years from now, but it is most likely that the largest ship which will be deployed in the routes to/from Indonesia will be 4,500 TEU. Accordingly, The draught of -14 meters is sufficient. For reference, Table 6-F-2 shows the real necessary draught by newly built large container ships at some Japanese and world ports.

Actual Draft Sample of New Build Vessels

657. Table 6-F-2 through Table 6-F-4 show the recent actual draft figures of the container ships with capacity of 3,700 TEU and 6,200 TEU, as typical examples of draught on departure from each port. It is now almost standard when developing to dig for a draft 15-16 meters. As a trend, every port wants to become a "Hub". As is shown in these Tables, 3,700 TEU ship which is a typical runner in Trans-Pacific Service is easily received by a port with 11-12 meter draught. Even a 6,200 TEU ship can call easily a port with 13 meter draft as is shown in Table 6-F-4. There is no necessity for all ports to prepare 15-16 meter draught wharves.

Table 6-F-2 Actual Draft of a Container Ship (3,700 TEU; Trans Pacific Service)

Calling Port	Fore	Aft
Inter Asia Portion		
Shanghai	07m-80cm	08m-70cm
Quindao	08m-72cm	09m-02cm
Kobe	08m-22cm	09m-28cm
Nagoya	09m-40cm	09m-66cm
Tokyo	10m-35	10m-70cm
Sendai	10-70cm	11m-08cm
Trans Pacific Portion		
Los Angeles	10m-13cm	10m-13cm
Oakland	11m-17cm	11m-17cm
Tokyo	09m-24cm	09m-85cm
Nagoya	08m-04cm	08m-60cm

Source: OCDI * Maximum Departure Draft: 13m-75cm

Table 6-F-3 Actual Draft of a Container Ship (3,700 TEU; Far East/Europe Service)

Calling Ports	Fore	Aft
Shekou	08m-95cm	09m-39cm
Hong Kong	09m-90cm	10m-50cm
Singapore	10m-90cm	11m-15cm
Colombo	11m-00cm	11m-50cm
Jeddah	11m-20cm	11m-75cm
Rotterdam	11m-70cm	11m-82cm
Hamburg	N/A	N/A
Southampton	11m-80cm	12m-05cm
Malta	11m-45cm	11m-90cm
Jeddah	10m-55cm	10m-80cm
Jubel Ali	08m-90cm	09m-15cm
Singapore	06m-25cm	09m-26cm

Source: OCDI * Maximum Departure Draft: 13m-75cm

Table 6-F-4 Actual Draft of a Container Ship (6,200 TEU; Far East/Europe Service)

Calling Port	Fore	Aft
Tokyo	10m-43cm	10m-75cm
Shimizu	11m-05cm	12m-08cm
Singapore	11m-90cm	12m-08cm
Southampton	11m-70cm	11m-95cm
Rotterdam	11m-72cm	12m-04cm
Hamburg	11m-75cm	12m-14cm
Le Habre	11m-99cm	12m-95cm
Singapore	11m-32cm	11m-42cm
Kobe	10m-87cm	10m-95cm
Nagoya	10m-98cm	11m-08cm

Source: OCDI

c) Exclusive Authorization

658. The agreement guarantee the second party the sole occupancy and operation right of Bojonegara Container Terminal. From the view point of building and operating an effective container terminal, an exclusive authorization is doubtful. The monopoly in the waterfront of Indonesia may hinder the economic development of the country. The transparency of the Concession Agreement is a trend of container terminal business for any port in the world. The chance of bidding should be open to all potential applicants. In this regards, a study and review of the existing agreement is needed.

6-G CRITICAL REVIEW OF PAST STUDIES AND PLANS OF THE MAJOR PORTS

6-G-1 The Study of Privatization of Jakarta International Container Terminal at Tanjung Priok Port in 1991

659. In March 1991, the study of privatization of Jakarta International Container Terminal at Tanjung Priok was conducted under the government 4th Five Year Development Plan (REPELITA IV: 1984 – 1989) by private investor.

1) Potential Demands

a) Container Traffic Forecast

660. The study conducted the traffic forecast of containers through the Tanjung Priok with the rapid increase growth rate of handling volume from 1988 to 1990 at 23% to 45% as follows:

- 1990: 643,000 TEU (Actual)
- 1995: 1.5 Mil TEU
- 2000: 2.7 Mil TEU
- 2010: 5.2 Mil TEU

661. This estimation was based on the following consideration:

- Distance from Singapore is only 170 km. Shipping companies may extend their routes to Tanjung Priok, if proper port facilities are provided to meet modern maritime transport with efficient operation and services.
- The rapid economic growth in the ports hinterland especially the growth of manufacturing sector gives a new impact for the port to change its status from the feeder port to be the load center of hub port.
- The port would accommodate the third of fourth generation containers vessels in 21 century.
- The port would have potential to be national hub port, where all others Indonesian ports activities are linked with the Tanjung Priok port with feeder services.
- It was estimated that the total area of the new industrial estate to be established inside Tanjung Priok port's service area to be around 20 ha with in 10 years (1991 - 2000). This industrial estate development has the potential to generate new containerized traffic through the port. The container volume is estimated to be 4 Mil. TEU in total.

b) Phase of Development

- Phase-1
  - Expansion of CT-I (JICT-I) to handle 2.0 Mil TEU
  - Development of CT-III (located beside CT-I, in the north of Koja within the port area with quay structure along the Samur Beach) to handle 1.0 Mil TEU
  - This project would be completed and ready for operation from 1994 to meet the demands of 2000.
- Phase-2
  - CT-IV (Removal of Pertamina Jetty) from the Koja area, to handle 1.0 Mil TEU

- This project would be scheduled to be implemented by 2000.

➢ Further Container Terminal Development after Phase-2 (2000)

- It was recommended that the possible site for further terminal development for demands beyond 2000 would be considered the existing Pertamina basin at the Pelabuhan Minyak.
- After relocation of Koja area, a new container yard with 41 ha of land and 1,000 m of waterfront would be developed as CT-IV.

2) Financial Aspect

662. The Phase-1 project cost development of CT-1 and III is estimated around US$ 679 Mil in 1991, consisting of land acquisition at Koja area. Initial working capital (construction equipment cost of CT-1, III terminals development). Interest during construction period and VAT.

663. It was planned to arrange such investment cost by the private sector as project finance scheme to make the project viable by utilizing the direct return to pay off the project cost in the period of 15 years including 3 years of construction period. The investment cost for the project would be repaid by means of terminal operation revenue under the concession right. The project being paid off only by means of the direct returns, the government of Indonesia will be able to minimize the additional financial constraints, which would be an enormous merit in relation from the project.

664. In turn, the government is requested to assist the project by means of legislative measures, authorization of privatization of port operation, and granting traffic volume supplements in order to maintain and protect the smooth operation of private operator.

665. It was proposed that the government would conduct the negotiation of relocation issues with residents presently occupying the Koja site. The compensation of such relocation was for the account of the Perum II.

3) Technical Constraints

666. It was proposed to develop the Koja area beside of CT-I (presently JICT-I) as expansion of container terminal project due to the limitation of land for such expansions, and expensive by land reclamation of 12 sq.km area requirement on the soft soil seabed.

667. The above expansion program to transfer the Koja resident area to the Container terminal was considered due to the limited available land area in the port.

a) CT-I

- The depth of approach channel and basin of the planned container terminal area (CT-I, Koja Area) shall be deepened from –12 m to –14 m. Partly the west approach channel and along the Koja terminal were deepened up to –14 m. The basin 3 in front of JICT dredged –14.0 m.
- The apron width of CT-I berth shall be widen to install crane rail of quay crane.
- The quay wall structure shall be reinforced to install quay crane and container handling on the wharf.
- It was proposed the crown height of land formation of 2.5 at the wharf, and the yard should be raised by 1.0m – 1.25m by means of concrete deck on wharf and reclamation on yard.

- The container yard behind the wharf where was the Koja canal shall be developed.
- There are the Koja canal in 6 ha of area between CT-I and Koja. It was proposed to reclaim the Koja canal with sand replacement to prevent the reclaimed yard from the excessive earth settlement.

b) CT-III

668. The critical works would be the dredging of basin, east/west approach channel, inner connecting channel in front of CT-III up to –14 m. The estimated dredging volume would be 7.69 Mil cu.m.

c) Rehabilitation and Re-arrangement of Breakwater

- Wider berthing basin, wider pack-up area/containers marshalling yard, wider channel for safety vessel maneuvering and turning smooth connection between terminal entrance and road/railway network in the city.
- East breakwater shall be rehabilitated and shall have the basin of 450 m diameter within protected area by breakwater.
- West breakwater, east part and middle parts of 1,300 m long shall be removed and new breakwater of 1,100 m shall be constructed to have additional turning basin within the protected area by new breakwater.
- Due to existing deposit of marine soft clay, the strength of breakwater foundation should be checked an excessive settlement may happen and slope failure will occur. The shoulder of channel should be located a part from the breakwater.
- Existing sheet pile double wall should be improved by strengthen with rock armour layers.

4) Review and Comments:

669. The container traffic volume had been increased in the last 18 years as per the forecast volume in 2000. However some of the proposed improvement / development of infrastructures were not yet implemented, such as relocation of Pertamina jetty, rehabilitation / removal of existing breakwater for widening the basin and channel within the breakwater area. The above proposals are considered still currently essential subjects and advisable for implementation as earlier stage.

6-G-2 The Master Plan and Feasibility Study of Bojonegara Port Development from 1993 to 1997

670. The IPC-2 had conducted the study to develop a new port in West Java area to supplement the Tanjung Priok Port activities in December 1993. It had identified to develop a new International Port at Bojonegara. Subsequently, the Bojonegara port development Master Plan and Feasibility Study was prepared in May 1995 by private investors consortium. It was planned to start operation of the planned port in 1997 and to ease the heavily congested situation of Tanjung Priok.

1) Potential Demands

a) Traffic Forecast of Container

671. The traffic forecast for Tanjung Priok as parts of the overall master plan by Peter Frankel International in 1990 as follows: Container traffic was forecast to grow at 11% per year, based on the prospected development of industrial estates in Cilegon and Tangerang to Ciruos area.

- 1995: 1,270,000 TEU
- 2000: 2,202,000 TEU
- 2010: 4,132,000 TEU

672. The private consortium to develop the Bojonegara port jointly with IPC-2 had revised the above traffic forecast through the Bojonegara port based on the growth rate of 13.7% in average between 1995 to 2000 and 6% per year from 2000 up to 2020, according to the World Bank prediction of growth rate of GDP in 1993. The container traffic from 1995 to 2020 was estimated as follows:

Revised Container Traffic through the Tanjung Priok

'000 TEU

	1995	2000	2010	2020
Import	671	1,247	2,901	5,225
Export	701	1,277	2,931	5,255
Total	1,372	2,524	5,832	10,480

673. It is estimated that out of the above total forecast, some of Tanjung Priok would be diverted to Bojonegara due to the limitations of the Tanjung Priok port capacity. It was assumed that the Tanjung Priok port would be able to develop up to CT-III for containers. The container traffic forecast of Bojonegara port was estimated as follows;

Container Traffic Through Bojonegara Port

'000 TEU

	2000	2010	2020
Bojonegara origin	43	127	287
Tg. Priok diversion	-	737	2,752
Total	43	864	3,039

674. Based on the relative land transport cost to and from Tanjung Priok and Bojonegara with planned road improvement, (the toll way of Jakarta – Merak was completed up to Tangerang, but it was scheduled to completed the remaining parts of toll way Tangerang to Merak by 1998). It was estimated to divert the container traffic to Bojonegara. The cut-off point of diversion to be within Kabupaten Tangerang on the basis of transport cost.

b) Traffic Forecast Grain Cargo

675. Beside the container, the Bojonegara port was expected to handle the imported grain cargo like corn, soya meal/cake, soya beam. The handling volume is estimated as follows:

- 1990: 612,000 ton (actual)
- 1994: 1,536,000 ton
- 2000: 3,230,000 ton
- 2010: 7,530,000 ton
- 2020: 12,420,000 ton

2) Technical and Physical Constrains at the Bojonegara Port Development

a) The Site Access

676. The existing road condition of 5 m wide gravel truck for the access road to Bojonegara is poor. The work on upgrading is expected. Due to the soft nature and depth of alluvial material, considerable settlement would be experienced during the short and long-term settlements. It is proposed to ground improvement by providing increased sub-grade strength.

b) Wharf Construction

i) Container Wharf

677. The wharf for container handling is to be constructed along the coral reef line in a predominantly tidal area. The surface corals are not well defined or significant and area underlain by alluvial deposits of sand, silt and clay. The alluvial deposits are underlain by stiff to hard residual silty and gravel clays. There are varying thickness of ballast overlying residual material. The considerable type of wharf would be:

- Deck one piles: one alternative would be using maximum use of precast elements to eliminate over water from works,
- Other is to use an in site reinforced concrete piles with steel tubes, 960 m diameter piles or pre-cast, pre-stressed concrete cylindrical (hollow) piles.

ii) Dry Bulk Grains:

678. Facilities for handling dry bulk is planned at offshore from the Kali island, where deep water is available.

iii) Bulk Liquid Terminal:

679. Planning for multipurpose liquids berth and associated tanks farms are planned at the southeast end, where deepwater is available.

c) Channel and Basin

680. The access channel depth of 13.5 m, a width of 200 m, width sides battered at 1:3 are planned. In the inner harbor area the quay wall for containers terminal is designed to accommodate a ship of draft 13 m, a depth of -15 m, basin width initial 450 m to 520 m ultimate diameter with depth of -15 m are planned.

d) Land bridge

681. To connect the small two islands and the land, the land bridge was constructed with double sheet pile wall for mooring tugboat pilot vessels.

e) Breakwater

682. The breakwater is extended progressively as the landside terminal expands to the east by utilizing geographic advantage of the existence of two islands..

f) Land Area

683. The land limitation for further expansion of the waterfront facilities of port beyond 2020, since the neighbor private investors had already occupied the land.

3) Review and Comments

684. The rock bed encountered at the depth of –8 to –20 m in the channel area were not considered seriously for the rock dredging and wharf construction. The rock layer distribution and strength shall be carefully checked by seismic surveys and P-wave velocity survey, because dredging of bedrock and wharf construction thereon will impact very much on the feasibility of the project, due to heavy cost and a long time consumable for construction.

685. Under this study, the improvement of the existing access road from the toll way to the Bojonegara did not yet clearly identify the responsible executing agency, which is essentially required.

686. The potential to develop Ro-Ro terminal as parts of the further expansion of the existing Merak-Bakauheni ferry terminal services works will be considered.

6-G-3 The Feasibility Study of the Cirebon Port Development in 1997

687. The feasibility study of the Cirebon port development was carried out by the private investor in 1997 for aiming the following objectivities:

- To the development of infrastructure and to build Cirebon port into an efficient and effective port facilities to provide market share of export and domestic shipping and to be competition with other ports in Java.
- To develop Cirebon port as a regional/international port to service for the own hinterland and supplement and alternative port to Tanjung Priok
- To support industrial estate close to the port

1) Potential Demands

688. The number of study of traffic forecast for the Cirebon port development have been carried out in the past. The following forecast of container by Louis Berger International.

- 1994: 0 TEU
- 2004: 23,000 TEU
- 2018: 103,000 TEU

689. The study of the National Transport System in 1995, indicated that Cirebon was decided as a National Feeder Port. This means that Cirebon should serve as regional/local container feeder and coastal shipping service with a capacity in the range of 200 - 700 TEUs of container ship size. For bulk and break bulk cargo, the port function as a regional/local port with major commodities of general cargo and coal being serviced by ships with capacity of 5,000 to 10,000 DWT. Based on such designation of port status in the national port system, the container traffic forecast of the port was reviewed as follows;

Container Traffic Forecast (TEU)

Year	International			Domestic		
	Import	Export	Total	Loading	Unloading	Total
2000	no	no	no	5,583	3,607	9,190
2010	8,650	916	9,566	35,347	27,612	62,959
2020	14,104	2,451	16,555	97,924	86,271	184,195

Non Container Cargo (Ton)

Year	International			Domestic		
	Import	Export	Total	Loading	Unloading	Total
2000	460	112,996	113,456	133,506	1,944,127	2,077,633
2010	368	122,988	123,356	205,918	4,015,275	4,221,193
2020	999	200,527	201,526	338,192	8,471,130	8,809,322

Passengers

Year	Passenger
2000	36,692
2010	46,512
2020	58,961

690. It was pointed out that after opening of Tanjung Priok second container terminal (JICT-II) in 1990, Cirebon's export share entered into a long period of decline. According to the O/D survey of containers at the Tanjung Priok port gate, the total sample containers export through Tanjung Priok indicated that 42.8% came from Jakarta, 10.6% came from Bogor, 5.3% came from Bandung, which includes containers transported by rail, and 5.1% came from Cirebon. The destination distribution of imports show that Cirebon accounted for 0.17%. The origin-destination distributions of container imports and exports indicated that the defined hinterland of Cirebon Port accounts for about 35% of Tanjung Priok's container exports and about 26% of container imports.

2) Technical Constraints

a) Development Program

691. Development program proposed by the private investor 1997 was as follows:

- Expansion of multipurpose berth for 200 m at first stage and subsequently 200 m
- Renovation of existing Muara Jati wharf as to accommodate barge container feeders that may be possibility that a barge based container feeder service to Tanjung Priok will be developed in future.
- Immediate special container terminal is not necessary. The multipurpose wharf of Muara Jati could be used to accommodate barge feeders, after container cargo marked a level of 50,000 TEU per year, a container terminal could then be developed.

b) Technical Constraints to be a Large Capacity of Container Port

692. The port is located at large shallow water depth beach. The access channel having 1,140 m long with 190 m width and –7 m depth, became the silt trap along the coast. The site has strong tendency to suffer from siltation. The average siltation volume within the 25 km length of channel was as an order of 200,000 – 250,000 m^3 per year.

693. It is considered to be quite difficult to carry out heavy capital dredging for extending and deepening the approach channel as well as maintenance dredging with the depth of around -9 ~ -10m which is required to meet larger container vessels.

3) Review and Comments

694. The cargo forecast and feasibility study were carried out before the economic crisis 1997 - 1998. The proposed short term development plan was 200 m quay wall Muara Jati

extension which were not realized, but only 80 m was extended at IPC-2 own finance source by 2001 as Muara Jati III. Since then some export container volume were transported to Singapore directly.

695. The West Java provincial and Cirebon City municipality government prepared the optimization of Cirebon port

- To improve the infrastructure of port facilities interrelated with export-import of containerized cargo service.
- To develop the Cirebon port as an international container port / terminal
- To be efficient to cost and time of export-import cargo transportation from and to hinterland.

696. The development of supporting infrastructures like railway connection from Bandung to Cirebon, highway toll road from Cikampek to Cirebon are essentially required for the container cargo handling service through the Cirebon port.

6-G-4 The Study for Ports Development Strategy for the Southern Sumatra and Western Java Region.

697. The study defining strategic directions for port development in the Southern Sumatra and West Java region, including Tanjung Priok port and a new port development at the Banten area (namely Bojonegara) were carried out in 1997-1998 under Technical Study of World Bank finance, includes the key elements as follows:

- Identify the function of Study Ports
- National and International demands of cargo and shipping lines for port services
- Long-term port development concept plans and a medium term investment plan.

1) Potential Demands

a) Trends in Container Shipping to West Java

698. The role of the national container port is to accommodate international trade, at the present time, national ports mostly handle feeder service to Singapore along with some Inter-Asian services. In the future, the Singapore feeder and Inter-Asian services are expected to be consolidated, resulting in the development of larger vessels ranging from 1,500 to 3,000 TEUs.

699. Indonesia may attract the modified primary east/west services to be shorter, focusing on a limited number of ports deploying vessels of up to 8,000 TEUs carrying capacity of containers and calling at large transshipment hubs, which are expected to service the entire Southeast Asia Regions.

700. The role of regional container port is mainly to accommodate domestic trade, including inter-island and coastal services, with ship capacity ranging from 100 – 700 TEU.

701. Most of the break-bulk cargoes are being converted into containers and bulk/neo-bulk form and relocated to specialized terminals.

b) Status of Each Port

i) National Container Port

702. Tanjung Priok is classified as a national container port but also function as a regional break bulk port in the National Port System. It is forecasted that the volume of break bulk cargo is in decline trends, future requirements of terminal capacity for such cargo through the Tanjung Priok will be limited. Some of the present Tanjung Priok break-bulk terminals could be converted into container terminals mainly to serve domestic cargo.

ii) Regional Container Port

703. The following status of the Study Ports on this aspect are defined.

- Cirebon

  Requiring double handling of containers from Cirebon port in Tanjung Priok ports, does not present significant enough cost saving to be competitive with trucking on the short distance between Cirebon and Jakarta. It was considered and proposed not specialized container terminal to be developed in near future in the Cirebon port

- Panjang

  Upon development of a national container port in the Banten region and once the vessel size utilized by Inter-Asia/feeder services grows beyond 1,500 TEU capacity. The regional trade will be better served by a combined truck/ferry feeder to the Banten region.

iii) Regional Break-bulk Terminal

704. The following status of the Study Ports on this aspect are defined.

- Cirebon

  The existing port facilities are adequate to handle the general cargo traffic forecast. At the average size of ship grows, additional berth length are required.

- Tanjung Priok

  As break bulk cargo is transformed into container, the existing conventional cargo terminals are considered to be adequate to accommodate future demand. The medium and long term plans envision the supply a specialized facilities outside Jakarta, (Banten area) to facilitate such conversion process.

- Banten Region

  Specialized terminals are to be developed in the area to accommodate an excessive traffic from Jakarta and West Java's medium – long-term terminals development.

iv) Specialized Bulk Terminal

- Cirebon

  Special coal handling facilities shall be developed through the extension of the existing pier Muara Jati I, and development of adequate coal storage area at the backup area of the new berth. The existing pier Muara Jati I can be used for handling other cargo, fertilizer, general cargo. The Pelita wharf used by local ships (Rakyat) shall be rehabilitated for cargo ship operation.

- Tanjung Priok

  Significant berth time is presently consumed at Tanjung Priok's deep water cargo

berths for feeder grain unloading. Relocation of these facilities out side of Jakarta will facilitate conversion of the berths to containers operation.

- Banten Region

  The first priority is for development of specialized terminals for feed grain imports at ports in Banten region. At present significant liquid and dry bulk cargo are handled at the area's numerous specialized ports.

c) Traffic Forecast through the Tanjung Priok / Banten Region

i) Cargo

705. The potential growth rate for DKI Jakarta / West Java are relatively high, average about 7.5% per annum for exports import over the next 25 years. The annual growth rate in 1995 was increased 18% to reflect actual port performance. The growth rate in 1996 was set 15% and later reduced it by 1% per year to reach 11% in 2000. The study estimated that number of development in DKI Jakarta / West Java hinterland will occur along the existing and planned toll-road.

	Year	Growth Rate
The Beyond Year 2000	2000 – 2003	8 %
	2003 – 2009	7 %
	2009 – 2010	6 %

Cargo Forecast Summary		Non Containerized Cargo (x 1,000 Ton)			
Port	Year	*Dry Bulk*	Liquid Bulk	General Cargo	Containers (x 1,000 TEU)
Tanjung Priok	1994	*5,513*	8,633	9,410	1,270
	2004	12,654	15,404	11,199	3,861
	2018	34,286	27,345	27,668	9,789
Cirebon	1994	524	96	912	0
	2004	1,282	234	1,156	23
	2018	4,487	819	2,211	103
Banten (Ciwandan)	1994	5,627	1,351	5,661	0
	2004	11,838	2,658	8,009	0
	2018	14,738	6,853	13,209	0

ii) Passenger Traffic

706. The only port in the South Sumatra and West Java region with significant volume and prospective of passenger traffic at the present and future growth is Tanjung Priok / Metropolitan Jakarta. Tanjung Priok is the third largest passenger port in Indonesia after Ujung Pandang, Sulawesi and Surabaya, East Java.

707. The forecast estimates that in Tanjung Priok total passenger transport is expected to increase from 1.0 Mil in 1995 to 2.0 Mil in 2004, and 4.3 Mil in 2018. In contrast, Cirebon port will handle about 40,000 in 1995, which is expected to increase 57,000 in 2005 and 85,000 in 2020.

Passengers Forecast Summary	1994	2004	2018
Tanjung Priok	1.0 Mil.	2.0 Mil.	4.3 Mil.
Cirebon	40,000	57,000	85,000
Banten (Ciwandan)	0	0	0

2) *Development Strategy of Tanjung Priok / Banten (Bojonegara), Cirebon, Banten (Ciwandan)*

708. Shipping lines will be reluctant to call at the new port located about 100 km away from the existing complex in Tanjung Priok, unless cargo volume of containers are available in both ports. Since most shippers are currently located closer to Jakarta, they trend to send their cargo to Tanjung Priok. This situation is changing since the over all traffic in West Java will increase, and OD of containers will be closer to the Banten area following the development of industrial complex to the West of Jakarta Region. This strategy combines the advantages of the lower transport costs to Tanjung Priok in the near future with lower cost of port lands in the Banten Region for future terminal development. The following development plan for each study port area were proposed.

a) Tanjung Priok / Banten (Bojonegara)

709. The port of Tanjung Priok and a new Banten area port will serve as national container port to accommodate the regional international trade. They will also serve as regional break-bulk ports. The port is operating at capacity of container traffic in 1994 through JICT I and II. However due to the lack of fully operational equipment and inadequate operating system, the ports optimal throughput capacity is considered to be less than 1.4 mil TEUs. At the present time, Tanjung Priok is congested and visiting ships are experiencing delays.

710. Even if the efficiency of CT-I and II improves, these terminals cannot provide sufficient capacity to safety any increase in demands. There is an immediate need to expand Tanjung Priok's capacity to accommodate container demands in West Java. The JICT I and II were designed to handle container ships of about 2,000 TEUs carrying capacity, but are unable to accommodate the larger vessels expected in the future.

i) Container Terminal Development Scenario of Two Ports

711. Container terminal development scenario of two ports were phased as follows:

- Strategy I

  All the necessary facilities are developed at the Tanjung Priok, with assumption that Pertamina's terminal becomes available for conversion to container handling operations in 1997, and the general cargo handled at the conventional terminals is transformed into bulk or container. On this case, the port investment is estimated at 3,845 Mil US$ for over 25 years.

- Strategy II

  All the facilities are developed away from Jakarta and its traffic congestion based on the assumption that the development of Koja and JICT III at Pertamina's terminal in Tanjung Priok. In this case the port investment to handle 9.79 Mil TEUs in 2018 is estimated at 3,087 Mil US$.

- Strategy III: Tanjung Priok then Banten Regions

  The CT-III as Koja terminal at Pertamina terminal will be developed. The new passenger terminal will be developed outside of West channel. This is to combination of strategies allocating the development of container terminals to two sites. The initial completion of CT-III (Koja terminal area) at Tanjung Priok, with water depth of –14m, then a new port basin is to be developed at Banten area. The Banten area's first development unit would involve the construction of 1,000 m of dock This strategy is applicable that these is a need to built-up large volume of containers to justify the diversion of operation into two sites. In this case, the port

investment in Tanjung Priok and Banten (Bojonegara) is estimated 3,311 Mil US$.

ii) Non Container Terminal Development Scenario

- General Cargo:

  The general cargo requirements are expected to decline as this cargo type is transformed into container. As such the ports existing conventional cargo terminal supply is considered to be adequate.

- Bulk Cargo:

  To aggregate bulk cargo from the ports' other operations if bulk facilities are to be provided in Tanjung Priok. They would have to be situated on reclaimed land. Preferably located to the east of the existing port area. Alternatively new facilities development could be in the Banten area.

- Dry Bulk:

  The Tanjung Priok's dry bulk cargo that are presently not committed to specialized facilities will be diverted to Ciwandan. Additional dry bulk facilities to be developed in Ciwandan will require a total berth length of 900 m, and land requirement of 25 ha.

- Passenger Terminal

  These facilities would best be provided at the new lands at the Ancol Timur reclamation area. The terminal is the necessary for a separate access and parking area for buses, taxis, and private cars. This development would be separates from the major port activities and also compatible with non-port usage proposed for the site.

b) Cirebon Port

712. The Cirebon port is expected to continue to serve specific regional requirement. The existing Muara Jati I and II piers can be utilized for barge service and small feeder service of domestic container to/from Tanjung Priok. Currently those piers used for coal shipments. This development is expected to handle other cargoes. Ample berth length presently exists in the port. The structural integrity of the berth is not adequate to enable maximum utilization.

c) Road Transport Condition in/around Tanjung Priok

i) Future Traffic Conditions

713. Most future traffic near Tanjung Priok is expected to be general city traffic and not port related traffic.

ii) Estimated container traffic

714. It is estimated that the daily container truck movement to/from Tanjung Priok and/or the Banten area under these alternative development strategies for container terminal development in Jakarta – Banten area.

Port Operated Daily Container Traffic around Tanjung Priok Area

Year	Strategy – I All at Tg. Priok development	Strategy – II Banten Area	Strategy – III Tg. Priok then Banten
1995	3,000	3,000	3,000
2005	7,000	3,000	5,300
2010	10,000	3,000	5,000
2018	17,500	3,000	4,700
Remarks	Additional 14,500 tractor truck movements, which would severely affect traffic condition		The adverse effect of the growth in port generated container truck traffic could be minimized. Because of the current unnecessary circulation of container trucks in the port area.

iii) The Road Connection Development around Tanjung Priok

715. The following major improvement of road transport in the Tanjung Priok area include:

- Constructing Dedicated Ramps

  The port is to construct at least one dedicated ramp (direct access road) from the toll road into the main container port area, in near future.

- Completing the Jakarta Ring Road

  The Ancol – Tanjung Priok section of the toll road was completed and opened. Once the entire length to the West from the Port is completed, congestion on the east – west of city streets, parallel to the shore (Port area) should decline.

➢ Widening the East – West Axis

The port dedicates some of its land to the widening of the adjacent section of the end west road axis, where traffic is most severe.

3) Technical Difficulties

716. We cannot give special comments on technical difficulties because the study did not examine any technical plans.

4) Financial Constraints

717. The forecast cash flows from the operations and investments of Tanjung Priok, the Banten area development indicate that the tariff adjustment related to recovery of existing expenses cannot alleviate the very large negative cash flows associated with sustained expansion of container facilities.

718. A partial privatization of new investment will not enable IPC-2 to sustain all projects. Only a complete privatization of all container transshipment facilities at Tanjung Priok and Banten will enable IPC-2 to finance all the its common user container investment (breakwater, harbor dredging, etc.).

719. It is suggested to shift port investment strategies to recognize the economies of IPC-2, changing its mission to a land load organization, providing common user infrastructure and services, and allowing specialized competitive services to be provided by others.

5) Review and Comments

720. The study had identified the fundamental issues to be solved for further development of Tanjung Priok, like the road network development of in and around of Tanjung Priok port, which is not yet seen any clear commitments to solve such essential issues and will be necessary to establish well conditional among MOC, DGSC, IPC-2, DKI Jakarta, Kimpres Binamarga and other agencies concerned including the provincial government, since the IPC/DGSC consider that future of Tanjung Priok port is depending on the clear commitment of the hinterland road network development.

6-G-5 The Feasibility Study of Development Plan of Bulk Terminal and Container Terminal of Tanjung Priok Port in 2000

721. The report describe the potential demands of container traffic and bulk cargo through the Tanjung Priok port area only and checked the feasible of long-term development plan (Master Plan of Tanjung Priok Port) of handling terminals of such cargo by developing offshore reclamation beyond the present breakwater at the north side and at the west side of the present port. The report studied comprehensively covering all the aspects of economic, technical, shipping for the development of Tanjung Priok Port.

1) Potential Demands

722. The report analyzed the past experience of container and break-bulk cargo growth. The containerized cargo flow through Tanjung Priok Port since 1988 till 1999 has experienced great development with growth rate of 17% per year in average as follow while the growth rate of break bulk has been 4% per year.

Year	International (TEU)	Inter-Island (TEU)	Total
1988	322,678	13,497	336,175
1999	1,909,590	208,957	2,118,547

723. It is predicted that global economical growth for the next five years is 3.3% per year for 2000 – 20003 and will increase a little into 4.2% per year for 2004 – 2008. The container cargoes were forecast for next 20 years from 2000 with the above global economic growth rate and summarized as follows;

- The Containers cargo was forecast components basin of export/import – loading/unloading based on the macro basin using co-relation of national GDP sector considering containerized ratio of break bulk Commodities wide.
- Tanjung Priok to develop the international container bulk port and play the roles as primary trunk port in national container transport network.
- Container transshipment activities in Tanjung Priok port will increase
- The liquid bulk through Tanjung Priok are fuel (inter-island loading) and liquid asphalt.

Commodities	2000	2010	2020
Container (International) (TEU)	1,972,605	5,067,066	10,200,595
Container (Inter-island) (TEU)	260,172	708,295	1,435,764
Dry Bulk (x1,000ton) (Grain cereals, Cement / Clinker, Gypsum, Coconut oil, Soda ash, Fertilizer, Sulfur, Used Iron, Cattle feeder, Sand)	7,087	13,873	22,377
Liquid Bulk (x 1,000 ton) (Oil, Liquid Chemical, Liquid asphalt, Palm Oil)	8,677	14,278	22,261

* The dry bulk cargoes were forecast at the each commodities basis with import-export and inter-island depending on the commodities components. The forecast volume is summarized at the category.

724. The bulk cargo was forecast based on the every commodities according to the trends of respective commodities, considering the production, consumption, trade pattern. Break bulk commodities in the study compose and are grouped by industries as follows:

Cement Industrial Group	: cement clinker and gypsum (Export Group)
Chemical Industrial Group	: Soda ash, sulfur and fertilizer (Import Group)
Steel Industrial Group	: Scrap Metal (Import Group)
Nutrition Group	: Oat, soy, corn, castle feeder (Import Group)
Mine Group	: Cuarsa, building sand, and Kaolin (Inter-island Group)

2) Development Plan of Facilities

a) Container Terminal

725. International Container Terminal and Inter-Island Container Terminal For Long-term up to2020 were planned as follows:

- International Container Terminal :14 berths 4,200 m long with water depth of –16 m and 210 ha backup area.
- Inter-Island Container Terminal: 6 berths, 900 m long with water depth of –8 m and 45 ha of backup area.

726. Most of inter-island containers are handled through the conventional piers. The loading productivity of container at conventional piers by using ship gear is average 8 – 9 boxes per hour.

b) Break Bulk Terminal

727. The deepwater bulk terminal is planned to handle grain / cereal by 50,000 DWT bulk carrier. Cattle feeder are expected to grow.

728. Break bulk commodities handled at special terminal to be developed outside of the existing Westside and north of breakwater are: Oat, and oat flavor at Bogasari terminal; Used Metal commodities at After Used Metal Terminal

729. Break bulk commodities handle at conventional berth are: Cement, Clinker, gypsum, served at conventional pier, Fertilizer, soda ash, sulfur ash, not special terminal, but at conventional pier, Soy, corn, cattle feeder commodities, Kuarsa sand, building sand, Kaolin at private pier.

730. Some of bulk cargoes of cement, climber, gypsum belong to Indocement are handled at conventional pier with storage facilities with other general cargoes while cement belong to PT Semen Padang and others companies are handled at conventional pier. Fertilizer, soda ash, sulfur ash are also handled at conventional berths. It is proposed to handle such bulk cargoes handling conventional pier shall be integrated one specialized piers.

731. Dry Bulk Terminal for long term are planned as follows: 17 berths, 2,740 m long, with water depth of berth from –6 m to –14 m, 53.2 ha of backup area.

*c) **Liquid Bulk Cargo***

732. The bulk cargo of sand Kaolin and Coconut oil. / CPO terminals are developed. Fuel handled by Pertamina, which is located at east part of the port, while CPO is handled at conventional terminal with storage tanks near the cement Silo. Liquid asphalt, caustic soda are handled at conventional pier of Basin 2. Liquid Bulk Terminal for long-term are planned as follows: 6 berths, 700 m long with water depth of –10 m for import oil and –6 m for Palm Oil, 10 ha of backup area.

*d) **Road Development In and Around the Port***

733. It was identified at the planning stage that DKI Jakarta government would increase either "Inner Ring Road" capacity of "Outer Ring Road" as the access way to Tanjung Priok Port, including the access way to Westside of the Port. The above facilities were planned to develop up to 2010 in the Ancol East area of the Westside of Tanjung Priok port and offshore of east breakwater, including the construction of access road from the existing harbor toll road to connecting to Ancol East development area and from the toll road of Wiyoto-Wiyono directly to the Koja - JICT I terminal and to the existing Cilincing road. The flyover access road from the Koja terminal through the Pertamina terminal area is planned to connect the offshore terminal located along with the east channel.

Figure 6-G-1 Proposed Plan of Tanjung Priok (2020)

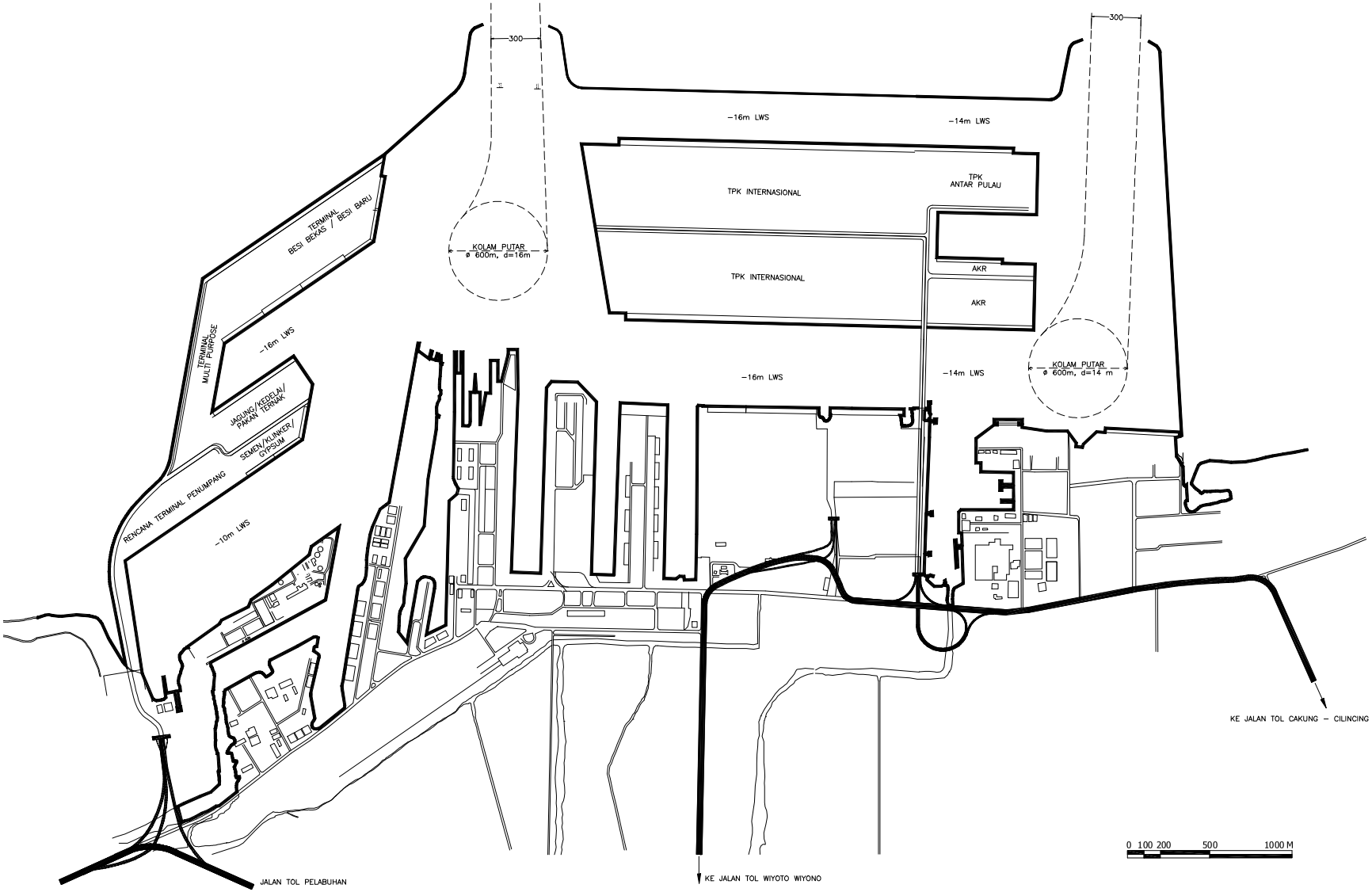
*3) **Technical Difficulties***

734. This above works are foreseen the following technical difficulties considering soft soil condition of seabed, and heavily traffic congestion of access to the port along the presently roads.

- The reclamation of offshore terminal area on the soft soil would cause heavy cost.
- The flyover access road required connecting the offshore facilities and Koja terminal, and access road by extension of existing toll road to minimize the traffic congestion.
- Removal of existing damaged east breakwater for accommodating larger container of bulk ships.

*4) **Review and Comments***

735. The forecast international container traffic is estimated macro basis, but regression factor of GDP sector or containerization ratio of break bulk commodities basis are not clearly correlated and analyzed for future trends.


300
300
-16m LWS
-14m LWS
TPK INTERNASIONAL
TPK
ANTAR PULAU
KOLAM PUTAR
ø 600m, d=16m
TPK INTERNASIONAL
AKR
AKR
TERMINAL
BESI BEKAS / BESI BARU
TERMINAL
MULTI PURPOSE
-16m LWS
-16m LWS
-14m LWS
KOLAM PUTAR
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JAGUNG/KEDELAI/
PAKAN TERNAK
SEMEN/KLINKER/
GYPSUM
RENCANA TERMINAL PENUMPANG
-10m LWS
KE JALAN TOL CAKUNG – CILINCING
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736. The forecast volume around 2020 therefore appear to be derived with the extends of the past optimum growth trends of GDP growth rate. The forecast volume of container/bulk cargo shall be reviewed with latest economic circumstances, since the development by reclamation magnitude beyond the north breakwater and construction of the access bridge from the existing Pertamina terminal at different stages are planned progressively based on traffic demands which would require to review for setting future development policy. Although it is very difficult to predict the economic growth rate of the future economic frame works entering the free trade era of AFTA in Pacific or ASEAN Region from 2005.

737. The study is missing the forecast of container shipping industries trends to determine the optimum depth of channel basin and berthing area, whether the draft and size of container ship will continue to increase or not, because the Tanjung Priok to be mother port in the region. The third and fourth generation of container ship draft of –13m to –14m will be enough to travel.

738. The development plan as drawn up are very ambitious and interesting prospective plan, it appears to be very difficult to implement at the reasonable investment cost and time period. The following aspects should be described for the formulating development strategy.

- The institutional aspects of the improvement measures of present cargo handling efficiency at conventional berth
- Container handling capacity by optimum utilization of available berthing facilities, after bulk cargo terminal are transferred to new site in order to reinforce the port handling capacity of container/bulk.

739. It will increase the ship call capacity by relocating breakwater at east, and west and widening the inner harbor channel, which will provide the additional port capacity of cargo handling.

740. It is considered that the development scheme of long-term plan was prepared based on the optimistic traffic forecast. It will be financially too tied schedule to develop all the proposed facilities by 2020, and technically not practical time period to build such large magnitude of facilities and rehabilitation of existing breakwater, flyover access road connection to/from the port with land acquisition within 20 years period.

Appendix A

APPENDIX-A: SHIPPING DATA

Major Liners calling at Hong Kong (Asia/North America Route)

	Service Name	Slot Charter	Ports of Call	Frequency	Deployed Vessels
New World Alliance (APL/ Hyundai/ MOL)	PS-1	Evergreen	**SP**-Yantia-**HK**-Kaohsiung-Nagoya-TK-Seattle-Vancouver-LA-YH-Yantian-**HK**-**SP**	Weekly	4,832 TEU x 6
	PS-2	-	Kaohsiung-**HK**-Yantian-LA-Oakland-DutchHarbour-YH-KB-Kaohsiung	Weekly	4,320 TEU x 5
	PSW	-	Yantian–**HK**-Kaohsiung-Busan-LB-Oakland-Tacoma-Busan-Kwangyan-Yantian	Weekly	6,500 TEU x 5
	PNW	-	**HK**-Kaohsiung-Busan-Tacoma-Portland-YH-Busan-**HK**	Weekly	3,016 TEU x 5
China Shipping	US West Coast	CMA-CGM, Zim	YH-Ningbo-Shanghai-Yantian-**HK**-Hakata-Busan-LA-Seattle-Vancouver-YH	Weekly	5,550 TEU x 5
CMA-CGM /China Shipping/ P&O N	Pacific Express-US East Coast	-	Busan-Shanghai-Xiamen-Yantian-**HK**-Manzanillo-Kingston-NY-Norfolk-Savannah-Kingston-Manzanillo-Busan	Weekly	3,000 TEU x 9
CMA-CGM /Norasia	Med. Trans-Pacific	-	Med.-PortKelang-**SP**-Yantian-**HK**-Keelung-Busan-LA-Oakland-Shanghai-Busan-Keelung-Chiwan-**SP**-**PortKlang**-Colombo-Med. Ports	Weekly	3,500/ 4,000 TEU x 12
COSCO	South East	Senator	Kobe-Nagoya-LB-Oakland-YH-**HK**-Xiamen-Ningbo-Shanghai-Kobe	Weekly	3,400 TEU x 5
	North East Asia	-	YH-Long Beach-Seattle-Vancouver-YH-Kobe-Shekou-**HK**-YH	Weekly	2,761 TEU x 6
COSCO/K/ Yang Ming	Far East/ US East Coast	-	Shanghai-Yantian-**HK**-NY-Norfolk-Charleston-TK-Qindao-Shanghai	Weekly	3,300/ 3,800 TEU x 8
Evergreen/ L.Triestino	Round the World-Eastbound	-	Europe-Port Kelang-**SP**-**HK**-Kaohsiung-Busan-Osaka-Nagoya-TK-Shimizu-LA-Panama-Colon-Charleston-Baltimore-NY-Europe	Weekly	4,229 TEU x 10
Evergreen/ L. Triestino	Pacific South	-	Yantian-**HK**-Kaohsiung-LA-Oakland-Tacoma-Vancouver-TK-Osaka-Yantian	Weekly	5,652 TEU x 5
	Pacific North	-	Kaohsiung-**HK**-Osaka-Tacoma-Vancouver-Kaohsiung	Weekly	5,652 TEU x 4
	HK/ Taiwan	-	Kaohsiung-**HK**-LA-Oakland-Kaohsiung	Weekly	4,211 TEU x 4
Great West. HASCO	Shanghai /LB	-	Shanghai-Yantian-**HK**-LB-Shanghai	Weekly	1,600 TEU x 3
Hanjin/K/ Senator/ Yang Ming	Far East/ US East Coast	-	Kaohsiung-**HK**-Keelung-Busan-Kobe-YH/TK-Savannah-Wilmington-NY-Busan-Kaohsiung	Weekly	3,600/ 4,000 TEU x 9
Hanjin/ Senator	Far East/ US West Coast(A)	-	Europe-**SP**-Yantian-**HK**-Kaohsiung-Long Beach-Oakland-TK-Osaka-Busan-**HK**-**Port Klang**-Colombo-Europe	Weekly	5,300/ 5,618 TEU x 12
	Far East/ US West Coast(B)	-	Europe-P.Klang-**HK**-Busan-Osaka-TK-Long Beach-Oakland-Kaohsiung-**HK**-**SP**-Europe	Weekly	4,550/ 5,450 TEU x 12
	PNW	-	Yantian-**HK**-Kaohsiung-Keelung-Kwangyang-Busan-Seattle-Vancouver	Weekly	4,024/ 4,545 TEU x 5

	Service Name	Slot Charter	Ports of Call	Frequency	Deployed Vessels
	Far East/ US West-East	-	Yantian-**HK**-Kaohsiung-Busan-Manzanillo-Maiami-Savannah-Norfolk-NY-Felixtowe-Bremerhaven-RD-Le Havre-NY-Norfolk-Savannah-Manzanillo-Long Beach-Busan-Yantian	Weekly	2,670/ 3,005 TEU x 12
Grand Alliance (Hapag/ MISC/NYK/ OOCL/ P&O Ned)	Pacific Atlantic Express	-	Yantian-**HK**-Kobe-Nagoya-TK-Seattle-Oakland-LA-Manzanillo-Savannah-Norfolk-NY-Halifax-Antwerp-Thamesport-Bremerhaven-RD-Halifax-NY-Norfolk-Savannah-Manzanillo-LA-Oakland-YH-Kobe-Yantian	Weekly	4,626/ 4,890 TEU x 13
	Super Shuttle Express	-	Port Kelang-**SP**-Yantian-**HK**-Long Beach-Kaohsiung-**HK**-Shekou-Singapore-Port Kelang	Weekly	4,830/ 5,560 TEU x 6
	Far East Express	-	**Laem Chabang**-**HK**-Kaohsiung-LA-Oakland-TK-Nagoya-Kobe-**HK**-**Laem Chabang**	Weekly	4,930/ 5,500 TEU x 5
	Asia/US East Coast/ PNW	-	Savannah-Norfolk-NY-Halifax-Malta-Jeddah-Colombo-**SP**-**Laem Chabang**-Yantian-**HK**-Kaohsiung-Vancouver-Seattle-Kaohsiung-**HK**-**Laem Chabang**-**SP**-Colombo-Malta-Halifax-NY-Savannah	Weekly	3,613/ 4,038/ 4,230/ 4,343 x 15
K Line/ Yang Ming	KL-PSW	COSCO	**SP**-Yantian-**HK**-Kobe-Nagoya-TK-LB-Oakland-TK-Nagoya-**HK**-Yantian-**SP**	Weekly	3,484/ 3,987 TEU x 6
	YM-PSW	-	Yantian-**HK**-Kaohsiung-Keelung-LA-Oakland-YH-Keelung-Kaohsiung-**HK**-Yantian	Weekly	5,551 TEU x 5
	KL-Asia	-	Shanghai-**HK**-Busan-LB-Oakland-Kobe-Busan-Shanghai	Weekly	3,029/ 3,456/ 4,038 TEU x 5
Lykes/TMM	Pacific	-	**HK**-Kaohsiung-Busan-Kobe-YH-LB	Weekly	na
Maersk-Sealand	TP-1	-	**HK**-Kaohsiung-Tacoma-Oakland-Honolulu-Guam-**HK**	Weekly	na
	TP-2	-	**HK**-Xiamen-Ningbo-Shanghai-Kwangyang-Busan-LB-Oakland-Dutch Harbor-YH-Nagoya-Busan-Naha-**HK**	Weekly	na
	TP-3	-	**HK**-Kaohsiung-Kobe-Nagoya-YH-Oakland-LB-Manzanillo-Balboa-Manz. De Panam-Miami-Charleston-Newark-Le Havre-Felixstowe-Bremerhaven-RD-Halifax-Newark-Panama-Balboa-Manzanillo-LB-Oakland-YH-Kobe-**HK**	Weekly	na
	TP-6	-	Europe-Algeciras-Salalah-Tanjun Pelepas-**SP**-Yantian-**HK**-Kaohsiung-LB-Tacoma-YH-Kobe-Kaohsiung-**HK**-Yantian-**SP**-Tanjun Pelepas-Algeciras-Europe	Weekly	na
	TP-7	-	**HK**-Yantian-Kwangyang-Manzanillo-Miami-Savannah-Norfolk-Miami-Manz. de Panama-Balboa-YH-Kobe-**HK**	Weekly	na
MSC	Far East US West	-	Shanghai-Chiwan-**HK**-Busan-TK-LA-Shanghai	Weekly	3,500 TEU x 5
Rickmers	Far East US Gulf	-	P.Klang-**SP**-**HK**-Shanghai-Xingang-Busan-Kobe-YH-Hitachi-Houston-NOLA-Newport News-Camden-Savannah-Baltimore-Europe	2-3 sailings per month	536/664/ 816/870/ 914 TEU x 7

	Service Name	Slot Charter	Ports of Call	Frequency	Deployed Vessels
Wan Hai	China/ Pacific	-	Yantian-**HK**-Kaohsiung-LA-Oakland-Busan-Taichung-**HK**-Yantian	Weekly	1,600 TEU x 5
Zim	Far East/ US West & East	-	Shekou-**HK**-Keelung-Busan-Osaka-YH-LB-Kingston-Savannah-NY-Halifax-Barcelona-Haifa-Piraeus-Livorno-Barcelona-Haifa-NY-Savannah-Kingston-LB-Shekou	Weekly	3,029/ 3,400 TEU x 15
	China Shipping, Norasia	-	Med.-Colombo-**SP**-Shekou-**HK**-Yantian-Shanghai-Busan-Vancouver-Seattle-Busan-Shanghai-Shekou-**SP**-Colombo-Med	Weekly	2,314/ 2,998 TEU x 13

Source: International Transportation Handbook 2002 (Ocean Commerce), JICA Study Team based on Shipping Lines' Brochures

Major Liners calling at Hong Kong (Asia/Europe route)

	Service Name	Slot Charter	Ports of Call	Frequency	Deployed Vessels
New World Alliance (APL/ Hyundai/ MOL)	JEX	Polish Ocean Line	KB-NG-TK-**HK**-Yantian-**SP**-RD-HB-S'pton-Le Havre-**SP**-KB	Weekly	4,700 5,500 TEU x 8
	AEX	-	Kwangyang-Busan-Hakata-Kaohsiung-**HK**-**SP**-**Port Klang**-Le Havre-RD-HB-S'ton-Colombo-**SP**-**HK**-Kaohsiung -Kwangyang	Weekly	5,551 TEU x 8
	CEX	-	Shanghai-Yantian-**HK**-**SP**-Colombo-Aden-S'ton-Antwerp-B'haven-RD-Aden-**SP** -**HK**-Shanghai	Weekly	4,729/ 5,020 TEU x 8
	NEX	-	Qindao-Ningbo-Shanghai-**HK**-Chiwan-**SP**-HB-Le Havre-S'ton-**SP**-**HK**-Chiwan Qindao	Weekly	4,469 TEU x 5
China Shipping	Far East/ Europe	CMA-CGM, ZIM	Xingang-Qindao-Shanghai-Ningbo-Xiamen-**HK**-**P.Klang**-Piraeus-Gioia Tauro-Valencia-Felixtowe-Antwerp-RD-HB-Valencia-P.Klang-**HK**-Xindao	Weekly	2,480/ 4,051 TEU x 8
CMA-CGM /Noraysia	North China Express	China Shipping, KL, Lykes	Busan-Kwangyang-Xindao-Dalian-Qindao-Xiamen-**HK**-**SP**-**P. Klang**-Jeddah-P. Saido-Malta-S'ton-HB-RD-Zeebrugge-Le Havre-Malta-P.Saido-Jeddah-P.Klang-Busan	Weekly	3,961/ 4,419 TEU x 9
CMA-CGM /Norasia/ NSCSA	French/ Asia	-	Shanghai-Ningbo-Yantian-**HK**-**P.Klang** P.Saido-Malta-Le Havre-HB-RD-Zeebrugge-S'ton-Malta-Damietta-P.Saido-Khor Fakkan-**HK**-Shanghai	Weekly	6,448/ 6,627 TEU x 8
COSCO	China/ N.West Europe	KL, Yang Ming	Shanghai-Qindao-Yantian-**HK**-**SP**-Felixtowe-RD-HB-Antwerp-**SP**-**HK**-Shanghai	Weekly	3,765/ 5,250 TEU x 8
Evergreen/ Lloyd Triestino	Round The World (West)	-	N. America-TK-Nagoya-Osaka-Busan-Hakata-Kaohsiung-**HK**-**SP**-Colombo-Suez-RD-HB-Thamesport-Zeebrugge-Le Havre-N. America-TK	Weekly	3,359/ 4,211 TEU x 5
	(East)	-	Le Havre-Thamesport-Antwer-HB-P.Saido-P.Klang-**SP**-**HK**-Kaohsiung-Busan-OS-NG-TK-Shimizu-LA-Panama-Colon-Charleston-Baltimore-NY-Le Havre	Weekly	3,359/ 4,211 TEU x 5
	CEM	-	Shanghai-Ningbo-Yantian-**HK**-**SP**-Taranto-RD-BM-Thamesport-Taranto-P.Saido-**SP**-Kaohsiung-**HK**-Shanghai	Weekly	5,652 TEU x 8
Hanjin/ Senator	PDA	-	LB-Oakland-TK-OS-Busan-**HK**-**P.Klang**-Colombo-RD-HB-Felixtowe-RD-Le Havre-**SP**-Yantian-**HK**-Kaohsiung-LB	Weekly	5,302/ 5,774 TEU x 12
	PDB	-	LB-Oakland-Kaohsiung-**HK**-**SP**-Le Havre-RD-HB-Felixtowe-Colombo-**P.Klang**-**HK**-Busan-OS-TK-LB	Weekly	4,545/ 5,447 TEU x 12
Hanjin/ Senator/ Sinotrans	China Express	KL	Xingang-Qindao-Shanghai-Chiwan-**SP**-HB-RD-Felixtowe-**SP**-**HK**-Xingang	Weekly	2,932/ 4,367 TEU x 9
Grand Alliance (Hapag/ MISC/NYK /OOCL/ P&O Ned.	Loop B	-	Busan-Kaohsiung-**HK**-**SP**-**P.Kelang**-Le Havre-S'ton-BM-Antwerp-**SP**-**HK**-Kaohsiung-Busan	Weekly	4,743/ 6,200 TEU x 8
	Loop C	-	Qindao-Busan-Kaohsiung-**HK**-Shekou-P. Klang-RD-HB-S'ton-**SP**-**HK**-Qindao	Weekly	5,468/ 5714 YEU x 8
	Loop D	-	Shanghai-Xiamen-Yantian-**HK**-**SP**-S'ton-HB-RD-Malta-P. Kelang-**SP**-**HK**-Shanghai	Weekly	6,802/ 7,506 TEU x 8

	Service Name	Slot Charter	Ports of Call	Frequency	Deployed Vessels
KL/ Yang Ming	Loop-1	COSCO, CMA-CGM, Hanjin	TK-Ningbo-Yantian-**HK**-**SP**-P.Saido-RD-Felixtowe-BM-Le HAVRE-P.Saido-**SP**-**HK**-KB-NG-TK	Weekly	5,500 TEU x 8
	Loop-2	COSCO Hanjin	Kaohsiung-**HK**-**SP**-RD-HB-Felixtowe-Antwerp-**SP**-Kaohsiung	Weekly	3,725/ 5,551 TEU x 7
Maersk-Sealand	AE-1	-	YH-Yantian-**HK**-Gioia Tauro-Felixtowe-RD-BM-Le Havre-T.Perepas-**SP**-Kaohsiung-KB-NG-YH	Weekly	na
	AE-2	-	Busan-Kwangyang-Shanghai-Ningbo-Xiamen-**HK**-**SP**-Damietta-LeHavre-BM-Antwerp-Le Havre-GioiaTauro-Damietta-Jeddah-**P.Klang**-**SP**-**HK**-Busan	Weekly	na
	AE-5/ TP6	-	LB-Tacoma-YH-KB-Kaohsiung-**HK**-Yantian-**SP**-T.Pelepas-Algeciras-Felixtowe-RD-Gothenburg-BM-RD-Felixtowe-Algeciras-Salalah-T.Pelepas-**SP**-Yantian-**HK**-Kaohsiung-LB	Weekly	na
MISC	Sik Express	-	Busan-Xingang-Qindao-Shanghai-Chiwan-**HK**-**SP**-Piraeus-La Spezia-Le Havre-Felixtowe-AW-La Spezia-Piraeus-Dubai-**SP**-Chiwan-Shanghai-Qindao-Xingang-Busan	Weekly	3,501/ 6,737 TEU x 10
UASC	AEC	-	Busan-Kaohsiung-Yantian-**HK**-**SP**-Khor Fakkan-Jebel Ali-Jeddah-Gioia Tauro-RD-Thamesport-HB-Antwerp-Gioia Tauro-Jeddah-Jebel Ali-Khor Fakkan-P.Kelang-**SP**-**HK**-Busan	Weekly	3,802 TEU x 10
New World Alliance	MED	-	Busan-kb-NG-YH-Kaohsiung-**HK**-**SP**-**P.Klang**-P.Saido-Genova-Barcelona-Fos/Marceilles-P.Saido-Jeddah-**SP**-**HK**-Keelung-Busan	Weekly	2,500/ 3,152 TEU x 8
COSCO/KL / Yang Ming	Asia Med.	-	Shanghai-**HK**-Chiwan-**SP**-P.Klang-P.Saido-Napoli-Genova-Fos/Marceilles-Barcelona-Valencia-P.Saido-**SP**-**HK**-Shanghai	Weekly	3,494/ 3,681 TEU x 7
EIL	Asia Med.	-	KB-YH-Wakayama-OS-Fukuyama-Keelung-**HK**-**SP**-Jeddah-Suez-P.Saido-Alexandria-P.Suez-KB	2-3 Slg /Month	404 TEU x 2
Evergreen/ L.Triestino	FEM	-	Kaohsiung-**HK**-**SP**-Colombo-Suez-Taranto-Genova-Fos/Marceilles-Barcelona-Valencia-Trieste-P.Said-Jeddah-Colombo-**SP**-**L.Chabang**-Kohsiung	Weekly	2,758/ 3,428 TEU x 9
Hanjin/ Senator	AMA	-	Busan-Shanghai-**HK**-**SP**-**P.Kelang**-G.Tauro-L.Specia-Fos/Marceilles-Valencia-NY-Norfolk-Savannah-Valencia-La Specia-G.Tauro-Jeddah-.Fakkan-SP-Busan	Weekly	2,661/ 3,017 TEU x 13
Grand Alliance	LoopM	-	Busa-KB-NG-YH-Shanghai-**HK**-**SP**-**P.Klang**-Damietta-L.Specia-Barcelona-Fos/Marceilles-Damietta-**SP**-**HK**-Busan	Weekly	3,430/ 4,469 TEU x 8
Maersk-Sealand	AE-4	-	Kaohsiung-**HK**-T.Pelepas-Colombo-Salalah-G.Tauro-Algeciras-Halifax-NY-Norfolk-Charleston-Algeciras-G.Tauro-Jeddah-Slalah-T.Pelepas-**HK**-Kaohsiung	Weekly	na
Zim	Asia/ Med./ Pacific	-	PNW-Busan-Shanghai-Shekou-**HK**-**SP**-Colombo-Haifa-Alexandria-Koper-Venice-Trieste-Haifa-Colombo-**SP**-Shekou-**HK**-Yantian-Shanghai-Busan -PNW	Weekly	2,050/ 2,656/ 2,998 TEU x 13

Hong Kong calling ships in Minor Service Routes

Routes	Shipping Lines	Frequency	Deployed Ships	Remarks
Mexico & Central America	CSAV/NYK	4 sailings/month	Combined with West Coast of South America	
	Kien Hung/ Powick Shipping	Weekly	Combined with West Coast of South America	
	Lykes/TMM	Weekly	2,542/3,266 TEU x 6	
	NYK	2-3 Sailings/month	1,152/1,304 TEU x 5	
Caribbean Sea	Wallenius Wilhelmsen	Fortnightly	1,806/2,451 TEU x 9	
West Coast of South America	CCNT/KL/MOL /P&O N	Weekly	2,171/2,556 TEU x 10	Voyage starts at SP
	CSAV/NYK	4 sailings/month	1,304/1,806 TEU x 10	
	Kien Hung/ Powick Shipping	Weekly	1,454/2,456 TEU x 11	
East Coast of South America	CSAV/Norul/ NYK	Weekly	1,611/2,474 TEU x 11	Also calls SP
	Evergreen	Weekly	3,428 TEU x 9	Also calls SP
	Kien Hung/ Powick Shipping	Weekly	1,510 TEU x 11	Also calls SP
	MOL/P&O N	Weekly	2,506/3,430 TEU x 10	Also calls SP
	PRO Line	Monthly	472/594/712 TEU x 4	HK,SP double calls
East & South Africa	Ahrenkie	10-12 sailings/year	692 TEU x 2	HK double calls
	KL/MISC/MOL/ Maersk Sealand/ Safmarine	Weekly	1,770/1,939/2,019/ 2,829 TEU x 9	Also calls at **L.Chabang** SP, P.Kelang
West Africa	Delmas	1-2 sailings/month	720/1,033/1,202/ 1,728 TEU x 9	Also calls SP
	Kien Hung/ Powick Shipping	Fortnightly	1,129/1,572 TEU x 2	
	MOL/P&O N	Fortnightly	1,950/2,135 TEU x 5	Also calls SP
		Fortnightly	2,169 TEU x 5	Also calls SP
New Zealand	COSCO/MOL/ NYK/P&O N	Weekly	836/1,570 TEU x 6	
New Guinea & South Pacific	Kambara Kisen	Weekly	476 TEU x 3	
	Kyowa/MOL/ NYK	2 sailings/month	386 TEU x 2	
	Kyowa/MOL/ NYK/CNCO	2 sailings/month	380/432 TEU x 4	
Middle East & South Asia	COSCO	Weekly	1,328/1,686 TEU x 7	Also calls at SP
	IRISL	Weekly	3,300 TEU x 5	Also calls at SP
	Maersk Sealand	Weekly	na	HK double calls, also calls at T.Pelepas
	MISC/PIL/ Yang Ming	Weekly	1,800/2,211 TEU x 5	HK double calls, also calls at SP, P.Kelang
	UASC	Weekly	3,802 TEU x 10	HK double calls, also calls at SP, P.Kelang

Routes	Shipping Lines	Frequency	Deployed Ships	Remarks
	Uniglory (Evergreen)	Weekly	1,618 TEU x 5	HK double calls, also calls at SP
South East Asia	Cheng Lie	Weekly	834 TEU x 2	
		Weekly	836/1,295 TEU x 4	Calls at Surabaya
		Weekly	734/1,599 TEU x 3	Calls at **L.Chabang**
	Cheng Lie/ Yang Ming	Weekly	1,119/1,295 TEU x 4	HK double calls, also calls at **L.Chabang**
		Weekly	1,295/1,471 TEU x 4	HK double calls, also calls at **L.Chabang**
	China Shipping	Weekly	514 TEU x 2	HK/Xiamen
	COSCO	Weekly	764 TEU x 2	HK/South China
	ECL	8-12 sailings/month	na	
	Hyundai/NYK/ SPIC	Weekly	1,098/1,157 TEU x 3	Calls at **L.Chabang**
	Interasia	Weekly	834 TEU x 3	HK double calls, also calls at **L.Chabang**
		Weekly	2,054 TEU x 3	HK double calls, also calls at SP, P.Kelang
	KL	Weekly	1,064 TEU x 3	Calls at **L.Chabang**
	KL Kinkai	5-6 sailings/month	196 TEU x 13	Calls at SP, P.Kelang
	Kien Hung/Powick	Weekly	700/1,158 TEU x 2	Japan/HK
	Konoike	4-5 sailings/month	na	
	KSK Lines	2-3 sailings/month	na	
	Maersk Sealand	Weekly	na	Calls at LC
	Maruni Line	5-7 sailings/month	na	
	MO Kinkai	2-3 sailings/month	na	Calls at SP, PK
	MOL	Weekly	2,142/2,701 TEU x 3	Calls at SP, PK
	Nagato	2-3 sailings/month	na	
	OOCL	Weekly	1,560 TEU x 2	HK double calls
		Weekly	455 TEU x 2	
	PIL	Weekly	1,088 TEU x 4	Calls at SP
	Toko	Weekly	na	Calls at SP, PK
	TSK	Weekly	1,182/1,461 TEU x 4	Calls at SP, PK
		Weekly	1,054 TEU x 3	Calls at SP, PK
	Uniglory	Weekly	1,164 TEU x 3	Calls at SP, PK
		Weekly	1,164 TEU x 2	
		Weekly	1,164/1,618 TEU x 4	Calls at SP, PK
		Weekly	998 TEU x 4	Calls at **L.Chabang**
		Weekly	1,214 TEU x 4	HK double calls, also calls at SP, PK
		Weekly	1,164 TEU x 3	Calls at **LC**
		Weekly	1,278 TEU x 3	Calls at SP
	Wan Hai	Weekly	1,183 TEU x 5	
		Weekly	1,368 TEU x 4	Calls at **LC**
		Weekly	746/838 TEU x 4	Calls at **LC**
		Weekly	810/1,016 TEU x 3	

Routes	Shipping Lines	Frequency	Deployed Ships	Remarks
		Weekly	850/1,550 TEU x 3	
		Weekly	1,160/1,520 TEU x 5	
		Weekly	1,088 TEU x 4	HK double calls
		Weekly	872 TEU x 2	
		Weekly	1,329 TEU x 3	HK double calls, also calls at SP, PK
	Yang Ming	Weekly	1,119/1,432 TEU x 4	
Round-the-World	Evergreen (Eastbound)	Weekly	4,229 TEU x 10	Voyage starts From P.Klang and calls SP
	(Westbound)	Weekly	3,359 TEU x 1 3,428 TEU x 1 4,211 TEU x 8	Calls at SP
Inter Asia Feeder	COSCO/PIL	Weekly	1,322/1699 TEU x 3	China/Thailand
	China Shipping	Weekly	650/950 TEU x 4	China/Vietnam
	Dognama	Weekly	na	HK/Haiphong
	Dongnama/KL/ PIL/SCI	Weekly	1,465/1,743 TEU x 5	India/Far East
	Dongnama/Hanjin	Weekly	750/1,190 TEU x 3	Korea/SE Asia
	Dongnama/Hanjin/ Haeung-A	Weekly	1,119/1,454 TEU x 3	Korea/Straits Calls at SP, PK
		Weekly	1,253/1,684 TEU x 4	Korea/Straits Calls at SP, PK
	Dongnama/Hanjin/ Haeung-A/Hyundai	Weekly	1,105/1,452 TEU x 3	Korea/ Indonesia
		Weekly	1,599/1,743 TEU x 4	Korea/ Indonesia HK double calls
	Gemartrans/KL	Weekly	380/428/580 TEU	Vietnam
	Gold Star	Weekly	1,177/1,939 TEU x 3	China/Philippine
	Hanjin/Heung-A	Weekly	860/1,032 TEU x 3	Korea/Bangkok
	Heung-A	Weekly	450 TEU x 2	Korea/Haiphong
	Hyundai (MOL, NYK, P&O N)	Weekly	2,181 TEU x 6	Korea/M. East Calls at SP, PK
	Hyundai/KMTC	Weekly	1,613/2,181 TEUx3	Korea/Indonesia HK double calls, also calls at SP
		Weekly	1,205/1,585 TEUx3	Korea/Indonesia HK double calls, also calls at SP
	Maersk Sealand	Weekly	na	HK/North China
	OOCL/Wan Hai	Weekly	1,182/1,368 TEUx7	China/M. East
		Weekly	1,660 TEU x 6	Korea/M. East
	RCL	Weekly	628 TEU x 3	BK/Shanghai
		Weekly	1,060/1,498 TEUx3	SP/Shanghai
	Uniglory	Weekly	1,164 TEU x 1	HK/Shanghai
		Fortnightly	956 TEU x 1	Taiwan/Vietnam
	Wan Hai	Weekly	700 TEU x 1	Taiwan/Xiamen
		Weekly	872 TEU x 1	Taiwan/Shanghai
		Weekly	1,550 TEU x 1	Taiwan/Manila

Major Liners calling Singapore, not calling Hong Kong (Asia/Europe Route)

	Service Name	Slot Charter	Ports of Call		Deployed Vessels
Grand Alliance	Loop A	Delmas	KB-NG-TK-Shimizu-**SP**-S'ton RD-HB-RD-Le Havre-**SP**-KB-NG-TK	Weekly	5,700/6,690 TEU x 8
	Loop E	-	Jakarta-**SP**-P.Klang-Colombo-Jebel Ali-Jeddah-Malta-HB-RD-S'ton-Malta-Jeddah-J.Ali-Colombo-Jakarta	Weekly	3,161/3,218/ 3,568 TEU x 8
Ethiopian SL	Container/ Conventional	-	YH-NG-KB-Busan-**SP**-Djibouti -Aden-Hoddeidah-Port Sudan	Monthly	363 TEU x 6

Shipping Lines calling at Singapore in Inter Asian Service

Shipping Line	Service Name	Frequency	Port of Call	Deployed Vessel
ACL	Penang	2 slgs/week	**SP**-Penang-**SP**	600 TEU x 1
	Pasi Gudang	Daily	**SP**-Pasir Gudang-Kuantan-Songkha-**SP**	314 TEU x 1
	Bangkok A	6 sailings a week by rotation A to D	**SP**-Bangkok-**SP**	1,018 TEU 1,248 TEU 777 TEU 480 TEU
	Bangkok B		**SP**-**LC**-BK-LC-**SP**	1,088 TEU x 1
	Bangkok C		**SP**-BK-**LC**-**SP**	834 TEU x 1
	Bangkok D		**SP**-BK(PAT)-BK(BMT)-BK(PAT)-**SP**	774 TEU x 1
	Vietnam	2 slgs/week	**SP**-ICD Phuoc Long-Tancang-VICT-**SP**	946 TEU 889 TEU 455 TEU 545 TEU
	Cambodia	Weekly	**SP**-Sihanoukville-**SP**	221 TEU x 1
	Jakarta	8 slgs/week	**SP**-Jakarta-**SP**	1,954 TEU 1,560 TEU x 2 1,253 TEU 1,172 TEU 1,048 TEU 750 TEU
	Surabaya	2 slgs/week	**SP**-Surabaya-**SP**	312 TEU 889 TTEU
	Semarang	2 slgs/week	**SP**-Semarang-**SP**	312 TEU x 1
	P.Klang/ Belawan-A	2 slgs/week	**SP**-**PK**-Belawan-**PK**-**SP**	531 TEU x 1
	-B		**SP**-Belawang-**SP**	520 TEUx 1
	Panjang	Weekly	**SP**-Panjang-**SP**	1,084 TEU x 1
	East Malaysia/ Bruney-A	Weekly	**SP**-Muara-Kuantan-**SP**	312 TEU x 1
	-B	Weekly	**SP**-Muara-Labuan-Kota Kinabaru-**SP**	256 TEU x 1
	Yangon	Weekly	**SP**-Yangon-**SP**-PK-**SP**	517/480 TEU x 2
	Chittagong	3 slgs/week	**SP**-Chittagong-Mongla-**SP**	800 TEU x 5
	Calcutta	2 slgs/week	**SP**-Vizag-Calcutta-Haldia-**SP**	444/500/784/ 1,166 TEU x 4
	Chennai	4-5 slgs/m	**SP**-**PK**-Chennai-**SP**	640/970/1,152 TEU x 3
	Kandra/Pipavav	Weekly	**SP**-Bombay-Kandra-Pipavav-Colombo-**SP**	368/650 TEU x 3

Shipping Line	Service Name	Frequency	Port of Call	Deployed Vessel
ACL/MOL	Mumbai	Weekly	**PK**-**SP**-Mumbai-Penang	640/1,158 TEU x 3
ACL/Hyundai/ MOL	Nhava Sheva	Weekly	**PK**-**SP**-Colombo-N,Sheva -Cochin-Colombo-**PK**	579/1,216/1,599 TEU x 3
APL	Philippine	2 slgs/week	**SP**-Manila-**SP**	1,414 TEU x 1
	Thailand-A	Weekly	**SP**-BK-**SP**	450 TEU x 1
	Thailand-B	Weekly	**SP**-**L.Chabang**-**SP**	800 TEU x 1
	Vietnam	Weekly	**SP**-Ho Chi Minh City-**SP**	920 TEU x 1
	Malaysia-A	Weekly	**SP**-Belawan-Phuket-PK-**SP**	830 TEU x 1
	-B	Weekly	**SP**-**PK**-Penang-PK-**SP**	300 TEU x 1
	Indonesia-A	Weekly	**SP**Jakarta-**SP**	1,150 TEU x 1
	-B	Weekly	**SP**-Jakarta-Panjang-**SP**	100 TEU x 1
	-C	2slgs/week	**SP**-Surabaya-**SP**	450 TEU x 2
	-D	2slgs/week	**SP**-Semarang-**SP**	100 TEU x 2
	Upper Bay of Bengal	-	**SP**Haldia-V. Hapatnam-**SP**	500 TEU x 2
	Chittagong	-	**SP**-Chittagong-**SP**	800 TEU x 1
	Chennai	-	**SP**-Chennai-**PK**-**SP**	800 TEU x 2
	Red Sea	Weekly	**SP**-Aden-Jeddah-Adabiya-Aqaba-Aden-Colombo-**SP**	2,500 TEU x 5
Gold Star	Myanmar	Weekly	**SP**Pasir Gudang-P.Klang-Yangon-**PK**-**SP**	431 TEU x 2
Hanjin	Arabian Gulf	Weekly	P.Klang-**SP**-Nhava Sheva-Jebel Ali-K.Fakkan-Karachi-NS-Cochin-Tuticorin-**PK**	1,034 TEU 1,060 TEU 1,216 TEU 1,388 TEU
MISC	Malaysia	Every 4/5 d	Kuantan-**SP**-P.Gudang-PK Bintulu-Muara-Labuan-Tawau-Kuantan	372 TEU x 2 519 TEU x 2 699 TEU x 1
	India/Pakistan	Weekly	PK-**SP**-Colombo-Karachi-N.Sheva -Tuticorin-**PK**	668TEU x 1
MISC/RCL	Malacca	4slgs/week	**SP**-**PK**-Penang-**PK**-Penang-**PK**-**SP**	660 TEU x 3
MOL/Samdera	Karachi	Weekly	**SP**-Karachi-Colombo-**SP**	940/1,060/ 1,129 TEU
NYK/P&O N	South Asia	Weekly	**SP**-N.Sheva-Karachi-N.Sheva-Colombo-**PK**-**SP**	1,005 TEU x 2 1,895 TEU
	Gulf Kuwait	Weekly	Ningbo-Shanghai-Yantian-**SP**-PK-Jeber Ali-Damman-Bandar Abbas-**SP**-Ningbo	1,613 TEU 2,002 TEU x 2 2,061 TEU x 2
NYK/TSK	Thailand	Weekly	**SP**-Bangkok-**L.Chabang**-**SP**-Penang-**PK**-Penang-PK-**SP**	560 TEU x 2
	Asian Pendlum	Weekly	**SP**-BK-LC-**SP**-**Jakarta**-**SP**	400/500TEUx 2
	Surabaya	Weekly	**SP**-Surabaya-Semarang-**SP**	700 TEU x 1
PIL	North China	Weekly	**SP**-**PK**-Dalian-Xingang-Yantian-Qindao-**SP**	1,600 TEU 1,728 TEU x 2
	Central China	Weekly	Ningbo-Shanghai-Wenzhou-**SP**-Jakarta-Chiwan-HK-Ningbo	725 TEU x 2 764 TEU

Shipping Line	Service Name	Frequency	Port of Call	Deployed Vessel
RCL	Shanghai	Weekly	**SP**-Manila Busan-Shanghai-HK-**SP**	1,060/1,108/ 1,498 TEU
	Qindao	Weekly	**SP**-Shanhai-Xingang-Qindao-**SP**	889 TEU 1,288 TEU x 2
	Manila	2slgs/week	**SP**-Manila-**SP**	1,152/1,288TEU
	S.Philippine-A	2slgs/week	**SP**-Davao-Genaral Santos-Cebu-**SP**	368/582 TEU
	-B		**SP**-Davao-Cebu-**SP**	
	Malakka	Weekly	**SP**-Belawan-**PK**-Belawan-**SP**	628 TEU x 1
	Thailand-A	6slgs/week	**SP**-Bangkok-**LC**-**SP**	889 TEU x 3
	-B		**SP**-Bangkok-Map Ta Phut-**SP**	1,018 TEU
	Ho Chi Minh	4slgs/week	**SP**-Ho Chi Minh-**SP**	946/1,080 TEU 1,018 TEU x 2 1,280 TEU x 2
	Sihanukville(SV) Songkhla(SK)	Weekly	**SP**-SV-SK-**SP**	563/628 TEU
	Jakarat	2slgs/week	**SP**-Jakarta-**SP**	418/1,954 TEU
	Jakarta/Panjan	Weekly	**SP**Jakarta-Panjan-**SP**	1,234 TEU x 1
	Surabaya	2slgs/week	**SP**-Surabaya-**SP**	1,008/1,048 TEU
	Semarang	2slgs/week	**SP**-Semarang-**SP**	500 TEU x 2
	Palembang	Weekly	**SP**-Jakarta-Palembang-**SP**	584 TEU x 1
	India	Weekly	**SP**-**PK**-NS-Mumbai-**PK**-**SP**	543/585/817TEU

Direct Sailing Destination Ports (Jakarta/Europe)

	Destination Port Name	Shipping Line	Transit Days
1	AARHUS, Denmark	MSL, CMA-CGM/ANL, OOCL,	26-28
2	ALGECIRAS, Spain	MSL	14
3	ANCONA, Italy	CMA-CGM	22-26
4	ANTWERP, Belgium	CMA-CGM/ANL, MSL,	25-32
5	BARCELONA, Spain	CMA-CGM/ANL, Norasia	21-27
6	Belfast, UK	CMA-CGM/ANL, OOCL,	31-36
7	BIBAO, Spain	OOCL	36
8	BREMEN, Germany	Gold Star	27-31
9	Bremerhaven, Germany	MSL	26
10	CONSTANZA, Romania	CMA-CGM/ANL	26-29
11	COPEMHAGEN, Denmark	CMA-CGM/ANL, OOCL	26-29
12	DUBLIN, Ireland	CMA-CGM/ANL, OOCL	31-34
13	DUNKIRK, France	CMA-CGM/ANL	26
14	FELIXSTOWE, UK	MSL, CMA-CGM/ANL/GOLD	22-33
15	FOS SUR MER, France	CMA-CGM/ANL, Norasia	22-28
16	GDANSK, Poland	OOCL	31
17	GDYNIA, Poland	CMA-CGM/ANL, OOCL	27-31
18	GENOA, Italy	CMA-CGM/ANL, Norasia, Conbtship/Lykes	18-25
19	HAMBURG, Germany	MSL, CMA-CGM/ANL, Contship/Lykes/Marfret	22-27
20	HAMINA, Finland	CMA-CGM/ANL	30-34
21	HELSINGBORG, Sweden	CMA-CGM/ANL	25-29
22	HELSINKI, Finland	CMA-CGM/ANL	30-34
23	KLAIPEDA, Lithuania	CMA-CGM/ANL	29-33
24	KOPER, Yugoslavia	CMA-CGM/ANL, Norasia	24-34
25	KOTKA, Finland	CMA-CGM/ANL, OOCL	27-31
26	LE HAVRE, France	MSL, CMA-CGM/ANL, CMA-CGM/ANL/Contship/Lykes/Marfret	21-30
27	LIMASSOL, Cyprus	CMA-CGM/ANL	21-27
28	LISBON, Portugal	CMA-CGM/ANL, OOCL	31-34
29	LIVORNO, Italy	CMA-CGM/ANL	23-27
30	MALMO, Sweden	CMA-CGM/ANL, OOCL	26-29
31	MALTA, Malta	CMA-CGM/ANL, Norasia	15-19
32	MANTYLUOTO, Finland	CMA-CGM/ANL	30-34
33	NAPOLI, Italy	CMA-CGM/ANL	22-26
34	OSLO, Norway	CMA-CGM/ANL, OOCL	27-30
35	PIRAEUS, Greece	CMA-CGM/AML, Norasia	23-38
36	RAUMA, Finland	CMA-CGM/ANL	30-34
37	RIGA, Latvia	CMA-CGM/ANL, OOCL	29-35

38	RIJEKA, Croatia	CMA-CGM/ANL	24-28
39	ROTTERDAM, Netherlands	MSL, CMA-CGM/ANL, CMA-CGM/ANL/Gold Star, CMA-CGM/ANL/Lykes/Marfret	23-30
40	SALONICA, Greece	Norasia	29
41	SOUTHAMPTON, UK	CMA-CGM/ANL, OOCL	22-27
42	STOCKHOLM, Sweden	CMA-CGM/ANL, OOCL	25-31
43	TALIN, Estonia	CMA-CGM/ANL	na
44	THESSALONIKI, Greece	CMA-CGM/ANL	26-30
45	TILBURY, UK	CMA-CGM/ANL/Contship/Lykes/Mafret	27
46	Trieste, Italy	CMA-CGM/ANL, Norasia	23-37
47	VALENCIA, Spain	CMA-CGM/ANL	26-32
48	VARNA, Bulgaria	CMA-CGM/ANL, Norasia	29-33
49	VENICE, Italy	CMA-CGM/ANL, Norasia	23-35
50	VIGO, Italy	OOCL	35
51	BORDEAUX, France	CMA-CGM/ANL	24-28
52	CORK, Ireland	CMA-CGM/ANL, OOCL	31-36
53	GIOIA TAURO, Italy	MSL	20
54	GOTHENBURG, Sweden	MSL, CMA-CGM/ANL, OOCL	25-29
55	LEIXOES, Portugal	CMA-CGM/ANL, OOCL	33-37
56	MARSEILLES, France	CMA-CGM/ANL/Contship/Lykes/Marfret	19
57	ANCONA, Italy	CMA-CGM/ANL	22-26
58	ST. PETERSBURG, CIS	CMA-CGM/ANL, OOCL,	29-37

Remarks: OOCL stands for Grand Alliance (NYK, P&O-N, Hapag, OOCL), ANL (Australian National Line)

Direct Sailing Destination Ports (Jakarta/Africa)

	Destination Port Name	Shipping Line	Transit Days
1	ABIJAN, Ivory Coast	MSL, Gold Star	30-43
2	ALEXANDRIA, Egypt	CMA-CGM/ANL	15-22
3	APAPA, Nigeria	MSL	35
4	BEIRA, Mozambique	MSL	23
5	BEJAIA, Algeria	CMA-CGM/ANL	26-30
6	BENGHAZI, Libya	CMA-CGM/ANL	23-27
7	CAPE TOWN, South Africa	MSL	21
8	CASABLANCA, Morocco	MSL, CMA-CGM/ANL	25-34
9	CEUTA, Morocco	MSL	20
10	COTONOU, Benin	MSL, Gold Star,	31-39
11	DAKAR, Senegal	MSL	26
12	DAMIETTA, Egypt	CMA-CGM/ANL, Norasia	14-20
13	Dar es SALAAM, Tanzania	MSL	24
14	DJIBOUTI, East Africa	MSL	20
15	DOUALA, Cameroon	MSL	38
16	DURBAN, South Africa	MSL, Gold Star	17-24
17	EAST LONDON, South Af.	MSL	18
18	FLEETOWN, Sierra Leone	MSL	31
19	LAGOS, Nigeria	Gold Star	31-35
20	LIBREVILLE, Gabon	MSL	36
21	MAPUTO, Mozambique	MSL	26
22	MITSURATA, Libya	CMA-CGM/ANL	22-26
23	MOMBASA, Kenya	MSL	25
24	MONROVIA, Liberia	MSL	31
25	NACALA, Mozambique	MSL	32
26	NAIROBI, Kenya	MSL	28
27	ORAN, Algeria	CMA-CGM/ANL	27-31
28	PARAMARIBO, Suriname	MSL	56
29	Pointe a Pitre, Guadeloupe	MSL	32
30	POINTE NOIRE, Congo	MSL	36
31	PORT SAID, Egypt	MA-CGM/ANL/Contship/Lykes/Marfret, Norasia	15-24
32	PORT SUDAN, Sudan	MSL, CMA-CGM/ANL	23-29
33	PORT SUEZ, Egypt	MSL, Thorensen	24-33
34	SKIKDA, Algeria	CMA-CGM/ANL	25-29
35	TRIPOLI, Libya	CMA-CGM/ANL	21-25
36	TUNIS, Tunisia	CMA-CGM/ANL	23-27
37	WALBIS BAY, Namibia	MSL	28
38	ZANZIBAR, Tanzania	MSL	24
39	ANNABA, Algeria	CMA-CGM/ANL	27-31

40	BANJUL, Gambia	MSL	28
41	PORT ELIZABETH, SA	MSL	16
42	TEMA, Ghana	MSL, Gold Star	30-34
43	TAKORADI, Ghana	MSL	35
44	LOBITO, Angola	MSL	38
45	CONAKRY, Guinea	MSL	29
46	LOME, Togo	MSL, Gold Star	32-40
47	BANJUL, Gambia	MSL	28
48	LUANDA, Angola	MSL	37
49	SFAX, Tunisia	CMA-CGM/ANL	20-24
50	PARAMARIBO, Suriname	MSL	56
51	TANGER, Morocco	CMA-CGM/ANL	29-33

Direct Sailing Destination Ports (Jakarta/Japan)

1	CHIBA, Japan	Wan Hai	13-21
2	HAKATA, Japan	MSL, TSK, Wan Hai, Yang Ming/CNC/TSL,	13-21
3	MIZUSHIMA, Japan	Wan Hai	12-19
4	NAGOYA, Japan	TSK, Wan Hai, Yang Ming/CNC/TSL	13-21
5	OITA, Japan	Yang Ming/CNC/TSL	13
6	OSAKA, Japan	Hanjin/Dongnama/Heung-A, TSK Wan Hai,	10-17
7	SHIMIZU, Japan	Wan Hai, WAN Hai/MISC/TSK MISC/TSK, MSL,	11-18
8	TOKUYAMA, Japan	Wan Hai	22
9	TOKYO, Japan	MSL, Hanjin/Dongnama/Heung-A TSK/MSL/NYK, Wan Hai, Wan Hai/MISC/TSK, MISK/TSK, TSK,	10-17
10	YOKKAICHI, Japan	Wan Hai, Wan Hai/TSK,	14-22
11	YOKOHAMA, Japan	MSL, Hanjin/Dongnama/Heung-A, TSK/MSL/NYK, Wan Hai, MISC/TSK,	10-17
12	KOBE, Japan	MSL, TSK/KMTC/NYK, TSK, Wan Hai,	13-20
13	KAWASAKI, Japan	TSK, Wan Hai,	11-20
14	MOJI, Japan	TSK, Wan Hai, Yang Ming/CNC/TSL,	13-21

Direct Sailing Destination Ports (Jakarta/South & North Korea)

1	BUSAN, South Korea	KMTC/Hyundai, Heung-A, MSL, Hanjin/Dongnama, Wan Hai, Yang Ming/CNC/TSL, KMTC/Hyundai/TMM, KMTC/Hyundai	9-19
2	KWANGYANG, S. Korea	MSL, Yang Ming/CNC/TSL,	9-16
3	INCHON, South Korea	Wang Hai, Dongnama/Heung-A,	15-17
4	MASAN, D.R.P. Korea	Rickmers	30
5	ULSAN, South Korea	KMTC/Hyundai, Heung-A	5-12

Direct Sailing Destination Ports (Jakarta/China)

1	GUANZHOU, China	Wan Hai	13-14
2	HUANGPU, China	Wan Hai	13-14
3	HUMEN, China	Wan Hai	13-14
4	NINGBO, China	MSL, COSCO	8-14
5	QINGDAO, China	Wan Hai, CNC, MSL,	13-22

6	SHANGHAI, China	MSL, Wan Hai, CNC, COSCO	10-15
7	WENZHOU, China	COSCO	13
8	XIANGANG, China	MSL, Rickmers	20-27
9	YANTIAN, China	MSL	6
10	ZHUHAI, China	Wan Hai	13-14
11	DALIAN, China	MSL, Rickmers	19-23
12	FUZHOU, China	MSL, Wan Hai	13-15
13	SHEKOU, China	COSCO	5
14	XIAMEN, China	Wan Hai	9-18

Direct Sailing Destination Ports (Jakarta/Australia, NZ)

1	ADELAID, South Australia	Gold Star	22-26
2	BRISBANE, Queensland	MSL, AAL	10-32
3	FREMANTLE, West Aust.	Gold Star, MSL	3-16
4	MELBOURN, Victoria	MSL, Gold Satr, AAL/NGPL,	18-27
5	NAPIER, NZ	MSL	17
6	SYDNEY, N.S.W.	MSL, Gold Star, NGPL,	14-31
7	TIMARU, NZ	MSL	18
8	WELLINGTON, NZ	Tasman Orient Line	21-27
9	LYTTELTON, NZ	MSL	18
10	NELSON, NZ	MSL	19
11	WHANGAREY, NZ	Tasman Orient Line	15-20
12	BURNIE, Tasmania	MSL	28
13	HOBART, Australia	AAL	22-30
14	PORT CHARMERS, NZ	MSL	16
15	PORT KEMBLA, Australia	AAL	25-34
16	PORT PIRIE, S. Australia	AAL	18-26
17	TAURANGA, NZ	MSL, Tasman Orient Line	16-24
18	AUCKLAND, NZ	Tasman Orient Line	14-21
19	NEW CASTLE, N.S.W.	AAL, NGPL	2-20

Direct Sailing Destination Ports (Jakarta/Black Sea)

1	ARNAPORT, Turkey	CMA-CGM/ANL	24-28
2	GEMLIK, Turkey	CMA-CGM/ANL, Norasia	23-28
3	ISTANBUL, Turkey	CMA-CGM/ANL, Norasia	23-27
4	IZMIR, Turkey	CMA-CGM/ANL, Norasia	26-31
5	MERSIN, Turkey	CMA-CGM/ANL, Norasia	22-29
6	TRABZON, Turkey	CMA-CGM/ANL	29-33
7	GEBEZ, Istanbul	CMA-CGM/ANL	24-28
8	POTI, Georgia	CMA-CGM/ANL	52-56
9	ODESSA, Ukraine	CMA-CGM/ANL, Norasia	27-31

Direct Sailing Destination Ports (Jakarta/Arabian Gulf, Middle East)

1	ABU DHABI, UAR	MSL, CMA-CGM/ANL	16-29
2	ADEN, Yemen	MSL, Thorensen	18-25
3	AQABA, Jordan	MSL, CMA-CGM/ANL, Thorensen	25-37
4	BAHRAIN, Arabian Gulf	MSL, CMA-CGM/ANL	18-30
5	BANDAR ABBAS, Iran	MSL, CMA-CGM/ANL/Gold Star,	19-33
6	BEILUT, Lebanon	CMA-CGM/ANL, Norasia	19-28
7	DAMMAN, Saudi Arabia	MSL, CMA-CGM/ANL/Gold Star, Thorensen,	16-31
8	DOHA, Qatar	MSL, CMA-CGM/ANL	16-32
9	FUJAIRAH, UAE	CMA-CGM/ANL	26-30
10	JEBEL ALI, UAE	MSL, CMA-CGM/ANL/Gold Star	17-20
11	JEDDAH, Saudi Arabia	MSL, CMA-CGM/ANL, Thorensen	14-28
12	KHOR FAKKAN, UAE	CMA-CGM/ANL/Gold Star	18-22

13	KUWAIT, Arabian Gulf	CMA-CGM/ANL/Gold Star, Thorensen	23-33
14	LATTAKIA, Syria	CMA-CGM/ANL, Norasia	21-29
15	PORT QABOOS, Oman	CMA-CGM/ANL	25-29
16	RYADH, Saudi Arabia	MSL, CMA-CGM/ANL,	19-34
17	SHARJAH, UAE	MSL, CMA-CGM/ANL, Thorensen	15-26
18	SHUAIBAH, Kuwait	MSL	17
19	SHWAIKH, Kuwait	MSL	18
20	UMM QASR, Iraq	CMA-CGM/ANL	26-30
21	DUBAI, UAE	Gold Star, Thorensen	14-19
22	HODEIDAH, Yemen	MSL, CMA-CGM/ANL, Thorensen	18-25
23	MUSCAT, Oman	MSL, Gold Star	17-22
24	TARTOUS, Syria	CMA-CGM/ANL	20-26

Direct Sailing Destination Ports (Indian Sub-continent & Indian Ocean)

1	MUMBAI, India	Gold Star	14-18
2	CALCUTTA, India	MSL	15
3	COCHIN, India	MSL	15
4	COLOMBO, Sri Lanka	MSL, Gold Star, CMA-CGM/ANL/ Contship/Marfret, Norasia, Oldendorff	4-12
5	CHITTAGONG, Bangladesh	MSL, Gold Star	9-14
6	FORT de France, Martinique	MSL	33
7	NHAVA SHEVA, India	CMA-CGM/ANL/Gold Star, Oldendorff	11-17
8	NOUAKCHOTT, Mauritania	MSL	27
9	PORT LOUIS, Mouritius Is	MSL	40
10	REUNION, Mouritius Is.	MSL, Gold Star	13-20
11	TUTICORIN, India	MSL	13
12	KARACHI, Pakistan	Gold Star	22-26
13	CHENNAI, India	MSL	9
14	MADRAS, India	Gold Star	10-14
15	HALDIA, India	MSL	14
16	PORT QASIM, Pakistan	MSL	24
17	TOAMASINA, Madagascar	MSL	15

Direct Sailing Destination Ports (Jakarta/North America)

1	HALIFAX, East Canada	MSL, Oldendolf	26-36
2	MONTRAL, East Canada	MSL	34
3	NEW YORK, East US	CMA-CGM/ANL, Oldendorf	34-39
4	NEW ARK, East US	MSL	29
5	NORFOLK, East US	MSL, CMA-CGM/ANL	30-41
6	PORTLAND, US-PNW	MSL	30
7	SAVANNAH, East US	MSL, CMA-CGM/ANL, Oldendorf	38-42
8	TACOMA, US-PNW	MSL	26
9	TORONTO, East Canada	MSL	34
10	PHILADELPHIA, East US	MSL	38
11	SEATTLE, US-PNW	MSL	27
12	CHARLESTON, East US	MSL	41
13	LONG BEACH, West US	MSL	21
14	OAKLAND, West US	MSL	29
15	HOUSTON, US Gulf	MSL, Oldendorf	30-50
16	HONOLULU, US Pacific	MSL	35
17	VANCOUVER, West Canada	MSL	27
18	NEW ORLEANS, US Gulf	Oldendorf	48
19	JACKSONVILLE, US Gulf	MSL	43

Direct Sailing Destination Ports (Jakarta/Central & South America, Caribbean)

1	ARICA, Chile	MSL	24-28
2	BALBOA, Panama	MSL	35
3	BARRANQUILLA, Colombia	MSL	39
4	BUENAVENTURA, Colombia	MSL	43
5	BUENOS AIRES, Argentina	MSL	35
6	CALLAO, Peru	MSL	44
7	CARTAGENA, Colombia	MSL	45
8	COLON, Panama	MSL	29
9	ENSENADA, Mexico	MSL	39
10	GUATEMALA, Guatemala	MSL,	26-36
11	GUAYAQUIL, Ecuador	MSL	45
12	ITAJAI, Brazil	MSL	36
13	LA GUAIRA, Venezuela	MSL	41
14	Managua, Nicaragua	MSL	38
15	MANZANILLO, Mexico	MSL	35
16	MARACAIBO, Venezuela	MSL	41
17	MONTEVIDEO, Uruguay	MSL	37
18	PARANAGUA, Brazil	MSL	35
19	PORT OF SPAIN, T. Tobago	MSL	48
20	PUERTO CABELLO, Venezuela	MSL	42
21	PURTO CORTES, Honduras	MSL	46
22	PUERTO LIMON, Costa Rica	MSL	37
23	PUERTO QUETZAL, Guatemala	MSL	32
24	RIO DE JANEIRO, Brazil	MSL	31
25	RIO GRANDE, Brazil	MSL	38
26	RIO HAINA, Dominica	MSL	45
27	SAN ANTONIO, Chile	MSL	49
28	SAN SALVADOR, El Salvador	MSL	34
29	SANTOS, Brazil	MSL	32
30	TAMPICO, Mexico	Oldendorf	54
31	TEGUCIGALPA, Honduras	MSL	46
32	VALPARAISO, Chile	MSL	52
33	WILLEMSTAD, Curacao	MSL	45
34	IQUIQUE, Chile	MSL	46
35	PAITA, Peru	MSL	57

Direct Sailing Destination Ports (Jakarta/Near-by Ports in the Region)

1	BANGKOK, Thailand	MSL, TSK, Wan Hai,	7-18
2	CAGAYAN DE ORO, Philippines	MSL	18
3	CEBU, Philippines	MSL, TSK	12-22
4	DAVAO, Philippines	MSL	20
5	GENERAL SANTOS, Philippines	MSL	19
6	HAIPHONG, Vietnam	MSL, TSK, Wan Hai,	12-15
7	HO CHI MINH CITY, Vietnam	Gold Star, Wan Hai, MSL	5-18
8	PASIR GUDANG, Malaysia	Gold Star, MISC/Dongnam/TSK, Joo Tat/Hub	2-11
9	PENANG, Malaysia	Gold Star, TSK, Thorensen,	5-10
10	SIHANOUKVILLE, Cambodia	MSL	9
11	SONGKHlA, Thailand	MSL	10
12	YANGONG, Myanmar	Gold Star	6-12
13	KUANTAN, Malaysia	MSL	8
14	MANILA, Philippines	MSL, HANJIN/Dongnam, Uniglory, Wan Hai, CNC/Gold Star, TSK, MISC/TSK,	5-16

Direct Sailing Destination Ports (Jakarta/Taiwan & Other South Pacific)

1	GUAM, Mariana Island	MSL	43
2	KAOHSIUNG, Taiwan	MSL, Uniglory, Wan Hai, Yang Ming/CNC/TAL,MISC/TSK,	3-11
3	KEELUNG, Taiwan	KMTC/Hyundai, TSK/KMTC/NYK, Wan Hai,	6-12
4	LAE, Papua New Guinea	NGPL, AAL	10-14
5	RABAUL, Papua New Guinea	NGPL	15
6	WEWAK, Papua New Guinea	NGPL	18
7	PORT MORESBY, PNG	NGPL, AAL	7-10

Five Important Ports Closely Connected to Jakarta

1	PORT KLANG, West Malaysia	MISC/China Shipping, /Hub Line/RCL, PMS/China S./Hub/QC CMA-CGM/ANL/China S./gold Star, TSK, PMS/Hub Line Thorensen,	2-4
2	SINGAPORE, Singapore	RCL/Hyundai, ACL/Joo Tat/Lykes/MISC/MSC/Nile Dutch/ ORAM/PEL/P&0-N/Safnarine/Samdera Ind/Senator/Sinotrans /TMM/WanHai/Yang Ming, RCL, Samudera Ind/ACL/Evergreen/COSCO/Hyundai/Kien Hung/MSL/MISC/MOL/MSC/NYK/OOCL/PEL/P&O-N/Saf./ Seth/Sinotrans, TSK/KMTC/NYK, Uniglory, RCL/CMA-CGM/ ANL, Dongnama/Hanjin/Heug-A, PIL/ACL/MISC, MSC, OOCL, NGPL, MISC/Dongnama/TSK, OOCL/ACL/PIL/RCL/ Samudera Ind, Thorensen, Lykes/Marfret, Joo Tat/Hub Line, Samudera Ind,	2-5
3	TANJUNG PELEPAS, Malaysia	MSL	2
4	LAEM CHABANG, Thailand	MSL, Gold Star, Wan Hai, TSK, MSC,	5-18
5	HONG KONG, China	KMTC/Hyundai/MSC/TSK, Heug-A, Uniglory, TSK/KMTC/NYK, Wan Hai, Yang Ming/CNC/TSL, Hyundai/CMA-CGM/ANL/KMTC/TMM, CNC, Dongnama/Heug-A, MSL, COSCO	4-11

Direct Sailings to Singapore from Indonesian Ports other than Jakarta

	From Port (Island) to Singapore	Shipping Lines	Frequency (Days)
1	Tanjung Perak (Surabaya-East Java)	Dongnama/Hanjin/Heug-A, Thorensen Samudera Ind/OOCL/P&O-N/Safmarine/Sinotrans, Uniglory, RCL, ACL/PIL/P&O-N, RCL/Hyundai, PIL/CMA-CGM/ANL,	3-4 daily services (2-3 days maximum: 11 days
2	Medan (North Sumatra)	Smudela Ind, PIL/ACL, Dongnama/Heung-A, P&O-N,	4 Weekly (1-5 days)
3	Panjang (South Sumatra)	P&O-N, Samudera Ind, RCL/ACL/Evergreen/Kien Hang/P&o-N /PIL/Samudera Ind/Uniglory Samudera Ind/P&O-N	4 Weekly (2-4 days)
4	Pontianak (West Kalimantan)	Samudera Ind	1 Weekly (2 days)
5	Sampit (South Kalimantan)	Merarus	Evwey 10 (3 days 9
6	Semaran (Central Java)	RCL/ACL/Evergreen/PIL/Uniglory, Samudera Ind/Kien Hung/Uniglory, RCL, Samudera Ind, Samudera Ind/Kien Hung/Uniglory PIL/ACL/CMA-CGM/ANL,	6 Weekly (3-4 days)

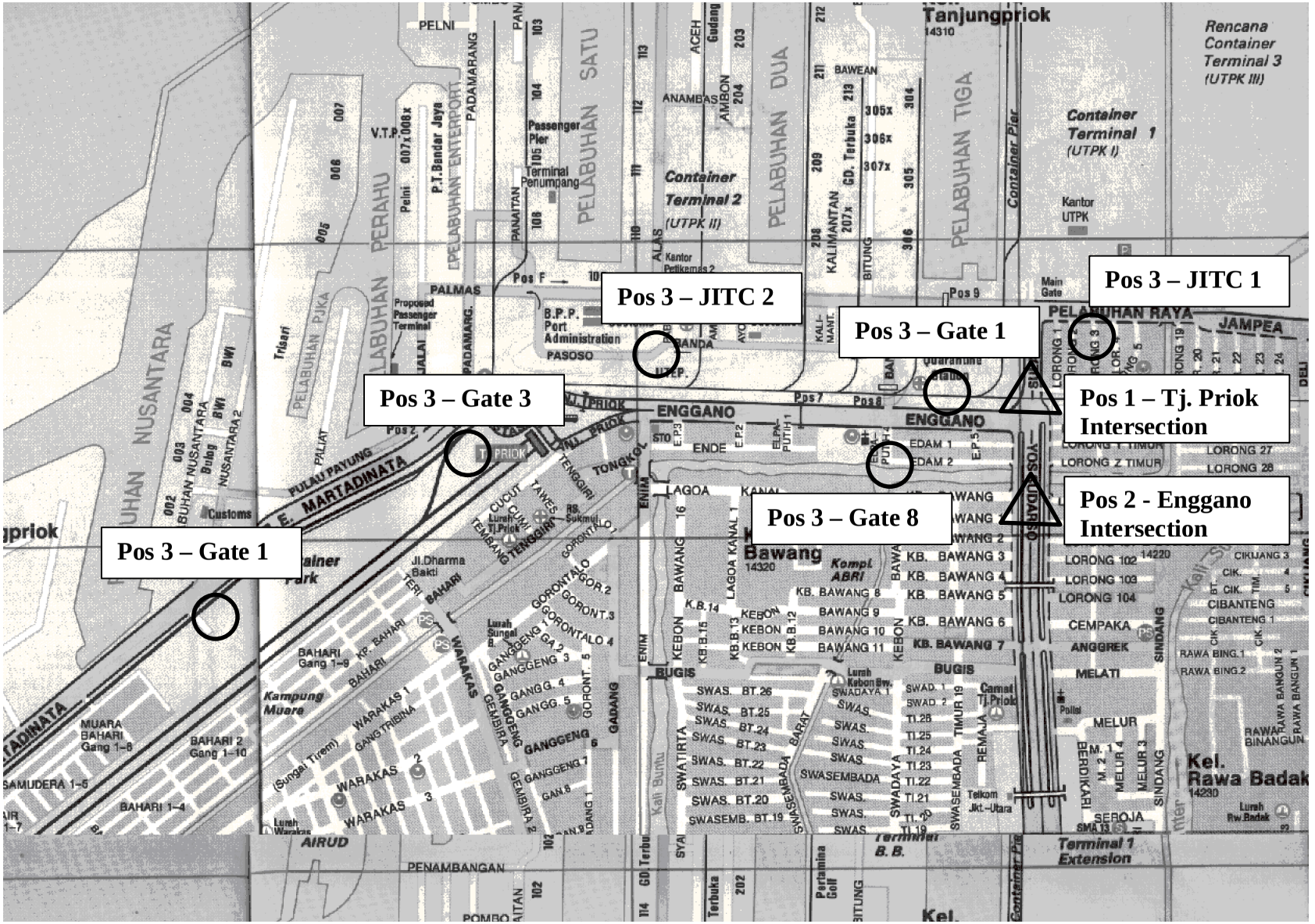
Source: Indonesia Shipping Gazette, June 2002

Appendix B

APPENDIX-B: RESULT OF VEHICLE COUNTING SURVEY

The directional classified 10 types of vehicle counting survey were carried out on Sunday, Monday and Tuesday of July 14 to 16 2002 at 8 locations around the gates of Tanjung Priok port.

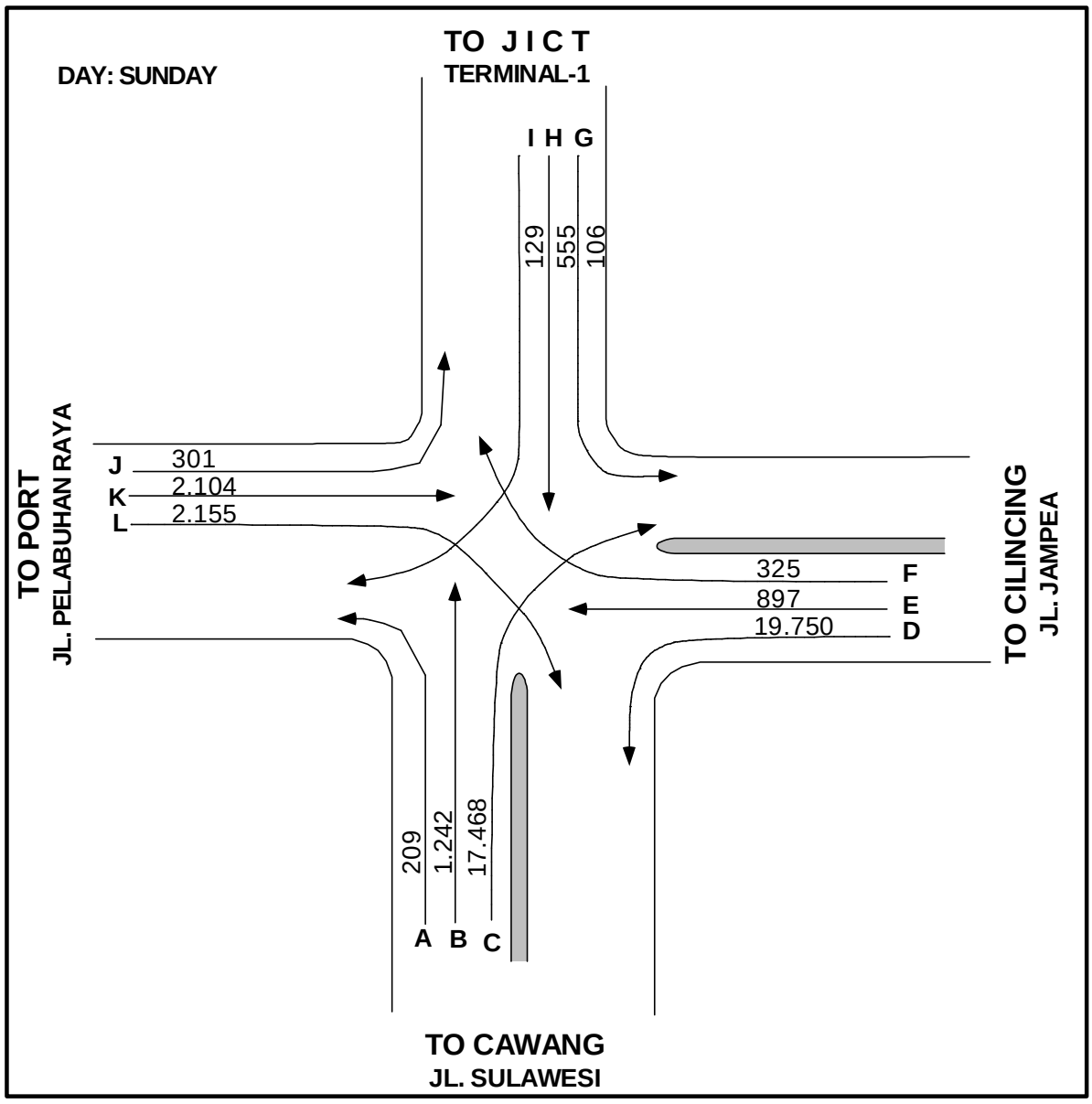
LOCATION MAP TANJUNG PRIOK



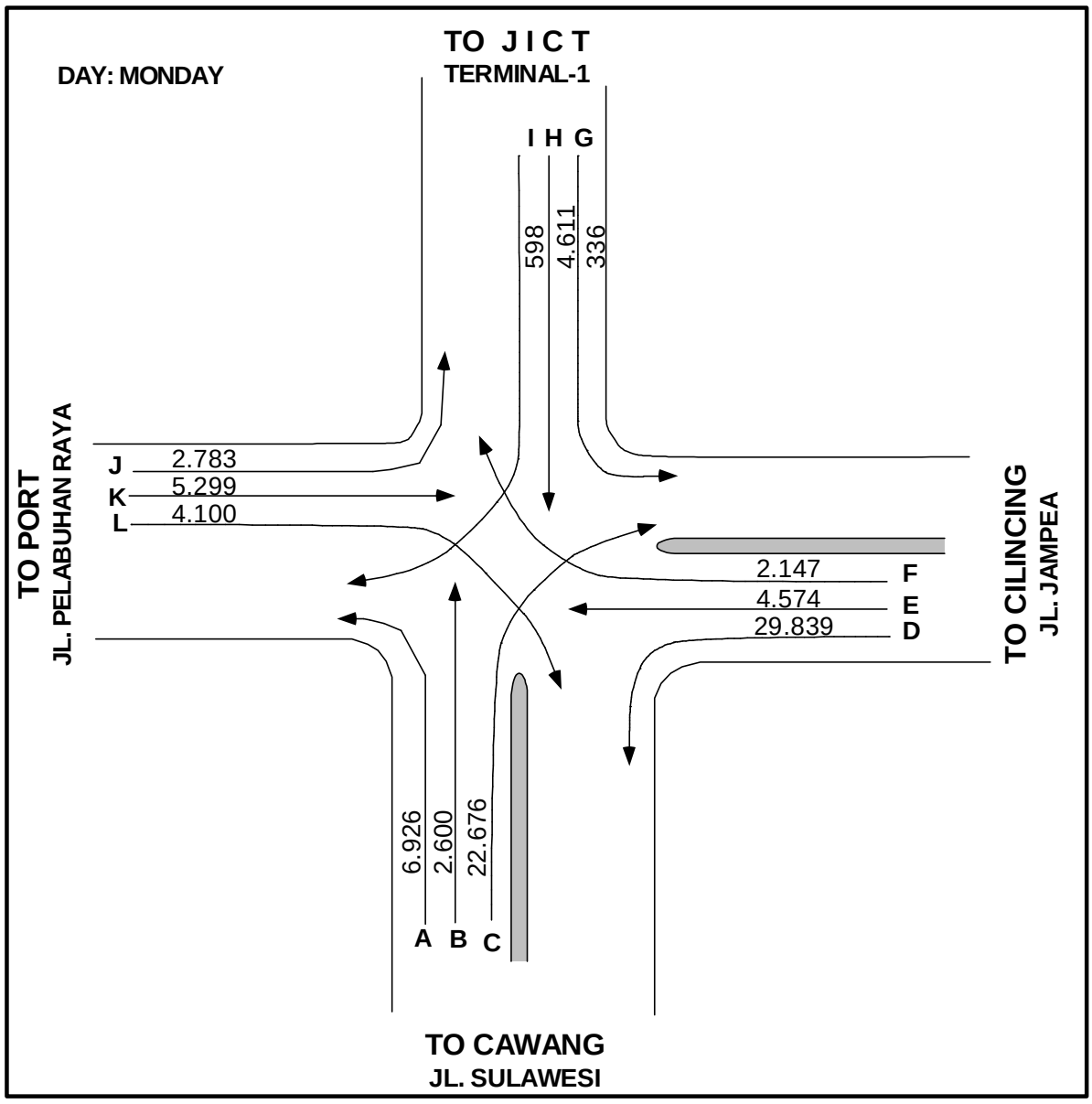
SUMMARY TRAFFIC COUNT SURVEY

No.	Location Name	Day	Direction of Traffic			Type of Vehicle										Total	
			Code	From	To	Private Passenger				Truck			Public Passenger			Without Motor Cycle	With Motor Cycle
						Mtr. Cycle	Sedan	Van	Taxi	Pick Up	Med. Truck	Large Truck	Non Bis	Med. Bis	Large Bis		
						1	2	3	4	5	6	7	8	9	10	2 - 10	1 - 10
1	TANJUNG PRIOK / KOJA INTERSECTION	Sunday	A	Jl. Sulawesi	Jl. Pelabuhan Raya	56	345	102	78	56	60	532	2	1	10	1,186	1,242
			B	Jl. Sulawesi	JITC Terminal	108	31	7	6	8	3	42	0	2	2	101	209
			C	Jl. Sulawesi	Jl. Jampea/Cilincing	5,990	3,387	1,138	1,375	531	492	515	3,190	874	105	11,515	17,468
			D	Jl. Jampea/Cilincing	Jl. Sulawesi	6,854	3,787	1,086	2,465	760	541	567	2,983	782	103	12,943	19,750
			E	Jl. Jampea/Cilincing	Jl. Pelabuhan Raya	33	184	58	18	48	71	493	2	1	3	864	897
			F	Jl. Jampea/Cilincing	JITC Terminal	109	15	6	2	6	2	187	0	1	0	217	325
			G	JITC Terminal	Jl. Jampea/Cilincing	64	9	7	1	1	3	19	0	1	1	42	106
			H	JITC Terminal	Jl. Sulawesi	390	75	13	8	9	2	50	0	6	2	165	555
			I	JITC Terminal	Jl. Pelabuhan Raya	4	15	6	0	11	5	79	2	6	1	125	129
			J	Jl. Pelabuhan Raya	JITC Terminal	81	18	5	1	8	7	64	0	6	1	110	301
			K	Jl. Pelabuhan Raya	Jl. Jampea/Cilincing	700	119	45	11	50	60	416	0	0	1	702	2,104
			L	Jl. Pelabuhan Raya	Jl. Sulawesi	325	210	32	54	40	45	534	0	0	0	915	2,155
				Both Direction		**14,714**	**8,195**	**2,505**	**4,019**	**1,528**	**1,291**	**3,498**	**6,179**	**1,680**	**229**	**28,885**	**45,241**
1	TANJUNG PRIOK / KOJA INTERSECTION	Monday	A	Jl. Sulawesi	Jl. Pelabuhan Raya	287	2,772	421	706	340	406	1,857	82	30	25	6,639	6,926
			B	Jl. Sulawesi	JITC Terminal	1,484	501	45	47	35	13	469	2	3	1	1,116	2,600
			C	Jl. Sulawesi	Jl. Jampea/Cilincing	7,521	4,275	1,129	990	759	1,299	2,636	3,221	733	113	15,155	22,676
			D	Jl. Jampea/Cilincing	Jl. Sulawesi	13,793	4,306	1,242	1,544	919	1,212	2,349	3,601	767	106	16,046	29,839
			E	Jl. Jampea/Cilincing	Jl. Pelabuhan Raya	152	1,034	324	107	237	238	2,450	18	2	12	4,422	4,574
			F	Jl. Jampea/Cilincing	JITC Terminal	737	140	16	3	14	0	1,229	4	4	0	1,410	2,147
			G	JITC Terminal	Jl. Jampea/Cilincing	167	71	7	6	6	7	95	0	3	4	199	366
			H	JITC Terminal	Jl. Sulawesi	3,008	678	43	72	50	15	727	5	6	7	1,603	4,611
			I	JITC Terminal	Jl. Pelabuhan Raya	21	208	26	5	30	2	289	2	15	0	577	598
			J	Jl. Pelabuhan Raya	JITC Terminal	1,692	266	30	6	42	10	727	0	10	0	1,091	2,783
			K	Jl. Pelabuhan Raya	Jl. Jampea/Cilincing	2,114	679	188	72	131	233	1,865	8	5	4	3,185	5,299
			L	Jl. Pelabuhan Raya	Jl. Sulawesi	1,172	1,037	245	330	107	158	977	41	16	17	2,928	4,100
				Both Direction		**32,148**	**15,967**	**3,716**	**3,888**	**2,670**	**3,593**	**15,670**	**6,984**	**1,594**	**289**	**54,371**	**86,519**
1	TANJUNG PRIOK / KOJA INTERSECTION	Tuesday	A	Jl. Sulawesi	Jl. Pelabuhan Raya	240	1,990	280	264	280	472	1,887	17	13	5	5,208	5,448
			B	Jl. Sulawesi	JITC Terminal	1,310	437	35	57	30	7	374	0	0	4	944	2,254
			C	Jl. Sulawesi	Jl. Jampea/Cilincing	8,601	5,267	1,345	1,415	1,016	1,594	3,216	3,315	767	119	18,054	26,655
			D	Jl. Jampea/Cilincing	Jl. Sulawesi	13,613	3,892	1,442	1,440	813	1,628	2,280	3,553	676	127	15,851	29,464
			E	Jl. Jampea/Cilincing	Jl. Pelabuhan Raya	158	1,116	305	60	306	232	2,917	12	6	10	4,964	5,122
			F	Jl. Jampea/Cilincing	JITC Terminal	707	119	17	3	18	10	1,109	1	0	0	1,277	1,984
			G	JITC Terminal	Jl. Jampea/Cilincing	146	80	5	3	3	6	85	0	1	0	183	329
			H	JITC Terminal	Jl. Sulawesi	3,269	716	49	80	35	40	930	7	7	3	1,867	5,136
			I	JITC Terminal	Jl. Pelabuhan Raya	26	216	25	3	20	9	290	3	8	1	575	601
			J	Jl. Pelabuhan Raya	JITC Terminal	1,590	256	22	1	36	15	1,100	1	5	2	1,438	3,028
			K	Jl. Pelabuhan Raya	Jl. Jampea/Cilincing	2,429	760	225	49	155	292	2,039	3	5	3	3,531	5,960
			L	Jl. Pelabuhan Raya	Jl. Sulawesi	668	772	120	125	142	170	1,063	2	9	11	2,414	3,082
				Both Direction		**32,757**	**15,621**	**3,870**	**3,500**	**2,854**	**4,475**	**17,290**	**6,914**	**1,497**	**285**	**56,306**	**89,063**
2	ENGGANO INTERSECTION	Sunday	A	Jl. Laks. Yos Sudarso	Jl. Enggano	2,184	939	257	963	196	57	120	975	714	1,189	5,410	7,594
			B	Jl. Laks. Yos Sudarso	Jl. Sulawesi	2,032	2,673	828	995	406	384	1,039	99	99	107	6,630	8,662
			C	Jl. Sulawesi	Jl. Laks. Yos Sudarso	3,698	2,379	693	1,114	407	307	902	98	69	108	6,077	9,775
			D	Jl. Sulawesi	Jl. Enggano	5,353	1,327	681	945	332	198	102	3,004	841	44	7,474	12,827
			E	Jl. Enggano	Jl. Sulawesi	2,500	657	261	502	235	109	104	2,008	846	19	4,741	7,241
			F	Jl. Enggano	Jl. Laks. Yos Sudarso	2,415	1,128	317	1,022	221	117	298	874	738	1,220	5,935	8,350
				Both Direction		**18,182**	**9,103**	**3,037**	**5,541**	**1,797**	**1,172**	**2,565**	**7,058**	**3,307**	**2,687**	**36,267**	**54,449**
2	ENGGANO INTERSECTION	Monday	A	Jl. Laks. Yos Sudarso	Jl. Enggano	5,114	1,817	391	1,053	354	248	158	1,181	789	1,343	7,334	12,448
			B	Jl. Laks. Yos Sudarso	Jl. Sulawesi	3,645	5,223	1,160	1,217	683	1,242	3,891	112	59	47	13,634	17,279
			C	Jl. Sulawesi	Jl. Laks. Yos Sudarso	3,370	3,887	829	1,297	557	875	3,371	81	56	42	10,995	14,365
			D	Jl. Sulawesi	Jl. Enggano	7,853	1,388	653	603	412	398	376	2,527	597	66	7,020	14,873
			E	Jl. Enggano	Jl. Sulawesi	3,950	1,140	558	506	357	340	517	2,331	809	41	6,599	10,549
			F	Jl. Enggano	Jl. Laks. Yos Sudarso	5,881	2,636	399	1,341	466	463	989	1,147	675	1,314	9,430	15,311
				Both Direction		**29,813**	**16,091**	**3,990**	**6,017**	**2,829**	**3,566**	**9,302**	**7,379**	**2,985**	**2,853**	**55,012**	**84,825**
2	ENGGANO INTERSECTION	Tuesday	A	Jl. Laks. Yos Sudarso	Jl. Enggano	3,928	1,576	343	1,006	327	206	180	949	571	1,190	6,348	10,276
			B	Jl. Laks. Yos Sudarso	Jl. Sulawesi	3,791	8,435	1,081	1,103	785	1,437	4,643	80	83	69	17,716	21,507
			C	Jl. Sulawesi	Jl. Laks. Yos Sudarso	3,015	3,309	706	908	505	825	4,195	140	60	71	10,719	13,734
			D	Jl. Sulawesi	Jl. Enggano	9,865	1,638	725	662	709	443	480	2,892	640	58	8,247	18,112
			E	Jl. Enggano	Jl. Sulawesi	3,525	1,560	507	724	517	421	568	2,392	957	108	7,754	11,279
			F	Jl. Enggano	Jl. Laks. Yos Sudarso	5,147	1,930	370	1,014	399	359	869	995	620	1,328	7,884	13,031
				Both Direction		**29,271**	**18,448**	**3,732**	**5,417**	**3,242**	**3,691**	**10,935**	**7,448**	**2,931**	**2,824**	**58,668**	**87,939**

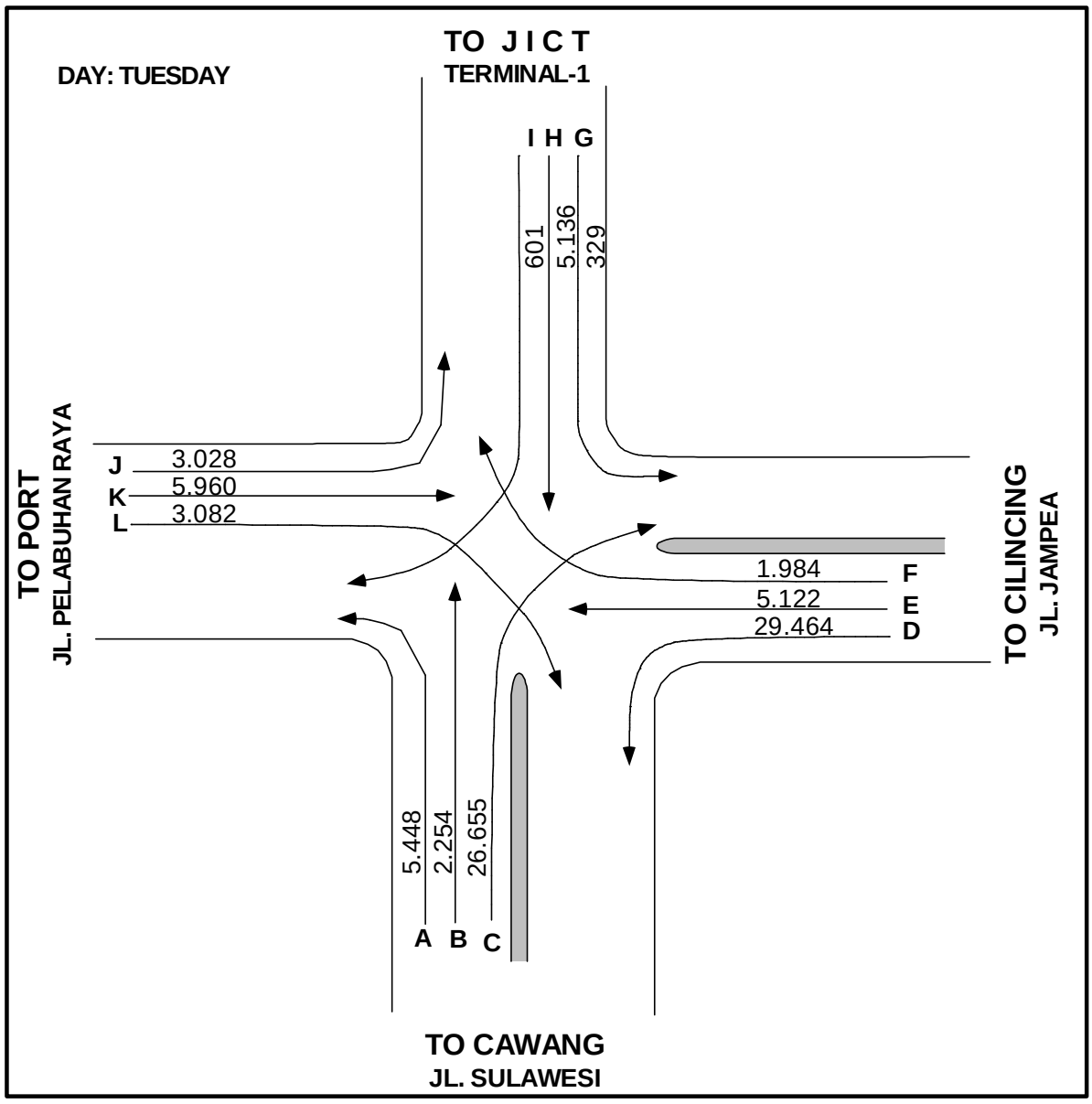
No.	Location Name	Day	Direction of Traffic			Type of Vehicle										Total	
			Code	From	To	Private Passenger				Truck			Public Passenger			Without	With
						Mtr. Cycle	Sedan	Van	Small Bus	Bus	Pick Up	Truck 2 Axle	Truck 3 Axle	Trck Gandeng	Trailer Truck	Motor Cycle	Motor Cycle
						1	2	3	4	5	6	7	8	9	10	2 - 10	1 - 10
3	PORT TANJUNG PRIOK GATE - I	Tuesday	IN	Out Port	In Port	4,689	1,551	998	24	20	214	502	222	13	759	4,303	8,992
			OUT	In Port	Out Port	4,263	1,324	886	8	23	190	221	224	18	659	3,553	7,816
				Both Direction		**8,952**	**2,875**	**1,884**	**32**	**43**	**404**	**723**	**446**	**31**	**1,418**	**7,856**	**16,808**
3	PORT TANJUNG PRIOK GATE - I	Wednesday	IN	Out Port	In Port	5,617	1,533	1,098	9	25	333	409	347	4	861	4,619	10,236
			OUT	In Port	Out Port	5,203	1,262	988	16	19	299	474	561	1	509	4,129	9,332
				Both Direction		**10,820**	**2,795**	**2,086**	**25**	**44**	**632**	**883**	**908**	**5**	**1,370**	**8,748**	**19,568**
3	PORT TANJUNG PRIOK GATE - III	Tuesday	IN	Out Port	In Port	12,839	969	417	205	43	175	75	80	2	46	2,012	14,851
			OUT	In Port	Out Port	13,206	1,449	463	546	55	170	105	137	9	47	2,981	16,187
				Both Direction		**26,045**	**2,418**	**880**	**751**	**98**	**345**	**180**	**217**	**11**	**93**	**4,993**	**31,038**
3	PORT TANJUNG PRIOK GATE - III	Wednesday	IN	Out Port	In Port	10,662	807	280	6	7	166	124	69	1	42	1,502	12,164
			OUT	In Port	Out Port	9,802	1,408	385	16	13	170	138	64	1	44	2,239	12,041
				Both Direction		**20,464**	**2,215**	**665**	**22**	**20**	**336**	**262**	**133**	**2**	**86**	**3,741**	**24,205**
3	PORT TANJUNG PRIOK GATE - VIII	Tuesday	IN	Out Port	In Port	10,860	1	1	0	0	1	0	0	0	5	8	10,868
			OUT	In Port	Out Port	3,883	1,615	273	27	16	56	152	316	5	69	2,535	6,418
				Both Direction		**14,743**	**1,616**	**274**	**27**	**16**	**57**	**152**	**316**	**5**	**74**	**2,543**	**17,286**
3	PORT TANJUNG PRIOK GATE - VIII	Wednesday	IN	Out Port	In Port	10,404	3	0	0	0	1	0	0	0	11	15	10,419
			OUT	In Port	Out Port	3,774	1,624	221	1	14	279	294	409	9	367	3,218	6,992
				Both Direction		**14,178**	**1,627**	**221**	**1**	**14**	**280**	**294**	**409**	**9**	**378**	**3,233**	**17,411**
3	PORT TANJUNG PRIOK GATE - IX	Tuesday	IN	Out Port	In Port	5,233	4,946	858	115	58	576	623	526	6	4,030	11,738	16,971
			OUT	In Port	Out Port	2,051	2,463	471	55	26	383	395	904	4	3,264	7,965	10,016
				Both Direction		**7,284**	**7,409**	**1,329**	**170**	**84**	**959**	**1,018**	**1,430**	**10**	**7,294**	**19,703**	**26,987**
3	PORT TANJUNG PRIOK GATE - IX	Wednesday	IN	Out Port	In Port	1,188	4,730	744	13	50	694	1,083	994	24	3,777	12,109	13,297
			OUT	In Port	Out Port	4,701	2,012	354	17	31	368	507	590	43	3,272	7,194	11,895
				Both Direction		**5,889**	**6,742**	**1,098**	**30**	**81**	**1,062**	**1,590**	**1,584**	**67**	**7,049**	**19,303**	**25,192**
3	PORT TANJUNG PRIOK JICT- I	Tuesday	IN	Out Port	In Port	317	153	5	0	5	8	0	0	12	1,138	1,321	1,638
			OUT	In Port	Out Port	231	73	3	0	0	4	0	2	11	1,144	1,237	1,468
				Both Direction		**548**	**226**	**8**	**0**	**5**	**12**	**0**	**2**	**23**	**2,282**	**2,558**	**3,106**
3	PORT TANJUNG PRIOK JICT- I	Wednesday	IN	Out Port	In Port	377	210	26	0	24	6	0	0	17	2,263	2,546	2,923
			OUT	In Port	Out Port	210	53	12	0	0	0	0	0	11	2,082	2,158	2,368
				Both Direction		**587**	**263**	**38**	**0**	**24**	**6**	**0**	**0**	**28**	**4,345**	**4,704**	**5,291**
3	PORT TANJUNG PRIOK JICT - II	Tuesday	IN	Out Port	In Port	103	29	7	1	10	10	163	0	1	273	494	597
			OUT	In Port	Out Port	187	29	11	0	7	14	141	0	2	334	538	725
				Both Direction		**290**	**58**	**18**	**1**	**17**	**24**	**304**	**0**	**3**	**607**	**1,032**	**1,322**
3	PORT TANJUNG PRIOK JICT - II	Wednesday	IN	Out Port	In Port	139	30	11	0	3	21	6	1	0	427	499	638
			OUT	In Port	Out Port	148	43	20	0	8	26	5	1	0	484	587	735
				Both Direction		**287**	**73**	**31**	**0**	**11**	**47**	**11**	**2**	**0**	**911**	**1,086**	**1,373**



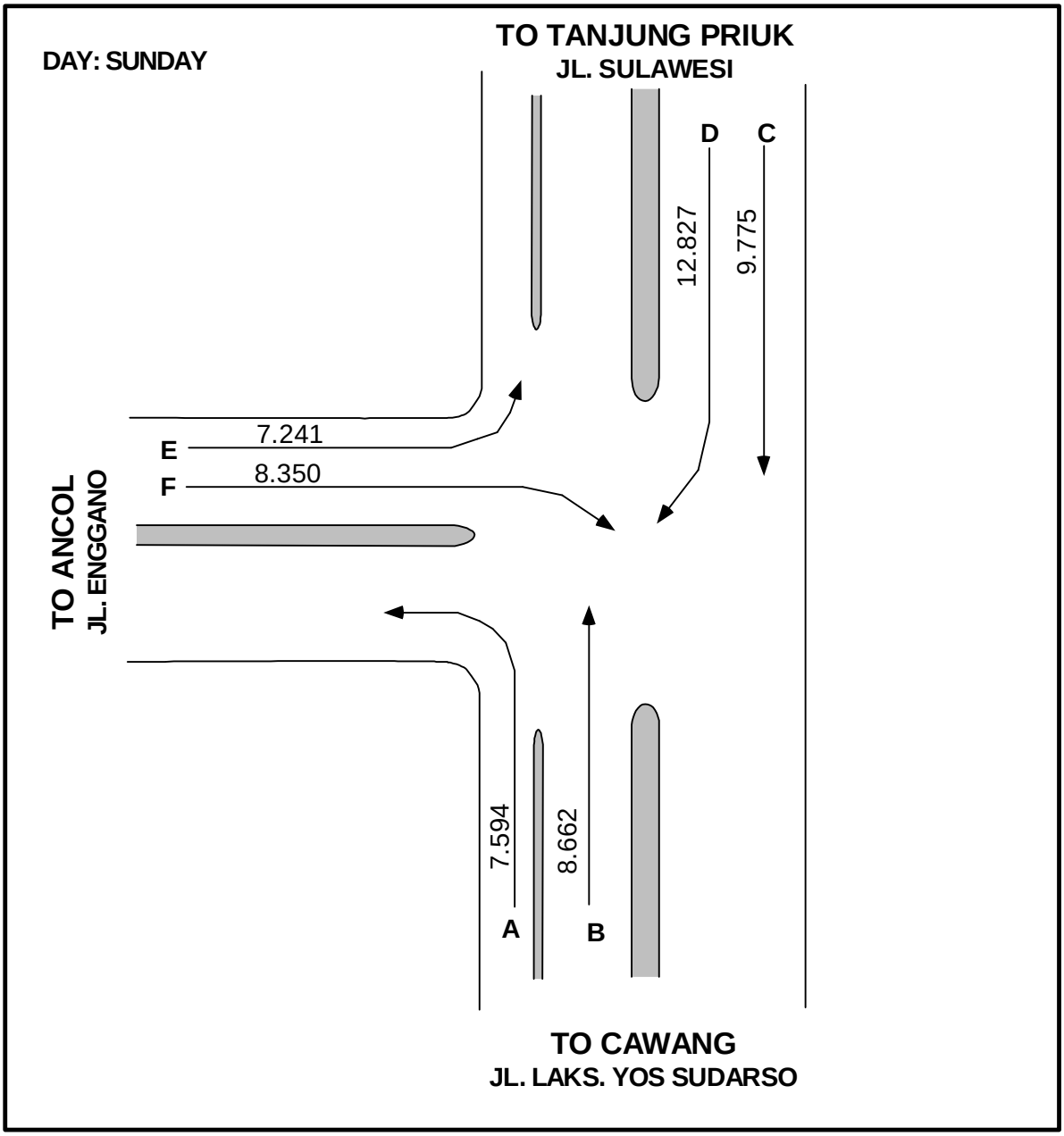
POS - 1 TANJUNG PRIOK INTERSECTION



POS - 1 TANJUNG PRIOK INTERSECTION



POS - 1 TANJUNG PRIOK INTERSECTION



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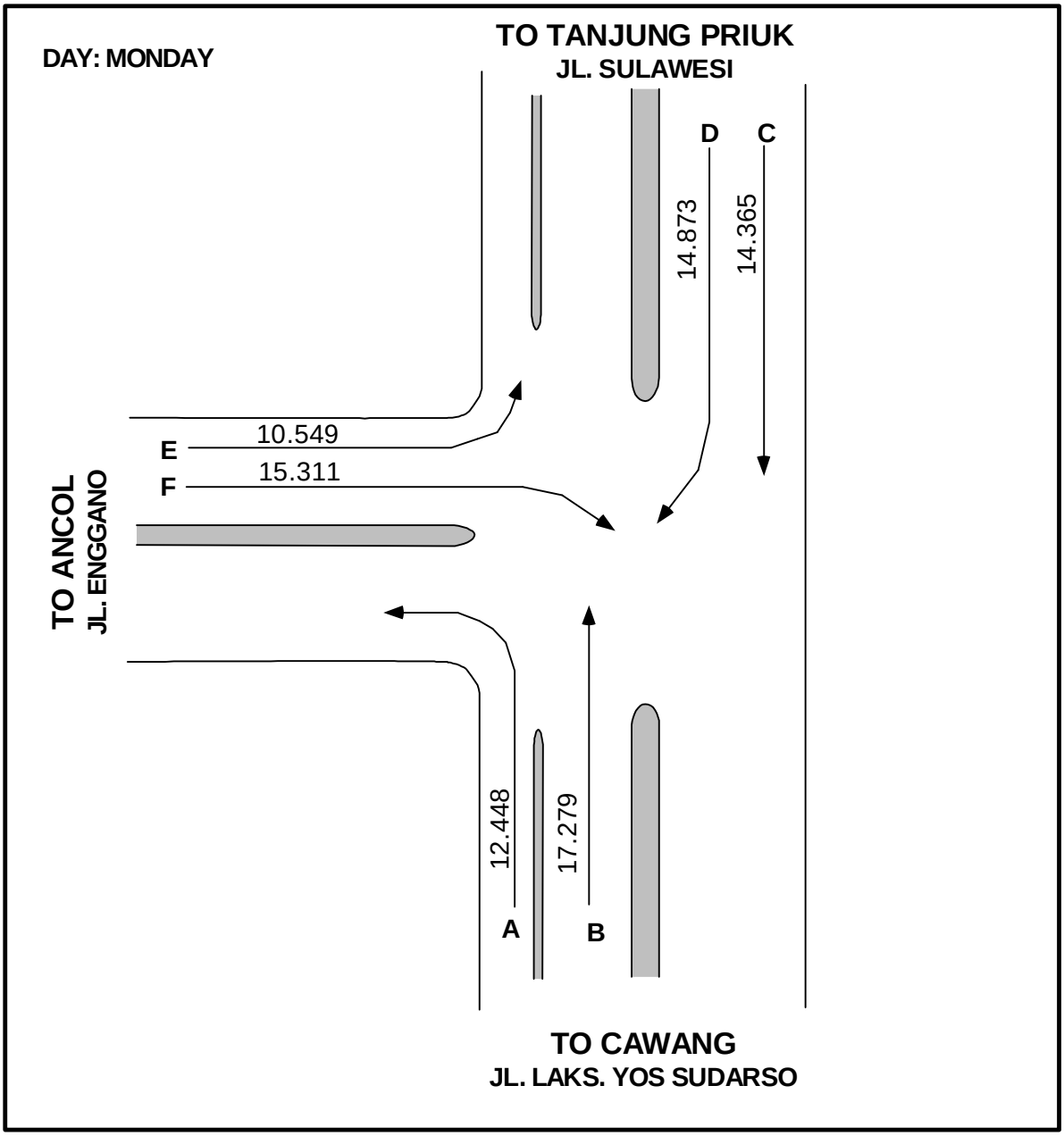
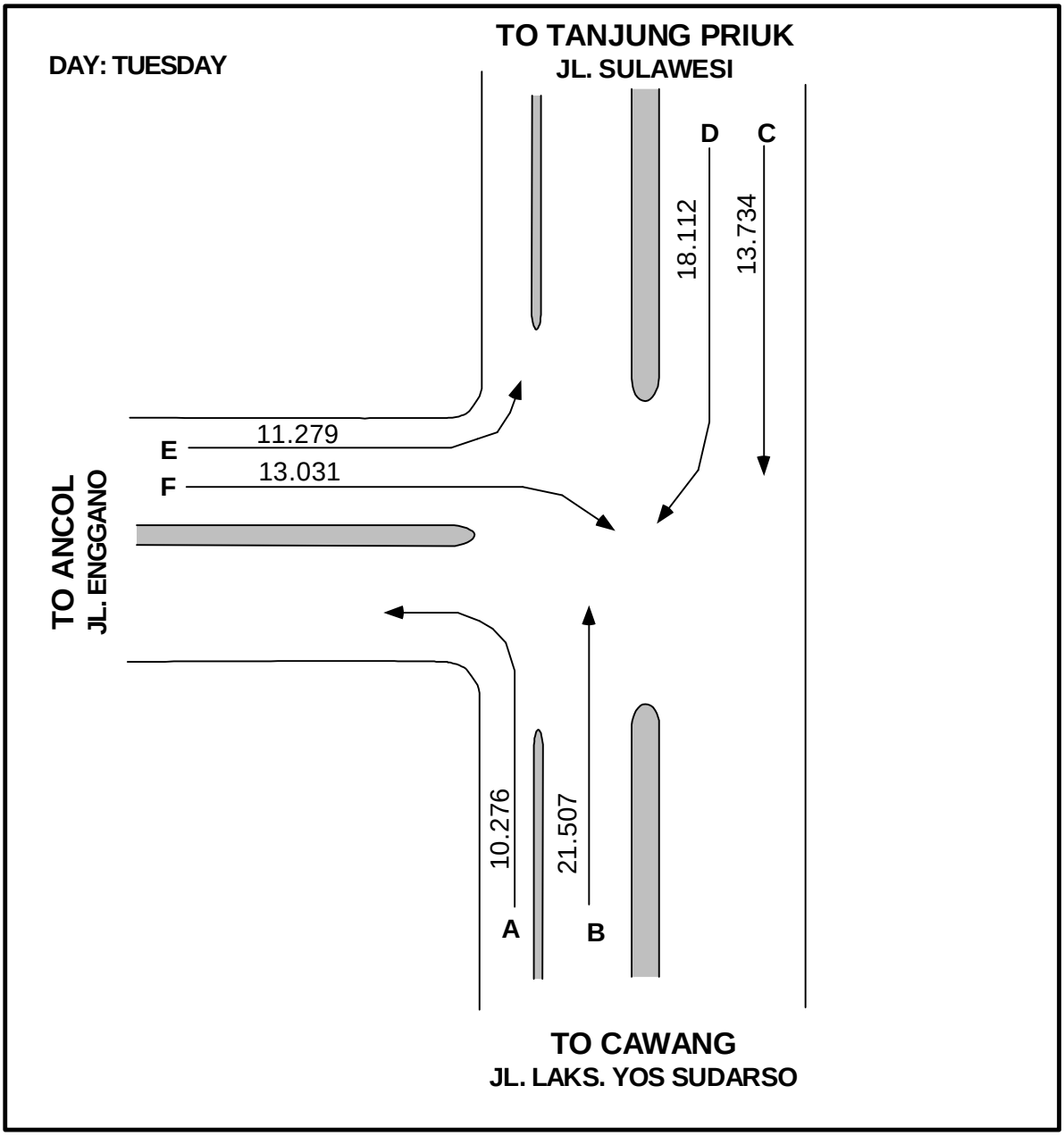


POS - 2 ENGGANO INTERSECTION



POS - 2 ENGGANO INTERSECTION