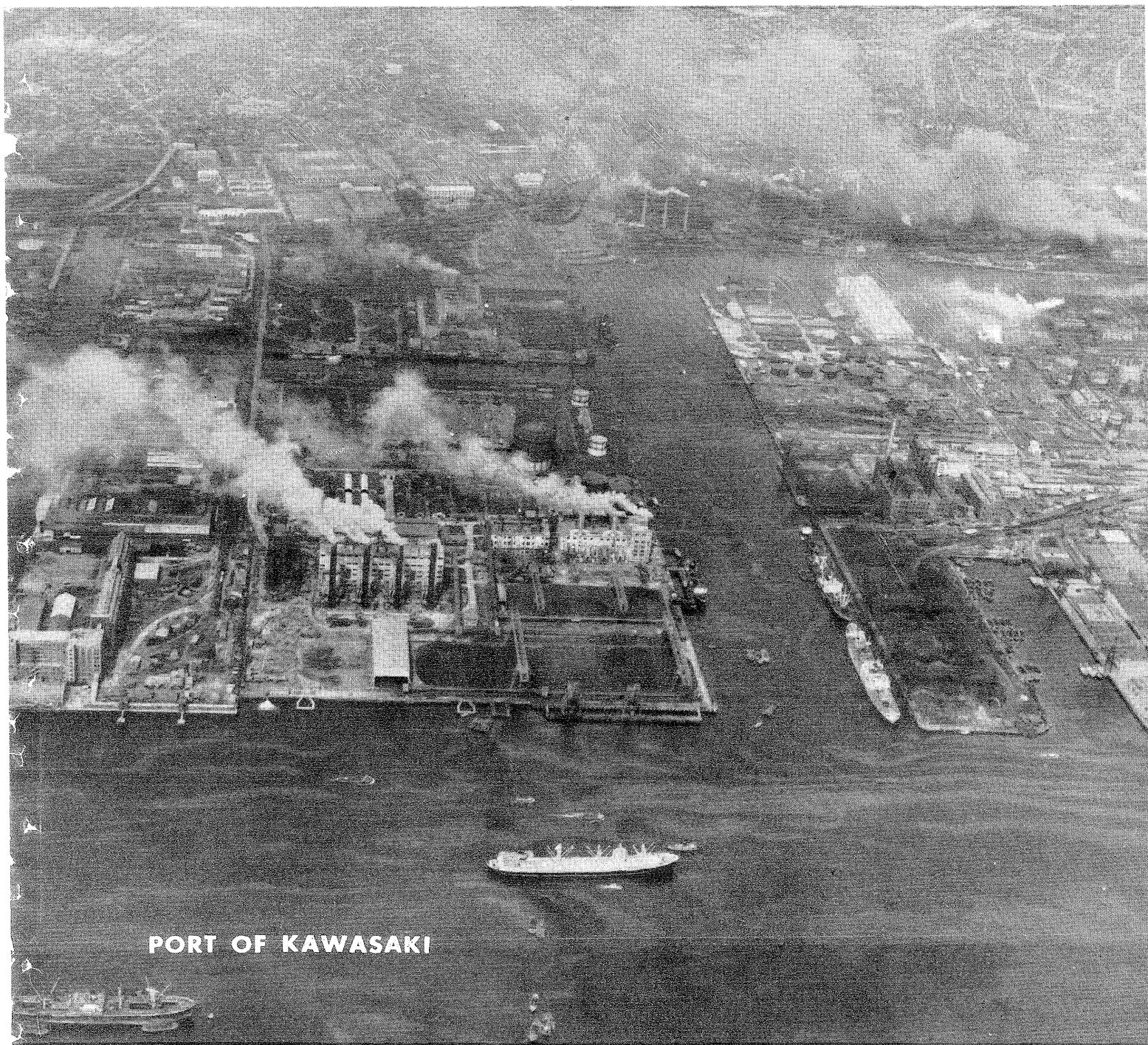


PORTS *and* HARBORS

DECEMBER 1961

Vol. 6 No. 4



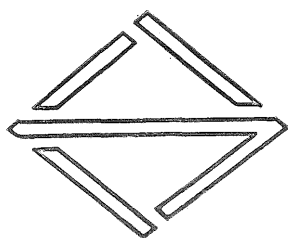
PORT OF KAWASAKI

THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

Introducing The Crests of Co-Member Ports

(Each Issue One Port)

THE PORT OF YOKOHAMA



The City and Port emblem of Yokohama, which is a design of Japanese letters meaning Yokohama, was established in 1909, when the Port celebrated its 50th Anniversary.



Aerial view of the Port of Yokohama, showing its recent improvements in facility.

THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

OBJECTS AND PURPOSES

(Per Article 3 of Constitution)

The objects and purposes of this Association shall be:

(a) To associate its members from all countries together in the common cause of mutual international friendship and understanding;

(b) To exchange information relative to port and harbor organization, administration, management, development, operation and promotion;

(c) To encourage, develop and promote waterborne commerce to and from all world ports and harbors; and

(d) To encourage the standardization and simplification of procedure governing imports and exports and the clearance of vessels in international trade:—
thereby promoting the peace in the world and the welfare of mankind.

UNDERTAKINGS

(Per Article 3 of Constitution)

This Association shall carry out the following undertakings in order to accomplish the objects and purposes specified in the foregoing Article:

(a) The holding of conferences of the International Association of Ports and Harbors as provided in the By-Laws;

(b) The publication of the minutes of Conferences, an official Association journal or other publication and other special publications concerning ports and harbors, as may be authorized by this Association;

(c) The establishment of relations with other international organizations, associations and agencies on matters of mutual international interest concerning ports and harbors;

(d) The establishment of a center or centers for the collection, tabulation and distribution of information concerning ports and harbors from throughout the world for the benefit of members of this Association and other interested persons;

(e) The dissemination to ports and harbors, and governmental agencies and private operators thereof, of the accomplishments of this Association as expressed in resolutions, bills, reports of committees, and the published proceedings thereof;

(f) The establishment of committees from among the membership of this Association for reference purposes of members engaging in the organization, administration, development, operation, utilization, management or promotion of ports, harbors and other waterfront facilities;

(g) The assumption of other undertakings necessary to effectuate and realize the objects and purposes of this Association.

PORTS and HARBORS

PORTS AND HARBORS is quarterly published by the Central Secretariat of the International Association of Ports and Harbors as an official journal of the Association, to provide its members with information concerning port and harbor development in the world.

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THE INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS

Acting President

Lt. Gen. Huang Jen-ling

Chairman, Board of Directors,
China Merchants Steam Navigation Co., Ltd.
Taipei, Taiwan, China

Chief of the Central Secretariat

Gaku Matsumoto

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Viet-Nam	Mr. Nguyen Van Chieu Director, Saigon Port	Mr. Nguyen Ngoc Du Director Port of Da-Nang

(Director and Alternate Director for Brazil are yet to be elected.)

From The Central Secretariat

By **Gaku Matsumoto**
Chief of the Central Secretariat
I. A. P. H.

Colombo Plan Port Seminar

As reported in the last issue, the one-month Seminar on Ports and Harbors under the Colombo Plan, which was organized by the Japanese Government with the Central Secretariat of IAPH and Asia Kyokai (Society for Economic Cooperation in Asia) as the coordinators, was officially opened on October 7 in Tokyo with an attendance of 22 from the Colombo Plan member countries, including Burma, Cambodia, Ceylon, India, Indonesia, Malaya, Pakistan, the Philippines, Sarawak, Singapore, and Thailand as well as South Korea. After finishing the lectures on key problems of ports for the first fortnight, the 22 participants left,

guided by Government officials concerned and members of the two coordinating organizations, on an inspection trip to Port of Moji, Yawata Iron Works, Port of Kobe, Mitsubishi Heavy Industries Co., Reorganized, Kobe Shipyard, Port of Osaka, Takeda Pharmaceutical Co. Factory, Kanegafuchi Cotton Spinning Mill, Matsushita Electronic Plant, Port of Nagoya, Mitsubishi Heavy Industries Co. Nagoya Automobile Plant, etc.

As the first of its kind to have ever been held in Asia, this Seminar was officially closed on November 3 with considerable significance, in that it served to offer to the participants a forum to exchange their views and experiences

and a very rare opportunity to promote their mutual understanding and friendship as well as their cooperation in efforts for settlement of their common port problems.

* * *

Formation of Ports and Harbors Seminar Club

Before the close of the Colombo Plan Port and Harbor Seminar, a proposition was made among the participants to jointly organize a club to promote their mutual friendship formed during the seminar and encourage the continuation of this kind of seminars for the future. This proposition being unanimously supported by all of the participants, a Ports and Har-

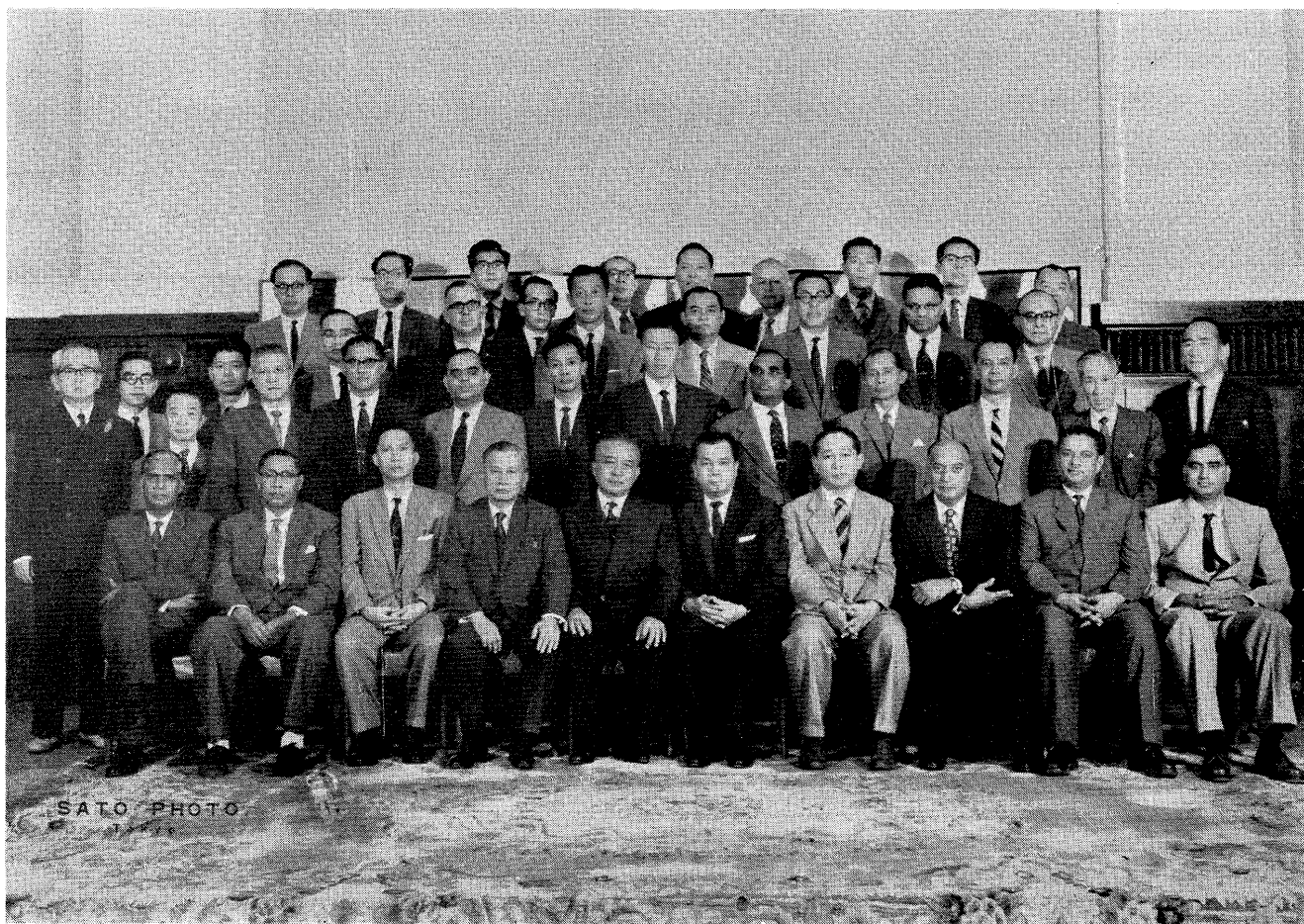


Photo shows the Colombo Plan Port Seminar attendants, guests and Government and other organizations representatives just after the opening ceremony on October 7.

bors Seminar Club (PHSC) was formed jointly by them. The purpose of the proposed club is "for the promotion of mutual cooperation, friendship and understanding among its members", and its membership, being on personal basis and voluntary on the part of the individual participants, is composed exclusively of "participants in the Ports and Harbors Seminar." According to the agreement no membership fees or club dues are required from the club members, and its business or affairs will be conducted by mutual understanding of the members, the Central Secretariat of IAPH being requested to coordinate or handle them.

* * *

New Director of United States

Dr. Joseph D. Carrabino, President of the Board of Harbor Commissioners, City of Los Angeles, who had been elected Alternate Director for the United States, has agreed November 10, 1961 to serve in the post. His brief career is given in page 5 .

* * *

New Member

Application for corporation supporting membership, one unit, from C. A. Venezolana de Navegacion, Caracas, Venezuela, was accepted by the Central Secretariat under date November 11, 1961.

* * *

Reactions to "IAPH International News Letters" Reviewed

Since the monthly publication of "IAPH International News Letter" was started January, 1961, it has met with reactions, generally favorable, from all over the world. It was inaugurated for the purpose of exchanging between the ports and related organizations, centering around our members, important news and information relative to port facilities, international trade promotion, activities of various maritime industries as well as of related national and international organization, etc., pursuant to the recommendations presented to the Board of Directors by the Executive Committee met in Honolulu, Hawaii, in May, 1960.



Port Seminar attendants and lecturer are at work.

Reactions to this publication during the inaugural year have generally been favorable, requests for supply being received every month. Besides being airmailed to our members, copies of this News Letter are also seamailed to the ports in all parts of the world as well as persons and associations concerned with our Association. Overall copies mailed overseas monthly are roughly as follows:

Southeast Asia	138
Near East	32
Africa	36
Europe	261
Central and South America, West Indies	259
North America	211

During the past year, requests have been made by some 60 ports and port organizations, except in Japan, for exchanging their publications and news letters for our News Letter. Efforts have been used by us for securing such materials as are of general interest from as authentic sources as possible, on the basis of those exchanged publications and news letters. On the other hand, however, for augmentation of the contents, interesting news and stories have been picked up from such journals or magazines of authority as Lloyd's List of Shipping Gazette, Journal of Commerce, Liverpool, World Ports and The Mariner, Norwegian Shipping News, etc.

In reviewing the past year of publication of "IAPH International News Letter", we sincerely hope that with comments generally invited from our members, it will be improved in the next year so as to perfectly accomplish its mission.

* * *

Visit of Long Beach Port's Trade Mission

Mr. E. Ridings, Jr., Vice President of the Long Beach Board of Harbor Commissioners, Mr. R. A. Reid, Harbor Commissioner, Mr. C. L. Vickers, General Manager of the port, and Mr. R. H. Metzgar, Director of Public Relations for the port visited Japan with the Port of Long Beach's five-man goodwill and trade mission to the Far East which was headed by Long Beach Mayor Edwin Wade. Arriving in Tokyo on October 11, they proceeded to Manila on October 25, after staying a fortnight in Tokyo. They returned to Japan from November 8 to 15, before they flew back to Long Beach.

During their stay in Japan, they had conferences with shippers and trading people, while visiting the ports of Osaka, Nagoya, Yokkaichi, etc. It was the third mission this American member port had sent overseas during its 50th Anniversary celebration. Previous missions went in the spring to South America and in the summer to Europe.

Resume of Dr. Joseph D. Carrabino

-- New U.S. Alternate Director --

Present Status — Professor and Vice Chairman In Charge of Production Management, Graduate School of Business Administration, University of California, Los Angeles; President, City of Los Angeles Board of Harbor Commissioners.

Education

1. Bachelor of Science in Mechanical Engineering Degree (with High Distinction) Worcester Polytechnic Institute, Worcester, Massachusetts.

2. "Master of Business Administration Degree", Graduate School of Business Administration, Northwestern University, Evanston, Illinois; specialized in Industrial Management.

3. "Ph.D. in Engineering Degree," College of Engineering, University of California, Los Angeles; specialized in Production Management, Engineering Statistics, and Industrial Psychology; Languages — German and Italian; Dissertation—Did an Operations Research type study on Containerization of Commodities in Cargo Handling Systems.

4. George Washington University School of Law, Washington, D.C.; specialized in Business and Patent Law.

Teaching and Business Experience

1. U.S. Department of State Fulbright Lectureship Grant to Italy while on Sabbatical Leave 1958-59. Served as Visiting Professor and Consultant at numerous Management Centers in Italy.

2. Research Engineer, Cargo Handling Research Project, College of Engineering, UCLA, (was on joint appointment with Graduate School of Business Administration for 6 years).

3. Member, National Panel of Arbitrators, American Arbitration Association.

4. Has served as management engineering consultant to numerous companies, government agencies, and labor unions.

5. Has addressed about one hundred diverse groups.

6. Has organized and participated in numerous University and private programs for middle & advanced management groups and labor union officials.

7. Member of faculty, Mechanical Engineering Department, Technological Institute, Northwestern University.

8. Ordnance Engineer and Patent Advisor, United States Naval Ordnance Laboratory, Washington D.C.

9. Industrial Engineer and Assistant to the Plant Manager, H.H. Brown Shoe Company, Worcester, Massachusetts.

Research and Publications

1. Has authored a monograph & articles on the shipping industry, & articles on work simplification, data reduction, hospital administration, materials handling systems, management controls, automation, & scientific management.

2. Has organized & managed Operations Research Type Teams; Research has been sponsored by U.S. Office of Naval Research, U.S. Maritime Administration, & Ford Foundation.

Honorary Societies

1. Tau Beta Pi, National Honorary Engineering Society.

2. Sigma Xi, National Honorary Scientific Society.

3. Pi Tau Sigma, National Honorary Mechanical Engineering Society.

4. Beta Gamma Sigma, National Honorary Commerce Society.

Professional Societies

1. American Institute of Industrial Engineers.

2. Academy of Management.

3. The Institute of Management Sciences.

4. Operations Research Society of America.

5. Alpha Kappa Psi, Professional Commerce Fraternity.

Listed In: Who's Who in the West and Who's Who in American Education.

Oakland Port's New Offices Open

Offices of the Port of Oakland will open in the newly-modeled Port of Oakland Building in Jack London Square, December 18.

The new address of the Port will be 66 Jack London Square. The telephone number, Highgate 4-3188, will remain the same.

The offices are on the third floor of the former warehouse building, where regular meetings of the Board of Port Commissioners, held on the first and third Monday of each month, will be held in Room 383.

Old offices in the Grove Street Pier have been headquarters of the Port since 1931 and have long been inadequate.

The move will separate traffic of Port employees and trucks and trains hauling cargo to and from the Grove Street Pier, which is under lease to Howard Terminal. Employee parking at the Port of Oakland Building will be provided at First and Webster Streets, and will not add to the number of autos using the Jack London Square lots.

The three-story concrete warehouse was acquired by the Port from the State of California, which demolished the eastern third of the building to construct the new Estuary tube.

Remodeling by the Port has blended it with the Jack London Square development.



Port Seminar attendants engage in discussion around their lecturer.

Oakland Port Wholesale Market

The Oakland Board of Port Commissioners November 6 offered to meet with a committee of the Oakland Wholesale Fruit and Produce Merchants Association to discuss the proposed new wholesale market in the Port of Oakland Industrial Park.

All merchants were invited to a meeting last week, but the Association declined, saying that it would appoint a committee "to clarify any questions."

In a letter to the Association following a meeting of the Board of Port Commissioners on the 6th, Peter M. Tripp, President, said:

"It had been our hope that all of the merchants would have the opportunity to participate in a discussion with the developers and the Board, as scheduled. However, we feel that the matter is of such great importance that we will participate in any action which will lead to a solution of our mutual problems."

Tripp suggested 11 a.m. next Monday or Tuesday for the meeting, but added "or any other time which you may suggest."

* * *

Construction has started on a \$100,000 headquarters and distribution center for the H. C. Burns Co., the West's largest independent wholesaler of veterinary drugs and biologics, in the Port of Oakland Industrial Park.

The 10,000 square foot plant will occupy a one-acre site, meeting the Industrial Park standards for setbacks, landscaping and off-street parking. The company has an option on an additional acre for future expansion.

Dr. H. C. Burns, President of the company, said the new building will house the expanded administrative staff and serve as central warehousing for branches in Los Angeles, Boise and Portland, as well as for exports to Canada, Australia, New Zealand, France, Mexico, England, Nigeria and other countries.

Dr. Burns said the site leased from the Port of Oakland, fronting on Oakport Street at Elmhurst Channel, was selected because of the Port of Oakland's central location, excellent transportation for both domestic and foreign distribution, ideal climate and availability of labor.

The company markets 500 speci-

ality products developed by its own staff, as well as national brand drugs.

* * *

Los Angeles Tanker Fairway Deepening

Deepening of the Port of Los Angeles' supertanker fairway to 51 feet next spring was approved by the Board of Harbor Commissioners at a mid-August meeting.

The dredging project, which will cost approximately \$1,500,000, will increase the 500-foot-wide channel's depth by five feet. Present depth is 46 feet.

Primary purpose of the project is to accommodate deeper draft oil tankers and to provide adequate depth for an eventual bulk loading terminal.

The supertanker oil terminal, the world's first protected oil unloading facility capable of handling some of the largest ships afloat, was completed two years ago by filling in an 18-acre, man-made peninsula in the port's outer harbor. The fairway extends from breakwater entrance to dockside of the terminal.

* * *

San Francisco Port Traffic

Despite earlier and current strike conditions, 1961 Golden Gate ship traffic dropped only 2% from the first nine months of last year, the Marine Exchange reported November. The maritime service agency noted that with several heavy ship activity months in 1961, its vessel movement reports indicate that the current year could surpass 1960 if the present partial ship tieup is soon ended.

September Gate ship movements totaled 816, with a corresponding net tonnage in excess of 4¼ million, the Exchange said. Foreign flag shipping increased from its 40% average to 43% of Golden Gate total activity—presumably as a result of the tie-up of Pacific Coast-based American ships in the later part of the month. Vessels of 18 other nations called at local ports, including the second Finnish ship to arrive this year.



Karen Kyson, California's 1962 Maid of Cotton, is welcomed at Oakland's downtown heliport upon arrival for her visit, sponsored by Port Oakland. Welcoming her (from left): Vice-Mayor Felix Chialvo; Peter M. Tripp, President of the Oakland Board of Port Commissioners, who presents her with a bouquet of blue and gold flowers trimmed with cotton; George J. Yukasin, President of the Oakland Junior Chamber of Commerce and Vice-President of the Port Commission, and A. E. McIntyre, President of the Oakland Chamber of Commerce.



Aerial view of the heart of the Port of Kawasaki throbbing with heavy and petro-chemical industries incessant activities. These industries have their own piers and terminals accommodating 20,000 ton supertankers.

PROGRESS OF KAWASAKI

The Foremost Industrial Port of Japan

A Man-made Port

The Port of Kawasaki, known as Japan's foremost industrial port, lies midway between the Port of Yokohama and the Port of Tokyo, on the Keihin Fairway linking the two ports. It was only in 1920 that reclamation works were started by a certain private company for the purpose of constructing a huge waterfront industrial zone by filling up lands along the shore. From 1926 onward construction works were carried out by this and other reclamation companies in steady succession, and as a result there already appeared in 1941-2 an integrated industrial port thronged by many factories and

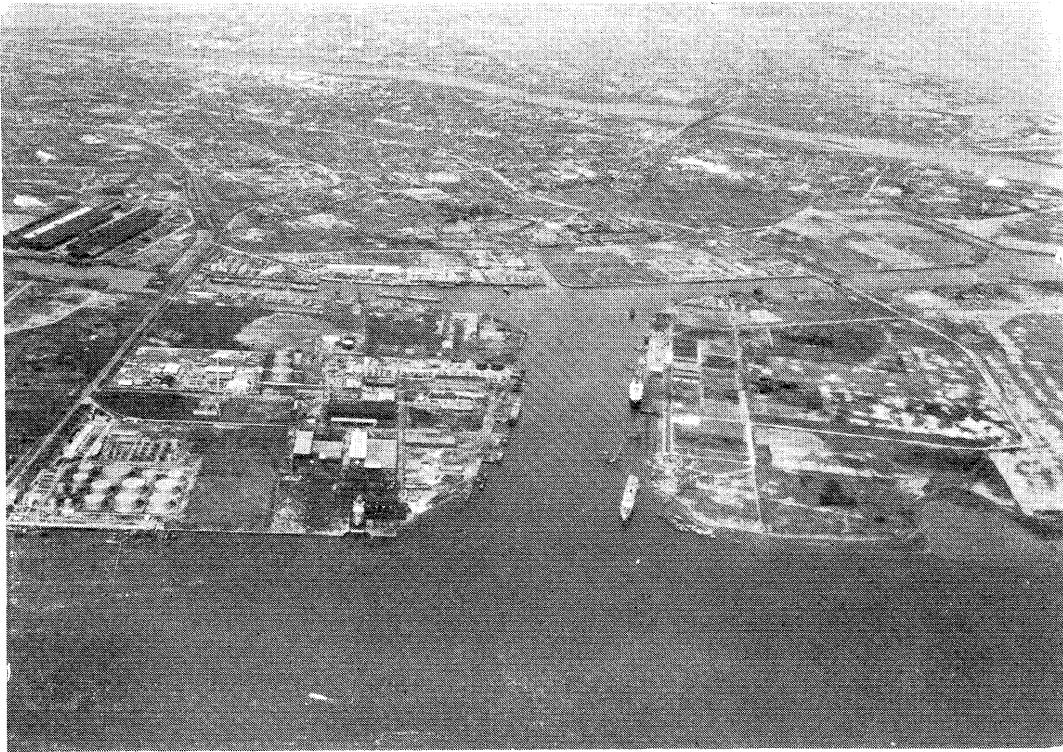
plants, whereby the port became alive with Japanese and foreign vessels fully laden with coal, ore, industrial materials, general merchandise and provisions. This led to the present prosperity of this industrial port and city, with its annual industrial output ranking fourth among the Japanese industrial cities and the tonnage of incoming and outgoing freight ranking second.

The Port's Characteristics

As may known from its historical development, the characteristic of the Port of Kawasaki is that each industry on the reclaimed lands has its own pier or piers for the use of its plants or factories,

besides those owned by private wharf companies and by the municipality. Under such situation, the bulk of the cargo handled here is composed of raw materials and fuels from abroad, which are directly unloaded at the piers of those heavy industries situated along the waterfront of the reclaimed lands.

In 1934, the private project of harbor construction was taken over by the Kanagawa Prefectural Government; after the Pacific War which interrupted all construction and plant activities, the work was resumed in 1956 as a tripartite enterprise of Kawasaki City, Kanagawa Prefecture and private interests. Further, since the Mayor of Kawasaki City took over in 1951 under the newly established Ports and Harbors Law, the management of the port, various port facilities have been built and are under construction as public enterprise.



The Port of Kawasaki has this year completed the reclamation of a 1,894,000 sq. m. site, which is seen at the right edge of this photo.

Noteworthy Development in Recent Years

Most noteworthy was the development of Kawasaki as an industrial center in recent years. When in 1951, the management was transferred to the Mayor of Kawasaki, the volume of cargo which passed through the port was approximately 8,300,000 tons, which rose by three times to 23,870,000 tons in 1960. Speaking only of the

cargo handled at the public piers under direct city management, 134,000 tons in 1953 increased by nine times to 1,270,000 tons in 1960.

Providing for this industrial expansion, the reclamation works were started in 1956 for the creation of more land increasingly required by the industries concentrating in the port. Those works were almost brought to completion this year, obtaining as a result the

Chidoricho Reclaimed Land with a total area of 1,894,000 square meters, under city management, in addition to 80 percent of the 4,488,000 square meters reclaimed land, adjacent to it to the east, which is under the management of Kanagawa Prefecture. Large factories and plants belonging to 11 companies, which were established in the Chidoricho Reclaimed Land, have already begun operation. On the other hand, 13 companies have

On the newly reclaimed Chidoricho site there are many industries constructing their plants, some of which have already started operation. The waterfront shown in the photo is for the city-managed public piers mostly for general cargo.



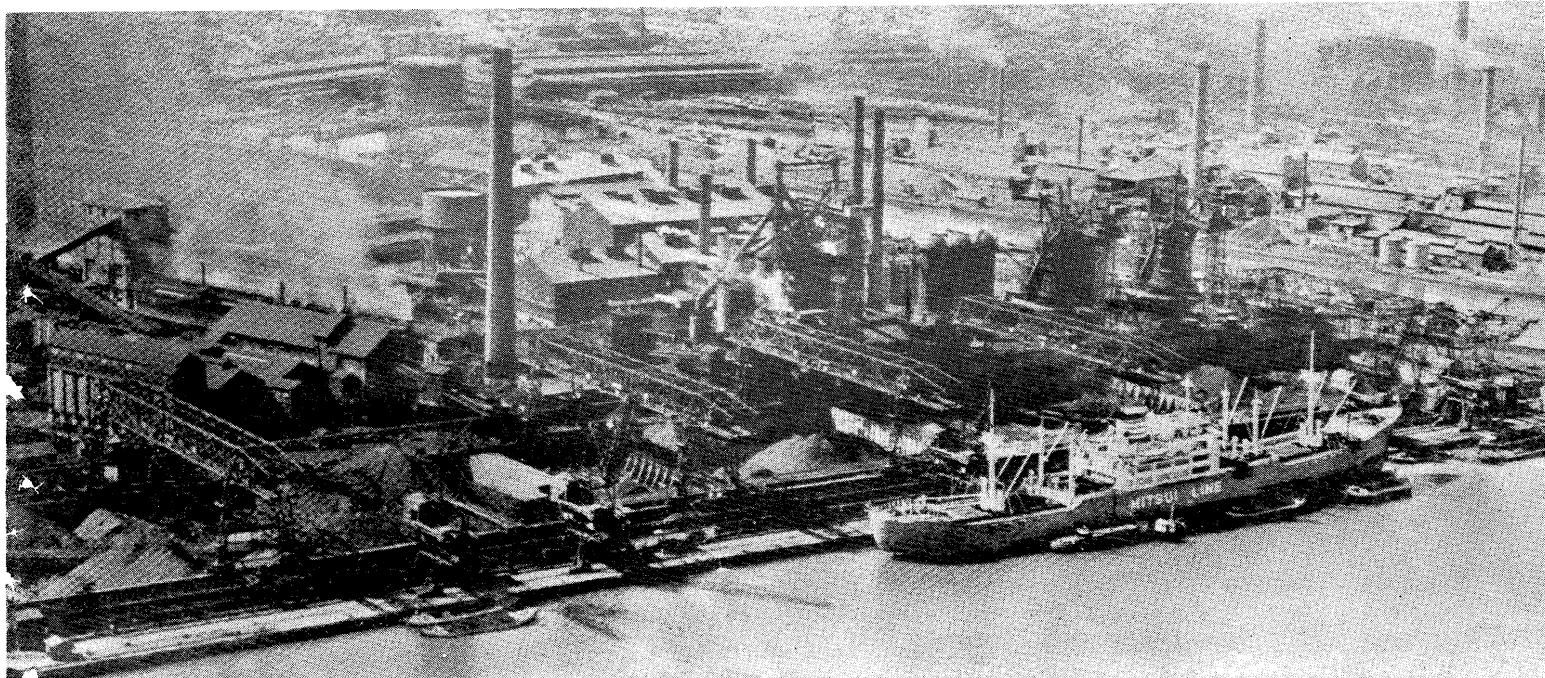


Photo shows the ore wharf exclusively used by Nippon Steel Tube Co. steel mill, berthing four 6,000-8,000 ton carriers at one time.

been invited to build their plants in the prefectural reclaimed land, several of which have also already started operation. The entire reclamation of this site is scheduled to complete in 1962.

Along with the reclamation works, the City of Kawasaki has been busy with the improvement and expansion of the port facilities such as the deepening of the Keihin Fairway, extending to 5 kilometers, to 12 meters, the extension of the breakwaters, the construction of terminals and transit sheds to accommodate large vessels, etc. Their completion is scheduled for 1962. On the part of the industries operating their factories and plants, they are also engaged in expansion or construction works on the existing facilities so as to cope with the super tankers and other large freighters.

10-Year Perfection Program

However, according to the Government economic policy to redouble the national income in 10 years, the City of Kawasaki has now worked out a 10-year port facilities perfection plan, beginning 1961, on the estimation that in 1965 the cargo passing through the port will reach 56,934,000 tons annually. The future of the Port of Kawasaki, unique for its character as the administrative body of the huge waterfront industrial center, is looked upon with deep interest.



The oil wharf owned and operated by one of the oil refineries is shown here.

Port Facilities

	(total length)	(width)	(depth)
1. Fairway	8,500 m	100-180 m	9-12 m
1. Piers	3,735	44 (berths)	

Note: These piers include 16 oil piers, 7 coal piers, 4 ore piers, etc.

Cargo Tonnage

	(in tons)		
	Export	Import	Total
1957	5,876,631	12,830,930	18,707,561
1958	5,303,250	10,952,660	16,255,910
1959	6,293,458	12,531,898	18,825,356
1960	8,057,937	15,819,022	23,876,959

The Port Industrial District of Philadelphia

Philadelphia, as the workshop of the world, can pay special tribute for this distinction at least partially to the Delaware River. A deep and broad thoroughfare to the ocean, the Delaware has had an economic impact on the City and area equalling, if not exceeding, other East Coast rivers.

William Penn, when he founded Philadelphia in 1682, picked his site for Philadelphia because of the Delaware. Industry settled in Philadelphia over the years partially because of the Delaware. The River's natural advantages have been an economic blessing to Philadelphia and together with the vigorous efforts of private enterprise, triggered industrial development that has involved the spending of countless billions of dollars, starting not many days after Penn landed.

From Colonial times, through the period of the industrial revolution and today, the Delaware has played a part in building a growing economic base for an increasing population. However, not always has industry made the full use of the Delaware's blessings. On the other hand, the fantastic growth of the Delaware Valley is making it increasingly necessary that industry do so.

Philadelphia is aware of the need for industry and for the proper use of land. And for these purposes the City has moved to assure space for plants in industrial parks and sectors and along the river to promote the kind of development which will give the plant owner and the resident the most for his money for the longest period of time in the future.

There have been many factors which prompted construction of a plant along the Delaware. Sometimes an industry located along the river to be able to discharge wastes into the stream because it could not discharge these wastes as easily from an inland site.

This is, of course, now prohibited or controlled. On other occasions industry has located along

the river because fumes and odors generated by the plant operation were not at all agreeable near populated districts. Air pollution controls are coping with this problem in a modern fashion.

Sometimes land along the river had cost less and this may have been still another deciding factor for plant locations. There were those industries, too, which located along the river for good reasons—by properly using the river's resources more goods could be produced for the consumer at less cost.

With an exploding population spreading itself out between cities and towns until the communities along the Northeastern Coast have become linked almost as one, proper uses of the Delaware have increased in importance and reasons for plant locations are becoming more selective and realistic.

Laws and restrictions are being set up to protect the resident, the visitor, the plant owner, the worker, the shopkeeper, and the others as a result of warnings by planners, philosophers and experts in land uses who years in advance saw the many disadvantages in the lack of planning. It is toward the direction of good planning that Philadelphia has taken measures to protect the proper development of its waterfront.

Nobody could stop the construction of piers to receive ships and goods along the Delaware. This was and is the natural development which takes advantage of the river's resources.

In the past, nobody could stop an industrial plant which didn't need the river, from building along the water's edge. That is—not until two years ago when Philadelphia's City Council passed an ordinance amending the zoning code by establishing the classification of a Port Industrial District.

Written into law was one of the first restrictive measures to protect the resources of the river against improper use. It was a logical ordinance and in line with the over-all Comprehensive Plan

for Philadelphia's future taking into account best industrial, recreational, residential and commercial uses of land wherever it is within the city limits.

The Port Industrial District amendment approved by Mayor Richardson Dilworth is simple and direct. Its use restrictions are confined thus:

"The specific uses permitted in this district shall be the erection, construction, alteration or use of buildings or premises and/or land for:

"(a) Docks, wharves, piers or transit shed and related facilities, used in connection with the transfer, storage-in-transit and incidental processing of cargo from or to waterborne craft."

Two more paragraphs complete the ordinance. The first states structures may occupy 100 per cent of the area so zoned and the second states that where space is left open "between structures and between structures and lot lines other than street lines such open space shall have a minimum dimension of twelve feet."

With the passage of the bill, Philadelphia became the first city to legally establish a district along its waterfront restricted to the concept of zoning for marine terminal use.

Roughly, this district runs south from Catharine Street to a point several hundred feet below Pattison Avenue, a thin strip containing about 400 acres of land.

This does not mean that the industry already in this district must move because it does not fit the new zoning classification. Legislation is seldom retroactive. However, it does mean that what is left to develop must be developed as the ordinance directs, unless special permission to do otherwise is obtained.

Officials who pressed passage of the ordinance clearly wanted to save this district from future encroachment by industries which can be land-based and protect the investment of millions of dollars by the City and the State in developing pure Port facilities.

The legislation also serves to encourage the development of the \$15 million Packer Avenue Marine Terminal which will provide marginal berthing with transit sheds, rail and truck facilities, sufficiently large to handle container ships.

At the same time, it is encouraging the City to acquire Army Base Piers 96, 98 and 100 at Oregon Avenue, probably next year, so that these may be rehabilitated for use as public marine terminals open to any ship or shipper.

In planning for the waterfront, the City also took into account beauty as well as functionalism. Set aside has been a mile-long stretch from the Benjamin Franklin Bridge south to Kenilworth Street in a master plan for the development of the waterfront with a combination of residential, recreational and commercial uses.

The proper use of waterfront land has been of concern to Philadelphia for a number of years. This was one of the reasons for a survey on Waterfront Industry by W. A. Douglas Jackson, professor of economic geography at the University of Washington at Seattle and for the frequent use of still another consultant, James C. Buckley. Both men have stressed the need for the careful development of waterfront industrial land.

"Water," Jackson asserted, "has an immeasurable importance to industry. Not only may water be used for transportation of raw materials, but also for power, steam generation, as raw material, for condensing and cooling, washing and cleaning, processing, waste treatment and disposal and fire protection.

"A river such as the Delaware below Trenton, N.J., can satisfy most if not all of the needs of industry for water. At some points along the River, it is apparent that industry has already capitalized to a high degree on the advantages, yet the pattern of industrial development is not uniform," he reported.

Stockton Port's \$2 Million Bulk Material Facility Expansion

Progress and expansion strike a sharp keynote to the lively, fast-growing Port of Stockton operation in recent months.

Major expansion highlights include the installation of two giant gantry cranes, the construction of four huge bulk rice silos and 22 additional grain silos at Stockton Elevators, completion of the jet fuel pipeline linking Port of Stockton with Castle Air Force Base near Merced and the establishment of another molasses handling firm at the port.

And now, the latest in the port's continuing emphasis to best serve world-wide shipping, comes announcement of the four-point multi-million dollar expansion of its bulk material handling facility. When expansion of this bulk material handling facility is concluded, the inland port will have the most diversified and modern bulk handling facilities for cargo export and import in the Western U.S.

Construction has already begun on several of the new facilities and modernization of existing facilities, with completion dates set for all projects by late 1962, Elmo Ferrari, port director, recently announced. Comments Ferrari, "To meet world competitive costs in the movement of Western United States bulk raw materials and the ever increasing size of cargo carriers necessitates the almost 2-million dollar additions and modernization at our nine-year old bulk ore handling facility—California's first such installation.

Waterfront land is so important, Jackson believes, that its haphazard and inefficient development, is a liability to any community. Buckley agrees generally with the Jackson survey. Both, experts in their fields, agree that careful development of the Port is necessary for the prosperity of Philadelphia and the Delaware Valley.

Among the projects included are the erection of six concrete silo-like cone-shaped tanks to handle, on an identity preserved and non-contamination basis, up to 15 thousand tons of magnesite, coke, and other specialized bulk materials.

Revamping of the ore stockpiling area, when completed, will allow for stockpiling up to 200,000 tons in three identity preserved areas. Additional conveyor loading equipment will be installed in the stockpiling areas, increasing the loading capacity to 1,800 tons of iron ore per hour from the present 1,000 tons, thus augmenting the twin pier loading operations from 2,000 tons per hour to 3,600 tons per hour.

Engineering plans for the new 35,000-ton capacity potash handling facility, which will tie into the basic bulk loading plant, are off the drawing boards with a ready-for-use date set for June 1962.

Project Four will give the Port of Stockton its first fully mechanized bulk unloading facility. Special equipment is now being engineered in the East to handle such materials as copra, chrome ore, and iron ore, as well as phosphates, with a capacity of 1,400 tons per hour.

"The completion of these four projects," emphasized Ferrari, "plus the installation of additional equipment now being constructed will allow tonnage to be loaded to the 40,000-ton class vessels, resulting in a very substantial savings to shippers. This phase of our modernization program will allow us to be servicing the 40,000-ton ore carrying vessels by mid-1962. The Port of Stockton pioneered a new concept of bulk material handling nine years ago; our success is evidenced by the continuous growth in tonnage handled. Port of Stockton is dedicated to providing facilities which will enable shippers and vessels to enjoy the lowest possible costs."

Brooklyn-Port Authority Pier 8

The development of the \$90,000,000 Brooklyn-Port Authority Piers reached the two-thirds mark on November 2, 1961 with the dedication of Pier 8, the eighth of twelve new piers being constructed by the bi-state agency along the two-mile stretch of Brooklyn's premier waterfront. The \$5,213,000 two-berth Pier 8, in the Baltic Terminal Area, is leased to the Daido Line (Daido Kaiun Kaisha, Ltd.) of Kobe, Japan, for ten years at an annual rental of \$575,000. The

Line is represented in New York by A. L. Burbank & Company, Ltd. and its M/S "Brooklyn Maru," inbound from the Far East with general cargo, was the first vessel to dock at the new facility.

S. Sloan Colt, Chairman of the Port Authority, presided at dedication ceremonies at 11:00 o'clock November 2, which were attended by about 450 guests including public officials and leaders in the business and community life of the New York-New Jersey Port Dis-

trict. The program included addresses by Masao Doi, Managing Director of the Daido Line; Eugene F. Moran, Jr., Chairman of the Municipal Affairs Committee of the Brooklyn Chamber of Commerce; and Peter Burbank, President of A. L. Burbank & Company, Ltd.

The Daido Line was established in 1930 and operates more than 50 vessels in regular service between Japan and various ports in the world. It will provide bi-weekly steamship service between the Port of New York and Yokohama, Nagoya, Osaka, Kobe, Keelung, Hong Kong and Manila, and monthly



Aerial view of the new \$5,213,000 Pier 8 in Baltic Terminal area of the Brooklyn-Port Authority piers, dedicated on November 2, 1961. Pier 8 is the eighth of twelve new piers to be completed under the Port Authority's \$90,000,000 redevelopment program of two miles of choice Brooklyn waterfront since it acquired the property in 1956. The two-berth pier has been leased to the Daido Line (Daido Kaiun Kaisha, Ltd.) of Kobe, Japan, for ten years at a rental of \$575,000 a year. The line, represented in New York by A. L. Burbank & Company, Ltd., offers bi-weekly steamship service between the Port of New York and Manila, Hong Kong and Japanese ports, and monthly service to the Mediterranean. The pier will also be used by the Brodin Line and the Dominican Steamship Line (Flota Mercante Dominicana, C. por A.). In full operation, Pier 8 is expected to handle about 335,000 tons of general cargo a year, with employment provided for about 300 people earning \$1,500,000 annually. The new pier is 680 feet long on the south, 1,000 feet long on the north, and 320 feet wide, with 30-foot-wide aprons to assure efficiency in cargo handling. The pier shed provides 176,800 square feet of covered space, supported by 201,500 square feet of paved upland area. Trucks are accommodated at 14 tailgate high backup spaces at the inshore end of the pier.

service to the Mediterranean area.

Pier 8 also will be used by the Brodin Line with bi-weekly service to South America, and the Dominican Steamship Line (Flota Mercante Dominicana, C. por A.) which maintains weekly freight service between the Port of New York and the Dominican Republic and Haiti.

In full operation, Pier 8 is expected to handle about 335,000 tons of general cargo a year, with employment provided for an estimated 300 people at an annual payroll of about \$1,500,000.

The structure is 680 feet long on the south, 1,000 feet long on the north, and 320 feet wide. Its 30-foot-wide aprons permit cargoes to be loaded and unloaded at peak efficiency.

The single-story, steel-and-aluminum pier shed provides 176,800 square feet of covered space, supported by 201,500 square feet of paved upland area. There is a two-story air-conditioned office space within the pier shed, as well as a crib area for the storage of valuable shipments and a heated cargo area for perishables. The concrete floor of the shed can support loads of 500 pounds per square foot. Plastic skylights provide daylight conditions in the shed, which is well ventilated to protect cargoes.

There are 14 tailgate-high truck berths along a platform on the in-shore end of the pier with five electrically operated doors, four of which are 30 feet wide and 10 feet high, and one 20 feet wide and 10 feet high. In addition, there are two electrically operated truck entrance and exit doors, each 14 feet wide and 14 feet high. The pier shed has 27 doors on the north, west and south sides, 21 of which are 20 feet wide and 19 feet high, two are 25 feet wide and 19 feet high, and four are 18 feet wide and 19 feet high.

Pier 8, which is completely fire resistant, has been built on creosoted timber piles capped with concrete, with a poured concrete deck. It contains the most effective fire protective devices, including a complete sprinkler system and a wet standpipe system.

A bold use of color on both the exterior and interior of the new pier make it an attractive addition



Another aerial view of Pier 8 leased to the Daido Line.

to the Brooklyn waterfront. The entrance area is enhanced by a white and gold facade. Two-tone blue aluminum facing on the ends of the pier shed, together with light blue paneling and dark blue trim around the cargo doors, eaves and canopy complement the silvery aluminum roofing and siding of the building. The interior of the shed is finished in pastel blue on the doors, with pier columns and ceiling draft curtains painted yellow.

The Brooklyn-Port Authority Piers, when completed in 1963, will comprise 12 new single-story, wide, steel and concrete structures, fully fire resistant and fire protected. These will replace the 25 narrow obsolete piers existing at the time the bi-state agency purchased the two-mile-long property in 1956. Another pier in the Atlantic Basin will be completely rehabilitated and 50 acres of upland area cleared to provide open storage and truck parking space. Altogether, there will be 28 modern, efficient vessel berths, each with about 90,000 square feet of shedded

space, to replace 44 antiquated berths.

Upon completion, the great new facilities will be capable of handling about 27 per cent of the Port of New York's foreign trade general cargo, and will provide employment for about 4,300 people who will earn some \$19,000,000 a year. In 1960, 1,815 people were employed at the Brooklyn-Port Authority Piers, with an annual payroll of \$9,241,000. The construction program is providing jobs for 250 workers at a payroll of \$2,000,000 a year.

In addition to new Pier 8, the Port Authority has completed seven other piers: Piers 1, 2 and 3 in the Fulton Terminal area, Piers 6 and 7 in the Baltic Terminal area, and Piers 10 and 11 in Atlantic Basin. Two new piers, Piers 9A and 9B, are scheduled for completion in July 1963.

To date, the bi-state agency's investment at the Brooklyn-Port Authority Piers amounts to over \$66,300,000.



Seven-Year Redevelopment Program of Brooklyn-Port Authority Piers

Pier Dimension Details

Fulton Terminal Area

- Pier 1** — An L-shaped pier, immediately south of the Brooklyn Bridge; two berths along its 1,090-foot frontage; a third berth on its 500-foot south side.
- Pier 2** — Two-berth finger pier; 625 feet long, 350 feet wide.
- Pier 3** — Two-berth finger pier; 665 feet long on the south, 635 feet long on the north, 350 feet wide.
- Pier 4** — One-berth finger pier; 700 feet long, 275 feet wide with a 90-foot-wide truck backup area.
- Pier 5** — Two-berth finger pier; 690 feet long, 360 feet wide.

Baltic Terminal Area

- Pier 6** — Two-berth finger pier; 680 feet long on the south, 650 feet long on the north, 340 feet wide.
- Pier 7** — Three-berth finger pier; 710 feet long on the north, 1,200 feet long on the south, 300 feet wide.
- Pier 8** — Two-berth finger pier; 1,000 feet long on the north, 680 feet long on the south, 320 feet wide.
- Pier 9A** — Two-berth finger pier; 750 feet long on the north, 630 feet long on the south, 320 feet wide.
- Pier 9B** — Two-berth finger pier; 700 feet long on the north, 650 feet long on the south, 320 feet wide.

Atlantic Basin Area

- Pier 10** — Two-berth finger pier at northwest side of Atlantic Basin; 980 feet long on the west, 715 feet long on the east, 325 feet wide.
- Pier 11** — On east side of the Basin; a three-berth quay; 2,100 feet long with a shed 1,800 feet long and 150 feet wide.
- Pier 12** — At southwest side of the Basin; the existing 900-foot-long and 170-foot-wide pier will be completely rehabilitated to provide two vessel berths.

The vessel entrance to Atlantic Basin was widened from 300 to 600 feet.

Here is given Artist's rendering of the Brooklyn-Port Authority Piers as they will appear upon completion of the bi-state agency's \$90,000,000 seven-year redevelopment program of two miles of choice Brooklyn waterfront extending south from the Brooklyn Bridge to the Atlantic Basin. Twenty-five narrow, obsolete piers which originally existed when the Port Authority acquired the property in 1956 are being replaced by twelve modern, wide, single-story steel, concrete and aluminum structures, full fire resistant and fire protected to provide 26 ship berths. An existing pier in the Atlantic Basin will be rehabilitated to accommodate two vessel berths.

The entire pier program will provide the most efficient general cargo marine facilities available anywhere in the world at 28 modern ship berths, each with 25 to 30-foot-wide aprons and approximately 90,000 square feet of shedded space. Slips between the piers

will be widened from an average of about 200 feet to 300 feet. The new and improved slips and piers will assure a saving of at least \$5,000,000 a year to the steamship companies alone.

The 50-acre upland area, originally crowded with obsolete civil war-era warehouses, is being cleared to provide open storage area and parking space for the 3,000 trucks a day for the handling of pier cargo traffic. This means of truck handling has already relieved the adjacent Brooklyn streets of congestion caused by vehicles moving to and from the piers.

The removal of the old warehouses and the single-story height of the new piers permit an unobstructed view of the harbor and New York skyline from the Brooklyn Heights Esplanade.

* * *

New York Waterfront Accidents at Five-Year Low

The Port of New York is one of the safest ports in the world for cargo handling, and it now appears it is also one of the safest for waterfront personnel. According to the recently published annual report of the New York Shipping Association Safety Bureau, there were only 70.3 accidents per million man hours worked in 1960, compared to 83.5 in 1957.

* * *

Record Coal Shipment Loaded at Norfolk

The largest coal shipment in the history of the port was loaded aboard the 631-ft. "Escape" early this month. The shipment totaled 31,050 tons. It was mined and sold by the Davis-Clinchfield Export Coal Corporation to Kinoshita and Company, Limited, Japanese coal importers for Yawata Iron and Steel and Fuji Iron and Steel, Japan's major steel producers.

FACT SHEET

Brooklyn-Port Authority Piers

OPERATED BY:	The Port of New York Authority.
LOCATION:	In Brooklyn, New York, on the 40-foot-deep Buttermilk and East River Channels, extending southward two miles along the waterfront from the Brooklyn Bridge to and including Atlantic Basin, the heart of one of the greatest freight generating centers of the world. The property is adjacent to the Brooklyn-Queens Expressway and is only a few minutes' travel time from Manhattan via the Brooklyn and Manhattan Bridges and the Brooklyn Battery Tunnel.
COST:	\$90,000,000 after completion of the seven-year waterfront redevelopment program.
EMPLOYMENT:	In 1960, 1,815 people were employed with a payroll of \$9,241,000. After development is completed in 1963, it is expected that 4,300 people will earn \$19,000,000 a year. The construction program is providing jobs for 250 workers a year at a payroll of \$2,000,000.
REDEVELOPMENT PROGRAM:	The greatest marine terminal development ever undertaken on the New York side of the New York-New Jersey Harbor, the Brooklyn-Port Authority Piers program comprises the construction of twelve new single-story, wide, steel and concrete structures, fully fire resistant and fire protected, to replace 25 obsolete piers. Another pier in the Atlantic Basin area will be completely rehabilitated, and 50 acres of upland area cleared to provide open storage and truck parking space. Altogether, there will be 28 modern, efficient vessel berths each with 25 to 30-foot-wide aprons, and about 90,000 square feet of shed space. These will replace the 44 obsolete berths with an average of 34,100 square feet of shed space per berth which existed at the time of the purchase from the New York Dock Company on March 1, 1956. The Port Authority has completed construction of eight of the new piers; Piers 1, 2 and 3 in the Fulton Terminal area, Piers 6, 7 and 8 in the Baltic Terminal area, and Piers 10 and 11 in Atlantic Basin.
PIERS COMPLETED:	NEW PIER 1, FULTON TERMINAL AREA Dedicated—April 29, 1959. L-shaped with a wharf 1,090 feet on one side and 500 feet on the south side and a 30-foot-wide apron. Three berths and 256,000 square feet of covered interior space including two-story air-conditioned office space. 20-foot-wide truck-loading platforms capable of handling 70 trucks at one time plus 9 additional truck backup spots at pier face. 166,000 square feet of paved upland area. 14,000-square foot stevedores garage. 47-foot-long and 33-foot-wide longshoremen's shelter. Leased to American Stevedores, Inc. for 5 years. American Stevedores, Inc. is one of the largest firms in the Port of New York engaged in stevedoring and terminal operations. The company handles cargo for the Torm Lines which offers regular service between the Port of New York and Venezuela, Brazil, Uruguay, Argentina, and the Mediterranean Ports in Morocco, Spanish Morocco, Algeria, Libya, Egypt, Syria, Lebanon, Italy, Portugal and Spain. It also handles cargo for the Elder Dempster Lines offering service between the Port of New York and West Africa; the Booth Line between the Port of New York and South America (Amazon River); and the Lamport and Holt Line between the Port of New York and the West Indies and North Coast of South America.

325 feet long and 350 feet wide, with 30-foot-wide aprons.

NEW PIER 2, FULTON TERMINAL AREA

Completed—September 9, 1958.

Two berths and 168,200 square feet of covered interior space, including two-story air-conditioned office space.

16 tailgate-high truck backup spaces on the inshore end as well as truck entrance and exit ramps.

137,000 square feet of paved upland area.

5,000-square-foot maintenance garage.

Leased to Meyer Line for 10 years.

Meyer Line offers regular service between the Port of New York and Hamburg, Antwerp, Bremen and Rotterdam.

NEW PIER 3, FULTON TERMINAL AREA

Opened—July 1, 1959.

665 feet long on the south, 635 feet long on the north and 350 feet wide with 30-foot-wide aprons on north and south and 25-foot-wide apron on west.

Two berths and 176,900 square feet of covered interior space including two-story air-conditioned office space.

16 tailgate-high truck backup spaces on the inshore end and two truck entrance and exit ramps.

159,000 square feet of paved upland area.

2,500 square feet of covered storage area in upland.

Leased to the Flota Mercante Grancolombiana, S.A. for 5 years.

The Company offers regular service between the Port of New York and Colombia, Ecuador, Peru and Central America.

NEW PIER 6, BALTIC TERMINAL AREA

Dedicated—March 21, 1961.

680 feet long on the south, 650 feet long on the north and 340 feet wide with 30-foot-wide aprons on the north and south and 25-foot-wide aprons on the west.

Two berths and 176,400 square feet of covered space including two-story air-conditioned office space.

14 tailgate-high truck backup spaces on the inshore end of the pier and two truck entrance and exit ramps.

Approximately 192,000 square feet of paved upland area, including holding area for approximately 25 trucks.

Leased to John T. Clark & Son and Jules S. Sottnek Co., Inc. for 5 years.

Yamashita Steamship Co., Ltd., principal user.

The Fresco Line will also use the pier under an agreement with the lessee.

The Yamashita Company, one of the foremost Japanese Lines, operates a fleet of 35 to 40 ocean-going vessels, of which six will provide monthly service between the Port of New York and the Far East.

NEW PIER 7, BALTIC TERMINAL AREA

Dedicated—June 12, 1961.

1,200 feet long on the south, 710 feet long on the north and 300 feet wide with 30-foot-wide aprons on the north and south and 20-foot-wide apron on the west. 545 feet of berthing space for lighters provided by the U-shaped upland area.

Three berths and 269,000 square feet of covered space including three-story air-conditioned office space.

35 tailgate-high truck backup spaces on the inshore (east-erly) end of the pier and at a platform along the northeast portion of the pier shed, and two truck entrance and exit ramps.

Approximately 220,300 square feet of paved upland area. Leased to the N.Y.K. Line (Nippon Yusen Kaisha) for 15 years.

The N.Y.K. Line offers regular service between the Port of New York and the Japanese ports of Yokohama, Kobe, Nagoya, Shimizu and Moji.

NEW PIER 8, BALTIC TERMINAL AREA

Dedicated—November 2, 1961

1,000 feet long on the north, 680 feet long on the south and 320 feet wide with 30-foot-wide aprons on the north and south and a 20-foot apron on the outshore end.

Two berths and 176,800 square feet of covered space including two-story air-conditioned office space.

14 tailgate-high truck backup spaces on the inshore (east-erly) end of the pier and two truck entrance and exit ramps.

Approximately 201,500 square feet of paved upland area. Leased to Daido Kaiun Kaisha, Ltd. for 10 years.

Daido Line presently operates 50 ships (regular service) between Japan and various ports. The Line maintains bi-weekly steamship service between Port of New York and ports of Yokohama, Nagoya, Osaka, Kobe, Keelung, Hong Kong and Manila, and monthly service to Casablanca, Marseilles, Genoa, Naples, Piraeus, Barcelona and Lisbon. Additional lines that will use new Pier 8 are the Brodin Line and the Dominican Steamship Line.

NEW PIER 10, ATLANTIC BASIN

Opened—June 30, 1959.

980 feet long on the west, 715 feet long on the east and 325 feet wide with 30-foot-wide aprons on east and west and 20-foot-wide apron on south.

Two berths and 180,000 square feet of covered space including air-conditioned office space on two levels.

14 tailgate-high truck backup spaces on the inshore end and two truck entrance and exit ramps.

126,500 square feet of paved upland area.

8,800-square-foot maintenance garage.

6,000-square-foot upland storage building.

Leased to American Stevedores, Inc. for 5 years.

Japan Port Congestion Eased

With early October as its peak, intense congestion since July in the six major ports of Tokyo, Yokohama, Nagoya, Osaka, Kobe and Moji has been markedly eased. According to a survey by the Port and Harbor Bureau, Ministry of Transportation, in mid-November the average number of vessels held

up in port per day was 25 in Tokyo (70 in mid-October), 5 in Yokohama (19 early in October), 13 in Nagoya (23 late in October), 21 in Osaka (51 late in September), 7 in Kobe (24 early in September) and 3 in Moji (16 late in September).

This is attributed to: (1) the decreased arrivals of scrap carrying vessels which account for 60% of the incoming vessels; (2) the

designation of berths for scrap carriers so as not to obstruct loading and discharging of other vessels; (3) the increased number of stevedores; and (4) the new addition of 150 barges totalling some 30,000 tons.

The Ministry expects that port congestion will be alleviated more and more in the future due to the import control policy and the buoy and barge increase plan now under way.

American Stevedores, Inc. is one of the largest stevedoring firms and terminal operators in the Port of New York. The Company handles cargo for the Dominican Steamship Line which offers regular service between the Port of New York and Dominican Republic; Mamenic Line, between the Port of New York and the West Coast of Central America. Also, the Concordia Line operates its regular inbound service between the Port of New York and the Mediterranean, Red Sea and Persian Gulf at the pier.

NEW PIER 11, ATLANTIC BASIN

Dedicated—June 4, 1958.

Wharf 2,100 feet long with a 25-foot-wide apron.

Three "king-size" berths and a single shed, 1,800 feet long by 150 feet wide, providing 270,000 square feet of covered space, including a two-story air-conditioned office at north end and a one-story air-conditioned office at south end.

20-foot-wide truck-loading platforms the entire length of the building capable of accommodating 144 trucks at one time.

313,000 square feet of paved upland area.

12,000-square-foot maintenance garage.

Leased to the Maersk Line for 10 years, with option to renew for an additional 5 years.

The Maersk Line offers regular service between the Port of New York and the Far East, including the Philippine Islands, Japan, Singapore, Hong Kong, Indonesia, Thailand, Formosa, The Federation of Malaya, and South Vietnam.

PIERS AUTHORIZED:..NEW PIER 9A-9B

Each 320 feet wide, with vessel berths ranging from 630 feet to 750 feet in length.

Two berths and 176,800 square feet of covered space at each pier, supported by a combined total of 312,000 square feet of upland area.

Construction will start upon completion of the substructure design.

UPLAND AREA: About 2,082,000 square feet of upland area have already been cleared to provide open storage and truck parking space. Most of the open area is under lease to tenants using existing pier facilities.

RAILROAD SERVICE: All major railroads serving the Port of New York provide carfloat and lighterage service to the Brooklyn-Port Authority Piers. The New York Dock Railway operates a system of float bridges and internal switching tracks through the entire property.

TONNAGE: Prior to the Port Authority purchase of the Brooklyn Piers, they handled 1,700,000 tons of general cargo annually, or 17 per cent of the foreign trade general cargo handled at the port. After development is completed, it is expected that 2,600,000 tons of general cargo, or 21 per cent of the port's foreign trade general cargo, will be handled at 28 vessel berths. The capacity of the completed facility, however, will be 3,350,000 tons of cargo a year which will represent 27 per cent of the port's foreign trade general cargo. Principal commodities include coffee, zinc, olive oil, jute, ivory, nuts, automobiles, machinery, wool, ore, canned beef, plywood and cocoa.

Tourist Attraction on L.A. Port

A proposal for a \$600,000 tourist attraction on the Port of Los Angeles waterfront was presented to the Board of Harbor Commissioners November 22 by David Tallichet, owner of the Ports O'Call Restaurant on the municipal harbor's channel.

Tallichet said the Board's approval of the plan would permit him to proceed with the building of over 20 shops in the area and the obtaining of tenants for them on a sub-lease basis. Included would be souvenir, toy, and hobby shops, an art center and snack bars.

He recently purchased a ferry in Sausalito which will be converted for permanent mooring in the proposed "village", he said, and some of the shops would be located aboard it.

The development, to be situated adjoining the Ports O'Call would require the construction of a 140×25-foot concrete pier which Tallichet proposed that the Harbor Department build and be reimbursed for in monthly payments by his company.

The Board agreed to authorized designing of the pier and purchase of the necessary piles but withheld approval of the plan pending Tallichet's submission of a financial prospectus and the working out of the rents and fees to be received by the Harbor Department.

Tallichet agreed to reimburse the Department for any loss incurred in the purchase of the piles, if the Board does not approve the agreement.

World Bank Loan for Calcutta Port

THE Executive Directors of the World Bank have approved a loan equivalent to \$21 million (Rs. 10 crores) to the Commissioners of the Port of Calcutta. This is in addition to the loan of \$29 million (Rs. 14 crores) made by the World Bank in June 1958. The current loan will help to finance dredges and other floating craft to maintain navigation on the Hooghly River approach to Calcutta, and equipment and works to improve the efficiency of the Port. The loan will also finance the foreign exchange costs of a hydraulic study of the Hooghly River to help solve the problem of siltation in the river and to determine the feasibility of establishing a deep-water satellite port farther down the river at Haldia to accommodate bulk cargo vessels.

The loan is for a term of 25 years and bears interest at the rate of $5\frac{3}{4}$ per cent per annum including the 1 per cent commission which is allocated to the Bank's Special Reserve. Amortization will begin on May 15, 1966. The loan is guaranteed by the Government of India.

Because of its location, some 120 miles from the Bay of Bengal on a changing and treacherous river, the Port of Calcutta needs a large fleet of dredging and navigational craft. Access to the Port is hampered by sand banks in the estuary and 11 large sand bars in the meandering river stretches. Furthermore, shipping in the river is subjected to hazardous bore tides during most of the year. Due to increased siltation, navigation of ships drawing 26 feet has been severely restricted most days of the year in the last three years; thus, modern ships of 10,000 dead-weight tons or more cannot enter the Port when fully loaded. Part of the 1958 loan was used to pur-

chase additional dredges required to alleviate acute siltation.

The greater part of the current Bank loan will be used for the purchase of about 20 floating craft, of which four will be large dredges and six, auxiliary dredging vessels. With this addition to their dredging fleet, the Commissioners, it is thought, would be able to achieve their objective of maintaining access to the port the year round for vessels of 26 foot draft. The works to be undertaken to improve the Port itself include the extension of the western arm in King George's Dock to provide holding space for four ships and four dolphin berths for ships undergoing repairs, the installation of a water recirculation scheme in Kidderpore Docks to help eliminate the siltation problem in the docks, and the replacement of a 70 year old swing bridge. Cranes, fork-lift trucks, tractors and trailers will be added to the mechanical cargo-handling equipment of the Port. Repair and maintenance facilities are to be improved by the installation of modern plant and machinery in the Port's workshops and shipyards.

Great importance is attached to the hydraulic studies of the Hooghly River. In order to assure that these studies are promptly initiated, and carried out on a continuing basis, it is intended to establish a Hydraulic Study Department manned by Indian hydrologists and assisted by highly qualified foreign experts supported by the leading hydraulic laboratories abroad.

The total cost of the equipment, the study and works included in the project is estimated at the equivalent of \$31 million (Rs. 15 crores). The Bank loan will cover the foreign exchange requirements and the local currency costs will be provided by the Commissioners of the Port of Calcutta. Equipment to be financed by the Bank loan will be procured on the basis of international competitive bidding.

(Quoted from Vol. XIII, No. 9, Indian Shipping, The Indian National Steamship Owners' Association, Bombay, India)

Powerful Radar for Pilot Ship, Port of Melbourne

The most powerful marine radar equipment on the Australian coast is now operating on the pilot ship "Wyuna", which carries pilots for ships entering or leaving the entrance to Port Phillip Bay, to and from the Port of Melbourne, and the Port of Geelong.

A ship moves in or out of the Port of Melbourne 36 miles away at the northern extremity of Port Phillip every 90 minutes, and the new radar was required to give pilots the earliest warning of vessels approaching, and to discriminate between ships in close proximity in the South and West Channels in particular.

The "Wyuna", owned and operated by the Port Phillip Sea Pilots, had been previously equipped with radar for the past eight years, and although the equipment still gave good results, the best performance possible was lower than that of the new equipment recently installed.

The equipment purchased by the Pilots at a cost of more than £4,000 was the new Decca Radar type D838, which was installed by radar engineers of Electronic Industries Limited, the Australian firm who are sole agents for Decca Radar Ltd. in this country.

Through unforeseen circumstances the new equipment had to be installed while "Wyuna" was on station, and all the equipment had to be carried between the ship and her base station at Queenscliff by small boat.

When first used, after being installed, the radar picked up two ships, one at a distance of 22 nautical miles and the other at 31 nautical miles. Both ships were detected at more than twice the range of which the older type radar was capable. Inshore targets were detected at the maximum displayed range of 48 nautical miles, and nearly twice the extent of shoreline could be detected from the pilot station outside the Heads.

The entrance to Port Phillip has been a problem to shipping movements in recent years, because of the narrow rock ledge which restricts entry to very deep-draughted ships, particularly modern super tankers.

NATIONAL INCOME DOUBLING PLAN

(1961~1970)

— Abstracts Concerning Port Investment —

By Jiro Kano

Senior Planning Officer

Economic Planning Agency

PART I

Chapter II Problems of the Plan

1. Principal Purposes of the Plan

The eventual target of this plan is to make an advance toward marked improvement of the people's standard of living and the attainment of full employment. In order to achieve this goal the Japanese economy must be developed and stabilized to the maximum possible extent.

From this viewpoint, the following problems have been taken up as the focal points of the plan, with emphasis placed on economic growth as the axis and stability as the necessary condition of achieving the target.

(1) First comes the repletion of social overhead capital. The rapid economic growth in postwar years was made possible because of the external conditions accumulated in the past. However, as the economic scale exceeded the pre-war level in or about 1953 and the economy continued to grow at a high rate, the development of social capital including roads, ports and harbors, land for housing, and service water lagged behind that of production capital, and this has caused the bottleneck in the way of economic development.

Therefore, it will be a problem of great importance to seek improvement of the social capital, both in quantity and quality, by means of public investments and others. It will also be imperative that the government should take a step forward from the supply of goods which was of the nature of emergency countermeasure, and exert its efforts for the development of social facilities such as transportation, land for housing, service water, education and life environments.

The repletion of the social capi-

tal mentioned above will serve not only to strengthen the foundation of living and industry, but also to expand employment and income, thus to contribute to the economic development of the country.

(2) Next comes an introduction to highly industrialized structure. An increase in purchasing power, attendant on economic development, creates demand for goods and services. The rate of increase in demand is higher in the products of the secondary industry and services of the tertiary industry than in the production of the primary industry.

As for the secondary industry, the demand for heavy and chemical products is inclined to become greater than other products.

Meanwhile, considering the tempo of technological innovation, the trend in population and labor force, and also the switch to the liberalization of trade in the future, it is imperative to raise the productivity of the national economy as a whole.

In order to meet this demand, it will be necessary not only to increase the productivity of each individual enterprise or industry but also to switch the relative importance of industrial structure from industries of low productivity to those of high productivity.

In other words, there is a strong demand that the level of industrial organization be raised to a great extent and an inducement in this direction structure is one of the big problems of this plan.

Then comes the promotion of international trade and economic cooperation. The limitation of the balance of international payments in postwar years has so far restricted the growth of the Japanese economy. It is possible that the rate of the restriction may decrease as the competitive power in export is strengthened as a result

Here are given two of the lectures delivered in the Colombo Plan Ports and Harbors Seminar, October 7 through November 3, 1961, in Tokyo in the hope that they may be of some interest to our readers as conveying some aspects of Japanese ports in general. Ed.

of improvement in productivity in the future. However, it is expected that the restriction will remain big in view of the character of the Japanese economy in which lack of natural resources always makes indispensable a considerably large scale of imports.

In this sense, an increase in foreign exchange revenues centering around exports will provide an important key to the achievement of this plan.

(3) Another important problem is that economic cooperation with underdeveloped countries must be pushed in a positive manner from the standpoint of promoting the economic development of these countries, raising their income level and increasing their purchasing power as well as their power of supplying raw materials.

(4) Improvement of human ability and advancement of science and technology comes next.

The recent remarkable progress in science and technology has contributed greatly to the economic development and industrial modernization of this country through increased investments in production facilities, invention and development of new products and machineries, and a rise in the consumption level as reflected in the demand for durable consumer goods.

This technological innovation is expected to continue in the future, and the necessity has increased that this should spread to all fields of the Japanese economy and serve to raise the people's standard of living.

Taking into consideration the rapid progress made in the field of science and technology, the rise in the level of industrial structure and the shift in labor power ex-

pected in the future, it is considered imperative that the problems related to the development of human ability including education, professional training and research works, which have so far been considered apart from economic problems, should be studied positively in their relationship with the economic development.

The economic progress and advancement of social welfare in the future will depend to a large extent on the effective utilization of the people's capability.

Next comes the problem of easing the dual structure of the Japanese economy and securing social stability.

The easing of the dual structure, which has remained unsettled for many years, is heading for a solution as a result of the high rate of economic development in recent years. If the Japanese economy continues to develop at a high rate, it will contribute to the settlement of the problem.

However, this problem is deeply rooted in the economy and society of this country and therefore, it is not of such a nature as will be solved naturally when the economy develops at a high rate.

Unemployment and under employment are expected to remain, despite the creation of opportunities for employment attendant on economic development, unless the problem is solved that the fluidity of population should be raised to meet changes in industrial structure resulting from economic growth, and that the shift of labor force among different industries should be promoted.

Regarding such industries as will be left behind in the economic development, it is urged that special consideration be given from the standpoint of alleviating social tension. In this connection, it is necessary to emphasize that the improvement of employment is not merely to absorb increased labor force, but to make positive efforts for eliminating workers in the low-income brackets.

In this respect, the repletion of the social security system and improvement of the social welfare system have become increasingly

important. The attainment of these will not only promote economic development but also help the government fulfil its duties as a modern welfare state.

In order to solve these problems and also to insure economic development on a stabilized basis, it is imperative that financial and monetary measures should be carried out in an appropriate manner.

In this connection, it must be remembered that all the more importance should be attached to the position of financial and monetary policies, especially in regard to the plan for trade liberalization.

Those policies must be carried out in a positive and dynamic manner and in the direction of fostering the power of economic deve-

lopment on a long-range basis in order to comply with the demand that supply of funds for economic development be secured and the range of business fluctuations be kept down to the minimum.

2. Targets of the Plan

In order to achieve the aforementioned objectives, the plan sets the goal of doubling the scale of the national economy in terms of real value in about 10 years.

It is considered necessary and possible that the aforementioned problems facing this country will be settled in the process of realizing the above goal.

Main economic indices for achieving the plan of doubling the gross national product in 10 years are given in Table 2.

Table 2. Principal Economic Indices

Description	Basic year (A) (Fiscal 1956-58)	Target year (B) (Fiscal 1970)	(B)/(A) %
			(0.9)
Total Population (10,000 persons)	9,111	10,222	112.2
Population over 15 years old (Same as above)	6,217	7,902	(1.9) 127.7
Gross national product (Based on fiscal 1958 price. Unit: ¥100 million)	97,437	260,000	(7.8) 266.8
National income (Same as above)	79,936	213,232	(7.8) 266.8
National income per capita (Same as above. Unit: 1 yen)	87,736	208,601	(6.9) 237.8
Personal consumption (Same as above. Unit: ¥100 million)	57,979	151,166	(7.6) 260.7
Personal consumption per capita (Same as above. Unit: 1 yen)	63,636	147,883	(6.7) 232.4
Gross capital formation (Same as above. Unit: ¥100 million)	29,470	82,832	(8.2) 281.1
Level of mining and manufacturing production	100.0	431.7	(11.9) 431.7
Level of agricultural, forestry, and fishery production	100.0	144.1	(2.8) 144.1
Number of employed (10,000 persons)	4,154	4,869	(1.2) 117.2
Number of paid employees (10,000 persons)	1,924	3,235	(4.1) 168.1
Domestic freight transportation (100 million ton/km)	Fiscal year 1958 975	2,173	(6.9) 222.9
Domestic passenger transportation (100 million person/km)	Fiscal year 1958 2,109	5,082	(7.6) 241.0
Total energy demand (1,000 tons in terms of coal)	Fiscal year 1959 131,815	302,760	(7.8) 230.0
Export (\$1 million)	2,687	8,485	(9.3) 315.8
Export based on customs clearance statistics (\$1 million)	2,701	9,320	(10.0) 345.1
Import (\$1 million)	2,549	8,080	(9.3) 317.0
Import based on customs clearance statistics (\$1 million)	3,126	9,891	(9.3) 316.4

(Note): B/A in the brackets shows the annual rate.

Remarks: The figures for the basic year show the average figures of fiscal 1956-1958 and the prices for the basic year are based on fiscal 1957 statistics.

PART II

Chapter II Strengthening of Social Overhead Capital

Table 10. Actual Administrative Investments and
Investments for Planned Period
(Unit: ¥100 million)

	Year	1953	1954	1955	1956	1957	1958	1959	1960	Invest- ments during planned period
1. Necessity and Basic Direction of Social Capital										
As for transportation facilities, modernization is called for in their internal structure itself so as to meet the growing level of economic activities and national life.										
In achieving this task, consider- ation will be given to the need for proper distribution of industrial facilities, and efforts will be made to elucidate the roles of transpor- tation facilities and thereby esta- blish a modern, comprehensive transportation system.										
In trying to strengthen social capital, any hasty attitude should be avoided, for it will adversely af- fect important equipment invest- ment projects in private industries and Government finances and cause inflation to the detriment of econo- mic growth.										
This plan is to be implemented on as large a scale as possible from the standpoint of balanced develop- ment of national life with consider- ation given to its relationships with other factors involved. The ratio of investments to private equipment investments is to be raised to 1 to 2 in 1970 from the present 1 to 3. A total of ¥16,- 130,000 million (based on the 1960 price level) will be invested during the planned period.										
Table 10 shows the scale on which administrative investments should be made to replenish social capital under this plan. These listed figures, of course, were fixed without taking into consideration fluctuations that may occur during the planned period. So annual sums of investments should be deter- mined with sufficient flexibility in consideration of the role such pub- lic investments play in adjusting business fluctuations.										
	Works									
Road	564	571	609	795	1,147	1,401	1,720	2,276	49,000	
Harbor	121	97	92	110	142	169	240	272	5,300	
Agricultural	469	434	422	464	536	599	647	825	10,000	
Subtotal	1,154	1,102	1,123	1,369	1,825	2,169	2,607	3,373	64,300	
Adjustment of Industrial location										5,000
Housing	260	271	312	388	416	502	494	534	13,000	
Environmental sanitation	30	56	50	65	115	112	190	248	5,700	
Welfare	271	229	219	202	219	201	231	246	4,000	
Subtotal	561	556	581	605	750	825	915	1,028	22,700	
Flood control	468	486	468	440	500	518	639	789	11,200	
Damage reha- bilitation	909	736	601	533	491	573	825	733	5,300	
Subtotal	1,377	1,222	1,069	973	991	1,091	1,464	1,522	6,500	
Total	3,092	2,880	2,773	2,947	3,566	4,085	4,986	5,923	108,500	
Others	1,542	1,568	1,435	1,665	2,135	2,629	2,925	3,447	52,800	
(Educational facilities)									(673)	(11,000)
Grand Total	4,635	4,448	4,208	4,612	5,701	6,714	7,911	9,370	161,300	

Remarks:

- (1) Administrative investments mean investments for the Government to play its inherent role. They do not include private investments or the Government's enterprise investments. In other words, government investments include investments from the general or ordinary accounts of the Central and local governments, those for roads, the metropolitan expressway, the Aichi irrigation project, forestry development, machinery development, various housing corporations and the Atomic Research Institute plus quasi-public enterprises in local districts.
- (2) Scope of various projects:
 - (a) Road—Public works for roads, streets, extraordinary employment, damage rehabilitation, outlying islands and cold damage control, work by road corporations, the metropolitan expressway and independent works by local entities (excluding the share from general revenue for land readjustment, Amami-Oshima Island and subsidy rate differentials).
 - (b) Harbor—Public works, Amami-Oshima Island and local independent works.
 - (c) Agricultural and fishery industries—Bases for agriculture, Amami-Oshima Island, damage rehabilitation, Aichi irrigation project, Machinery Corporation, grassland reform, forestry roads, afforestation, fishing ports and local independent works (except agricultural facilities for joint use).
 - (d) Adjustment of Industrial Location—Adjustment funds for efficient execution of works incidental to the progress of the industrial location plan (survey and working expenses).
 - (e) Housing—Japanese Housing Corporation houses to rent, public-run houses and local independent facilities (including land cost).
 - (f) Environmental sanitation—Sewer and water supply pipes (including sewer systems in urban areas), end-disposal, simple water supply systems, cleaning facilities and local independent facilities.
 - (g) Welfare—Hospital (including health clinics) health and hygiene (excluding health clinics, cleaning facilities, end-disposal and simple water supply system), national parks, social welfare, child and mother-and-child welfare, and non enterprise special account facilities (except hospitals) and local independent facilities.
 - (h) Flood control—Rivers, dams, sand-control, machinery, privately owned forests and local independent works (except coasts).
 - (i) Damage rehabilitation—Public works, Ise Bay and local independent works.
 - (j) "Others"—Educational and defense facilities, Government office maintenance, airports and coastal security.
- (3) The amounts of investments required for the planned period are based on the 1960 price level.

3. Establishment of a Comprehensive Transportation System

One of the most important tasks that must be accomplished in attaining high-rate economic growth in the future is to remove the transportation barrier so as to meet the growing demand for transportation and ultimately create a modern and rational transportation system. In considering a policy for future domestic transportation, the following problems should be taken into account:

(1) Reasonable division of functions in regard to transportation should be effected by increasing the capacities of various transportation media and introducing technological innovations.

(2) Various transportation media should be placed in such a position that they can be chosen by users in consideration of service and fares.

(3) Transportation enterprises should be operated on a self-supporting basis, and proper fares should be determined on the basis of the cost principle. This will serve to bring about a reasonable picture of transportation media as well as to place transportation business on a solid basis.

(4) A balance must be maintained between the work of increasing the capacities of movable facilities and that of building and improving fixed facilities. Along this line, advance investments are necessary for fixed facilities under certain plans, while not only capacity increase but also modernization are required for movable facilities.

Coastal shipping tends to see marked fluctuations in its cargo handling under the influence of economic activities. But it is expected to perform an extremely important role during the planned period because land transportation is likely to level off and because of possible increases in railway fares. Along with rationalization of the fare structure and improvement of port facilities, this calls for qualitative improvement in coastwise vessels and attainment of a higher transportation efficiency.

What is urgent in connection with harbor facilities is to improve and expand facilities at key harbors where huge quantities of car-

FISHING PORTS IN JAPAN

Construction Section

Fishing Port Division, Fishing Agency Ministry of Agriculture and Forestry

1. Fisheries of Japan.

Japan's coastal waters are surrounded by the cold and warm currents and abound in many kinds of fish, thus constituting the foremost fishing grounds in the world. As a result, fishing always has thrived. However, in the past, fishing operations were carried on a small scale and consequently it was limited to primitive methods.

Nonetheless, since the introduction in 1919 of modern fishing technique, fishing in Japan made rapid progress. By 1930, the total annual catch leaped to 3,000,000-4,000,000 tons from the former figure of about 1,000,000 tons. Japan thus became the world's top fishing nation.

During World War II, production sharply dropped as fishing grounds and fishing boats were lost goes are handled. The growth of foreign trade and the present acute lack of facilities in these harbors are major reasons why such expansion work is urgently needed.

In view of the peculiarities of this country, it is predicted that harbor facilities will prove exceedingly important for new industrial zones. In a long-range view, therefore, it is advisable to improve in advance harbor facilities in prospective industrial centers. The investments required for this purpose are figured out at ¥530,000 million. The amount will turn out to be much greater, if microscopically calculated according to the unit price formula. So unusual efforts are called for to make such investments in as efficient a manner as possible.

Other steps considered necessary in this connection include improved harbor management, adoption of a system whereby beneficiaries are required to share the financial burden, determining of proper rates of harbor utilization and suspension of Government subsidies to those local harbors whose investment requirements are comparatively low.

in the war, while labor became scarce. The annual catch in the wake of the war was only about 2,000,000 tons.

After the war, production in the field of fishing gradually recovered and the catch in 1952 reached the prewar level. Production continued to increase since then, with the total catch in 1959 reaching 5,884,000 tons.

Japan's catch of 5,505,000 tons made her the world's No. 1 fishing country in 1958, followed by the U.S. (2,671,000 tons) and the Soviet Union (2,620,000 tons). Japan's catch amounted to 16.3 per cent of the total world catch of 33,720,000 tons.

In the case of fishing boats, the number of Japan's fishing boats in 1959 totaled 400,477, with a total tonnage of 1,672,546 tons. The total combined horsepower of these boats was 3,699,529 horsepower. Compared to the strength of fishing boats in 1949, the number decreased by 15 per cent, while the total tonnage increased by 41 per cent.

In other words, the average tonnage per boat increased to 4.18 tons from 2.56 tons, meaning that the size of fishing boats became larger.

The breakdown of the number of fishing boats by size showed that the number of fishing boats between five and 50 tons decreased 15 per cent, that of below five tons decreased 56 per cent, while that of above 50 tons increased 66 per cent.

Of the total number of fishing boats in 1959, the number of fishing boats powered by engines was 170,584, with their total tonnage amounting to 1,460,000 tons. About 80 per cent (1,160,000 tons) of this was built after the war.

The estimated fishing population in 1960 was 711,600, which was a decrease of nine per cent against that of 1954. The fishing population shows signs of decreasing annually.

When Japan's fishing population is compared to that of the U.S., the Netherlands and Norway, it becomes clear that Japan's fishing population is comparatively large. The fishing population of the U.S. is 153,000, that of the Netherlands is 10,000 and that of Norway, 80,000.

2. Japan's fishing ports.

Fishing ports are bases of operation indispensable for the fishing industry.

They, first of all, serve as bases where fishing boats unload their hauls, where they load supplies needed for going out to sea, as well as where they stay for a rest or necessary repairs.

Also they serve as bases from where hauls are shipped to consumer areas, where hauls are stored or where hauls are processed into marine products.

In other words, the fishing ports are an all-comprehensive entity comprising of water and land areas, as well as facilities. They play an important economic role in connection with maintenance of fishing boats, improvement of productivity of fishing boats, preservation of the freshness of hauls, strengthening of the ability to handle hauls and economizing of fishing expenses.

In this way, the fishing ports are not only a junction point which connects production at sea with processing on land, but they also have an extremely important significance as a basis of production itself.

As the fishing ports, in this way, are extremely important public facilities in promoting the fishing industry, Japan enacted in 1950 the Fishing Port Law, which might be called a fundamental law for fishing ports, and is trying to improve fishing ports and also to improve their administration and maintenance.

The number of ports which were designated as fishing ports under the Fishing Ports Law totals 2,735 as of July 1, 1961.

Of them, those fishing ports which are mostly used in local fishing operations—which serves as bases for coastal fishing—number 2,269. They are called Category One fishing ports.

The number of fishing ports

which serve as bases for deep sea fishing and off-shore fishing total 78 and they are called Category Three fishing Ports.

The fishing ports whose use is wider than Category One but narrower than Category Three are called Category Two fishing ports. These number 332

Of the fishing ports classified as Category Three, those which play an especially important role in enhancing the fishing industry are designated as the Special Category Three.

There are eight Special Category Three fishing ports. They are Hachinoe (Aomori Prefecture), Shiogama (Miyagi), Choshi (Chiba), Misaki (Kanagawa), Yaizu (Shizuoka), Shimonoseki (Yamaguchi), Hakata (Fukuoka) and Nagasaki (Nagasaki).

In addition to them, there are also fishing ports which are classified as Category Four. These total 56 and are located on outlying islands or remote places and are considered necessary for developing fishing grounds or for serving as shelters for fishing boats.

The character, the scope and the location of fishing ports have a close relation with the scope of activities of fishing boats, namely such conditions as fishing grounds and consumption areas.

The following is an outline of the kinds of fishing ports and their locations.

(1) Fishing ports which chiefly serve as bases for deep-water fishing. They handle ships which go to distant fishing grounds. The size of such fishing boats is large. Consequently the number of fishing ports for this purpose is few. Also, since the catch of deep-water fishing is mostly shipped to large consumer areas, the fishing ports of boats engaged in deep-water fishing are located at places which have comparatively convenient connection with the large consumer areas.

(2) Fishing ports which chiefly serve as bases for off-shore fishing: The first condition of these ports is to be near the fishing grounds as fishing boats come and go very frequently between the ports and the not-so-far-away fishing grounds. The size of fishing boats using these ports is not

very large, while the number of these ports is quite large.

(3) Fishing ports which chiefly serve as bases for coastal water fishing area located still closer to fishing grounds. The size of fishing boats using these ports are also still smaller, and the number of these ports numerous.

(4) In addition to these three kinds of ports, there are fishing ports which serve as relay fishing ports where the catch is unloaded to be shipped to consumer areas. These ports serve as advance bases for fishing boats engaged in fishing in distant deep waters and which serve mainly as shelters for fishing boats in bad weather.

The total general surface catch in 1959 was 5,206,000 tons (4,633,000 tons in 1952). Of this, 1,070,000 tons or 20 per cent (13 per cent in 1952) was hauled at Special Category Three fishing ports.

The amount hauled at the Category three fishing ports, excluding the Special Category Three fishing ports, in 1959 was 928,000 tons or 18 per cent (17 per cent in 1952) of the total.

The haulage at these two classes of fishing ports is tending to increase annually.

From this fact, the important position of the Special Category Three and Category Three fishing ports in Japan's fishing industry today is clearly understood.

As explained already, fishing port facilities are important public facilities indispensable for the promotion of the fishing industry. And it takes a large amount of money to construct new fishing ports, to improve the existing ones and to repair them when they are damaged. Not only large expenditures are required but also there are often many technical difficulties to be overcome.

As a result, in accordance with the Fishing Port Law and its related ordinances, the national government is giving assistance to local autonomous governments which have jurisdiction over the management of fishing ports. The assistance is in the form of bearing part of the expenditures, of giving aid or giving guidance, as well as supervision, in the management of the port projects.

As regards the improvement of the nation-wide network of fishing ports, the work has been under way since fiscal 1951, based on a fishing port improvement plan approved by the Diet.

The plan in force now is one which was revised in 1955.

The plan covers 604 fishing ports, calling for a total expenditure of about ¥55,100 million (about \$153,000,000), including national government expenditures of about ¥370,000 million (about \$103,000,000). As of fiscal 1959, about 59 per cent of the plan has been completed.

Six years have now passed since the original plan was revised and now another revision is under study. The second revision is considered necessary in order to adjust the plan to the recent marked growth of the economy as a whole. It is also considered necessary in order to promote various measures for improving the structure of the fishing industry.

In 1957, the Seaboard Protection Law was passed to protect coastal areas and protect the land from damage caused by tidal waves, high tides or changes in the earth strata. In case coastal zones and fishing port area is overlap, the head of the regional public body who is the administrator of that fishing port is responsible for the combined area. This arrangement is suitable for the administration of fishing ports, and since fiscal 1957, expenditures for the preservation of coastal areas and the strengthening of facilities have been added to budgetary appropriations related to fishing ports.

When fishing port facilities or coastal areas in their vicinity have been damaged, the government, on

the basis of "the law for the restoration with government funds of public works facilities damaged by natural disasters", decides on the expenditure for rehabilitation and provides a high percentage of aid.

In addition to this, the protective work against tidal waves in Ise Bay is now in progress regarding fishing ports, which were seriously damaged in the 1959 Ise Bay typhoon in Aichi and Mie prefectures.

Also, restoration work is in progress with regards to fishing ports in Iwate and Miyagi prefectures which received heavy damage from seismic waves caused by the Chile earthquake of 1960.

The various projects just explained are being carried out in coordination with the over-all land development program and in conformity with various ordinances governing the development of isolated islands.

The following is the outline of the national budget related to fishing ports for fiscal 1960 and fiscal 1961.

The Fishing Port Division of the Fisheries Agency (comprising the planning and construction sections) is responsible for the following matters:

Various administrative duties of the national government, such as designation of fishing ports, designation of fishing port administrators and the administration and maintenance of fishing ports under the Fishing Law and related ordinances; other projects related to fishing port such as research, planning and design and various administrative duties for the national government such as the granting of subsidies (aid).

3. Fishing Port Facilities.

Under the fishing Law, the following facilities are regarded as fishing port facilities and are locat-

ed within fishing port area.

(1) Basic Facilities.

a. Outlying facilities.

Breakwaters, sand dykes, tide-water dykes, floodgates, port entrances, embankments, levees, piers and

b. Mooring facilities.

Wharfs, unloading places, buoys for mooring, posts for mooring, piers, floating piers and lips.

c. Facilities in the harbor area.

Navigation channels and anchorages.

(2) Associated facilities.

a. Transportation facilities.

Railways, internal railways, roads, bridges and canals.

b. Auxiliary facilities for navigation.

Nautical marks, as well as signalling facilities and lighting facilities for fishing boats entering and leaving port.

c. Sites for fishing port facilities.

A variety of sites for fishing port facilities.

d. Facilities to maintain fishing ports and equipment.

Repair shops for fishing boats, repair shops for marine engines and places to dry fishing equipment.

e. Supply facilities.

Water and fuel supply facilities.

f. Handling, Preservation and Processing Facilities for Hauls.

Places to handle hauls, machines to handle hauls, warehouses for marine products, open-air storage, ice-making, refrigeration and deep-freeze storage facilities and processing plants.

g. Communications facilities.

Land wireless facilities, land radiotelephone facilities and weather broadcasting facilities.

h. Welfare facilities for fishing crews.

Boarding houses, bath houses, clinics and recreational facilities for crews.

i. Fishing Port Administration Facilities.

Administration offices and watch houses.

	1960	1961
Repair of fishing ports	3,882,800	4,199,600
Individual improvements	375,200	486,000
Coastal conservation	244,100	441,500
Measures related to damage from seismic waves caused by the Chile earthquake	168,216	429,000
Anti-tidal wave measures in Ise Bay	1,142,036	815,000
Damage rehabilitation	3,038,793	1,702,113
Others	353,241	384,970
Total	9,204,386	8,458,184
	(about \$25,600,000)	(about \$23,500,000)

Note: In the case of fiscal 1960, figures are for the final budget and figures for fiscal 1961 are those of the first budget.

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Twenty two port managers and engineers from 13 Asian countries studied various port problems in the Colombo Plan Ports and Harbors Seminar held in Tokyo, October 7 through November 3, 1961. The photo shows the party visiting Ishikawajima Shipyard, Tokyo.



The photo shows the center of the Port of Kawasaki, known as the foremost industrial port of Japan, with busy industrial activities in the background.

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