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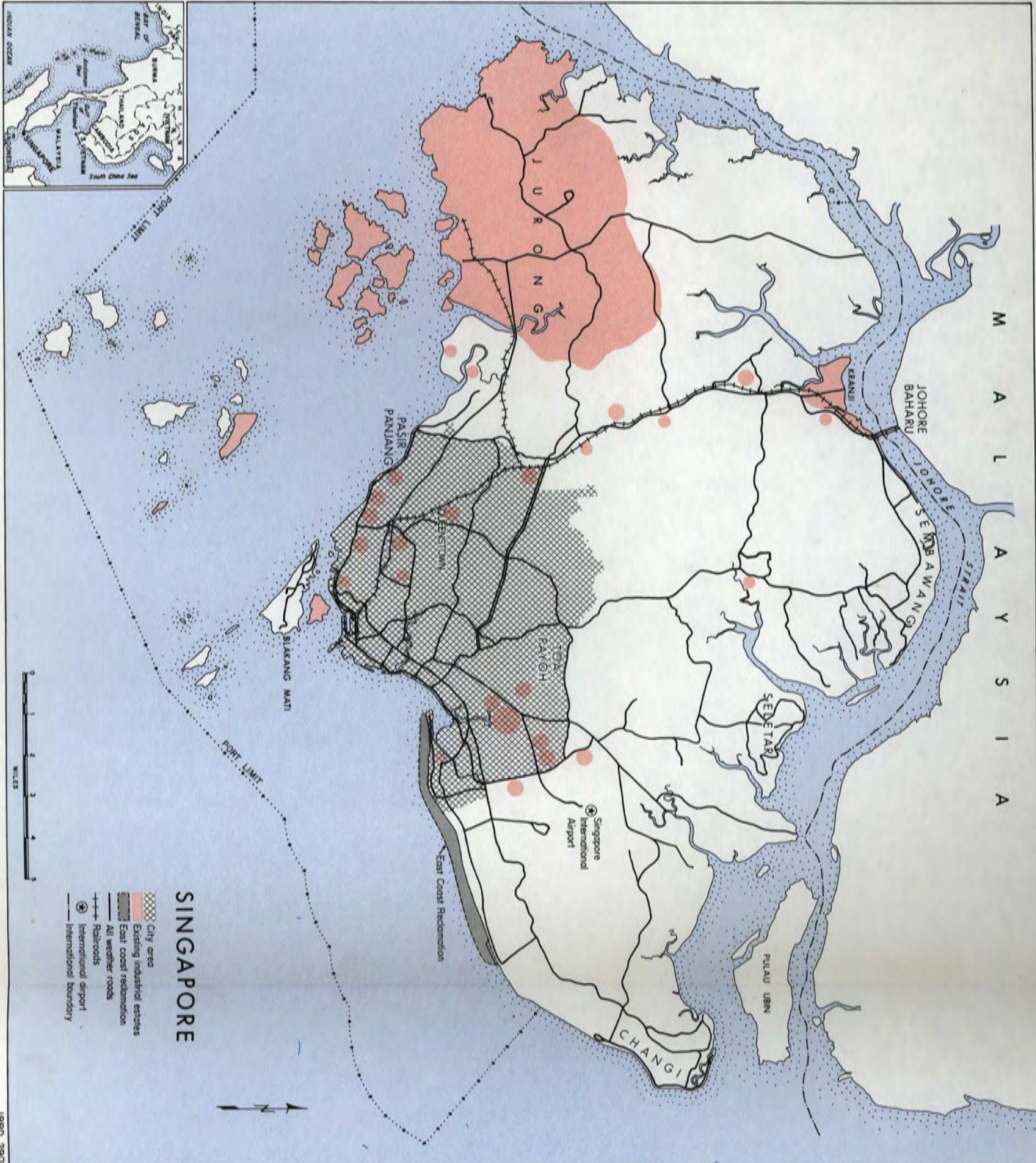
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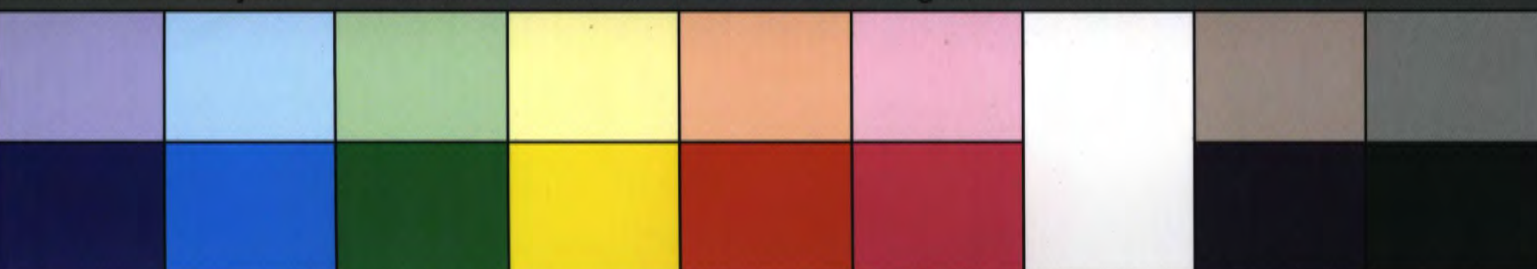


7200 AIRWAY



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MAP 1

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## BASIC DATA - SINGAPORE

Area (in square miles):

225.6

Political Status:

Republic since 1965 on separation from Federation of Malaysian States.

Population (1970 census) in million:

2.075

Population Growth (% p.a.)

$\frac{1961-65}{2.6}$

$\frac{1966-70}{2.2}$

Crude Birth Rate (per 1,000)

$\frac{1961}{35.5}$

$\frac{1970}{22.1}$

Family Planning Acceptors  
(% of married women)

$\frac{1966-70}{56}$

Education:

School enrollment Primary and Secondary  
(% of school-age population)

$\frac{1967}{92}$

$\frac{1970}{89}$

Literacy Rate  
(% of population over six years)

1968: 75%

Health:

Population per Hospital Bed (number)

$\frac{1961}{251}$

$\frac{1970}{301}$

Labor Force and Unemployment:  
(1970)

Labor Force

675,000

Unemployed as Percentage of Labor  
Force

4.7



Gross National Product:1970  
(Preliminary)

Total Value at Current Market Prices (S\$ million)	6,023
Gross National Income per Capita (US\$ equivalent at constant prices)	949
Real Growth of GNP - 1965-1970	12.9% p.a.

Industrial Origin of GDP (percent)  
(at current factor cost)1970  
(preliminary)

Agriculture	2.9
Manufacturing	20.7
Construction	5.2
Wholesale and Retail Trade	30.5
Tourism	4.9
Other Branches	35.8

Savings, Investment and Resource Balance  
(as percent of GNP at current market prices)Average  
1966-70

Total economy: Savings	22.6
Investment	17.0
Resource Surplus	5.6

Money:

June 1971

Rate of Change  
1966-70  
14% p.a.

Total Money Supply	S\$1,689 million
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Prices:

1965

1968

1969

1970 (June)

Consumer Price Index (1960 = 100)	107	110	113	113
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Public Sector Operations:  
(S\$ million)

1968

1970/71<sup>1/</sup> (Est)

Public Sector Revenue	1,221	1,808
Public Sector Expenditure	892	1,309
Public Sector Current Surplus	329	499
Public Sector Capital Expenditure	380	596
Overall Deficit	51	97
External Finance	58	136

<sup>1/</sup> April 1st to March 31st



<u>Balance of Payments (US\$ million):</u>	<u>1966</u>	<u>1970 (Est)</u>
Merchandise Exports (f.o.b.)	3,466	6,424
Merchandise Imports (f.o.b.)	4,040	7,692
Merchandise Balance	- 574	- 1,268
Transfers (net)	- 45	- 24
Balance on goods, services and transfers	+ 96	- 417

<u>Concentration of Merchandise Exports (percentages:)</u>	<u>1967</u>	<u>1970</u>
Petroleum (% domestic exports)	66	59
Rubber (% of entrepot exports)	32	40
Spices (% of entrepot exports)	3	4
Timber (% of entrepot exports)	3	4
Coffee (% of entrepot exports)	5	3

<u>Gold and Foreign Exchange Reserves (June 1971):</u>	<u>US\$ million</u>
Monetary authorities	316.6
Government and other public authorities	1,024.8
Commercial banks (net)	19.2
Total	<u>1,360.6</u>

<u>External Debt:</u>	<u>US\$ million</u>
Total Debt Outstanding (excluding undisbursed) End of 1970	125
Total Debt Service (1970 estimate)	<u>7.7</u>
Debt Service as Percentage of Domestic Exports (1970)	1.3%

Current Exchange Rate:

US\$1.00	=	S\$3.06
S\$1.00	=	US\$0.327

October 21, 1971









## REPUBLIC OF SINGAPORE

## BACKGROUND NOTES

Population: 2 million (1969 est.)

Capital: Singapore

Lying off the southern extremity of Asia at the tip of the Malay peninsula, Singapore is separated from the mainland (Malaysia) by the Strait of Johore, which is traversed by a 3/4-mile-long causeway carrying a road and railway, and from the Republic of Indonesia by the Singapore Strait. The country is a focal point for Southeast Asian sea routes. Its total land area of 225 square miles includes one large island and about 40 nearby islets. The diamond-shaped main island measures 26 miles at its broadest, from east to west, and 14 miles from north to south.

Much of Singapore is low lying and originally consisted of swamp and jungle. It is now virtually all urban and industrialized land. Its geographical features are built to a minor scale. For example, the highest point on the main island, Bukit Timah (Hill of Tin), is only 581 feet above sea level and the longest river, the Sungei Seletar, extends only 9 miles. A central plateau of about 12 square miles contains a water catchment area and natural reserve. The city of Singapore lies on the southern part of the island and for the most part covers land reclaimed from swamp and sea.

Singapore's climate is characterized by high temperatures, high humidity, and copious rainfall. The average maximum temperature is 87° F.; the average rainfall is 96 inches. There are no pronounced wet or dry seasons.

Singapore's flag is composed of two horizontal stripes, red over white, with a white crescent and five stars in the upper right-hand section.

## THE PEOPLE

The population of Singapore is estimated at 2 million. The average density is more than 8,500 persons per square mile, making it one of the most heavily populated independent countries in the world. The greatest density is found in the 37-square-mile area of the capital city of Singapore and its environs on the south-central coast where, according to the last census (1957), two-thirds of the island's population was concentrated.

The annual rate of population growth fell from 4.1 percent in 1965 to 1.5 percent in 1969. The Government conducts a vigorous family-planning program which aims to keep the crude birth rate to a level of less than 20 per thousand. Half the population is less than 21 years of age and one-third less than 10 years of age.

Health standards are high, and average life expectancy is more than 62 years. There is approximately one physician per 1,100 people.

An estimated 74 percent of the Singaporeans are Chinese, 14 percent Malay, 8 percent Indian and Pakistani, and 4 percent other.

Singapore possesses a varied linguistic, cultural, and religious heritage. Malay is the national language, but Chinese, English, and Tamil are also official languages. English is the language of administration and is widely used in professional and business circles and schools. The Government provides 6 years of free primary education. Primary and secondary students constitute 25 percent of Singapore's entire population. Enrollment in the University of Singapore is 3,300; at Nanyang University, 1,750; and at Singapore Polytechnic, 3,000. The overall literacy rate is more than 75 percent, but for persons less than 35 years of age it exceeds 90 percent.

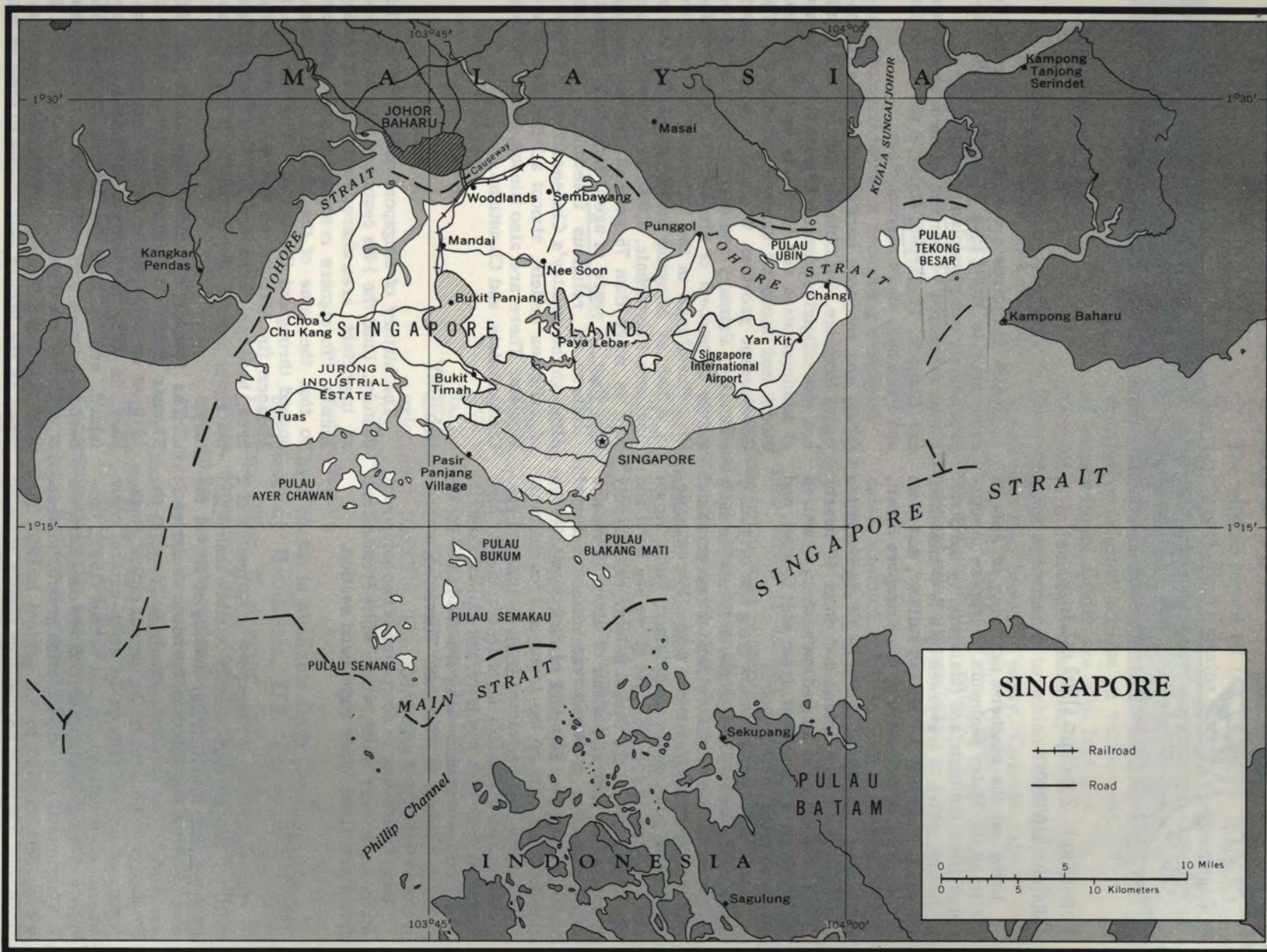
There is religious freedom in Singapore. Although the country's Chinese adhere to a variety of religious beliefs, almost all the Malays are Moslem. There are also Hindus, Sikhs, Taoists, Confucianists, and Christians.

## HISTORY

The history of Singapore dates from the 11th century. Until the 14th century it was considered an important area where, according to the Malay Annals, "foreigners resorted in great numbers so that the fame of the city and its greatness spread throughout the world." With the rise of Malacca (in Malaya) as the major port of the area, however, Singapore fell into decay and did not again assume importance until the 19th century.

The founder of modern Singapore was Sir Thomas Stamford Raffles who arrived there in 1819 as an agent of the British East India Company. In 1824 the British purchased Singapore island, and by 1825 the city of Singapore had become a major port with its trade exceeding that of Malacca and Penang (in Malaya) combined. In 1826 Singapore, Penang, and Malacca were combined as the Straits Settlements to form an outlying residency of the British East India Company, and in 1867 the Straits Settlements were made a British Crown Colony. This arrangement continued unchanged until 1946.







The opening of the Suez Canal in 1869 and the advent of steamships launched an era of prosperity for Singapore as transit trade expanded throughout Southeast Asia. In the 20th century the demand of the automobile industry for rubber from neighboring countries and the need of the packaging industry for tin from those same countries helped make Singapore one of the world's major ports. It is now fourth largest in the world in terms of tonnage handled annually.

Provision for Singapore's defense began in 1921 when the British constructed a naval base, soon supplemented by an air base. However, the Japanese succeeded in capturing Singapore in February 1942, and the island remained under Japanese occupation until September 1945 when it was recovered by the British. Until recently British military installations in Singapore constituted the United Kingdom's largest concentration of military forces east of the Suez Canal. They employed 35,000 people and contributed 25 percent to Singapore's gross domestic expenditure.

In 1946 the Malay states, plus Penang and Malacca, were united in the Federation of Malaya. Singapore remained a British Crown Colony. The British at the time deemed it unwise to include Singapore in the union, mainly because of its predominantly Chinese population. In 1959 Singapore became internally self-governing, and in 1963 it joined with the Federation of Malaya, Sabah, and Sarawak (the latter two were former British Borneo territories) in the formation of Malaysia.

Indonesia adopted a policy of "confrontation" against the new federation, charging that it was a "British colonial creation." It severed trade with Malaysia, a move which particularly affected Singapore since Indonesia had been Singapore's second largest trading customer. At the end of "confrontation" in the summer of 1966, Indonesia resumed trade with Singapore.

After a period of friction between Singapore and the Central Government, Singapore separated from Malaysia on August 9, 1965, and became an independent Republic.

## GOVERNMENT

According to the Constitution, as amended in 1965, Singapore is a Republic with a parliamentary system of government. The President (Chief of State) is elected every 4 years by the Parliament, but his position is primarily ceremonial. Political authority rests with the Prime Minister (Head of Government) and a Cabinet. The Prime Minister is the leader of the political party or coalition of parties which has the most seats in the Parliament.

The unicameral Parliament consists of 58 members elected on the basis of universal adult suffrage. The maximum term of any one Parliament is 5 years. Since 1959 voting has been compulsory.

The judicial power in Singapore is vested in a High Court and a Court of Appeal. The High Court exercises original criminal and civil jurisdiction and appellate criminal and civil jurisdiction from subordinate courts. It consists of a Chief Justice and six judges, appointed by the President. Appeal can be made from the High Court to the Court of Appeal which exercises appellate criminal and civil jurisdiction. Further appeal can be made in certain cases from the latter court to the Judicial Committee of the Privy Council at London.

## POLITICAL CONDITIONS

The ruling political party in Singapore (in power since 1959) is the Socialist moderate People's Action Party (PAP), headed by Prime Minister Lee Kuan Yew. In general elections held in 1963, the PAP won 37 of the (then) 51 seats in the Parliament. In October 1966 the opposition Barisan Socialis Party (BSP) members resigned, leaving the PAP as the sole party represented in Parliament. In the general elections of April 1968 the PAP was again returned to power, winning all 58 seats—51 of them without opposition. The PAP provides a responsible Government noted for honesty and efficiency. The last presidential election was held in January 1971.

## ECONOMY

Singapore's strategic position and its industrious population give it an economic importance in Southeast Asia considerably in excess of its size.

Singapore's economy has seldom looked better than it does today. Foreign trade and shipping, the activities its dynamic businessmen know best, are at a record high level. Industrialization, the "new look" of the past few years, is developing faster than even the most optimistic estimates of a few years ago, with an expanding shipbuilding and repair industry and a new microelectronics industry contributing substantially to the prosperity. Regional petroleum developments have made Singapore a world oil exploration center. The number of tourists is multiplying, while new hotel construction has paced a general building boom. Even the scheduled withdrawal of the British military forces from Singapore during 1971, which once was viewed as a potential economic calamity, is being turned to the Republic's economic advantage. The chronic problem of unemployment appears less critical and nearer solution than it has for many years.

In 1969 Singapore's gross national product (GNP), at market prices, totaled U.S. \$1.8 billion. It has increased at an average annual rate of 9 percent since 1960. Per capita GNP in 1969 increased 13 percent over 1968 to an estimated \$842, the highest in Asia except for Japan. Despite this increase, there was no inflation in



Singapore. Rather, the consumer price index dropped one-tenth of 1 percent.

The financial position of Singapore is sound. In 1970 foreign exchange reserves increased 21 percent over the previous year, to a total of \$1.2 billion. Singapore's customary tender is the Singapore dollar which is backed by these external reserves. At present S \$3.03 = U.S. \$1.00.

The government budget for 1970 showed an expected slight surplus, with revenues estimated at \$436 million and expenditures at \$435 million. Development expenditures of \$212 million, however, left an overall deficit of \$211 million which was financed mainly by domestic borrowing.

Singapore's principal economic role in South-east Asia continues to be the processing, packing, and marketing of other countries' primary products and the distribution within the region of goods from overseas. Its role as a regional financial and industrial center is growing rapidly, however.

## Trade

Singapore's traditional entrepôt trade has consisted of processing, packing, and transshipping to world markets the raw materials of the region, such as rubber, timber, coffee, spices, copra, and rattan; distributing within the region the manufactured products of industrialized countries; and conducting activities related to trade, such as banking, shipping, insurance, and storage. In the past, two-thirds of Singapore's imports and exports consisted of transiting goods. While the percentage of value added to each item in Singapore may have been small, the sheer volume of this trade insured a substantial impact on Singapore's economy.

Imports and exports continued their upward trend in 1970. Excluding Indonesian trade, Singapore's total imports were more than \$2.3 billion and its exports about \$1.7 billion. Major trading partners are Malaysia, Indonesia, Japan, the United Kingdom, and the United States.

In 1970 the United States ranked third among Singapore's sources of imports with 10 percent of the total. In that year the value imported U.S. goods was \$243 million, including aircraft, industrial machinery, nonelectric machinery, tobacco, electric generators, and other items. Singapore's exports to the United States totaled \$183 million and consisted mainly of crude rubber, coffee, spices, wood products, and clothing.

## U. S. Investment & Assistance

U.S. investment is playing an important role in Singapore's economic expansion, particularly in the petroleum industry, manufacture and assembly of miniaturized electronic components, and modernization of regional distributional facilities.

The Mobil Oil Company has built a \$16 million refinery, and Humble Oil and Refining Company (Esso) has built a \$65 million refinery in a

heretofore marshy and nearly uninhabited island near Jurong, which has become a major industrial complex.

U.S. firms are also active (although investment is relatively small) in shipping, banking, insurance, importing, and exporting. The resident U.S. business community in Singapore was estimated to be 7,000 as of January 1971. Total U.S. investment is believed to be more than \$205 million.

There is no bilateral aid program, but an Agency for International Development (AID) investment guaranty agreement is in effect.

## Industry

Recognizing that trading activities alone could not create enough new jobs for the growing population, the Singapore Government placed special emphasis on industrialization in its First Economic Development Plan (1961-65). Separation from Malaysia precluded realization of a national market and resulted in a shift of emphasis in the Second Economic Development Plan (1966-70) toward manufacturing for export rather than for import substitution. To this end the Government introduced additional and remarkably successful fiscal incentives for export-oriented industries. Hardly a week went by in 1970 without one or more new manufacturing firms beginning operations. The Jurong Industrial Estate, a Government-planned satellite town devoted to manufacturing, has more than 200 new factories in production and many others in various stages of implementation. Several excellent training facilities established by the Government for teaching industrial skills to newcomers and experienced workers are barely able to keep up with the demand for skilled labor.

The Government also introduced a sweeping revision of Singapore's labor legislation in mid-1968 which eliminated some costly fringe benefits, gave employers more flexibility in hiring and firing, and tied wage increases to productivity. A stripped-down Economic Development Board (EDB) has increased its promotional activities in the United States and is achieving success in attracting new investors through its Singapore Investment Centers at New York, San Francisco, and Chicago.

Singapore responded to the economic repercussions of the imminent withdrawal of British forces by stimulating alternative economic activity based on continued utilization of assets left by the departing forces: real estate, a highly developed industrial infrastructure, and a pool of skilled workers. The first piece of military real estate returned to Singapore, Blakang Mati Island, is to become a tourist resort and the site of a communications earth satellite station. A newly formed company took over the dockyards of the British Royal Naval Base in December 1968 and commenced a brisk commercial business, immediately reemploying the 3,000 dockyard workers who formerly worked for the Royal Navy. The economic disruption caused by British



withdrawal, therefore, will not be as severe as had once been anticipated.

Two new industries and two new business activities merit special mention. The former are shipbuilding and electronics manufactures; the latter are tourism and support activities for petroleum exploration and processing.

Singapore has continued to demonstrate a natural aptitude for shipbuilding, repair, and conversion and this industry is mushrooming. Of Singapore's 30-some shipyards, four are of major importance able to compete successfully worldwide. Tankers in the 100,000-ton class can be drydocked; a new drydock for 300,000-ton tankers is under construction at Jurong Shipyard Ltd.; and one for 400,000-ton tankers will be completed at Sembawang Shipyard Ltd. by 1972.

Singapore has also shown a capacity for electronics assembly and manufacture, particularly miniaturized products. Several U.S. firms produce, among other things, semiconductors, integrated circuits, and servomotors. These industries are proving so successful that others are seriously considering establishing similar plants.

As the number of tourists continues to increase from month to month, Singapore is mobilizing extensive resources to develop tourism into a major earner of foreign exchange. Hotel construction was a significant factor in the recent economic boom, as hotels were built to meet not only the present room shortage but also the tourist invasion expected when large jets begin operation. New hotels, restaurants, and night clubs are doing a flourishing business, while plans are moving forward for a variety of new recreation facilities.

Finally, Singapore is developing as a regional base for petroleum exploration activities in and around Indonesia, Malaysia, and Thailand, bringing to the area scores of oil company representatives and employees. The effect of this activity on the economy is evident in the millions of dollars flowing into local firms for the construction of equipment related to oil exploration and of facilities for housing oil company personnel.

## Labor

Singapore has a labor force of approximately 600,000 workers, less than one-fifth of which are in organized trade unions. The National Trades Union Congress (NTUC) is the sole union federation and has about 100,000 members; some 20,000 other workers belong to leftist-oriented trade unions. Collective bargaining is well-advanced in most industries, the largest exception being the building trades. There is extensive legislation covering general labor and trade union matters and an Industrial Arbitration Court to handle serious labor-management disputes.

Population growth once created a serious problem for Singapore, flooding the labor market each year with more applicants than there were job openings. Population growth has now declined

to 1.5 percent per year and, therefore, with time this problem should become less serious. Unemployment currently is estimated at about 9 percent. Withdrawal of most British military forces and their dependents by 1971 will mean a loss of some employment opportunities. However, Singapore is counteracting this loss by continuing its vigorous policy of attracting new industry to the Republic.

## Transportation & Communications

Singapore is served by more than 100 major shipping lines. At present, 14 of them transport goods between Singapore and the United States.

The country is linked by rail and road to Malaysia and Thailand, and the international airport at Paya Lebar will soon be capable of handling any civil aircraft now in world service. Singapore is served by major scheduled airlines operating to most parts of the world.

Singapore has an extensive radio-telephone and telex communication system with worldwide connections. A British Commonwealth telephone cable system (SEACOM) provides high quality circuits from Southeast Asia to Hong Kong, Australia, and Guam (where connection is made to the United States). Radio and television stations are government-owned. There are daily newspapers in English, Chinese, and Malay, which are privately-owned.

## FOREIGN RELATIONS

Singapore actively participates in the activities of the British Commonwealth of Nations and considers its future defense in cooperation with selected other Commonwealth members: Malaysia, Australia, New Zealand, and the United Kingdom. Singapore maintains a nonaligned posture vis-a-vis world "powers" and "power blocs." It is a member of the United Nations and several of its specialized agencies as well as several regional entities devoted to economic, cultural, and political cooperation. It believes that the more friendly contacts it establishes with other nations, the stronger it will be and the more its trade will grow.

In expanding bilateral relations, it generally balances involvements with nations on each side of the more important international disputes. There are now six East European missions in Singapore, five of which have been accorded Embassy status, including that of the Soviet Union. Singapore strongly supports the concept of regionalism and has become increasingly involved in a wide variety of regional projects. It wishes to remain a non-Communist state in a non-Communist Southeast Asia and regards cooperation among the countries of the region as providing an essential means by which Southeast Asia can achieve sufficient progress to remain independent.



## U. S. POLICY

The United States has publicly affirmed support for the independence of Singapore and respect for Singapore's policy of nonalignment. Singapore's firm resolve to remain independent, to maintain economic growth and political stability, and to work with its neighbors to create mutually beneficial forms of regional cooperation parallel U.S. interests in the area.

Working closely with the Singapore Public Service Commission in the selection of candidates, the U.S. Embassy sends three to four Singapore Government officials to the United States annually for 30-day visits to follow programs tailored to their professional interests. A few officials remain in the United States for as long a year to participate in advanced courses in fields such as economic development at American universities. In addition, Singapore graduate students go to the United States for advanced degrees, and the U.S. Government supplements the salaries of several American professors at the University of Singapore.

Private organizations such as the Asia Foundation, the East-West Center, and the Ford Foundation are also active in exchanges with Singapore.

## PRINCIPAL GOVERNMENT OFFICIALS

President—Benjamin H. SHEARES

### Cabinet Ministers

Prime Minister—LEE Kuan Yew

Communications—YONG Nyuk Lin

Culture—JEK Yuen Thong

Defense—GOH Keng Swee

Education—LIM Kim San

Finance—HON Sui Sen

Foreign Affairs—S. RAJARATNAM

Health—CHUA Sian Chin

Home Affairs—WONG Lin Ken

Labor—S. RAJARATNAM

Law—Edward W. BARKER

National Development—Edward W. BARKER

Science and Technology—TOH Chin Chye

Social Affairs—OTHMAN Bin Wok

Ambassador to the U.S.—Ernest Steven MONTEIRO

Ambassador to the U.N.—T. T. B. KOH

Singapore maintains an Embassy in the United States at 1824 R Street, N.W., Washington, D.C. 20009.

## PRINCIPAL U. S. OFFICIALS

Ambassador—Charles T. Cross

Deputy Chief of Mission—William H. Bruns

Economic/Commercial Affairs Officer—John J. O'Neill

Public Affairs Officer (USIS)—Burt F. McKee

Consular Officer—John P. Coffey

The U.S. Embassy in Singapore is located at No. 30 Hill Street, Singapore.

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DEPARTMENT OF STATE PUBLICATION 8240

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4



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Ministry of Finance



## *Official Programme*

VISIT OF

MR ROBERT S. McNAMARA

PRESIDENT

INTERNATIONAL BANK FOR  
RECONSTRUCTION AND DEVELOPMENT

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*Monday, 15th November, 1971 – Tuesday, 16th November, 1971*



Monday, 15th November, 1971

- 1030 ✓ Arrive at Singapore International Airport  
*M. N. OF FINANCE*
- 1115 Check in at Goodwood Park Hotel
- 1130- Briefing on Economic Prospects for Singapore by
- 1200 ✓ Mr George E. Bogaars, Permanent Secretary (Economic Development), Ministry of Finance, at Viking Room, Goodwood Park Hotel
- 1200- Lunch (Private)
- 1330
- 1340 ✓ Arrival of Chairman Mr Lee Hee Seng and Secretary, Mr William Chee of the Housing and Development Board at Goodwood Park Hotel
- 1345- Meeting and discussion with Mr Lee Hee Seng on the activities
- 1415 and development schemes of the Board in the Viking Room, Goodwood Park Hotel
- 1415- Leave for a tour of Queenstown. Arrived at the Point Block
- 1500 (block 160), Mei Ling Street, Neighbourhood 6. Proceed to the roof top for a panoramic view of Queenstown. Visit a family in the Block
- 1530- ✓ Meeting with Mr I. F. Tang, Chairman, Economic Development
- 1545 Board, at Viking Room, Goodwood Park Hotel
- 1545 Leave Goodwood Park Hotel for Jurong Town Corporation, accompanied by Mr I. F. Tang
- 1615 ✓ Meeting with Mr Woon Wah Siang, Chairman, Jurong Town Corporation
- 1630- Tour of Jurong Town Corporation
- 1730
- 2000- ✓ Meeting Dinner by Dr Goh Keng Swee, Acting Prime Minister
- 2200 at Penthouse Negara

Tuesday, 16th November, 1971

- 0830- Meetings at Viking Room, Goodwood Park Hotel
- 1200
- 0830- ✓ Dr V. M. S. Thevathasan, Head, Family Planning Board
- 0900
- 0900- ✓ Mr Michael Wong Pakshong, Managing Director, Monetary
- 0945 Authority of Singapore
- ✓ Mr T. M. Attwood, Manager, The Chartered Bank
- ✓ Mr Wong Nang Jang, Resident Vice President, First National City Bank
- 1000- ✓ Mr Howe Yoon Chong, Chairman, Port of Singapore Authority
- 1030
- 1030- ✓ Dr Augustine Tan, Economist
- 1115 ✓ Dr Stephen Yeh Kuo-Hwa, Economist
- ✓ Dr Lee Soo Ann, Economist
- 1115- ✓ Mr R. H. Ho, Chairman of United Vegetable Oil,
- 1200 Li-Ho Shipping, United Maritime Management, United Flour Mill, Thai Wah Co.
- ✓ Mr Low Guan Onn, Deputy General Manager/Financial Manager, Jurong Shipyard *good business*
- 1235 Departure at Singapore International Airport



ITINERARY FOR VISIT TO JAPAN, THAILAND, PHILIPPINES,  
SINGAPORE AND MALAYSIA, NOVEMBER 2-19, 1971

<u>DATE</u>	<u>TIME</u>	<u>GMT</u>		<u>REMARKS</u>
Nov. 2	1755	2255	Depart Washington--Dulles	AA75(B747) non-stop
Tues.	2021	0421	Arrive Los Angeles	
	2100	0500	Depart Los Angeles	TW743 (B320) non-stop
Nov. 3	0035	1035	Arrive Honolulu	Kahala Hilton Hotel
Wed.	1230	2230	Depart Honolulu	JL071(B747)non-stop
Nov. 4	1605	0705	Arrive Tokyo	
Thurs.	1805	0905	Depart Tokyo	JL123
	1900	1000	Arrive Osaka	Royal Hotel, Osaka
			Evening free	
Nov. 5	0830		Breakfast meeting with business leaders (chaired by Mr. Saeki, Pres. Osaka Chamber of Commerce)	
Fri.	1015		Meeting with Mr. K. Matsushita (Pres. of Matsushita Electric Company)	
	1100		Depart Osaka	by car
	1130		Arrive Kyoto	
	1200		Private lunch with Amb. <del>and Mrs.</del> Kiraa	
	1330		Visit Katsura Detached Palace and Kyoto Castle (accompanied by Professor Mori --expert on Japanese culture)	
	1630		Briefing on Japanese education and its impact on economic development	
	1900		Dinner hosted by President of Japan Development Bank and Mrs. Ishihara	Miyako Hotel, Kyoto
Nov. 6	0644		Depart Kyoto (accompanied by Mr. Sawaki, Director General, Bureau of Economic Cooperation /AID/ Foreign Ministry)	by express train
Sat.	0935		Arrive Tokyo	
	1000		Meeting with Governor of Bank of Japan, Mr. Sasaki	
	1045 - 11:30		Meeting on Japan's current economic problems (Mr. Miyazawa, Former Minister of Economic Planning Agency)	
	1130		<del>Meeting with Prime Minister</del>	
	1300-1500		Lunch with Japanese business leaders-- KEIDANREN (Japanese Federation of Economic Organizations)	
	1515		Meeting with Aid Advisory Group to Prime Minister (including Dr. Okita)	
	1800		Meeting with Mr. Ishida, President Japan Ex-ImBank	
	1830		Meeting with Mr. Takasugi, President, Overseas Economic Cooperation Foundation (concessionary aid)	
			Evening free	Okura Hotel



0930-1070 *Meeting with Prime Minister*

Nov. 7 0900 Briefing on Tokyo-Peking problems

Sun. 1015 Briefing on Japanese agriculture and land reform

*Edinburgh* 1130-1240 Meeting with Minister of Foreign Affairs, Mr. Fukuda

1230-1430 Luncheon hosted by Minister *Mizuta* and Mrs. Fukuda

1430 Briefing on Japanese economic performance

~~1730~~ ~~Minister of Finance, Mr. Mizuta~~ *Eubank*

2000 Dinner hosted by Minister and Mrs. ~~Mizuta~~

Nov. 8 0900 0000 Depart Tokyo JL713 via Hong Kong (DC8S)

Mon. 1455 0755 Arrive Bangkok

1545 Depart Bangkok by plane--inflight briefing on Northern Region Plan and Family Planning Program

1715 Arrive Chiang Mai

1730 Visit Chiang Mai University

1815 Briefing on Hill Tribes

1900 Visit Family Planning Clinic

2030 Dinner hosted by Governor, Bank of Thailand Rincome Hotel

Nov. 9 0800 Depart Chiang Mai by plane along Mekong River

Tues. Inflight briefings on Mekong Program and North East development program (NEED)

0945 Arrive Khon Kaen

1000 Visit Khon Kaen University. Briefing on accelerated rural development program

1100 Depart for UNDP Experimental Station by helicopter

Kalasin

1215 Return to Khon Kaen

1300 Informal lunch given by Bank of Thailand

1400 Depart Khon Kaen by plane

1500 Arrive Chainat (Takli Airbase)

1515 Visit Agricultural Research Station and multipurpose cooperative

1745 Depart Chainat

1815 Arrive Bangkok

1930 Meeting with General Chalermchai, Director General, Tourist Organization of Thailand (at hotel)

Evening free Erawan Hotel

*about 1977*

Nov. 10 0800 Briefing on Third National Development Plan

Wed. 0940 Minister of Education

1030 H.R.H. The King of Thailand

1145 Minister of Agriculture

1245 Small informal luncheon with distinguished industrialists and bankers (six)

1430 Visit Kasetsart University

1510 Joint briefing meeting with National Research Council and Applied Scientific Research Corporation on nutrition policy and on-going research



	1645		Meeting with International Finance Corporation of Thailand (at hotel)	
	1745		Meeting with Canadian Ambassador and UNDP ResRep (at hotel)	
	1845		Meeting with young professors (at hotel)	
			Evening free	
Nov. 11	0745		Depart hotel	by car
Thurs.	0815		Meeting with ECAFE	
	0900		Minister of Foreign Affairs	
	1030		Briefing on port development	
	1100		Boat trip, including briefings on urban development (informal lunch on-board)	
	1330		Boat trip ends	
	1400		Meeting with Prime Minister and aides	
	1600		Signing of EGAT loan at Ministry of Finance	
	2000		Small informal dinner hosted by Prime Minister	
Nov. 12			Morning free	
Fri.	1140	0440	Depart Bangkok	KL863(B747)non-stop
	1530	0730	Arrive Manila	
	1630		Meeting with Executive Secretary Melchor and Secretary of Finance Virata (at hotel)	
	1900		Dinner for Mr. and Mrs. McNamara at Development Bank of the Philippines	Stay at Savoy Hotel
			<i>hosted by Sec of Fin Virata</i>	
Nov. 13	0900-1200		Meeting on Philippines general economic situation, Four-Year Development Plan and social development programs (chaired by President Marcos)	
Sat.				
	1200		Private lunch hosted by Pres. and Mrs. Marcos	
	1500		Meeting with Congressional leaders (at hotel)	
	1630		Meeting with prominent business leaders (at hotel)	
	1800		Meeting with Ford Foundation representatives (at hotel)	
			Evening free	
Nov. 14	0800		Depart hotel accompanied by Secretary of Agriculture, Mr. Tanco	by car
Sun.				
	0930		Arrive Los Banos	
	0930		Visit International Rice Research Institute	
	1100		Visit College of Agriculture	
	1200		Informal lunch at Student Union hosted by Mr. Tanco	
	1330		Informal meeting with small group of students	
	1400		Depart Los Banos	by car
	1530		Arrive Manila	
	1600		Meeting with UNDP ResRep (at hotel)	
	1700		Meeting with Mr. Watanabe (at his residence)	
	1930		Dinner hosted by Mr. Melchor	

*cancel  
at 11:30*

*twice  
1 day*



Nov. 15	0750	2350	Depart Manila	PR501 DC8 non-stop
Mon.	1030	0300	Arrive Singapore <i>MIN. OF FINANCE</i>	
	1130		Briefing by Secretary of Finance	
			Lunch free	
	1300		Meeting with Chairman of Housing Board	
			(at hotel) followed by visit to Housing Estate	
	1500		Visit to Jurong Town Corporation	
	1900		Meeting and dinner hosted by Prime Minister <i>* MIN. OF DEF. ACTING</i>	Stay at Goodwood Park Hotel
Nov. 16	0830-1200		Individual meetings at hotel with:	
Tues.			Minister of Science and Vice Chancellor	
			University of Singapore; Head of	
			Family Planning Board; and others	
	1235	0505	Depart Singapore	ML568 (B737) non-stop
	1320	0550	Arrive Kuala Lumpur	
			Lunch free	
	1600		General briefing with Chief Secretary	
			and senior governing officials	
	1735		Return to Hotel	
	1830		Meeting with Ford Foundation representative, Mr. Kennedy	
	1945		Courtesy call on Prime Minister at Sri Taman	
	2000		Dinner hosted by Prime Minister, including senior ministers	
Nov. 17	0830		Depart Kuala Lumpur	by executive jet
Wed.	0900		Arrive Kuantan	
			Fly over Jengka Triangle	by helicopter
	1030		Visit to FLDA Land Settlement Scheme	
	1230		Informal lunch at project site	
	1430		Visit to SJSB Forestry Project	
	1610		Depart Project area	by helicopter
	1630		Arrive Kuantan	
	1645		Depart Kuantan	by executive jet
	1715		Arrive Kuala Lumpur	
			Evening free	
Nov. 18	0900		UNDP ResRep (at hotel)	
Thurs.	1000		Meeting with Minister of Finance	
	1045-1145		Meeting with Prime Minister and senior ministers	
	1300		Lunch hosted by Minister of Finance	
	1445		Meeting with Governor of Bank Negara	
	1600		Meeting with Chairman of PERNAS and representatives of Chambers of Commerce	
	1700		Courtesy call on His Royal Highness, the Agong (King of Malaysia)	
			Evening free	
	2140	1340	Depart Kuala Lumpur	Aeroflot 558, via Delhi and Moscow
Nov. 19	0820	0820	Arrive London	
Fri.	1130	1130	Depart London	PA107 (B747) non-stop
	1435	1935	Arrive Washington--Dulles	



SINGAPORE

November 15 - 16, 1971

Monday, November 15, 1971

1030 Arrive Singapore (PR 501).  
1115 Check in at Goodwood Park Hotel.  
1130-1200 General briefing at hotel by Secretary of Finance.  
1200-1300 Lunch (free).  
1300-1430 Meeting at Goodwood Park Hotel with Chairman of Housing Board and visit to housing estate.  
1500-1700 Visit to Jurong Town Corporation (attended by Economic Development Board).  
1900-2100 Meeting and dinner hosted by Prime Minister and a group of Senior Ministers.

Tuesday, November 16, 1971

0830-1200 Meetings at Goodwood Park Hotel with:  
Dr. Toh Chin Chye, Minister of Science and Technology and Vice Chancellor of the University of Singapore.  
Head of the Family Planning Board.  
Stephen Yee  
Augustine Tan, Economist, MP.  
2 or 3 private businessmen and/or bankers.  
1235 Depart Singapore for Kuala Lumpur (MSA 568).





SEATING ARRANGEMENT

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X  
Mr. Chia Choon Peng  
*MINISTRY OF DEF.*

Mr. William Clark

Mr. Leis Christoffersen

Mrs. Howe Yoon Chong

Mrs. Pillay

Mr. Bengt Sandberg

Dr. Augustine Tan  
*ECONOMIST*

Dr. Toh Chin Chye  
*MIN. OF SCIENCE &  
TECHNOLOGY*

Mrs. McNamara

Mrs. Goh Keng Swee

Dr. Goh Keng Swee  
*ACTING PRIME MINISTER*

Mr. R. McNamara

Mrs. Toh Chin Chye

Mrs. Hon Sui Sen

Mr. Hon Sui Sen  
*MIN. OF FINANCE*

Mr. Howe Yoon Chong  
*CHAIRMAN, PORT OF  
SINGAPORE AUTHORITY  
PRES. DEV. BANK OF  
SINGAPORE*

Mr. Raymond Goodman

Mr. Raymon Navaratnam

Mr. J.Y.M. Pillay  
*PEEM. SECY, MINISTRY OF DEF.*

Mr. Cheong Quee Wah  
*MINISTRY OF DEFENSE*



Draft Material for a Possible "Reply to a Toast" in Singapore

Mr. Prime Minister, Ladies and Gentlemen:

Thank you for your gracious remarks, and for the warm hospitality you are affording us in our visit.

Singapore has impressed not only the other nations of Asia, but the developing world at large, with its energy and drive. There is an encouraging sense of urgency here to get on with the tasks of development.

We in the World Bank are proud to be associated with your progress here in Singapore. We are proud because of the advance of the people of Singapore itself. And we are proud, too, because we believe that the solutions in such fields as industrialization, housing, and family planning which you have applied to problems here may well hold lessons for other developing areas of the world.

Let me say, Mr. Prime Minister, that we are particularly pleased that Singapore's own Dr. Kanagaratnam is heading up our new Population Projects Department in the World Bank. His being there proves that technical assistance between the Bank and its member countries can and should flow in both directions. Certainly his distinguished experience here in Singapore is a valuable asset for us in the Bank, as well as for the many member countries that are seeking our help in establishing their own national population planning programs.

Development today throughout the entire world is gradually turning its attention to problems that have been undervalued in the past: problems that are more directly related to the quality of life of the people: problems of nutrition, problems of employment, problems of more equitable income distribution.



We in the World Bank are convinced that this growing awareness must be promptly translated into feasible programs that support these objectives. Over the past three years we have been reorienting the Bank's activities in that direction. We have done this at the same time we have been expanding our overall operations.

Mr. Prime Minister, the problems that your Government is grappling with here in Singapore are problems that are common elsewhere. But the people of Singapore have dealt with these problems with uncommon determination and resolve.

The World Bank is pleased to play a supportive role in your development efforts, and we intend to continue to do so.

Thank you, Mr. Prime Minister, for your hospitality. We are very happy to be here.







Curriculum Vitae

Benjamin Henry Sheares

President since 1970

Born : 12th August, 1907 in Singapore

Schools Attended: (1) Methodist Girls' School, at age 5 years,  
until Standard V.

(2) St. Andrew's School, until Junior Cambridge

(3) Raffles Institution, Senior Cambridge  
passed in December 1922.

College : King Edward VII College of Medicine.  
Commenced June 1923. Qualified L.M.S.  
March 1929.

Professional Career:

- (1) Joined Government Service 1st April 1929 and was posted at the General Hospital, Sepoy Lines as Assistant Medical Officer for 2 years.
- (2) 1st April 1931 commenced career in obstetrics and gynaecology.
- (3) 1940. Awarded Queen's Fellowship (2 years post-graduate study leave) but prevented from proceeding to U.K. on account of World War II.
- (4) During the Japanese Occupation of Singapore, Head of Department of Obstetrics and Gynaecology, Kandang Kerbau Hospital and also Medical Superintendent of the Hospital for local patients section.
- (5) After the Japanese surrender, acted as Professor until May 1947.
- (6) May 1947 proceeded to London for post graduate study and passed the M.R.C.O.G. examination in January 1948.
- (7) February 1948 visited teaching hospitals in Paris and Stockholm.
- (8) March 1948 commenced F.R.C.S. course in Edinburgh but in April 1948 was asked to return to Singapore to act as Professor.
- (9) May 1948 appointed acting Professor, King Edward VII College of Medicine.



- (10) June 1948 appointed Honorary Consultant, British Military Hospital.
- (11) January 1950 appointed Professor of Obstetrics and Gynaecology, University of Malaya (in Singapore) and held this post until June 1960.
- (12) June 1960 commenced private practice.
- (13) July 1960 gazetted Honorary Consultant, Kandang Kerbau Hospital.

Postscript. December 1951 proceeded to the U.S.A. on the remainder of the Queen's Fellowship study leave and spent one year observing in teaching institutions in San Francisco, Chicago, St. Louis, New York, Boston and the Mayo Clinic.

Degrees: Litt. D (Hon. Causa) - University of Singapore.  
M.D. (University of Singapore)  
M.S. (University of Singapore)  
F.R.C.O.G. (London)  
F.A.C.S. (U.S.A.)

Children: 3 - one daughter aged 29 years and two sons aged 27 years and 21 years respectively.

Daughter	:	B.A. (Hons.) in Fine Art London University (Courtauld Institute of Art)  M.A. University of Singapore
Elder son	:	M.A., M.B., Ch.B., Cambridge.
Younger son	:	In 3rd year Liberal Arts course, Nottingham.



Wife

Name:

Sheares Yeo Seh Geok

Birth place:

Hokien Province, Chuan Chow

Date of birth:

6th March 1917

Education:

- (1) Completed study High School level 1935 at Puay Eng Girls' School, Chuan Chow.
- (2) 1936 proceeded to Chung San National University, Canton, and studied the liberal Arts for one year only.

Postscript:

Came to Singapore July 1938. Worked in book store and later in a department store. She also gave private tuition in Chinese in the evening. Later on took midwifery course at the Kandang Kerbau Hospital where she met her husband-to-be.





## Biography of Mr. Lee Kuan Yew

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*Prime Minister of Singapore*

THE PRIME MINISTER was born in Singapore on 16th September, 1923 and is married, with three children, two boys and a girl. A former student of the Raffles Institution, Singapore, he took a double first in Law at Cambridge, and in the final examinations was placed first in the honours list, winning a star for special distinction. He speaks Malay, English and Mandarin and a number of Chinese dialects.

A socialist from his student days, Mr. Lee was associated with the trade union movement for many years, and was honorary legal adviser to many trade unions, such as the Singapore Teachers' Union, the Singapore Traction Company Employees' Union and the Singapore Harbour Board Staff Association — to name only a few.

The founding of the anti-colonial and socialist People's Action Party in 1954 saw Mr. Lee elected as Secretary-General of that Party. Elected to the Legislative Assembly in 1955, he resigned his seat on 30th April, 1957 for re-contest and was re-elected on the issue of constitutional changes for full internal self-government. In the general election of May 1959, his party, the P.A.P., won an overwhelming majority and he became the first Prime Minister of self-governing Singapore, his first Government being formed on 5th June, 1959.

Under his leadership, Singapore, on 16th September, 1963, became part of the Federation of Malaysia, with autonomy in labour and education.

On 21st September, 1963, he led his party to a massive victory in the general elections and was once again, re-elected as Assemblyman in his old constituency of Tanjong Pagar and he continued as Prime Minister.

A staunch advocate of Malaysia, in January/February 1964, he led a Malaysia Mission on a successful tour of 17 African Nations, where he was also able to counter Indonesian confrontationist propaganda.

In August 1964, Mr. Lee Kuan Yew attended the Centenary of the Socialist International in Brussels; his analysis of the problems of democratic socialists in newly independent countries won for him and Singapore, international acknowledgement.

In April/May 1965, Mr. Lee visited New Zealand and Australia where he put Malaysia in the perspective of South-east Asian developments.

On 6th May, 1965, Singapore's Prime Minister attended the 1965 Asian Socialist Conference in Bombay. In recognition of his standing among Asian Socialist leaders, he was given the honour of opening the Conference; he spoke on the tasks confronting Asian socialists. He subsequently paid goodwill visits to the following Asian countries, Burma, Laos, Vietnam, Cambodia and Thailand, where he discussed problems of mutual interest.

Following the separation of Singapore from Malaysia on 9th August, 1965, Mr. Lee is now Prime Minister of an independent Singapore, dedicated to democratic socialism in a multi-racial society, with a non-aligned foreign policy.





## Biography of Mr. Sinnathamby Rajaratnam

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*Minister for Foreign Affairs*

**B**ORN IN CEYLON on 23rd February, 1915, Mr. Rajaratnam was brought to Malaya at the tender age of six months and is a Singapore citizen. He received his early education at a number of well-known institutions, and was a student of St. Paul's Institution, Seremban, Victoria Institution, Kuala Lumpur and Raffles Institution, Singapore. He continued his studies at King's College in London.

A former journalist, he worked for a number of well-known local newspapers. He was associate editor of the *Singapore Standard* from 1950-1954; he was also on the editorial staff of the *Straits Times*. A former president of the Singapore Union of Journalists, he was one of its founder members. Mr. Rajaratnam sat on the Malayisation Commission in 1955 and on the Minimum Standards of livelihood Committee in 1956.

A convenor and founder-member of the People's Action Party, he resigned from the *Straits Times* in 1959 to devote full time to politics in the service of the P.A.P., and was enlisted to the Propaganda sub-committee. In 1959, he was elected to the Singapore Legislative Assembly in the Kampong Glam constituency, he was appointed Minister for Culture and was a member of the Cabinet. He is currently chairman of the P.A.P. Political Bureau.

A member of the Central Executive Committee and Director of the Political Bureau of the P.A.P., in the 1963 general elections he was again returned by his constituency and continued as Minister for Culture.

With the formation of Malaysia on 16th September, 1963, he became a member of the Federal Malaysian Parliament.

On 9th August, 1965, Singapore became separated from and independent of the Malaysian Federation. Mr. Rajaratnam then assumed responsibilities as Minister for Foreign Affairs in the newly independent State of Singapore.





## Biography of Mr. Yong Nyuk Lin

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*Minister for Communications*

**B**ORN ON 24th June, 1918 in Seremban. Educated in Chinese and English. Graduated with the Diploma in Science, from Raffles College, Singapore, in 1937. Science Master, King George V School, Seremban, 1938-41.

Joined Overseas Assurance Corporation, Singapore in 1941. Committee member of the Malayan Democratic Union, 1947/48.

Resigned as General Manager in 1959 to contest the General Election on People's Action Party ticket. Elected to the Singapore Legislative Assembly in May 1959 from Geylang West Constituency and appointed Minister for Education. Chairman, Singapore Harbour Board 1961/62. Re-elected to the Singapore Legislative Assembly in September 1963 from Geylang West Constituency and appointed Minister for Health.

Was returned unopposed to his constituency in the General Election of April 1968 and appointed Minister for Communications.

Assistant Treasurer, People's Action Party, Singapore. Married, 2 children.

June, 1968.





## Biography of Mr. Chua Sian Chin

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*Minister for Health*

AGED 34; born in Malacca; educated at the High School, Malacca. He joined the University of Malaya in 1951 and during his undergraduate days he was member of the Central Working Committee of the University Socialist Club, 1953 - 1954. He graduated with a B.A. Degree in 1954.

After graduation he studied law at the University of London in 1955; and graduated with an LL.B. Degree, and a Barrister-at-Law, Inner Temple, London. As Secretary of the Malayan Forum London and Editor of its organ, the "Suara Merdeka", he played an active role in student affairs in London.

Since returning from U.K. in 1959, he has been active in public services in the country. Until recently he was the Chairman of the University of Singapore Council. He was formerly member of the Public Utilities Board; member of the Permanent Examinations Board of the Singapore Public Service Commission; member of the Citizenship Committee of Inquiry; member of the Governing Board of the N.T.U.C. Research Unit. He was also a referee of the Industrial Arbitration Court. He represented the Singapore Minister of Education at the Commission of Inquiry on the Secondary Four Student Boycott in 1962.

In the 1964 general elections for the Malaysian Parliament, he was the People's Action Party candidate for Bandar Malacca. He represented the P.A.P. at the annual conference of the Japanese Democratic Socialist Party in Tokyo in December 1965. In September 1967 he visited the Soviet Union as a delegate and member of the Executive Council, National Afro-Asian People's Solidarity Committee, Singapore. For many years while practising as an Advocate and Solicitor, he also served as the honorary legal adviser to numerous associations and trade unions. Elected Member of Parliament for MacPherson in the 1968 General Elections.





## Biography of Inche Othman Wok

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*Minister for Social Affairs*

**B**ORN ON 8th October, 1924 in Singapore. Educated in Malay and English at Telok Saga Malay School and Raffles Institution. Joined *Utusan Melayu* as reporter in 1946. Studied at London School of Journalism for one year and returned in 1951 with a Diploma in Journalism. Left *Utusan Melayu* in September 1963 of which he was Deputy Editor.

Has been a member of the P.A.P. since 1954. Stood as Party Candidate in Kampong Kembangan in 1959. Was elected Assemblyman for Pasir Panjang Constituency in the General Election of September 1963 and was appointed Minister for Social Affairs. On declaration of an independent Singapore on 9th August, 1965, became Minister for Culture and Social Affairs.

In the 1968 General Election, he was returned unopposed to his constituency and continued as Minister for Social Affairs.

He is a Second-Lieutenant in the People's Defence Force.

Married with 3 children.

June, 1968.





## Biography of Mr. Ong Pang Boon

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Minister for ~~Education~~  
Labour

**B**ORN ON 27th March, 1929 in Kuala Lumpur. Studied in Confucian Middle School and Methodist Boys' School in Kuala Lumpur. Joined University of Malaya in 1950 and graduated in 1954 with B.A. Honours. While at the University he was Treasurer and Executive Committee member of the University Socialist Club.

Joined People's Action Party in 1955. Was Secretary of Tanjong Pagar Branch. In August 1956 appointed full time Organising Secretary of the People's Action Party. Elected Assistant Secretary-General of the People's Action Party, 1963.

Was elected to City Council and appointed Deputy Mayor of Singapore in December 1957.

Was elected to the Singapore Legislative Assembly in May 1959 from the Telok Ayer constituency, and was appointed Minister for Home Affairs.

Re-elected to the Singapore Legislative Assembly in September 1963 from the same constituency and was appointed Minister for Education. Also Member of Malaysian Parliament until separation of Singapore from Malaysia on 9th August, 1965.





## Biography of Mr. Jek Yeun Thong

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Minister for ~~Labour~~  
Culture

**A**GED 33, married. Educated at the Chinese High School. In 1954 he joined *Sin Pao* as a reporter. He joined the People's Action Party since its formation and took an active part in party propaganda work. He was detained by Lim Yew Hock's Government in August 1957.

However, the Singapore Journalist Union, convinced that he had been wrongly detained, pressed successfully for his release. Though he was marked by the Lim Yew Hock colonialist Government, he did not discontinue his work for the P.A.P.

When the P.A.P. won the City Council elections in 1958, he was requested by the Party to help in the implementation of policy in the City Council.

In January 1959, he was appointed Secretary to the Mayor. In the same year he resigned on the instructions of the Party together with other P.A.P. City Councillors in order to help the Party in the General Elections campaign.

After the P.A.P. victory, he was appointed Political Secretary to the Prime Minister. He was also re-elected a member of the Central Executive Committee and is now its Treasurer.

He is also Chairman of the Petir Editorial Board. Like many loyal and devoted members of the P.A.P., Mr. Jek has worked neither for personal advancement nor glory. He has contributed much to the advancement of the Party without asking for anything in return.

In September 1963, he stood for election and was returned in Queenstown Constituency. He is now the Minister for ~~Labour~~. Culture





## Biography of Mr. Hon Sui Sen

*Minister for Finance*

**B**ORN on 16th April, 1916 in Penang. Educated at St. Xavier's Institution, Penang. Later obtained a Diploma in Science (Class I) from Raffles College, Singapore (now University of Singapore). Married, with four daughters and two grandchildren. Professes the Roman Catholic faith.

Joined the Straits Settlements Civil Service in 1939, later transferring to the Singapore Administrative Service. Held a variety of posts, culminating in the appointment in 1959 of Permanent Secretary, Prime Minister's Office, and concurrently Permanent Secretary, Economic Development Division of the Ministry of Finance. In 1961, was appointed the first Chairman of the newly established Economic Development Board. Retired from Government service in July 1965, on attaining the age of 50, but continued as Chairman of the E.D.B. Appointed (the first) Chairman and President of the Development Bank of Singapore Ltd. in December 1968.

In April 1970, elected Member of Parliament for the constituency of Havelock in a by-election.

Was Chairman of nine companies in which the Government has equity participation and a Director of a tenth such company.

Alternate Governor for Singapore of the International Monetary Fund and the International Bank for Reconstruction and Development since 1966, and of the Asian Development Bank from 1966-68. Attended innumerable international conferences.

Awarded the following honours:

- 1962 — Pingat Jasa Gemilang (Meritorious Service Medal);
- 1964 — Pingat Malaysia Negara (Malaysia Medal);
- 1967 — Darjah Utama Bakti Chemerlang (Distinguished Service Order);
- 1969 — Honorary Doctor of Letters conferred by the University of Singapore.

Appointed Minister for Finance in August 1970.

11th August, 1970.





## Biography of Dr. (Toh) Chin Chye

---

*Minister for Science and Technology*

**B**ORN ON 10th December, 1921. Completed secondary education in Perak; graduated in science from Raffles College, Singapore, and the University of London. Post graduate studies for Ph.D. degree in Physiology at National Institute for Medical Research, London. As a student in London, he was Chairman of the Malayan Forum, a student body organised to discourse on current events and political affairs. Reader in Physiology at University of Singapore 1958-64; Research Associate, University of Singapore 1964. Founder member of the People's Action Party and Chairman since its inauguration in 1954. Was elected in May 1959 from the Rochore Constituency to the Singapore Legislative Assembly and appointed Deputy Prime Minister of Singapore. Chairman, Board of Governors, Singapore Polytechnic, 1959. Was re-elected as Assemblyman in the Rochore Constituency in the General Election of September 1963, and continued as Deputy Prime Minister. Was returned unopposed to his constituency in the General Election in April 1968 and appointed Minister for Science and Technology. He is also the Vice-Chancellor of the University of Singapore.

June, 1968.





## Biography of Dr. Goh Keng Swee

---

*Minister of Defence*

**B**ORN on 6th October, 1918, in Malacca. Educated in Anglo-Chinese School, Singapore, and graduated in Arts in Raffles College. Had a distinguished academic record, winning first class Honours in B.Sc. (Econ.), William Farr Prizeman, and was awarded University of London Post-graduate Scholarship in 1951. Later obtained a Doctor of Philosophy degree from the University of London. In 1966, became Honorary Fellow of the London School of Economics and Political Science.

Vice-Chairman of People's Action Party. Elected in May 1959 to Legislative Assembly from the Kreta Ayer electoral division and appointed Minister for Finance. Responsible for initiating Singapore's industrialisation plan and the establishment of the Economic Development Board and the Jurong Industrial Estate. Was re-elected as Assemblyman for the Kreta Ayer constituency in the General Elections of September 1963 and re-appointed Minister for Finance.

On 9th August, 1965, became Minister of Defence in independent Singapore and laid the foundations of the Republic's defence forces. Was re-appointed Minister for Finance as from 17th August, 1967. In the 1968 General Elections, was returned unopposed to his constituency and continued as Minister for Finance. In August 1970, became Minister of Defence.

Member of the Governing Council, Asian Institute for Economic Development and Planning, Bangkok, Thailand, 1963-66; re-elected at the 22nd session of ECAFE at New Delhi for a further three years, but declined nomination for a third term; Member of Board of Management, People's Association, Singapore; Member of Board of Governors, National Youth Leadership Training Institute, Singapore; Governor, International Bank of Reconstruction and Development; Governor, International Monetary Fund; Governor, Asian Development Bank. Represented Singapore at innumerable international conferences.



Curriculum Vitae

Name: Lee Hee Seng

Date of Birth: 11th April, 1927

Educational Background: St. Partick's School (1934 - January 1942)  
Raffles Institution (January 1946 - December 1946)  
Fellow, Chartered Institute of Secretaries  
Fellow, Australian Society of Accountants  
Fellow, Building Societies Institute.

Present Appointment: Chairman, Housing & Development Board  
(2/4/71 to 1/4/74).

Date of Joining Service: First appointed Member of the Housing & Development Board for a term of three years from 1.8.66 to 31.7.69.  
  
Re-appointed for a further term of three years on 1.8.69.

Posts held (with dates): General Manager of Malaya Borneo Building Society Ltd. (from 24.2.64 to March 1971).  
  
Currently:  
Managing Director of Singapore Building Society Ltd. (from 1.11.69).  
  
Director of Malaya Borneo Building Society Ltd. and a number of other Companies.



CURRICULUM VITAE

Name: TANG, I-Fang

Date of Birth: 16th September 1924

Education: B.Sc. National Central University, Chungking, China  
1940-1944

1946-1948: M.B.A. Graduate School of Business Administration, Harvard University, U.S.A.

Experience: Assistant to the Personnel Director, Sun-Tung Pump Company, Chungking, China  
1944:

1944-1945: Liaison Officer, Bureau of Foreign Affairs, National Military Council, China.

1945-1946: Civilian Expert, War Department, Government of the United States.

1946-1948: Research and study at Harvard University, Boston, U.S.A.

1948-1951: Accountant, Expenditure Control Division, Bureau of Finance, United Nations, New York.

1951-1953: Administration Officer, United Nations Advisory Council for Italian Somaliland.

1953-1958: Programme Co-ordination Officer, United Nations Technical Assistant Board, New York.

Nov.-Dec. 1958: Visiting scholar, International Industrial Development Centre, Stanford Research Institute, California, USA.

1959-1962: Economic Affairs Officer, Industries Division, ECAFE.

April 1963 - December 1964: Chief, Technical Consultant Services Division of the Economic Development Board.

January 1965- March 1968: Deputy Director, Economic Development Board (under United Nations scheme for Operational and Executive Personnel - OPEX)

November 1968: Chairman, Economic Development Board.

Other information: Deputy Chairman, Jurong Town Corporation.  
Director, National Iron & Steel Mills Ltd.



Curriculum Vitae

Name: Woon Wah Siang

Date of Birth: 22nd December, 1916

Place of Birth: Hong Kong

Nationality: Singapore Citizen

Qualifications:

- (a) B.A. (Hong Kong University)
- (b) B.Sc. (Sociology) Hons. (London University)
- (c) F.C.I.S. (London) (Chartered Secretary)
- (d) Barrister-at-Law (London)
- (e) Good knowledge of written and spoken Chinese

Profession:

- (a) Permanent Secretary, Ministry of Culture, 1st December, 1962 to 31st May, 1967.
- (b) Permanent Secretary, Ministry of Foreign Affairs, 1st June, 1967 to 31st March, 1968.
- (c) Permanent Secretary, Ministry of Finance, 1st April, 1968 to 31st May, 1968.
- (d) Chairman, Jurong Town Corporation, since 1st June, 1968 to date.
- (e) Deputy Chairman, Economic Development Board since 27th June, 1969 to date
- (f) Deputy Chairman, Singapore Tourist Promotion Board since 1st March, 1970 to date.
- (g) Chairman and Managing Director, Jurong Bird Park (Pte) Ltd. since 2nd January, 1970 to date.



## CURRICULUM VITAE

Name: Dr. V.M.S. Thevathasan

Date & Place of Birth: 11th October, 1921; Singapore

Nationality: Singapore Citizen

Appointment: Senior Health Officer, Grade 'E'  
(Acting Deputy Director of Medical Services,  
Grade 'D', Public Health)

Qualifications: (a) L.M.S. (Singapore), June 1949;  
(b) D.P.H. (London), June 1952.

Experience: (a) Assistant Health Officer, City Health  
Department, from 1.8.1949 to 10.6.1953;  
(b) Served as a member of the Leprosy Board  
for a period of 2 years with effect  
from 12.4.1954;  
(c) Deputy Chairman, Public Health Advisory  
Board, 1964-1966;  
(d) Chairman, Singapore Family Planning and  
Population Board, with effect from 17.2.1970.

Acting Appointments:

(a) Acted as City Health Officer at various  
times, 1960-1963;  
(b) Acted as Deputy Director of Medical Services  
(Health), Grade 'D' at various times,  
1963-1968;  
(c) Acting Deputy Director of Medical Services  
(Health), Grade 'D' with effect from  
17.2.1970.



CURRICULUM VITAE

Name: T.M. Attwood, C.B.E., F.I.B.  
Date of Birth: 13th April, 1920  
Nationality: British  
Marital Status: Married  
Academic Record: Wanstead High School  
Positions Held: Manager of The Chartered Bank organisation  
in Singapore.

Chairman of -

The Chartered Bank (Malaya) Trustee Ltd.  
Raffles Nominees (Pte.) Ltd.  
Credit Corporation (Malaysia) Berhad  
Credit Corporation (Singapore) Ltd.  
The Chartered Finance Co. Ltd.  
Chartered Unit Trust Management Ltd.  
Chartered Merchant Bankers Ltd.

Director of -

The Development Bank of Singapore Ltd.  
Chartered Merchant Bankers Malaysia Berhad.

Member of the Board of Commissioners of  
Currency, Singapore.

President, Singapore Centre, The Institute  
of Bankers.



CURRICULUM VITAE

Name: WONG Nang Jang

Date of Birth: November 26, 1939

Education  
Background:

Anglo-Chinese School: 1945-1958

University of Singapore: 1959-1962 - B.A. Hons.  
(Economics)

Harvard Business School: Two-week seminar on  
Business Administration  
organized by First  
National City Bank in  
Baguio, Philippines - 1964.

New York University: One semester course on  
Advance Management  
Accounting organized by  
First National City Bank,  
New York - 1968.

First National City Bank: In service training on  
computer-assisted  
corporate financial  
planning and projection.

Harvard Business School: Advanced Management  
University of Hawaii: Program - 1970.

Professional:

First National City Bank - joined 1962

1962 - Executive trainee

1963 - Assistant Accountant

1964 - Pro-Manager

1966 - Assistant Manager

1969 - Manager - Senior Officer in Singapore.

1971 - Resident Vice President - Senior Officer  
in Singapore.



ANNEX

Curriculum Vitae

Name:

MICHAEL WONG PAKSHONG

Date & Place  
of Birth:

2nd June 1931  
Durban, South Africa

Marital Status:

Married - 1 child

Nationality:

Singapore Citizen

Academic and  
Other Qualifi-  
cations:

- (a) B.A.(Hons.) University of Bristol
- (b) F.C.A. Fellow of the Institute of  
Chartered Accountants in England  
and Wales.

Present and  
Previous  
Employment:

- (a) Managing Director, - Monetary Authority  
of Singapore.
- (b) Assistant General - Overseas Chinese  
Manager Banking Corp. Ltd.  
Singapore  
(1964/1970).
- (c) Chartered - Price Waterhouse & Co.  
Accountant Singapore  
(1961/1964).

Other Appoint-  
ments Currently  
held:

- (a) Chairman, Neptune Orient Lines Ltd.
- (b) Director, Malaysia-Singapore Airlines Ltd.
- (c) Alt. Governor, International Monetary Fund.



CURRICULUM VITAE

Name: Howe Yoon Chong

Date of Birth: July 22, 1923

Nationality: Singapore Citizen

Academic Record: Diploma in Arts, Raffles College - 1949  
B.A. (Honours) in Economics,  
University of Malaya - 1953

Experience:

July 61 - December 61 ... Permanent Secretary,  
Ministry of National  
Development

January 62 - October 63 .. Permanent Secretary  
(Economic Development)  
Ministry of Finance

November 63 - December 63 . Permanent Secretary,  
Ministry of National  
Development, concurrently  
Chairman of the Housing  
and Development Board  
from February 66 to January  
69.

January 70 - to date .... Chairman and General  
Manager, Port of  
Singapore Authority,  
concurrently Chairman  
and President of the  
Development Bank of  
Singapore since August  
1970.

Other Appointment currently held:

Chairman, National Iron & Steel Mills Ltd.

Chairman, Singapore Factory Development Ltd.

Chairman, Chartered Industries of Singapore Ltd.

Director, Shangri-La Hotel Ltd.

Alt. Governor, International Bank for Reconstruction  
and Development.



CURRICULUM VITAE

DR. AUGUSTINE H.H. TAN

*Bright, practical, well informed*

1. Member of Parliament for Whampoa
2. Senior Lecturer, Economic, University of Singapore
3. Board of Directors, Economic Development Board
4. Board of Directors, NTUC's Income Cooperative
5. Executive Committee, Institute of Southeast Asian Studies
6. Vice-President, Economic Society of Singapore
7. Editor, Malayan Economic Review
8. Consultant, World Bank and Ecafe
9. Chairman of National Productivity Centre

10. Academic

B.A. Honours, (Economics) First Class, University of Singapore

M.A. (Economics), University of Singapore

M.A. and PhD (Economics) Stanford University, U.S.A.

11. Age: 30 years

8th November, 1971



CURRICULUM VITAE

Name:

Stephen Hwa-Kuo Yeh

Date & Place  
of Birth:

8th May, 1932; Peking, China

Nationality:

U.S.

Educational  
Background:

A.B. (anthropology), San Francisco State  
College, 1954

A.B. (mathematics), San Francisco State  
College, 1954

A.M. (sociology), New York University, 1960

Ph.D. (sociology), New York University, 1965.

Professional  
Experience:

Lecturer, Department of Social Studies,  
University of Singapore, Singapore, 1962-63.

Visiting Fellow, Office of Population Research,  
Princeton University, Princeton, New Jersey,  
1965-66.

Research Associate, Population Research Centre,  
University of Chicago, Chicago, Illinois, 1966-

Research Fellow to Deputy Director, Economic  
Research Centre, University of Singapore,  
Singapore, 1966-

Head (Honorary), Statistics and Research  
Department, Housing & Development Board,  
Government of Singapore, January, 1969-

Part-time Appointments

Visiting Lecturer, U.N. Asian Institute for  
Economic Development and Planning, Bangkok,  
November, 1969.

Consultant, Asian Development Bank, Manila,  
January-May, 1970

Project: Study of Southeast Asian Economy  
in the Nineteen Seventies.

Consultant, World Health Organization, Kuala  
Lumpur, 1970

Project: Evaluation of Rural Health Services  
in West Malaysia

Consultant, UN Symposium on Social Policy and  
Planning, Copenhagen, June-July, 1970.

Consultant, Southeast Asian Development Advisory  
Group, 1971-72

Project: Southeast Asia Urban Literature Review.



# UNIVERSITY OF SINGAPORE



TELEPHONE: 50451

TELEGRAPHIC ADD: UNIVSPORE.

REF:

BUKIT TIMAH ROAD,  
SINGAPORE, 10.

## Curriculum vitae of Dr. Lee Soo Ann

Date of birth: 21 March 1939

Marital status: married with two children

Academic qualifications: B.A. 1959, University of Malaya  
B.A. Hons 1960, Univ. of Malaya in S'pore  
M.A. in development economics, Williams College, Williamstown, Mass.  
Ph.D. 1969, University of Singapore

### Employment experience:

Asst. Secretary, Ministry of Finance 1960  
Asst. Lecturer in economics, Univ. of Singapore 1961-4  
Lecturer in economics, - ditto - 1964-70  
Director of Projects, Ministry of Finance, 1967-68  
Research Associate, Research Centre in Economic Growth,  
Stanford University, Stanford, California 1968-69  
Senior Lecturer in Economics, Univ. of Singapore, at present

Present position: Senior Lecturer and acting Head of Department,  
Economics Department, University of Singapore: Master of Raffles  
Hall

### Public positions held presently:

Member, Port of Singapore Authority  
Member, Jurong Town Corporation  
Member, Science Council of Singapore  
Member, Bus Services Licensing Authority  
Economic Adviser, United Overseas Bank  
Member of Employee Panel, Industrial Arbitration Court

### Publications:

Editor of Employment Problems and Prospects, Singapore Adult  
Education Board 1968  
Author of Papers on Economic Planning and Development in  
Singapore, Federal Publications Press, 1971  
and numerous articles in journals and books.



Date Typed: 6th November, 1971.

<sup>VITAE</sup>  
CURRICULUM DATA OF MR. R. H. HO.

Name: HO Rih-Hwa alias Yit Wah HO.

Nationality: Singapore Citizen.

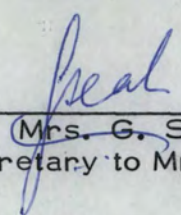
Race: Chinese (Cantonese).

Age: 54 years old.

Place of Birth: Singapore.

- Academic Qualifications:
1. Obtained Bachelor of Science from Nanking University in China - 1941.
  2. From 1942 - 1944 - was Asst. Lecturer in Nanking University.
  3. Obtained Master of Arts from Connell University in U. S. A. - 1945.
  4. Did research in Economics in 1945-46.

- Career:
1. Was Singapore's Ambassador to Thailand from July/August, 1967 - April, 1971.
  2. Chairman of United Vegetable Oil Co. (Pte) Ltd., Li-Ho Shipping (Singapore) Co. Pte. Ltd., United Maritime Management Co. (Pte) Ltd., Wah Chang International Corp., all of Singapore, except for Wah Chang International Corp., which has *also* got offices in New York and branches in the Far East.
  3. Chairman & Managing Director of Thai Wah Co., Ltd., United Flour Mill Co., Ltd., United Silo & Services Co., Ltd., and others, in Thailand.
  4. Director of Monetary Authority of Singapore - since January, 1971.

  
\_\_\_\_\_  
(Mrs. G. Seah  
Secretary to Mr. R. H. Ho.



Curriculum Vitae

Name: LOW GUAN ONN

Age: 56 years

Nationality: Singapore Citizen

Education: Penang Free School; Diploma in Science,  
Raffles College.

Position: Deputy General Manager/Financial Manager  
JURONG SHIPYARD LTD.

Director: JURONG SHIPBUILDERS PTE. LTD.

" JURONG ENGINEERING PTE. LTD.

Dy. Chairman Chartered Industries of  
Singapore Pte. Ltd.

" Neptune Orient Lines Ltd.

" Singapore Polytechnic.

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SINGAPORE

Joined on August 3, 1966

IBRD Capital Subscription and Payments  
(in US\$ or equivalents)

1. Capital Subscription

a) Original subscription	32,000,000
b) Special increase in capital subscription authorized by Board of Governors' Resolution No. 258	20,900,000

Note: The Government of Singapore has not taken up this increase, but indicated during the Annual Meeting week that it would if it decided to take up the full increase in its Fund quota.

52,900,000

=====

2. Payments in U.S. dollars	320,000 =====
3. 9% Portion released on fully convertible basis and all out on loan	2,880,000

IFC Subscription

IFC

Joined on September 4, 1968

IFC Capital Subscription

177,000

Voting Power: 427 votes

IDA

Not a Member.







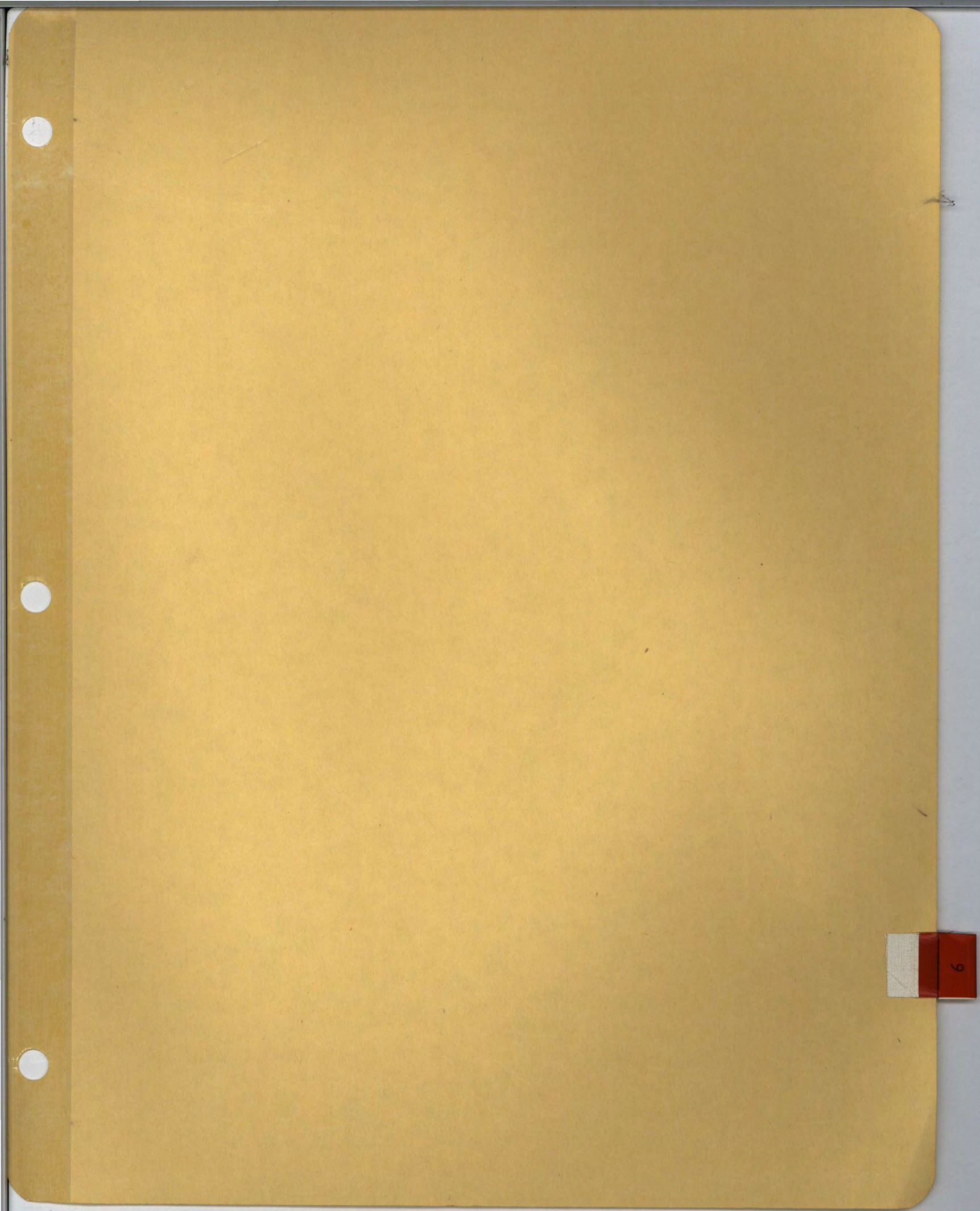
## SINGAPORE

STATEMENT OF BANK LOANS  
(As at September 30, 1971)

Loan Credit No.	Year	Borrower	Purpose	Amount	
				Bank (US\$ million)	Undisbursed
337 <sup>1/</sup>	1963	State of Singapore	Electric Power	14.4	-
405 <sup>2/</sup>	1965	Public Utilities Board	Water Supply	6.8	-
462	1966	Port of Singapore Authority	Port Expansion	15.0	9.4
473	1966	Public Utilities Board	Electric Power and Water	9.5	-
503	1967	Public Utilities Board		23.0	2.4
513	1967	Singapore Telephone Board	Telephone Services	3.0	-
547	1968	Republic of Singapore	Sewerage	6.0	3.5
595	1969	Public Utilities Board	Electric Power	20.5	4.2
647	1969	Singapore Telephone Board	Telephone Services	11.0	5.8
658	1970	Development Bank of Singapore	Industrial Develop- ment	5.0	2.1
Total loss cancellations				114.2	
of which has been repaid to Bank and others				6.5	
				107.7	
Amount sold				4.8	
of which has been repaid				2.9	
Total now held by Bank				105.8	
				=====	
Total Undisbursed					27.4

<sup>1/</sup> Guaranteed by United Kingdom.<sup>2/</sup> Guaranteed by Malaysia.







ASIAN DEVELOPMENT BANK  
OPERATIONS IN SINGAPORE

I. PROJECTS APPROVED

(a) For Loans

June 26, 1969

Development Bank Loan - Development Bank of  
Singapore Ltd. (DBS) \$10.0 million

December 23, 1970

Ngee Ann Technical College \$ 3.0 million

(b) For Technical Assistance

January 20, 1971

Improvement of the National Accounts \$34,700  
(Field work processing)

II. PROJECTS UNDER CONSIDERATION

For Loans

May 1971

Power Transmission and Distribution \$15.47 million

Port Expansion and Warehousing Development \$ 8.1 million







SINGAPORE

UNDP Projects in Special Fund Component

As of July 31, 1971

Project	Agency	Approved by Governing Council	Governing Council earmarkings
Assistance in Urban Renewal and Development	UN	Jan. 1966	\$1,576,400
Pig and Poultry Research and Training Institute, Sembawang	FAO	Jan. 1967	\$1,049,400
Metal Industries Develop- ment Centre	ILO	June 1967	\$1,143,100
Technical Teacher Education and Vocational Training	UNESCO	Jan. 1968	\$1,088,200
Fishery Training Centre	FAO	Jan. 1968	\$1,261,900
Expansion of the Hotel and Catering Centre	ILO	Jan. 1969	\$ 444,700
National Productivity Centre	ILO	Jan. 1970	\$ 598,300
Singapore Polytechnic	UNESCO	Jan. 1970	\$1,782,900
Mass Rapid Transit	IBRD		







Possible Points for Discussion

1. The paper proposes a gross lending program of \$105 million (net \$100 million) during FY1972-76 i.e. about \$10 per capita per annum. The proposed program in Singapore is compared below with our operations in Panama and Trinidad since these countries have somewhat similar characteristics:

	<u>Singapore</u>	<u>Panama</u>	<u>Trinidad</u>
Population (1968)	2.0 million	1.4 million	1.0 million
Per capita income (1968)	US\$ 700	US\$ 580	US\$ 870
GNP annual growth rate (1964-68)	10.0%	7.5%	4.0%
National savings rate (1968)	14.0%	21.7%	19.0%
Proposed lending programs a/:			
amount	\$105 m.	\$50.6 m.	\$53 m.
number of projects	8	9	9
per capita (annual)	\$10.50	\$7.23	\$10.60
Debt in 1975:			
debt service ratio	1%	6%	4%
Bank's share of debt	60% 50%	40%	45%

a/ Gross programs; FY1971-75 for Panama & Trinidad, FY1972-76 for Singapore.

Is the program of an appropriate size?

2. It was decided at the time of last year's review that "before considering Bank financing of a mass rapid urban transport system, a thorough and sophisticated economic analysis of the problems of urban transportation in Singapore should be undertaken". On the recommendation of a Bank mission, the Government has decided to proceed with a mass rapid transit study (starting in mid-1971) with UNDP financing and with the Bank as the Executing Agency (paras. 30-31). Since \$50 million earmarked for two mass rapid transit projects in FY1974 and 1976 will depend on the findings of this study, how realistic is the expectation that there will not be any major slippage and that a gross program of \$105 million during FY1972-76 will lead to a net lending of \$100 million?

Attendance:

Messrs. Knapp  
Chenery  
Chadenet  
Cope  
Adler

East Asia & Pacific Department:  
Messrs. Goodman, Director  
Gilmartin, Chief Economist  
Sandberg, Division Chief  
Asanuma, Country Economist

Copy for information to: Mr. McNamara



DECLASSIFIED

APR 03 2013

WBG ARCHIVES

CONFIDENTIAL

*Questions: outlook for entrepot trade  
with S. & Malay trade  
directly  
what incentives to skill  
intensive prod.  
what incentives  
what is plan for further  
growth & '80 program*

COUNTRY PROGRAM PAPER

THE REPUBLIC OF SINGAPORE

		<u>Bank/IDA Lending (\$million)</u>		
		<u>FY 1964-68</u>	<u>1969-73</u>	<u>1972-76</u>
1969 Population ('000) :	2,020 <sup>1/</sup>	Bank 57.8	97.5 <sup>2/</sup>	105.0
1969 Per Capita GNP :	US\$842	IDA -	-	-
Current Population Growth:	1.6 percent p.a.	-	-	-
Current Exchange Rate :	US\$1 = S\$3.06	Total (57.8)	(97.5)	105.0
		<u>Annual Average per capita (\$)</u>		
		IBRD/IDA 6.04	(9.30)	9.50
		IDA -	-	-

- 1/ Three-fourths Chinese, the remainder mainly Malays, Indians and Europeans.  
2/ Last CPP \$112.5

A. COUNTRY OBJECTIVES

1. Historically Singapore has been a trading center and a key link in the British defense interests in the Far East and Australasia. Its economy was based mainly on entrepot trade and earnings from the British defense forces. Singapore obtained autonomy for domestic affairs in 1959 and merged with the Federation of Malaysia in September 1963. In August 1965 Singapore was forced to separate from Malaysia and established itself as an independent Republic. Prime Minister Lee Kuan Yew has been in office since 1959 when his party, the People's Action Party (PAP), won an overwhelming majority in the general elections. In 1968, Lee dissolved Parliament so that his Government might receive a reconfirmation of its mandate at a time when Singapore would have to provide increasingly for its own defense as the U.K. withdrew. The PAP won all 58 seats in the new election. The Government, although socialist in philosophy, encourages private local and foreign investment. With its one-party Government that rules with a strict hand Singapore has been able to avoid racial and political disturbances since 1964.

2. Singapore's main long-term objective has been to accelerate economic growth and to maintain and improve the social environment of its citizens. The principal means to these ends have been export-oriented



industrialization to create new jobs and reduce Singapore's dependence on the entrepot trade, measures to enhance Singapore's competitive position as a trade and financial center for South East Asia, and heavy investments in social infrastructure and services.

3. Singapore does not have a comprehensive official development plan.<sup>1/</sup> Planning takes the form of physical urban planning described in para 20 below, the annual budget estimates and the Economic Development Board's program to attract foreign private capital. Public sector investments have, nevertheless, followed priorities reasonably well and those planned for the next few years appear to be in line with foreseeable future requirements.

4. The Government has been successful in carrying out its policies. GDP in real terms increased by about 7 percent a year in the first half of the 1960's, and by about 10 percent a year since 1965. In 1968 GDP rose by over 17 percent and in 1969 by 13.5 percent. Almost two-fifths of the increase during the last two years was from entrepot trade, one-fifth from manufacturing, and 15 percent each from domestic trade and other services including tourism. Gross investment increased from an average of about 13 percent of GDP in recent years to over 16 percent in 1968 and a record 18 percent in 1969. Private investment, which in the past had been roughly equal to investment by the public sector, reached 59 percent of the total in 1968 and 65 percent in 1969. Government revenues and external reserves are also increasing rapidly. As a result of the rapid industrial growth and the expansion of the armed forces, unemployment has currently ceased to be a matter of serious concern; on the contrary, rather tight labor market conditions have emerged, particularly for professional and skilled workers, and immigration requirements have been slightly relaxed.

5. The increase in the rate of economic growth is due to (i) continued rapid growth of world trade and favorable prices of rubber, tin and several other primary commodities important in Singapore's trade; (ii) increased exports of domestically manufactured products; (iii) more tourists; (iv) substantially higher private foreign investment, particularly in new manufacturing industries, shipbuilding and repair and hotel construction; and (v) the provision of attractive facilities and a favorable environment for private capital.

6. Singapore has been particularly successful in its industrialization efforts; manufacturing output has increased by 18 percent a year since 1960 and the non-service sectors now account for 27 percent of GDP compared with 19 percent in 1960. As a result 15,000 jobs were created in industry alone in each of the last two years compared with about 6,000 new jobs created annually in the whole economy during the preceding eight years.

7. In the promotion of industrialization, export-oriented industries in general have been given high priority. The Government has recently

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<sup>1/</sup> All projections below are those of the Bank.



amended its policy to give preference to more skill-intensive export industries with a higher domestic value added. Low

8. Singapore has also succeeded in maintaining and improving its position as a trade and financial center. Entrepot trade has increased by over 9 percent a year since 1960 and was responsible for a substantial part of the growth in the past two years. On the financial side the policy has been to build up a large reserve basis for financial confidence and this has been facilitated in part by a substantial inflow of short term foreign capital in response to the opportunities for investment and speculative trading in corporate shares. Recently, the Government has taken several steps to further strengthen Singapore's position as a South-East Asian regional financial centre. The measures included the opening of the gold market, and of the Asian dollar market, enactment of measures for protection of commercial bank secrets (as in Switzerland), and the establishment of the Monetary Authority of Singapore to act as the central bank (except for the currency issue, which remains the responsibility of the Currency Board).

9. In the field of social improvements the achievements in increasing employment, providing low-cost housing, health and family planning services and raising the level of general education have been substantial. Family planning has been particularly successful. The birth rate was above 30 per thousand in 1965 but has declined to about 22 in 1969 and is projected to be about 20 in 1970. The net reproduction rate has meanwhile fallen from about 2.7 in 1957 to 1.5 in 1969. As a result, natural population growth is now about 1.6 percent. Signs of the success of these social policies are the overwhelming political support of the Government, the cooperation of labor groups and others in Government economic policy, and the absence of serious racial or other social disturbances in the past six years.

10. In the short term Singapore faces four major problems that will have to be overcome if the present favorable development is to continue. First, Malaysia and Indonesia are attempting to bypass Singapore and to build up direct trade and shipping links with the outside world. Second, the U.K. will withdraw virtually all its forces by 1971 which will affect adversely general income and government revenues while at the same time forcing Singapore into its own defense build-up which could for a short peak period cost as much as 10 percent of GDP. Third, there is a growing shortage of skilled labor and professionals which is likely to lead to increasing pressure on the wage level and may hamper the growth of industry and the inflow of foreign capital. Fourth, labor is likely to demand a greater share in the growing prosperity which may make the business and financial community less eager to invest.

11. In order to deal with some of these problems the Singapore Government will have to continue to increase substantially its investments in social and economic infrastructure and in education (the different sector programs are described below). This, together with the increased



defense expenditures, will present difficult financial problems, especially since major changes in the tax structure could lead to a reduction in the inflow of long term foreign investment. Hence the Government feels that it has to rely on the growth of the tax base and on foreign borrowing for the financing of its program in order to avoid inflationary financing and a drawdown of the comfortable, but necessary and somewhat vulnerable, foreign exchange reserves.

12. Serious as these problems may be, Singapore's record in the last few years encourages confidence that they will be satisfactorily managed, especially with continuing growth in the developed countries and in world trade. The table below indicates the direction and order of magnitude of possible future changes in main macro-economic indicators between 1969 and 1976.

Macro-Economic Projections<sup>1/</sup>

	Unit	1969	1976	1969-1976 Annual Change in percent
GNP (Market Prices)	US\$ million	1,701	2,860	7.7
Population	'000	2,020	2,260	1.6
GNP per capita <sup>2/</sup>	US\$	842	1,265	6.0
Gross fixed investment	% of GDP	18.0	21.9	9.6
Private	% of GDP	11.7	11.9	9.0
Public	% of GDP	6.3	10.0	13.1
Gross National Savings <sup>3/</sup>	% of GDP	14.8	16.5	<del>0.6</del> 9.4
Exports	US\$ million	690	1,155	7.6
Domestic exports	US\$ million	180	590	18.5
Net entrepot exports	US\$ million	510	565	1.5
(Entrepot exports)	US\$ million	(1,369)	(1,718)	(3.3)
(Entrepot imports)	US\$ million	(859)	(1,153)	(4.3)
Net Capital inflow	US\$ million	370	378	
Public	US\$ million	26	50	
Private <sup>4/</sup>	US\$ million	344	328	

<sup>1/</sup> Bank projections.

<sup>2/</sup> At current market prices and exchange rate.

<sup>3/</sup> Gross National Savings is only a rough estimate - it is calculated as gross investment plus the balance on trade and services in the balance of payments plus one-half of net errors and omissions in the balance of payments. Singapore's balance of payments includes a large amount of errors and omissions, partly due to unrecorded transactions on current account, therefore 50 percent of the figure is added to the current balance.

<sup>4/</sup> Includes net short-term capital and errors and omissions.



# B. ECONOMIC SECTORS

13. The following summary table shows production projections in the major sectors of the economy up to 1976:

Projection of Production by Sector (in S\$ million: current prices)				
<u>Sector</u>	<u>1968</u>	<u>1969</u>	<u>1976</u>	<u>1969-1976 Annual Growth Rate in Percent</u>
Entrepot Trade	644	844	886	0.7
Manufacturing	675	827	2,199	15.0
Construction	180	207	502	13.5
Agriculture and Fisheries	148	161	187	2.2
Public Utilities	109	120	319	15.0
Public Administration	300	326	635	10.0
Foreign Military Bases	457	415	-	-
Tourism	145	211	809	20.0
Others	1,599	1,722	2,582	6.0
Gross Domestic Product at Factor Cost	4,257	4,833	8,119	7.7

14. Domestic value added in entrepot trade, after having stagnated in 1967, increased by almost 70 percent in 1968 and another 31 percent in 1969. The high growth rates were due mainly to revivals of the Indonesian economy and higher prices for rubber, tin and several other primary commodities. Trade with Indonesia is believed to have been restored to its pre-confrontation level. However, trade with Malaysia may now decline with more direct trade undertaken by that country. Furthermore, the high profit margins in entrepot trade of 1968/69 are likely to decline and domestic value added in this sector is therefore projected to grow only at a low rate between now and 1976.

15. Singapore has no choice but to improve its performance constantly as the major entrepot trade center considering the likelihood of stiff and increasing competition from other ports in the region based on political rather than economic grounds. As a part of this effort the Port of Singapore Authority (PSA) is constructing a major container terminal financed by the Bank. This facility, which will be in operation in 1973 will, as presently planned, be able to handle 1.5 to 2.0 million tons of cargo a year, a considerable portion of which will be transshipped to other ports. The present port at Jurong will also be expanded, with financing from the Asian Development Bank, to handle traffic generated by the Jurong industrial estate. In addition, Singapore is going to undertake an overall Port Master Plan Study for the whole island of Singapore, based on terms of



reference prepared by the Bank. This study will examine the need for further port facilities and their location.

16. Tourism is the service sector which is most likely to continue to develop rapidly and to make an increasing contribution to foreign exchange earnings; it could grow by about 20 percent a year and reach about \$810 million in gross value added by 1976. Singapore will benefit as a stop-over and shopping place from the expected rise of tourist visits to the South Pacific and the Indonesian archipelago. Recent and current hotel construction has remedied the shortage of first-class hotel rooms and allows for further growth in tourism over the next few years. Various projects designed to attract tourists are being implemented.

17. The Government's industrialization policies, which it has pursued during the 1960's have achieved success. Investment in machinery and equipment increased in 1968 by almost 70 percent and in 1969 by another 33 percent, and was equivalent to 10 percent of GDP in 1969. The value of industrial output almost doubled between 1966 and 1969 to S\$2,636 million in 1969. Value of goods directly exported by manufacturers tripled from 1963 to 1969 to S\$760 million. The pattern of investment has shifted towards more "science-based" industries such as electronics, metal engineering, precision instruments and shipbuilding, which have a high growth potential since they are primarily oriented towards the growing markets of industrialized high income countries. U.S. companies have already set up 6 electronic sub-assembly plants employing about 4,000 people and five more will follow. Total employment in this field is expected to increase to 24,000 by 1970/71. Singapore is also becoming a center for supply industries for oil exploration in neighboring countries and is expanding its refinery capacity.

18. Singapore's success in attracting new industries can be attributed to a good infrastructure particularly port and air transport facilities and telecommunications; efficient cooperation from and general confidence in the Government; adequate investment incentives; sound fiscal and monetary management; stable currency and good banking facilities; a well-educated labor force; new labor legislation designed to provide greater wage stability and to strengthen the employers' position. In order to maintain these advantages the Government will have to make further heavy investments to improve the efficiency of the economic services provided to business. In line with previous policy these investments will be designed to provide service at a level that will attract demand. Further investment will also be needed in education to offset probable future wage increases as well as in improvements of social services. Future investment in manufacturing industry will be mainly financed from private sources supplemented by government loans through the Development Bank of Singapore.

19. Investment in the economic and social infrastructure will have to be made in all areas. Demand for electric power is now expected to grow by over 15 percent per annum. To meet this requirement will necessitate



large additions to generating capacity in the next few years. Industrial estates will be expanded. Nearly all land now occupied by the U.K. defense installation - about 10 percent of the total area - will be converted to other uses. Public housing and urban renewal programs will be enlarged. Other public investment projects will involve the further development of the water and sewerage network as well as of the internal telephone system. Further improvement in external telecommunication services is also necessary.

20. Land transportation has increasingly become a bottleneck, and planning has to be coordinated to meet the requirements of the expanded port, the public housing and urban renewal projects, the growing traffic to and from the Jurong industrial estate, expanding tourism and the rapid increase in the number of automobiles. To this effect, a US\$5.2 Urban Renewal and Development Study Project began in 1967 with assistance from UNDP. A State and City Planning (SCP) Board was set up to undertake the project; its recommendations should be available by mid-1971. The Study's main objectives are (1) to submit alternative long-range comprehensive physical development plans for selection by the Government, (2) to develop the selected plan in sufficient detail to guide short-term investment decisions, and (3) to prepare a transport plan with recommendations for a mass transit system. The work of the SCP was reviewed by a Bank mission in February 1970. The mission made specific recommendations for further studies of the mass rapid transit proposal and for a comprehensive planning exercise in the Western Corridor between the city of Singapore and the Jurong industrial estate. The Government has now decided to request UNDP financing of the mass rapid transit study with the Bank as Executing Agency and it is considering the Western Corridor proposal. Other transportation investment programs include further port expansion and the enlargement of airport facilities financed in part by the Asian Development Bank to accommodate large-scale jumbo jet services.

21. In order to sustain and deepen the process of industrialization the Government will have to put more emphasis on the expansion of vocational and technical education at all levels since shortages of certain types of skilled labor have begun to appear. Enrollment in general education is already among the highest in South East Asia and the Government has therefore given first priority to an expansion of technical and vocational training including training on the tertiary level. A Bank mission in August to review the development plans for the University of Singapore concluded that there is a need for expanding university training particularly in engineering, architecture, accountancy and building management. The facilities at the existing tertiary institutions need considerable improvement and expansion to provide for up-to-date high level professional training. The Government envisages Singapore becoming eventually the major science center of the region. The educational investment program is essentially designed to meet economic-manpower criteria but also takes account of social, cultural and political considerations reflecting Singapore's multi-racial status. On the secondary level, the Government has now introduced workshops in academic schools so that all secondary school students will have some experience of workshop practices. In addition, the conversion of academic high schools into academic-cum-technical schools and conversion of the old vocational schools into industrial training centers are proceeding according to the Government's schedule.



C. EXTERNAL AID

22. The balance of payments position has improved steadily since 1966, supported particularly by entrepot trade activities and domestically manufactured exports. Receipts from services including tourism and port operations also increased, and the current account has been in near balance or has shown only small deficits. Inflows of private short-term capital were substantial over the last four years. Private long term capital movements, particularly in the form of direct investments, have also been relatively large. Foreign aid disbursements, almost entirely from Bank loans and since 1968 from U.K. Special Aid, began to build up in 1968. As a result net external reserves have risen substantially by US\$140 million in 1968 and by another US\$270 million in 1969 to reach US\$1,030 million at the end of 1969 and US\$1,070 at the end of March 1970. At that level, they were equivalent to about 10 months of annual retained imports.

23. This strong payments and reserve position, combined with the creation or strengthening of financial institutions both official and private, are the means for realizing Singapore's ambitions as a financial center for South East Asia. There is no immediate threat to this reserve position but the prospects towards the mid-1970's and beyond are less certain. There is, firstly, the loss of foreign exchange earnings as a result of the British withdrawal. Secondly, retained imports are likely to grow rapidly and this will demand a high rate of export growth which may not always be easily maintained, especially with the sensitivity of Singapore's exports to developments in neighboring countries and elsewhere. Thirdly, the rapid capital inflow into Singapore in recent years will be followed by increasing transfers of investment income. Finally there is the large element of short-term money in Singapore which can always flow out quickly with any adverse developments affecting confidence.

24. Considering all these uncertainties, Singapore is well advised to maintain large reserves, not only because it is a financial center but also in order to permit a high rate of economic, social and infrastructural development to be sustained during periods of adverse exports and net capital outflow. This policy, which is supported by a recent IMF mission to Singapore, is the justification for continuing to finance a substantial portion of public investment by foreign borrowing, for which it has ample creditworthiness. Singapore's external public debt, including undisbursed, was only US\$207 million at the end of 1969, calling for debt service payments equivalent to less than one percent of export earnings in that year.

25. While exact quantification of the need for external finance is hardly possible because of unusual uncertainties in the balance of payments outlook and shortcomings in data, we believe that the Government is justified in attempting to obtain a gross inflow of foreign official capital of something in the order of \$40 or \$50 million a year over the next five to six years. Disbursements under existing bilateral loan programs, mainly U.K. Special Aid and Japanese aid, should provide on the average



about US\$8 million a year, and existing IBRD and Asian Development Bank loans about US\$8 million. Another US\$30 million annual disbursements would thus be required to reach the above target. The Bank has in the past advised the Government to obtain suppliers' finance for suitable projects where terms are favorable. Such financing, in association with a proposed Bank loan, was successfully contracted at good terms in 1970 for the expansion of PUB's generating capacity, and the Government should be encouraged to continue to seek such financing for suitable projects. The possibility of floating loans in the international capital markets to cover part of the Government's borrowing requirements might also be explored although possibilities for this are not likely to provide very large amounts. The ADB, which will lend Singapore about US\$30 million in 1970, will also extend further financing although probably not on the same scale. The Government does not have a detailed borrowing program but it appears likely that these sources could provide disbursements of US\$15-20 million on the average per year.



#### D. THE BANK PLAN

26. The proposed lending program is designed to assist Singapore in covering part of its justified borrowing requirements to the extent of about US\$10-12 million a year, while at the same time assisting it in solving some of the sectoral problems discussed above, particularly in new and difficult areas such as urban development and urban transport, container handling and higher technical education. The program thus contains loans for relocation and expansion of the University of Singapore and particularly its engineering and other technical faculties in FY 1971, a further expansion of the container facilities in the Port of Singapore in FY 1973, and mass transport and urban development projects in FY's 1973, 1974, 1975 and 1976.

27. The lending program also includes loans to the PUB for power, to DBS for industrial financing in FY 1972 and to STB for expansion of the telephone system in FY 1973. These proposed loans would be for projects which form part of the continuing investment or lending programs of these institutions. Experience with previous loans to the same borrowers has been good and no difficulties are foreseen. Since they have achieved considerable strength and appear capable of financing their investment programs from their own resources or from other non-Bank sources we do not envisage that further Bank loans to these entities will be required after 1973.

28. The PSA has requested the Bank to finance an expansion of the container terminal now being constructed under Loan 462-SI by the addition of a third container berth. The advisability of this project can only be ascertained following the completion of Phase I of the Port Master Plan Study. The consultants, which will be selected shortly, are expected to complete this phase of the study about mid-1971. Even if the study should show that the present container terminal should not be expanded, some expansion of PSA facilities will be necessary in the next few years. Phase II of the study will provide the necessary background for a sound decision as to the location and design of these facilities which should be suitable for Bank finance.

29. A Bank pre-appraisal mission reviewed the preparation of the University of Singapore Project in August. The mission recommended, and the Government is now carrying out, further studies and revisions of previous studies, needed prior to appraisal, including a revised manpower survey, comparisons between relocation of the University at Kent Ridge and other development alternatives and proposals for the development and expansion of post-secondary education as a whole. It now appears likely that the proposed project will involve the relocation of the entire University at Kent Ridge but the total cost and foreign exchange requirements involved will only be known when the studies have been completed. Present indications are that they will be ready before the end of the year. Even so the timetable is very tight and the project may therefore be delayed until FY 1972.



30. Following a request by the Singapore Government for assistance in the field of urban mass transportation, a Bank mission, which visited Singapore in February 1970, examined a proposal for a mass rapid transit system and reviewed key aspects of Singapore's urban planning and development. Based on its findings we recommended to the Government that it carry out further studies of mass transportation and a planning exercise for the development of the Western Corridor between the city of Singapore and the Jurong industrial estate.

31. The Government has now decided to proceed with the mass rapid transit study and to request UNDP financing for it on the basis of terms of reference and a study description drafted by the Bank. The Bank would be the Executing Agency. The study is expected to start in mid-1971 and to take about 18 months to complete. The lending program is based on the assumption that it will recommend a staged construction of a rail-based mass rapid transit system.

32. The Government is studying the proposal for an urban planning exercise in the Western Corridor. Further information about the proposal and how it is to be carried out will have to be provided by the Bank before the Government can make a decision. The objective of the proposed exercise is to coordinate, within the framework of comprehensive urban development planning, various projects and activities of the public authorities and private industries in the Western Corridor which are likely to be the focus of Singapore's development over the next decade or so. The planning exercise would produce a program of infrastructure investments, some of which would probably be suitable for Bank financing.

33. The total amount of the loans included in the proposed lending program for the next five years, FY 1972-1976, are estimated at US\$105 million on a gross basis and US\$100 million net of slippage. Disbursements under these loans during this period would average US\$10-12 million per year, leaving an undisbursed balance of some US\$45 million at the end of FY 1976.

34. This program, which with disbursements of loans already made would only provide about one-third of the annual flow of funds needed to fulfill the target discussed in para 25 above, is also amply justified on the grounds that it would enable the Bank to complete its "institution building" task in important areas of the public sector and, in the later years, assist Singapore in solving one of its most pressing future problems, urban development including mass transportation.

35. Singapore's economy is still relatively vulnerable. Its growth depends heavily on developments outside the control of the Singapore Government. Adverse changes in these could have serious repercussions for Singapore. Accordingly, the Bank should keep its lending program under



continuous review and be prepared to expand it quickly should future developments indicate the need for increased borrowing by Singapore. There should be no difficulty in such stepped-up lending in view of the efficiency and strength of the public authorities in Singapore. The PUB, the STB and the DBS would, for instance, be able very quickly to develop projects suitable for Bank financing.

Attachments:

1. Singapore - Past and Proposed Lending Through FY 1976
2. Indicators of Development

East Asia and Pacific Department  
December 2, 1970



## SINGAPORE - PAST AND PROPOSED LENDING THROUGH FY 1976

ATTACHMENT 1

Population ('000): 2,020 (1969)  
Per Capita GNP : US\$842 (1969)

Population (1960): 2,320 (1967)		(\$ millions)																
Per Capita GNP : US\$842 (1969)		Fiscal Years													Total	Total	Total	
		Through	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1964-68	1969-73	1972-76
		1963																
Communications I	IBRD	.....					3.0											
Communications II	IBRD	.....						11.0										
Communications III	IBRD	.....										8.0						
DFC - DBS I	IBRD	.....						5.0										
DFC - DBS II	IBRD	.....									10.0							
Education - University	IBRD	.....							5.0									
Power I - Generation	IBRD	15.0																
Power II - Generation	IBRD	.....				10.0												
Power III - Distribution - and																		
Water Supply II	IBRD	.....					23.0											
Power IV	IBRD	.....						20.5										
Power V - Generation	IBRD	.....							10.0									
Power VI - Distribution	IBRD	.....									12.0							
Mass Rapid Transit I	IBRD	.....										25.0						
Mass Rapid Transit II	IBRD	.....													25.0			
Urban Development I	IBRD	.....									5.0							
Urban Development II	IBRD	.....												15.0				
Ports I	IBRD	.....				15.0												
Ports II	IBRD	.....										5.0						
Water Supply I	IBRD	.....		6.8														
Sewerage	IBRD	.....					6.0											
TOTAL		15.0	-	6.8	-	25.0	26.0	26.5	16.0	15.0	22.0	18.0	25.0	15.0	25.0	57.8	97.5	105.0
No.		1	-	1	1	2	2	2	2	2	2	3	1	1	1	5	11	8
Net									10.0	15.0	24.0	22.0	18.0	21.0	57.8	91.5	100.0	
IBRD Loans Outstanding																		
- including undisbursed		15.0	15.0	20.7	20.7	44.1	66.9	91.5	106.6	114.6	127.0	147.0	164.3	176.5	191.1			
- excluding undisbursed		-	2.1	9.9	12.3	25.3	29.0	40.0	56.8	86.4	108.5	122.0	133.3	141.0	145.1			

East Asia and Pacific Department  
December 2, 1970



SINGAPORE

INDICATORS OF DEVELOPMENT

		<u>1961-65</u>	<u>1966-69</u>	<u>1970-76</u>	
<u>I. ECONOMIC &amp; STRUCTURAL INDICATORS</u>					
1. Gross Domestic Product (in current prices)	% Change	8.2	12.2	7.7	
2. Manufacturing Output <u>1/</u>	% Change	17.2	18.9	15.0	
3. Domestic Price Level	% Change	1.6	0.9	n.a.	
4. Imports of Goods and NFS	% Change		18.4	6.5	
5. Exports of Goods and NFS	% Change		15.0	6.5	
		<u>1960</u>	<u>1965</u>	<u>1969</u>	<u>1976</u>
6. Gross National Savings	% GDP	8	11.2	14.8	16.5
7. Resource Gap	% GDP	0	5.2	5.4	6.6
8. Net Factor Payments Abroad	% GDP	-1.4	-1.6	-2.2	-2.2
9. Gross Domestic Investment	% GDP	6.6	14.8	18.0	21.9
10. Debt Service	% exports	.73	.80	.80	1.0
		<u>1966</u>	<u>1968</u>	<u>1969</u>	<u>1976</u>
11. Government Current Revenue	% GDP	16.4	17.8	16.8	20.0
12. Government Current Surplus	% GDP	2.4	2.8	.7 <sup>2/</sup>	2.5
13. Public Exp. on Social Services	% GDP	9.3	7.9	7.7 <sup>2/</sup>	n.a.
14. Military Expenditure	% GDP	2.2	3.0	4.9 <sup>2/</sup>	n.a.
15. Manufacturing Output	% GDP	8.3	15	17	27
		<u>1961</u>	<u>1965</u>	<u>1968</u>	<u>1976</u>
16. Energy Consumption (million metric tons coal equiv.)		90	131	205	n.a.

**II. SOCIAL INDICATORS**

		<u>1960</u>	<u>1965</u>	<u>1969</u>	<u>1976</u>
17. Population Growth Rate		2.6	2.16	1.47	
18. Birth Rate	Per 1,000 popln.	37.8	29.9	22.2	
19. Family Planning	Acceptors '000's	4.6	5.3	19.5	
20. School Enrollment:					
Primary & Sec.	1967 - 92% of school age popln.				
21. Literary Rate	1968 - 75% of adult popln.				
22. Unemployment Rate	1966 - 9.1% of labor force				
	1969 est. - 7% of labor force				
23. Population per hospital bed <sup>3/</sup>	1961 - 251 per bed				
	1968 - 283 per bed				

<sup>1/</sup> Gross Value added at current prices.

<sup>2/</sup> Sharp change due to increased expenditure on military equipment as withdrawal of British forces will be completed.

<sup>3/</sup> Government hospitals only.



COUNTRY PROGRAM PAPER

SINGAPORE

Postscript

36. This paper was reviewed in a meeting with Mr. Knapp on December 10, 1970. It was agreed that:

- (i) size and sectoral allocations of the lending program were acceptable;
- (ii) the urban mass rapid transit and urban development projects were uncertain but there should be no difficulty in substituting other projects to reach the lending target should the current projects prove unsuitable for Bank financing;
- (iii) the net and gross programs will be fairly close as sufficient projects were available to replace ones which may drop out;
- (iv) a second education loan of US\$5 million was added to the program in FY 1975 on the grounds that the Bank should not be satisfied with a one-shot operation in this important field.

(A revised lending program is attached.)

East Asia and Pacific Department  
December 21, 1970



## SINGAPORE - PAST AND PROPOSED LENDING THROUGH FY 1976

ATTACHMENT 1

Population ('000): 2,020 (1969)  
Per Capita GNP : US\$842 (1969)

		(\$ millions)																	
		Fiscal Years															Total	Total	Total
		Through 1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1964-68	1969-73	1972-76	
Communications I	IBRD						3.0												
Communications II	IBRD								11.0										
Communications III	IBRD											8.0							
DFC - DBS I	IBRD								5.0										
DFC - DBS II	IBRD										10.0								
Education I - University	IBRD									5.0									
Education II	IBRD													5.0					
Power I - Generation	IBRD	15.0																	
Power II - Generation	IBRD					10.0													
Power III - Distribution - and																			
Water Supply II	IBRD						23.0												
Power IV	IBRD							20.5											
Power V - Generation	IBRD									10.0									
Power VI - Distribution	IBRD										12.0								
Mass Rapid Transit I	IBRD												25.0						
Mass Rapid Transit II	IBRD														25.0				
Urban Development I	IBRD											5.0							
Urban Development II	IBRD													15.0					
Ports I	IBRD					15.0													
Ports II	IBRD											5.0							
Water Supply I	IBRD			6.8															
Sewerage	IBRD							6.0											
TOTAL		<u>15.0</u>	<u>-</u>	<u>6.8</u>	<u>-</u>	<u>25.0</u>	<u>26.0</u>	<u>26.5</u>	<u>16.0</u>	<u>15.0</u>	<u>22.0</u>	<u>18.0</u>	<u>25.0</u>	<u>20.0</u>	<u>25.0</u>	<u>57.8</u>	<u>97.5</u>	<u>110.0</u>	
No.		1	-	1	-	2	2	2	2	2	2	3	1	2	1	5	11	9	
Net										10.0	15.0	24.0	22.0	21.0	23.0	57.8	91.5	105.0	
IBRD Loans Outstanding																			
- including undisbursed		15.0	15.0	20.7	20.7	44.1	66.9	91.5	106.6	114.6	127.0	147.0	164.3	176.5	191.1				
- excluding undisbursed		-	2.1	9.9	12.3	25.3	29.0	40.0	56.8	86.4	108.5	122.0	133.3	141.0	145.1				

East Asia and Pacific Department  
December 16, 1970







POPULATION: 2.0M

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GNP PER CAP: \$ 600

IVA SINGAPORE

- 5 YEAR OPERATIONS AND LENDING PROGRAMS

(BY FISCAL YEAR - AMOUNTS IN \$ MILLIONS)

OPERATIONS PROGRAM			1972	1973	1974	1975	1976
			----	----	----	----	----
6-SNG-CC-03	STB TELECOM III	IBRD		8.0			
6-SNG-EE-01	HIGHER TECHNICAL EDUCACN	IBRD	5.0				
6-SNG-EE-02	EDUCATION II	IBRD				5.0	
6-SNG-TP-02	PORTS II	IBRD	11.0				
6-SNG-UT-01	RAPID TRANSPORTATION	IBRD			25.0		
6-SNG-UT-02	RAPID TRANSPORTATION II	IBRD					25.0
6-SNG-UU-01	URBAN DEVT I	IBRD		5.0			
6-SNG-UU-02	URBAN DEVT II	IBRD				15.0	

	1964-68	1969-73	1972-76
IBRD	57.8	71.5	99.0
IDA			
TOTAL	57.8	71.5	99.0
NO	5	8	8

	1964-68	1969-73	1972-76	1977-80	1981-85
IBRD	16.0	13.0	25.0	20.0	25.0
IDA					
TOTAL	16.0	13.0	25.0	20.0	25.0
NU	2	2	1	2	1

LENDING PROGRAM (12/10/70)

IBRD	57.8	91.5	105.0
IDA			
TOTAL	57.8	91.5	105.0
NO	5		

IBRD	15.0	24.0	22.0	21.0	23.0
IDA					
TOTAL	15.0	24.0	22.0	21.0	23.0
NU					



## Notes to Operations and Lending Programs

The following are short notes on the loans in the operations program for 1972 and 1973.

### ✓ Telecommunications III

This would be the Bank's third loan to the Singapore Telephone Board and would finance foreign exchange cost of items in their investment program for 1971-75. This program has recently been expanded to keep pace with increased forecasts of demand. A supervision/pre-appraisal mission is scheduled for November.

### ✓ Education I

This project has been appraised and negotiation of the loan is planned for December. The appraisal report recommends a Bank loan of US\$10.2 million for equipment and facilities for the facilities of engineering, architecture and accountancy and business administration and for a computer centre. Technical assistance for research and staff development and for overseas fellowships would also be provided.

### ✓ Ports II

This project is for the extension of the container wharf presently being constructed by the Port of Singapore Authority at the East Lagoon partly financed by Loan 462-SI of \$14.0 million. The Government has now decided to support PSA's selection of this site for the extension, in spite of the adverse comments on the site in the draft report of the consultants preparing the Port Master Plan. The Transportation Projects Department is considering these comments before finishing its appraisal report. We have undertaken to let the



Government know what the Projects Department's recommendations are before the end of November. The extension work would be carried out by the contractors on site in the East Lagoon. The Port of Singapore Authority is currently negotiating this contract.

✓ Urban Development I

A mission will visit Singapore in November to supervise a water supply and a sewerage project. The mission will examine the Public Works Department's investment program with a view to identifying a sewerage project for a Bank loan in 1973.

✓ Mass Rapid Transit

The Governing Council of UNDP will consider in January 1972 an application by the Government of Singapore for funds to carry out a mass rapid transit study. The Bank will be the executing agency for this study, the first part of which will recommend the most appropriate mode for mass rapid transit. The second part of the study will focus on the implementation of the recommended mode. A loan of US\$25 million has been included in the lending program for 1974 to finance a transportation project based on this study.







Files

October 6, 1971

John B. Riddell

SINGAPORE: Meeting with the Delegation to the Annual Meeting

Present were Mr. Hon Sui Sen (Minister of Finance), Mr. Michael Wong Pak Shong (Managing Director of the Monetary Authority of Singapore), Mr. Howe Yoon Chung (Chairman, Port of Singapore Authority), Messrs. Goodman, Fontein, Street, Sandberg, Jentgen, Amin-Arsala and Riddell. Mr. Higginbottom of the Ports Division was present for the discussion of the port project.

Port Project: Mr. Hon said that the Government was in favor of adding a third berth to the East Lagoon container terminal. Mr. Goodman said that this was the first intimation the Bank had had of the Government's position on this matter, but that he understood that the Consultants' (Rendel, Palmer and Tritton) draft port master plan study recommended Jurong as the site for the third berth. Mr. Howe interrupted to say that the PSA had (since, on his notation, 1964) been convinced of the need for three berths in the East Lagoon and had accepted a 2,000 ft. wharf only on the Bank's conviction that this would accommodate three containerships. Since container-ships today are commonly 950 ft. long this wharf would no longer be adequate. He stated he had been waiting for 6 months for the Bank's decision on the location of the third berth and for agreement on negotiation with the contractors on site for its construction. Mr. Goodman said the Bank look to the Government for decision on the location of the third berth and could only propose a loan for a project which had been presented for Bank financing and which was in the Bank's view a suitable and satisfactory one. Mr. Hon said that on return he would write confirming the Government's decision approving the East Lagoon container berth. Mr. Goodman commented that the Bank had acted, under severe staff constraints, with promptness in appraising the proposed project in May and had been unable to complete this work due to the lack of the consultants draft report (only received in the Bank recently). He said the draft report would now be studied in the light of the Government's decision and hopefully a conclusion on the suitability of the project for Bank financing would be reached by the end of November. Meanwhile negotiations with the contractors could be started, without commitment, before the Bank's decision was known. The matter was left on this footing.

University of Singapore: Mr. Hon said Dr. Teh was anxious to "get on with" the project and asked if there were any short cuts through the Bank's procedures. He mentioned that he understood financing might not be available for consultants already appointed. Mr. Goodman explained that, whilst there were no "short cuts", retroactive financing might be possible for certain expenditures but that he understood that in the case of the University project no expenditures were expected to be incurred before signing. On the basis of the present timetable negotiations should be in December and loan signing in January.



Singapore Telephone Board: Mr. Hon said the Board had revised its estimates of capital expenditure upwards and was anxious to secure further Bank assistance in carrying out its program. Mr. Goodman said the Bank would be glad to receive any proposals put to it.

Urban Development: (i) It was explained that the Administrator would recommend the UNDP Governing Council to approve in January 1972 the Singapore Government's application for funds to carry out a Mass Rapid Transit Study. This was expected to give rise to a Bank project. (ii) Mr. Hon asked what the Bank's stance on urban development projects was. Mr. Goodman said that there was now a small division in the Bank for considering such projects though this as yet has little practical experience.<sup>1/</sup> Mr. Hon said that in view of this (which seemed to him to indicate an advance on the Bank's position as explained the previous year) it might be worth considering whether the Bank could help finance the Raffles International Centre development taking place on the site of the Raffles Institution. Mr. Hon explained that the financing of this project was at present the responsibility of the DBS; total cost was of the order of US\$100 million of which infrastructure might be US\$50 million; and that the development was at a very advanced planning stage.<sup>2/</sup> Mr. Goodman agreed that the next visit of the Urbanization Division people to Singapore should include review of the information available on this project and that they would be able to give some indication to the Government as to whether it was worth their applying for Bank funds. (The next visit by Messrs. Strombon/Mera to Singapore will probably be in November.)

Development Bank of Singapore: Mr. Hon said the DBS was ready to "accept" funds from any source. He enquired whether there was any relaxation of the Bank's insistence on payment of commitment charge or approval of sub-projects. He asked whether the Raffles International Centre as a sub-project would be acceptable to the Bank. There was some discussion of the need for further appraisal of the DBS's need for funds by a Bank mission to Singapore which could at the same time consider the Raffles sub-project. Mr. Goodman said it was for DBS to consider its needs and to apply to the Bank for a further loan if it thought it could justify one.

Tourism: (i) Mr. Hon mentioned the Singapore Government's involvement in a Bali tourism project and its anxiety that IFC should be involved as an insurance against political risks. (ii) Mr. Hon mentioned that tourism projects were available for Bank financing in Singapore. Mr. Goodman said that it was a question of what the Government's priorities was. The Bank could not involve itself in assistance to every sector in Singapore.

Mr. McNamara's visit: There was some discussion of the timing and program of Mr. McNamara's visit. Mr. Hon said that Mr. Bogaars was the appropriate person to write to on this question.

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<sup>1/</sup> As in all its loans the Bank was governed by the terms of its charter restricting it to the foreign exchange cost of projects with developmental potential.

<sup>2/</sup> The right to construct apartment buildings etc. on the site would be sold to private developers.



Cleared with and cc: Messrs. Sandberg  
Amin-Arsala

cc: Messrs. Goodman  
Fontein  
Street  
Higginbottom  
Powell  
Strombon/Mera

JBRiddell:vt



Mr. Raymond J. Goodman

September 27, 1971

Bengt G. Sandberg

SINGAPORE - Briefing Paper for 1971 Annual Meeting

I. MEMBERS OF DELEGATION

Mr. Hon Sui Sen

Minister for Finance  
Governor of the Bank

Mr. Howe Yoon Chong

President, Development Bank of Singapore  
Chairman, Singapore Port Authority  
Alternate Governor of the Bank

Mr. Michael Wong Pakshong

Managing Director, Monetary Authority  
of Singapore  
Governor of the Fund

Mr. Leong Kwok Kee

Senior Investment Analyst  
Monetary Authority of Singapore  
Alternate Governor of the Fund

II. BACKGROUND

(a) Economy

There has been no substantial change in our assessment of Singapore's economic situation and prospects since the review of the Country Program Paper in December 1970. An economic mission headed by Mr. Murray Ross has just completed its work in Singapore and will be returning to the Bank about October 1. Their report is due in late November for a CPP review in early January 1972.

(b) The Lending Program

Significant changes have been made in the operations program since the review of the CPP in December 1970. Two loans have been dropped from the FY 1972 program, Power VI - Distribution - which will be financed by the ADB, and DBS II, which the DBS does not need. Because of its apparent urgency the proposed Ports II loan has been advanced from FY 1973 to FY 1972.

III. STATUS OF PROPOSED AND EXISTING BANK LOANS

(a) Proposed Loans

1. Ports II (\$11 million; February 1972)

- (i) The appraisal of this project as undertaken in June covered the provision of an extension of the container wharf presently being constructed by PSA at the East Lagoon which is financed in part by Loan 462-SI. This was the project which the Bank had been asked by PSA with the concurrence of the Government to consider.



- (ii) We now understand that the Government have received a Port Master Plan Study Report (which we have not seen) and which recommends development of future container berths in Jurong.
- (iii) It is not clear whether the Government will permit PSA to proceed with the East Lagoon proposal and they must advise the Bank what their decision in this matter is.
- (iv) Should the Government decide to proceed with the proposed East Lagoon development it will be necessary for the Bank to receive a copy of the Consultants' Report on the Port Master Plan so as to obtain some information on the anticipated cost of providing container berths in Jurong and the expected timing of their construction. We shall then have to reconsider our appraisal in the light of this information so that we can decide on the benefits accruing over the time span involved.

We shall also have to discuss with the Government their plans for the inland rail connections and urban road proposals from the container berth terminal. Such plans are of course needed whether the extension is built or not.

These matters require urgent attention and you should press the Singapore delegation for an early decision since PSA wishes to negotiate a contract with the present contractor so that work on the extension, (if approved) which could start in January 1972, can proceed without interruption. To accomplish this PSA would have to sign the contract, or a letter of intent, in the very near future. If we cannot proceed shortly with the processing of the loan for the East Lagoon Project, should this be the Government's decision, I fear that we will be in the difficult position with both PSA and the Executive Directors over the extension of the existing contract.

## 2. Higher Technical Education (\$5.0 million; January 1972)

This project was appraised in June/July and the mission is now preparing its report. The major issues on which Government action is needed concern the inclusion of a Computer Center in the proposed project, the preparation of a staff development plan and plans for the meeting of the sizeable increases in recurrent costs associated with the project. You might inquire about the status of those items, particularly the Computer Center, about which we need further information. The Appraisal Mission's most recent estimate of the foreign exchange cost of the project is US\$9.2 million or US\$10.0 million if the Computer Center is included.



3. Mass Rapid Transit (\$25.0 million; FY 1974)

Agreement has been reached with the Singaporeans and the UNDP regarding Terms of Reference for the Mass Rapid Transit study and preliminary indications are that the study will be included on the agenda for the January 1972 meeting of the UNDP Governing Council. So far as we know the Government has not acted on our suggestions that they apply for Preproject Activities financing from the UNDP to speed up the start of the study. At this time not much would seem to be gained by such an application.

4. Urban Development (\$5.0 million; January 1973)

Informally we have been made to understand that our suggestions for integrated planning in the Western Corridor and the establishment of a "Western Corridor planning unit" have been well received. However, we know little about what concrete action has been taken. Members of the economic mission now in the field will try to gather such information so that we can begin to give some substance to the proposed FY 1973 project.

5. Telecommunications III (\$8.0 million; February 1973)

The second loan has been fully committed and extremely rapid growth seems to make a third loan a matter of some urgency. Procurement over and above the project financed by the last loan is already taking place. Every effort should therefore be made to expedite the preparation and presentation of a project so that appraisal can take place in March 1972.

(b) Existing Loans

1. Public Utilities Board (PUB)

The history of the "management question" is well known to you. Latest information is that PUB has shortlisted candidates for the post of General Manager. You will recall that Mr. Estrop told us on September 3 that arrangements had been made for management consultants to interview the candidates.

2. Development Bank of Singapore (DBS)

As you know the DBS has informed us that they do not want to make withdrawals from the loan for the time being. I believe that they are prudent in doing so since they can use freely



convertible Singapore dollars to cover their commitments rather than the Bank loan which involves a considerable exchange risk, because we can choose the currency to be disbursed and consequently the currency of repayment. The Bank has at the same time an interest in seeing its loans disbursed as soon as possible and in line with the progress of the projects it finances. This is expressed in Section 5.03 of the General Conditions which states that "Applications for Withdrawal, ..... shall be made promptly in relation to expenditures for the Project". I suggest that you indicate this to Mr. Howe and also that we would not consider postponing the Closing Date (now June 30, 1973) if DBS is still not making withdrawals at that time. It is, of course, highly unlikely that the present crises will not have been resolved by then.

#### IV. CAPITAL SUBSCRIPTION IN ISRD

Singapore is entitled to subscribe an additional US\$20.9 million to the capital of the Bank. You might inquire whether they intend to make the subscription and if so to urge them to continue their past practice of releasing the 9% portion of their subscription.

BGSandberg:vmk







## OFFICE MEMORANDUM

TO: Mr. William Gilmartin

DATE: October 13, 1971

FROM: Murray Ross

SUBJECT: SINGAPORE - Back-to-Office Report of Economic Mission

1. An economic mission visited Singapore during September 6-24, 1971. The mission consisted of Mr. Murray Ross (chief), Messrs. Percy Bargholtz and Aswin Kongsiri and Miss Elke Meldau. The main observations and preliminary conclusions of the mission are set forth below.

### Growth and Transformation

2. Since becoming an independent state in 1965, Singapore has experienced a period of unprecedented growth. Real GDP grew on the average by some 10 percent annually during the 1960's and the rate of growth accelerated to nearly 15 percent per annum during 1967-70. The high growth rate was generated by the rapid revival of entrepot trade after the end of the confrontation with Indonesia, favorable prices for rubber, tin and other primary commodities, the launching of export-oriented industrialization and a construction boom based on industrial and commercial facilities, luxury-type hotel building, expensive housing for expatriate employees of multinational corporations and on the Government's own most impressive low-cost housing program. Growth was combined with a structural transformation of the economy -- the dependence on entrepot trade was substantially reduced (from 17 to 11 percent of GDP) as manufacturing industries made rapid strides and increased their contribution from under 10 to more than 20 percent of GDP. Stimulated by a variety of incentives and encouraged by labor tranquility as well as by general political stability, a number of multinational firms have established plants in Singapore. This has not only greatly increased the value of industrial output, but has also changed the character of industry from essentially "inward-looking" to "high-technology" plants in electronics, cameras, precision instruments, ship-building, etc., all of which are primarily "export-oriented".

3. The rapid growth of the economy and especially of the manufacturing sector transformed the labor market from one characterized by serious unemployment to that of a labor shortage, particularly of skilled workers. GDP per head increased from US\$575 in 1965 to US\$950 in 1970 -- second only to Japan in all Asia -- and while great inequalities in income distribution persist, there is evidence of improvement in the living standards of the lower stratum as a result of improved employment opportunities, low-cost housing and a successful family planning program. Against the backdrop of these favorable developments, the U.K. Government's decision to close down the military installation has presented much less of a problem than was originally anticipated and although Prime Minister Lee continues to issue ominous warnings regarding the dire consequences that may follow the withdrawal of the British forces by end of 1971, the consensus is that the exhortations are largely intended to maintain the relentless drive to transform and modernize the economy, to perpetuate labor peace and to prevent the slightest relaxation on the part of the populace.



Savings and Investment

4. The highly impressive growth rate achieved by Singapore in the past decade is primarily attributable to the ingenuity, enterprise and plain hard work of its people. However, high levels of savings and investment have played an important role. Gross national savings increased tenfold during the decade and attained the enviable level of some 27 percent of GDP. Both private and public savings grew rapidly and underpinned corresponding increases in investment activity. Private savings accumulated in commerce and trade found their way into luxury-type hotel and housing construction and to a lesser extent into industry. Most of the industrial investment was undertaken by large foreign firms on their own account or jointly with Singapore Government participation. Public investment expanded rapidly in providing the essential infrastructure as well as in the construction of industrial estates, port facilities and low-cost housing. The momentum of the investment boom generated a variety of shortages -- both of men and materials -- but it has transformed Singapore into a bustling modern industrial metropolis.

Money, Prices and Wages

5. Singapore has maintained a stable currency freely convertible into sterling. Although exchange control prevails for all other currencies, it appears to have been exercised in a manner conducive to large-scale inflow of short- and long-term private capital and to the expansion of foreign trade. Financial institutions have been growing in number and expanding their activities in line with the growth of the economy. Since 1964 demand deposits as well as savings deposits have more than doubled and fixed-term deposits have increased fivefold. Bank loans and advances to the private sector have more than doubled with loans to the manufacturing sector rising from one-tenth to one-third of the total. Although there is no organized money market as yet, an active stock exchange exists through which funds are channelled to some new or expanding enterprises. A free gold market and an Asian dollar market have been established and secret numbered accounts along the Swiss model have been legalized. The gold market operates through Switzerland and reputedly attained a volume of 4.5 million ounces in 1970. The Asian dollar market functions as an adjunct to the London Euro-dollar market and is reliably estimated at US\$600 million. Although Asian dollar deposits are primarily intended for offshore financing, loans have been extended to Singapore subsidiaries of multinational companies thereby expanding capital availabilities. The significance of the Asian dollar market stems from the magnitude it has already attained -- it is twice as large as the total demand deposits in the banking system of Singapore.

6. In the absence of a functioning central bank, the prime rate is set by the Bankers' Association subject to approval by the Monetary Authority of Singapore. The effective interest rate charged by commercial banks on their loans and advances as of June 1971 averaged 9 percent. Sound monetary and fiscal management combined with rapidly rising output,



resulted in the maintenance of price stability. The consumer price index has risen on the average by only one percent a year during the 1960's and has actually declined in 1970 because of a drop in the price of rice while rents have remained fixed. As a result, a high degree of wage stability has prevailed although recently pressures have developed for payment of bonuses and for profit-sharing on the part of firms which have experienced substantial growth in profits.

#### Public Finances and Investment

7. Singapore has managed its public finances very well. Tax revenues have increased steadily in relation to GDP, rising from 12.6 percent in 1966 to 14.3 percent in 1970. Income taxes on persons and companies furnish one-third of tax revenues and excises (primarily on alcohol, tobacco and sugar) about 35 percent. Current expenditures of the Government have risen at a much slower pace (17.7 percent) than current revenues (21 percent) in spite of the assumption of responsibility by Singapore for its own security and the consequent rise of defense expenditures from a very low level to some 9.5 percent of GDP in 1970. By restraining current expenditures, the authorities have been able to raise budgetary savings by some 32 percent annually during 1966-70. The state economic enterprises also appear to have been managed soundly and have trebled their savings during 1966-70. Combined public sector savings, including the Central Provident Fund, increased from S\$226 million in 1966 to S\$656 million in 1970. Public sector investment carried out both by the Government and by statutory authorities has more than doubled from 1966 to 1970 -- S\$303 million to S\$647 million. Gross public sector savings rose faster than public sector investment suggesting limitations on absorptive capacity. On the other hand, utilization of external loans in support of the public investment program was greatly accelerated -- from S\$39 million in 1966 to S\$184 million in 1970.

#### External Economic Relations

8. The Singapore economy is "open" at both ends to an extent almost unmatched elsewhere. Foreign trade constitutes some 250 percent of GDP and is the life-blood of the economy. Its doubling between 1965 and 1970 has been the single most important factor in stimulating economic growth. Although strictly entrepot trade still plays a dominant role, as a consequence of recent industrialization domestic exports have increased eightfold and now account for one-third of total exports. Malaysia and especially Indonesia play a vital role in Singapore's entrepot trade -- both on the export and import sides -- although rubber prices have recently suffered a steep drop. The growth in trade, both entrepot and exports of domestic manufactures, increasing tourist earnings and expanding port services have all contributed to a strengthening of the balance of payments and a current account surplus was achieved every year during 1966-69. Because of a sharp increase in imports of capital goods in 1970, the current account experienced a substantial deficit which, however, was fully financed by the large-scale inflow of long-term private



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capital and disbursements of external loans, including those of I.B.R.D.. As a consequence of all these developments, as well as of the considerable inflows of short-term funds for investment or speculation, net foreign exchange reserves reached US\$1.36 billion by the middle of this year, or roughly equal to one year's retained imports.

### Prospects

9. Singapore authorities are currently preparing a development program for the 1970's against the background of their impressive accomplishments. Under the guidance of their Dutch economic advisor, Dr. Winse-mius, they are considering not only enhancing Singapore's position as a major trading and financial center of the Far East but also making it the "brain center" of the area. In this manner they hope to maintain an annual growth rate of 15 percent over the longer-term, which they already achieved during 1967-70. Our preliminary impression is that such a high growth rate is likely to impose severe strains, particularly on manpower and management resources. Furthermore, Singapore's future is closely tied to the prospects for expansion of world trade and its economy would be very vulnerable to any worldwide contraction. The mission will evaluate the prospects of achieving such ambitious goals in the forthcoming economic report.

10. On the assumption of continuing growth in world trade, Singapore's prospects appear quite promising in several important areas. By far the most important element in the medium-term situation is the petroleum industry. Several of the major international oil companies are implementing expansion programs to double refining capacity by 1973 -- from 500,000 b/d to 1 million b/d -- thus making it the third largest refining center in the world. This will have very favorable balance of payments effects both directly and in the contribution it makes to port activities and to ship repairing services. In addition to the refineries, Singapore stands to gain a great deal from the petroleum exploration and drilling activities now in progress in its general vicinity. According to reliable sources, some very promising wells have been discovered and the outlook for further development is quite favorable. Singapore is at the center of these activities -- it houses the company executives, it repairs and builds rigs, tenders and exploration ships for the petroleum prospectors.

11. The second most promising activity is in the field of ship repairing and ship-building. Livingston and Le Tourneau of Texas and IHI of Japan, have established facilities for construction of rigs and ship-building. Together with the older small and large shipyards, they look toward a period of intense activity. As the oil tankers grow in number and as the container port is completed, they expect many more ships to stop for repairs or overhaul. Ship-building and rig construction for the petroleum prospectors also holds out considerable promise. The Economic Development Board is seeking to persuade these companies to produce locally a number of the component parts used in the industry with the view of achieving a degree of backward linkages. This may lay the basis for metal fabricating and engineering industries. It is too early to judge the prospects but they may have considerable potential. Since both CE and



October 13, 1971

Rollei have found Singapore attractive to produce some of their products, suppliers to the ship-building and repairing industry may also find similar possibilities.

12. Singapore authorities are well aware of the dangers in relying on entrepot trade and the consequent need to continue with the transformation toward an export-oriented manufacturing economy. Both Malaysia and Indonesia are anxious to bypass Singapore with their trade and although the efforts of the latter may prove only marginally successful in the foreseeable future, Singapore realizes that her growth aspirations will largely have to be realized elsewhere than in entrepot trade. Provided the favorable investment climate is maintained and world trade expands, Singapore is likely to continue attracting multinational firms with established export markets and to keep on expanding its industrial base. Prospects for productivity increases are very substantial and labor costs should remain competitive even if wage rates rise somewhat. Moreover, the benefits of political stability as well as of industrial peace should serve as favorable inducements for foreign investments in the area.

13. In addition to maintaining its lead as a center of trade and commerce, to becoming a major manufacturing and ship-building-repairing center in the area, Singapore also enjoys many advantages for emerging as the financial center of the Far East. In recognition of these, some half-dozen leading European banking houses are establishing branch offices in Singapore. Provided political stability is maintained and the authorities continue to demonstrate their flexibility to accommodate the needs of a financial center, a money market of considerable size may soon come into being. The entrenchment of the Asian dollar market and the free gold market should both prove helpful in the undertaking.

14. Rapid growth and transformation of the Singapore economy may be expected to exert heavy demands on the public sector. It will need to provide large-scale technical and vocational training for "high technology" industries, health and sanitation facilities, industrial estates, low-cost housing, adequate power, water, transport and communications facilities to accommodate the needs of a dynamic economy. All these facilities will require a great deal in the way of human, institutional and financial resources. Given the past performance of Singapore's public sector, it may be reasonably expected to generate the bulk of these needs from within. Nonetheless, a small proportion of external capital combined with institution-building may be needed from the Bank. The economic report will attempt to estimate Singapore's overall external capital requirements with the view of furnishing a basis for formulating the Bank's lending program. Given the present very low debt service burden and the generally favorable outlook for the balance of payments, no serious creditworthiness constraint is anticipated.

cc: Messrs. McNamara, Chenery/Henderson, Adler, J.H., Owen, Goodman, Fontein, Street, Sandberg







### Policy of Industrialization

14. The main emphasis of the Government's development policy throughout the past decade has been on the promotion of industrial growth, and especially during the last few years this has met with spectacular success. The real breakthrough came in 1968, when industrial employment and value added both increased by about 28% and similar rates have subsequently been recorded also in 1969 and 1970.<sup>1/</sup> Although the causes for this breakthrough are several, the main ones can reasonably be traced to a set of measures implemented by the Government in 1967 and 1968. Unemployment was still high in 1966 (estimated at 53,000 or about 9% of the labor force, not counting underemployment) and then came the new British Government's decision to close down the military establishments in Singapore, which added the spectre of the 50,000 or so civilians who at that time owed their employment to the existence of the bases joining the ranks of the unemployed. In the light of this the Government acted swiftly and introduced new and generous economic incentives for industrial investment and also new labor legislation which put an end to the labor unrest which had been prevailing,<sup>2/</sup> reduced fringe benefits and generally provided for a situation of stable wages by introducing three-year minimum periods for collective agreements and compulsory arbitration. The institutional framework to implement the policy was also strengthened by the setting up of Jurong Town Corporation (JTC) and the Development Bank of Singapore (DBS) in 1968 to take over the responsibility for developing the industrial estates and for industrial financing with Government support respectively; this left the Economic Development Board (EDB) in charge mainly of the promotional activities needed to find new investors and to help them get their projects started in Singapore. So successful have these measures

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1/ The figures in this section refer to manufacturing establishments with 10 or more workers only; however, they completely dominate the picture in the relevant aspects.

2/ The number of workdays lost in strikes was only 2,500 in 1970 compared with 41,300 in 1967 and 388,200 in 1963.



been that the Government felt it possible to adopt a more selective attitude in 1970: the tax incentives were restricted by raising the demands on minimum capital expenditure for an investment to become eligible and also by shortening the period for which a tax holiday is given. The range of products, the production of which will be encouraged by the incentives is also being narrowed (e.g. simple textile or wood processing operations cannot get the benefits any more), and similarly the policy now is not to grant protection by duties for import-substituting production any more; duties introduced earlier are gradually removed.

15. The largest industrial subsector by far in terms of output is the petroleum industry with about 30% of the total in 1970, this coming mainly from the refineries of Shell, <sup>Esso,</sup> Mobil and BP. It is in the nature of refinery operations however that the proportion of value added in output is low, and so the contribution of the petroleum industry to total manufacturing value added was only 16.5%. Transport equipment which incorporates the ship repair industry, was a close second with 16% of total value added, and electrical machinery contributed 10%; of more traditional pursuits the food, beverage and tobacco industries added another 14% of the total. The petroleum industry plays a negligible role when it comes to the employment creation with only 1.6% of total manufacturing employment in 1970. The leading industry here was transport equipment with 15.5% of the total, followed by textiles with 13.5% and electrical machinery with 11.5%; the food group again is important and gave rise to 9% of employment.

16. In the general picture of rapid industrial expansion over the last few years, the electrical machinery and transport equipment industries stand out both in terms of value added and employment; in 1967 their shares of manufacturing value added were only 3.5% and 8.5% respectively, and of employment 3% and 10%.

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The petroleum industry has kept the average growth pace, a slight increase in its share of value added is mainly due to a statistical reclassification. A certain shift in the emphasis of the growth can be noticed, with textiles being quite important in the first year but then progressively less so, whereas electrical machinery started later but was the prime motor of growth in 1970. The drop in the growth rate in transport equipment in 1970 to some extent presumably is a result of a capacity constraint in the form of a shortage of skilled labor (welders, fitters).

	<u>Annual Growth Rate of Value Added</u> (percent)		
	<u>1968</u>	<u>1969</u>	<u>1970</u>
Textile and leather	56	37	17
Electrical machinery	10	170	140
Transport equipment	59	120	24
<hr/>			
All manufacturing	28	31	29

The initial emphasis of the industrialization drive was very much on employment creation and seen from that point of view it has been a positive feature of the development that employment growth has kept pace with the growth of value added during 1968-70 in contrast to the preceding period when it grew significantly more slowly. Now, however, as the fears of unemployment are largely dispelled and labor shortages are beginning to develop, it is more appropriate to express the same fact differently: the average labor productivity in manufacturing has risen very little and the spectacular industrial expansion has been practically wholly dependent on a growing labor input. To a large extent this is probably explained simply by the very rapid growth itself: each year there has been a large proportion of new undertakings and it is normal to experience a lower productivity for the initial period; this may statistically mask a productivity increase in the established lines of production. In judging the possibilities of future expansion it is however necessary to watch this question in more detail.







Housing and Construction

18. Construction has been expanding rapidly each year from 1967 on. In that year the Government introduced stimulating measures for private construction in the form of substantial reduction of property tax rates for projects falling in its urban renewal program. A very ambitious target had been set for the public housing program in the period 1966-70, and the rate of new starts was stepped up very much in 1967. To stimulate the flow of savings going into housing, a scheme of selling on easy installment terms flats built by the Housing and Development Board (HDB) was also introduced. Again the success of the Government's actions has been great, so great that a serious demand pressure has developed in the sector with rising wages and prices for materials as a consequence. The table below indicates how total new starts have levelled off in the last years, total volume of construction still rising as completions are of course lagging behind starts. In order to dampen total demand somewhat, the Government decided to go

Volume of Building Construction, Annual Starts  
(in millions of sq.ft. of floor area)

	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>
Residential	10.3	12.6	13.4	12.5	14.6
(public sector)	(5.5)	(7.7)	(7.2)	(5.7)	(9.1)
(private sector)	(4.8)	(4.9)	(6.2)	(6.8)	(5.5)
Non-residential	4.1	4.6	5.9	8.2	5.9
(public sector)	(2.8)	(2.7)	(3.3)	(4.6)	(1.8)
(private sector)	(1.3)	(1.9)	(2.6)	(3.6)	(4.1)
<hr/>					
Total	14.4	17.2	19.3	20.7	20.5

ahead more slowly with the urban renewal and no new building lots were let to the private sector in 1970 or 1971. Also the public sector housing volume for various reasons dropped in 1968 and 1969, which permitted other construction subsectors to expand more rapidly in those years.



19. In terms of numbers, housing production in Singapore is dominated by the impressive public housing program, which now covers over 80% of the number of housing units being built.<sup>1/</sup> This program was started immediately as the new Government came into power in 1959 and in 1965 had already achieved some momentum under the first five-year program. For the following five years a target of 65,000 completed units was set up, and although this was not quite met the shortfall was slight (only about 2,500 units) and the number of starts had been almost 70,000. It is estimated that in 1970 about one-third of the entire population of the country was housed in flats built by HDB, and the ambitions are to increase production further with a target of 100,000 completed units under the third five-year program. As originally conceived, the public housing program should cater for the needs of the low-income groups while the private sector was expected to supply the middle and upper income groups. There has however been a development where private housing has become progressively more expensive and accessible only to those in the higher income brackets and thus HDB has gradually moved the emphasis of its production towards larger flats. Originally one and two-room units were predominant, now the emphasis is on two and three rooms with a share of four room units as well and even the first five-room ones started. The larger flats are now mainly sold, and especially since 1969 when the contributions to the Central Provident Fund (CPF) were made available to people for the purpose of paying for HDB-flats, the proportion of sales has increased rapidly, and there has developed quite a long waiting list (over 30,000 in September 1971) for these flats.

20. In the private sector new housing construction fell off after 1967 in anticipation of a supply glut to be caused by the British withdrawal and the officers vacating their housing. There was still an increase in residential construction, but this was due to the rapidly increasing hotel investments which

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<sup>1/</sup> As private sector flats are larger, the public housing program covers about 55-60% of the total in terms of floor area and construction value.



were prompted by the tourist boom; the number of hotel rooms available in Singapore rose from about 1,150 in 1965 to 5,500 at the end of 1970 with a further 6,500 being under construction. Meanwhile development has shown that there is no oversupply of housing, and so private interest has been revived. It is mainly directed towards the supply of luxury housing however, to cater for the demand from the rising number of well-paid expatriates who come to work in oil exploration or other expanding sectors.

21. The combined demand from the public housing program, the boom in hotel and office construction and the construction investment associated with the industrial expansion has severely strained the capacity of the building industry. While a large influx of immigrant labor on short term work permits, the majority of which has been absorbed by the construction sector, has boosted the supply of unskilled labor, there is an acute shortage of skilled craftsmen and competent work-site managers. During 1970 and 1971 there have also been temporary shortages of materials such as cement. Steel prices are fixed by Government, but other important building materials have risen in price by 20-25% over the last two years and wages have undergone a similar development; an important factor there is that there are no collective wage agreements in the construction sector. An estimate by senior HDB-officials is that while building costs were rising by only 1-2% annually through 1967, they rose by 3% in 1968, 5% in 1969 and 8% in 1970; the rate in 1971 is given as 1% per month.

#### Population and Manpower

22. Population increase in Singapore fell off from a level of 2.5% per annum in the first half of the decade to about 1.5% in 1968 and 1969. For 1970 the statistics register an increase of 2.8%, but it seems likely that this is largely the result of better statistical coverage as the population figure for that year comes from a census. What is certain is that the rate of natural increase has been declining steadily all the decade as a consequence of falling birth rates; the crude birth rate was 37.8 per thousand of population in 1960,



29.9 in 1965 and 22.1 in 1970. This in turn has been a consequence of rapidly falling fertility as measured by age-specific fertility rates (see table 1.4 in the Statistical Appendix), attributable presumably to some degree to the general improvement in income level and education in Singapore, but more directly to consistent family planning efforts.

23. Family planning work in Singapore began on a private basis already in 1949, but a concerted Government drive was not started until 1965, when a five-year Family Planning Program was adopted. This program aimed at reducing the then prevailing crude birth rate of 30 per thousand to less than 20 per thousand by the end of 1970, and set up a target for 180,000 new acceptors for the period 1966-1970. The target rate of increase in acceptors was achieved during the first three years, but not in 1969 and 1970, the total for the period being some 157,000, but <sup>the program</sup> must still be considered a success. Age-specific fertility will presumably continue to decline due to the continued efforts of the Family Planning and Population Board, but the effects on the crude birth rates will be countered by changes in the age composition of the population, which currently is such as to bring large numbers of women into the age-groups where fertility is highest. It thus seems unlikely that the original aim for the birth rate will be achieved; preliminary figures for 1971 seem to bear this out indicating if anything a slight increase over 1970.

24. Reliable data on labor force and employment are sadly lacking for Singapore. The Ministry of Labour time series (which were completely changed in 1969 so that no comparisons can be made backwards) only cover at most 3/4 of all employment, omitting totally certain groups and giving bad coverage for others; in addition there is the problem of a substantial number of technically illegal immigrant labor, that is persons working without work permits from the Department of Immigration. Figures from the so-called 'live-register' of the Ministry of Labour are most certainly overstating the actual unemployment, as people to some extent do register without being unemployed and also fail to be removed immediately



upon getting a job. The figures in table 1.5 of the Statistical Appendix therefore represent only the best estimates the mission has been able to make of developments in the past few years. The following comments have to be read with this reservation in mind.

25. The total economically active population has increased by about 75,000 between 1967, the year when the British military withdrawal was announced, and 1970. At the same time unemployment has dropped sharply both in absolute and relative terms, making possible an increase in employment of about 90,000 during the same three years. During the same period approximately 30,000 people have been released from employment stemming from the bases, but not all of these have had to find new employment as a substantial number, being expatriates, have left the country; perhaps 20,000 have remained and boosted the figure of people having found new employment in the period to at least 110,000. On the absorption side of the balance there is first the manufacturing sector where employment has increased by about 60,000, this presumably being a reasonably firm figure (from table 8.5 in the Appendix, with some correction for smaller establishments). The public sector has increased its employment by about 15,000 in the same period, again this figure should be quite accurate. This leaves about 35,000 which accordingly must have been absorbed by other sectors and this does not seem unreasonable at all, considering the very rapid growth of the construction and tourism sectors which both are rather labor intensive. It can be added to this broad employment balance that the growth of the available labor force has been restricted in the period by the build-up of the National Defense Forces; currently there is an estimated annual net drain from the labor market of about 5,000 men for this reason. Also the increasing enrollment in secondary and higher education implies some further reduction of new entrants to the labor force.

26. Faced with a growing shortage of skilled labor in various categories, the Government began to loosen the restrictions on immigration in 1968 and since then about 56,000 work permits have been issued up to the middle of 1971. In addition to this, a system of month-to-month block permits for construction labor



has allowed another 10,000, mostly West Malaysians, to come to work in Singapore by mid-1971; further it is freely admitted by the authorities that there are a substantial number of additional non-citizen workers without permits. Although the Government is aware of that this rather rapid immigration is presenting a number of problems in terms of social integration, it for the time being sees no alternative if the economic development is to continue, and in October 1971 has taken some measures to give the immigrants a more secure status by lengthening the periods for which permits are given and simplifying the process of obtaining citizenship.







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June 25, 1971

### Population

Since 1956, Singapore has experienced a constant decline in its crude birth rate - from 44.4 per thousand in 1956 to 22.0 per thousand in 1970. This has meant a decrease in actual live births every year since 1959 except 1963 and 1970. At the same time, with the exception of a slight increase in 1970, mortality has declined constantly - from a crude rate of 12.5 per thousand in the immediate post-war period to 5.2 per thousand in 1970. This combination of events has led to an almost unbroken decline since 1956 in the actual rate of population growth in Singapore, being 5.3 per cent in 1956-1957 and 1.4 per cent in 1968-1969. As may be seen from Table I, the few departures from that pattern have resulted from migration rather than from any changes in the vital rates themselves.

To understand the observed decline in population growth in Singapore during the past generation, and to project likely changes into the future, it is necessary to view separately the two main components of the birth rate: fertility and age structure.

Fertility, or the actual level of childbearing activity among women in childbearing years, has declined sharply in Singapore since the war. Progress in achieving the decline may be attributed to the general improvement in per-capita income and education in Singapore, and, more obviously, to consistent family planning efforts there since 1949. Private, volunteer work in family planning in Singapore began with the Singapore Family Planning Association (SFPA) in 1949. Although that effort received Government endorsement in 1959, it was in December, 1965 that family planning actually came under control of the Singapore Ministry of Health. Called the Family



Planning and Population Board (FPPB), the new board assumed the broad objectives of its predecessor, and was granted a yearly operating budget of S \$200,000. Its function had been clarified three months earlier, in a Government White Paper outlining the National Five-Year Family Planning Program. The Program established the aim of reducing the crude birth rate from 30 per thousand in 1965 to less than 20 per thousand by the end of 1970. To that end, it set up a schedule of yearly targets for acceptors in the Program through 1970. (See Table V.) The sum of new acceptors over the period 1966-1970 was to be 180,000 - representing 60 per cent of the projected 300,000 married - and - fertile female population in 1970.

Although the Program exceeded targets for new acceptors during its first three years of operation, it fell behind schedule in 1969 and 1970 - with total participants numbering 156,556 for the five-year period 1966-1970. But the Program was nevertheless an unquestionable success. Together with the operations of its predecessor, the Program was largely responsible for the decline in age-specific fertility rates portrayed in Table II. The gross reproduction rate, or  $GRR, \frac{1}{2}$  was 3.16 in 1957 and 1.75 in 1968 - the decline in fertility being progressive, and most pronounced between 1967 and 1968. Age-specific fertility should continue to decline during the next five years of the Program's existence, albeit at a decreasing rate as extension of the program to and beyond 60 per cent of married, fertile women comes up against desired births to young families.

The original Program target of 180,000 new acceptors will probably be reached before the end of 1971, i.e., within one year after the close of the Plan's first five-years of experience. In any case, it is unlikely

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1/ The sum of age-specific fertility rates times the sex ratio. Thus, the GRR represents the number of female children that would be born to a woman experiencing over her lifetime the age-specific fertility rates prevailing at the present moment.



that a growth rate as low as the stated program objective of 1.5 per cent will be attained within, say, ten years of the target data of 1970. The reason for this is that the age structure of the population is such that the birth rate will begin, or has already begun, to rise even as progress in further reducing fertility continues to be made.

It may be seen in Table II that in 1968, 27.4 per cent of the women aged 15-44 were still in the relatively low-fertility 15-19 age group, and fewer than half of the women aged 15-44 were in the high-fertility 20-34 age group. This compares with 20.6 per cent and 55.6 per cent, respectively, for 1962. Given the current levels and progress of fertility and mortality, the entrance of these post war "boom babies" into their prime childbearing years would more than offset the effects of a continued modest decline in fertility and lead to an increase in the birth rate for at least ten years.

The combined effects of fertility and age structure upon the birth rate are portrayed in the projection of Table III. The projection is based on 1968 age structure and age-specific fertility, and assumes that the decline in fertility during each of the five year intervals of the projection period corresponds to the average annual rate of decline in fertility observed from 1962 to 1967. (It would, then, tend to under-state progress in reducing fertility, especially at the beginning of the projection period.) Mortality is derived from regional model life tables, indicating deaths at each age group for a hypothetical population exposed to a given life expectancy; life expectancy figures came from the latest U.N. projection of population for Singapore.<sup>1/</sup>

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<sup>1/</sup> Because they do not take into account recent progress in reducing fertility in Singapore, the results of the U.N. projection of population were not used. The mortality assumptions of the projection, however, should still obtain.



Among the results of the population projection for Singapore are the following:

- a) The birth rate and actual births increase throughout the projection period. The crude birth rate rises to 25.0 in 1970. (The U.N. Monthly Bulletin of Statistics for May, 1971 indicates a crude birth rate of 25.0 per thousand, annual rate, for February, 1971.)
- b) The rate of natural increase rises to 19.7 per thousand in 1973 and increases steadily thereafter. This means a growth rate in excess of 2 per cent per annum by the end of 1973.
- c) The population is ageing. In 1973, 37 per cent of the population is under 15 years; this compares with 42 per cent in 1968, 34 per cent in 1978, and 33 per cent in 1983.

#### Family Planning

The Singapore Family Planning Program is a medically and educationally based program. Offering the patient a variety of contraceptive methods, it utilizes the 66 maternal and child health centers, and, in its post-partum operations, the Kandeg Kerbau Maternity Hospital - where more than 75 per cent of Singapore's deliveries are performed. Although the IUD was at the outset expected to be the mainstay of the Program, early alarms by its users over its safety led to a change in emphasis during the second year of the Plan to use of the contraceptive pill. During the Plan's first year, 1966, the contraceptive pill was chosen by 45.9 percent of new acceptors. During each subsequent year, the pill was selected by more than half of new acceptors. Its most popular year was 1967 - when 61.0 per cent of new acceptors used it. Throughout the Program, the contraceptive pill and the condom were the predominant methods of contraception chosen. The post-partum program, which comprises post-partum and post-abortal women from the Government Maternal



and Child Health Centers and the Kandeg Kerbau Maternity Hospital - also Government operated, is the main source of recruitment for new acceptors in the Program. A further method of contraception under the Program, and one additional to the new acceptors shown in Table V, is sterilization - usually performed on high parity post-partum women. Female sterilizations have risen from the 477 cases performed in the first year of the Program, to 2310 cases performed in 1970. A new abortion act, passed at the end of 1969, introduced the availability of abortion under certain circumstances<sup>1/</sup> as an adjunct to the contraceptive methods of the Family Planning Program. Publicity and health education were emphasised by the Board from the start of the Program. Beginning in 1968, these activities were carried out around the central theme of the desirability of a small family.

The Chinese, the Malays, and the Indians-Pakistanis comprise the major ethnic elements in the Singapore population. The Chinese are most numerous, being 76.8% of Singapore's total population in 1969 - only a slight reduction from 77.1% in 1960. (See Table IV.) The fertility experience of each group during the last decade was distinguished from that of the other groups by several differences.

Since the adoption of the Singapore National Five-Year Plan in 1965, the Malays experienced the greatest decline in rate of national increase - being equivalent to an annual rate of decline of 13.4% through 1969. Appropriately, as of 1968, the Malays had the highest continuation

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<sup>1/</sup> The Abortion Act, passed by the Parliament of Singapore on 29 December 1969, liberalizes the formerly strict interpretation given by the Penal Code to the matter of abortion. The Act permits abortion in cases of pregnancy which endangers the mother's life, which results from rape or incest, which risks handicap or abnormal suffering to the child, or for which the mother's "environment" (including financial situation) would not be favorable to delivering and raising a child. Of the 5,300 abortions performed in Singapore in 1970, 1886 were carried out under the provisions of the Act. Also, during the first four months of 1971 1,031 abortions were performed under the Act.



rate by ethnic group in the Singapore family planning program.<sup>1/</sup> The annual Chinese, however, experienced the most modest/rate of decline in RNI, 7.8% through 1969, even though their continuation rate was between that of the Malays and that of the Indians and Pakistanis. The average annual rate of decline for RNI for Indians and Pakistanis through 1969 was 10.5%. In spite of their rapid progress in reducing their birth rate, the Malays are still - or were, in 1969 - the most fertile group in Singapore.

The decline in birth rate registered by each ethnic group since 1957 resulted in each case from a different combination of the three main components of fertility - being age-specific marital fertility, proportion of women married by age, and age structure of the female population.<sup>2/</sup> Among the Chinese, the decline resulted exclusively from reduced age-specific marital fertility and a lower proportion of married women within each age group. For the Malays, reduced fertility resulted from a change in age structure which put relatively fewer women into the fertile 15-29 age group. Fertility of Indian and Pakistani women was reduced through a lower proportion of women married within each age group - which effect more than compensated for the fertility-stimulating effect of relatively more women coming into the high-fertility age groups.

The Lee Government has attempted to complement the Family Planning Program with fiscal policy designed to reduce the public tax burden of child-related services, and to more nearly relate their private prices with their social costs. In 1968, the public hospital price for delivery of fourth and subsequent children was raised from S\$10 to S\$50; legal entitlement for

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<sup>1/</sup> From K. Kanagaratnam and Khoo Chian Ki, "Singapore: The Use of Oral Contraceptives in the National Program," Study No. 48 Population Council.

<sup>2/</sup> For a more detailed analysis of the pre-1967 fertility experience of the ethnic elements in Singapore, see Chen-Tung Chang, "Factors Influencing the Declining Birth Rate in Singapore," in The Malayan Economic Review, April 1970, pp. 83 et seq.



maternity leave for fourth and subsequent children was suspended; and childless couples were for the first time made eligible for government-subsidized housing. In addition, Prime Minister Lee, in a July, 1970 address to the Economic Society of Singapore, proposed further advances toward cost-pricing of child-related public services - notably, of primary, secondary, and university education. The Prime Minister suggested that a logical adjunct to such a policy, desirable for reasons of equity and social responsibility, would be a general negative income tax of conventional description.<sup>1/</sup>







SINGAPORE

MASS RAPID TRANSIT PROPOSAL AND URBAN DEVELOPMENT

June 10, 1970

Special Projects Department



## SINGAPORE

### MASS RAPID TRANSIT PROPOSAL AND URBAN DEVELOPMENT

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## SINGAPORE

### MASS RAPID TRANSIT PROPOSAL AND URBAN DEVELOPMENT

#### I. INTRODUCTION

1.01 In August 1969, the Singapore Government requested the Bank to review a proposal for an urban mass rapid transit system and consider participation in its financing. Further discussions with the Singapore delegation to the Bank Annual Meeting in September 1969 confirmed the Government's and the Bank's interest in this proposal. A Bank mission was originally scheduled for October 1969, for exploratory discussions on the mass transit proposal, but was postponed because of staff shortages until January 1970, when the scope of the mission was broadened to assess the urban development framework in which the mass rapid transit system and other projects should be considered.

1.02 This report is based on the findings of the mission and describes the present state of urban planning and action programs in Singapore, examines the mass rapid transit proposal in the context of overall urban development, and identifies the need for further studies. It was prepared by Messrs. Strombom, Madavo and Venkateswaran and incorporates notes on urban planning by Mr. Guarda. Messrs. Wilfred Owen, transport consultant from the Brookings Institution; G. C. Guarda, urban planning consultant; and H. van Helden, transport adviser in the Bank, also participated in the mission.

#### II. BACKGROUND

##### General

2.01 Singapore is strategically located at the crossroads of the most important trade routes of Asia. Over a period of 150 years Singapore has grown from a British trade settlement to an independent city state, the world's fourth largest port and one of the most important commercial, financial and industrial centers of Southeast Asia.

##### Main Features of Physical Development

2.02 The island republic of Singapore, comprising the main Singapore island and some 40 other smaller islands, covers a total land area of some 225 sq. miles. The main island of Singapore is situated off the southern tip of the Malay Peninsula and measures 26 miles east to west and 14 miles north to south; its only physical link to the Malaysian mainland is by a



3/4 mile long causeway. The city of Singapore itself occupies a 46 sq. mile area in the southern portion of the island (see Map 1).

2.03 Singapore's main physical development features are:

- (i) the densely populated city area which covers some 21% of the total land area and houses nearly 80% of the total population;
- (ii) the 15,000-acre industrial estate development of Jurong, to the west of the city;
- (iii) the ring of British military bases at Sembawang, Seletar, Changi, Pasir Panjang, and other areas which together cover over 10% of the total land area;
- (iv) the large central water catchment area;
- (v) the international airport area to the northeast of the city; and
- (vi) the relatively undeveloped offshore islands covering some 7% of total land area.

About 24% of the land area of Singapore is under cultivation.

2.04 The city of Singapore is laid out in a fan shape radiating from the commercial heart around the mouth of the Singapore river. The entire city area lies within a six to seven mile radius of the center. The port facilities, which over the past 150 years have been the key factor in Singapore's development, are west of the Singapore river and close to the commercial center. Major concentrations of population are to be found in large public housing estates at Toa Payoh, Queenstown, and Kallang and in the corridor between the central city and these housing estates. Population densities in these areas typically vary from 300 to 1,000 persons per acre.

#### Population and Labor Force

2.05 Singapore's population was estimated at just over 2 million in mid-1969. An effective program for family planning has slowed down the population growth, which averaged 3.2% a year from 1957 to 1966, to about 1.7% a year from 1966 to 1969. The population is expected to reach about 3.4 million by the year 2000. Singapore has a racially mixed population; approximately 74% are Chinese, 15% Malay and 11% Indian and others.

2.06 Singapore has a labor force which is better educated than in most other Asian countries. The workers are adaptable and easily trained. The supply of unskilled and semiskilled workers is ample, but there is a



growing shortage of skilled personnel. Unemployment in 1969 was estimated at 7% of the total work force and with the continued expansion of manufacturing and tourism, this rate is expected to fall to about 6% by 1971.

### Political Setting

2.07 Singapore became an independent republic in August 1965, following nearly 100 years of British colonial rule, wartime Japanese control, autonomy from 1959 to 1963 and a brief period in the Federation of Malay and North Borneo states (Malaysia). Singapore has enjoyed remarkable political stability during the latter part of the decade and has been able to pursue a coherent and effective set of political, economic and social policies.

### Economic Policy

2.08 The bases of Singapore's economic growth have been its key location at the crossroads of international trade routes, its accessibility to raw materials and markets, its natural deep water harbor, and its energetic and highly enterprising people. During the last decade, however, the Government's economic policies have been principally aimed at reducing Singapore's traditional reliance on entrepot trade and dampening the economy's vulnerability to external forces by encouraging domestic sources of growth and exchange earnings.

2.09 Given Singapore's dearth of natural resources, its scarcity of land, and the large land users such as the water catchment reserve, international airport and recreational areas, which had to be accommodated within the metropolitan area rather than in truly rural areas, the Government's options for economic development were limited. It decided to give priority to expanding manufacturing industry based on high skill and high technology to create employment, expand the domestic base for exports and supplement the commercial sector. It also attacked social problems by subsidized public housing construction, land reclamation and urban renewal programs to revitalize the city and create a stable core of activity. To ensure that rapid economic growth would be coupled with a rapid increase in the standard of living, the Government also pursued an active population control policy.

2.10 In order to create a viable atmosphere for industrial development and to attract private industrial capital the Government's economic policy sought to improve and expand the economic and social infrastructure, to develop managerial know-how, and to discipline the labor force. The Government supplemented the infrastructure for industrial development with some vigorous legislative and financial measures to attract and hold private capital investment. It offered "the maximum assistance to investors with a minimum of interference". In 1961, it created the Economic Development Board (EDB) to spearhead the industrialization drive.



## Record of Economic Growth

2.11 The success of the Government's economic policy is best demonstrated by the 8.8% a year rate of growth in real terms of the domestic product since 1961, and the 10.6% a year growth rate since 1965. The following table summarizes the growth of the domestic product by the principal sectors:

<u>Domestic Product by Sectoral Origin</u> (S\$ millions : Current factor cost)				
	<u>1961</u>	<u>1965</u>	<u>1968</u>	<u>1968 % of Value Added</u>
Entrepot Trade	398	367	661	16.3
Manufacturing	181	306	506	12.4
Construction	66	131	156	3.8
Tourism	32	65	145	3.5
Utilities	47	54	104	2.5
Government Services	144	214	308	7.5
Military Services (U.K.)	281	519	454	11.1
Other	<u>1,091</u>	<u>1,368</u>	<u>1,757</u>	<u>42.9</u>
Total	2,240	3,024	4,091	100.0

2.12 Manufacturing industries account for over 12% of total value added in the economy, a 50% growth over 1961 figures, while the entrepot trade activity declined slightly in the early 1960's primarily as a result of the disruption of the Indonesian trade in 1964. The trade activities have nevertheless grown by over 14% in 1968 and the boom has continued into 1969. The most significant decline in economic activity arises from Britain's decision to withdraw her armed forces from Singapore. The military services sector generates 11% of total value added and has declined at about 44% a year since 1965. Another important growth sector has been tourism, which in the last four years has grown at a phenomenal 31% per year and now accounts for nearly 3.5% of total value added in the economy.

2.13 Gross domestic investment has grown at over 20% a year since 1960, and was 16.7% of the Gross National Product in 1968. The private sector accounts for about 58% of the investment, mainly in manufacturing. Foreign participation accounted for nearly a third of new fixed private investment from 1966 to 1968. Roughly 60% of public investment (see Table 1) over the past decade has gone into utilities, industrial estates, transport and communications facilities, and land development. Housing, education, public health and other social needs have absorbed another 30%. The bulk (80%) of public investment has been financed through public savings, reflecting strong fiscal and financial management. During the seventies, Singapore is not likely to run into major financial problems.

## Problems Involved in Sustaining Economic Growth

2.14 As Singapore moves into the 1970's, several factors appear to be influencing the continued growth of the economy:



- (i) Entrepot Trade is likely to remain the dominant sector of the economy although growing at a much slower pace (2-3% a year) than either manufacturing or tourism. A growing trend among major distributors of industrial products to use Singapore as the warehousing and distribution center for the entire southeast Asian region makes it all the more imperative to ensure the efficient movement of products from warehouses and distribution points through the port and through the airport facilities.
- (ii) Manufacturing will continue to grow at or near the present 15% yearly rate. Given Singapore's limited domestic market for manufactured products, and the consequent need to develop overseas markets, industry is now oriented to the metal, electrical, electronic, shipbuilding and repairing, and aerospace industries which are geared toward exports to the countries in the southeast Asian region and to other developed countries. Transport infrastructure and efficiency of transport operations will thus be major factors in the future growth of manufacturing as well.
- (iii) Tourism is as yet relatively unexploited. Only in recent years has the Government placed increasing emphasis on promoting Singapore as a stopover point for tourists visiting such attractions as Bali and Angkor Wat. As in the case of manufacturing and trade, tourism is aided by efficient internal transport operations and external air connections.

2.15 A key problem for Singapore's economic growth during the next decade is the labor force. While unemployment is expected to come down to about 6% during 1970, primarily as a result of increased opportunities in manufacturing, earlier concern about high unemployment resulting from the complete withdrawal of British military forces by end 1971 has been replaced by worries about shortages of skilled manpower, both middle level and professional. The Government is now meeting this threat by setting up training schools and expanding technical education. In addition, it has liberalized immigration rules for skilled manpower in an attempt to lure personnel from areas such as Hongkong and Malaysia.

2.16 An important contributory factor to Singapore's economic performance of the last decade and to the sustained economic growth during the coming one is the Government administrative machinery for implementing economic and social policies. The administration of Singapore is highly decentralized and very efficient. The Government sets basic guidelines and targets for economic growth and action agencies and ministries are then left to their independent means to achieve their own programs and targets within the broad policy framework.

2.17 Sustained economic growth and rapid transformation of Singapore from a commercial center to an industrial commercial complex makes future land use and



transport planning even more critical. The Government must decide between competing uses for a declining land resource-uses for utilities, transport, industry, residence and recreation. Transport in particular has an important role in the economy. Not only must transport provide the links for industrial activities including the converging distribution activities on the island but must also efficiently move people to jobs. The future location of industry and housing is more critical in relation to transport planning than has been the case in the past decade of achievement when the foundations for economic growth were being laid. The critical issues of land use planning and transport planning are discussed further in Chapters III and IV.

### III. PLANNING AND DEVELOPMENT

3.01 Singapore is engaged in a massive urban planning program but its impact on development decisions is disappointing. Public officials and private businessmen view planning as a restriction rather than a potential aid to development; planning recommendations are largely ignored in day-to-day decisions. This lack of confidence stems largely from the past unresponsiveness of planning authorities to the changing needs of a dynamic community. Despite new attitudes within the planning agency, the backlash resulting from earlier regulatory policies is causing resource development opportunities to be missed for lack of planning guidance and coordination.

3.02 In May 1967, the Singapore Government began a US\$5.2 million Urban Renewal and Development Study Project with assistance from the United Nations Special Fund. The State and City Planning (SCP) Board was set up, under the Ministry of Law and National Development, to undertake the project with assistance from planning and transport consultants. The main objectives of the Study project are to:

- (a) Submit alternative long range comprehensive physical development plans for selection by the Government;
- (b) develop the selected plan in sufficient detail to provide a guide for short term investment decisions;
- (c) prepare a transport plan with recommendations regarding a mass transit system; and
- (d) recommend implementation policies and procedures.

The recommendations of the planning study are due in April 1971.

3.03 The study group, consisting of the SCP and the Australian contracting firm of Crooks, Michell, Peacock and Stewart, has made extensive surveys of existing infrastructure and land uses, residential and employment patterns, socio-economic characteristics of households, and transport characteristics. From these data and long term projections of population and employment, estimates were derived of total areas required by 1990-2000 for various land use categories. The team then designed 12 alternative concept-plans, based on different arrangements of land uses. Rough comparisons were made of the plans and six were eliminated from further consideration. The remaining six were presented to a Government committee for review and



selection of the plan favored for more detailed analysis. The committee indicated no preference among the plans so the study team chose the Ring Plan alternative for further elaboration and testing. This plan is intended to accommodate a population of about 4 million people, a level that is expected to be reached after the year 2000.

3.04 The Ring Plan calls for more intensive development of the Central Area, increasing its resident population from the present 220,000 to 300,000 and employment from 170,000 to 360,000, in order to establish a strong activity focal point for the community. The plan also emphasizes intensified development of the Western Corridor, extending from the Queenstown housing estates through the Pasir Panjang military complex to the Jurong Town industrial estates. Lower density residential development is proposed east of the central city, extending toward Changi, with no significant industrial expansion in this direction. A key feature of the plan is the retention of a large central water catchment area (about 20 sq. miles), leaving a wooded and undeveloped area in the center of the island that is surrounded by a ring of intensive urban development. According to the planning team:

"Unlike many other provisions, the proposed development ringing the 3 sides of the water catchment area is not conditioned by existing development and commitments. There is therefore the greatest scope for innovating development patterns. The pattern chosen is a series of distinctive urban units which are linked by a continuous public transport system, but separated from one another by substantial open spaces and major shopping centers. Each unit of urban development is specially provided with industrial and local shopping centers. This not only gives each unit its own identity, but also provides employment near to homes, thereby shortening journeys to work."

3.05 The planning team readily admits that the selection of the Ring Plan was a largely intuitive judgment, based on the degree of flexibility it offered and its relative ease of implementation. In support of their decision, however, it should be added that preliminary tests of such items as travel requirements and overall development costs showed no significant differences among the final six alternative plans. Furthermore, the Ring Plan uses virtually all of the developable land on the island so, except for possible variations in arrangements and intensity of use, it is probably a fair indication of what will actually occur.

3.06 Transport planning deficiencies in the study program are discussed in Chapter IV. The planning study is weakened too by its inadequate attention to economic inputs and economic evaluations of recommendations. The study has also lacked policy guidance from public officials and private citizens, undoubtedly because of their disinterest or distrust in planning. Its most serious shortcoming, however, is its concentration on an ultimate plan for the future physical arrangement of Singapore, without adequately taking into account present trends and



constraints or the resources and policies that would be required for plan implementation. (The planners argue that implementation policy recommendations should be avoided to preserve the greatest degree of administrative flexibility.) So far, the plan does not spell out the degree of social and political control that would be required for its implementation, offers no guidance as to timing and financing of major investment proposals, and does not specify what economic benefits are to be attained and at what cost. Yet these are precisely the issues in which both the action agencies and the Ministry of Finance are interested.

3.07 The result of the current shortcomings of physical planning in Singapore has been a serious lack of coordination between the various action agencies and the planning agency. Economic policies are coordinated by the Economic Development Board but SCP, theoretically set up as the coordinator of the physical development of the city, has exerted little influence on actual developments. In practice each action agency plans the physical development and investments within its own area of authority with little or no regard for their effect on other agencies or on plans for overall development.

3.08 This creates difficulties which are exemplified in the conversion of Singapore's military bases for civilian use; an unusual resource and development opportunity may be frittered away for lack of planning and policy guidance and coordination. The United Kingdom has announced the withdrawal of its military forces from Singapore by 1971. Their departure will make almost 10% of the total land area available for conversion to other uses. Singapore's military forces will occupy some of the bases, but much of the area should be freed for civilian use. The most important bases because of their location and size are Pasir Panjang, Changi, Sembawang and Seletar (see Map). Sembawang already has been partially converted to a shipyard and related marine industries. Changi is the site proposed by SCP for a new international airport (see paras. 4.23 - 4.24) and Pasir Panjang is being sought by nearly every action agency in Singapore (see para. 4.18). Seletar apparently will continue as an airfield. Although the Government has set up the Bases Economics Conversion Department (BECD) to oversee the physical transfer of facilities and to coordinate the use of the facilities beyond mid-1971, BECD is mainly parceling out bits and pieces to the private sector and various action agencies. Each of these agencies has its own short-medium range programs. Some of these do not even consider the use of the converted base facilities; others overlap or are contradictory. Furthermore, the Government has not specified its policies and priorities regarding the use of these facilities, and the Singapore military forces still lay claim to some of them. As a consequence, the military base conversion program is really a series of piecemeal decisions and actions, taken without the benefit of any overall view of what should and could be accomplished.

3.09 The State-City Planning Program will continue for another year before making its final recommendations. The study team is increasingly aware that the confidence and cooperation of policy makers and action agencies are vital for successful planning. Considerable attention during the coming year will undoubtedly be given to improving relations with these parties, hopefully involving them more closely in the planning decisions, and to correcting the more



serious shortcomings of the study. Unless these efforts are successful, the prospects that the study will produce a workable plan for shaping Singapore's development are not encouraging.

#### IV. TRANSPORTATION

##### General Situation

4.01 Economic health is even more conspicuously linked to the adequacy and efficiency of Singapore's transport systems than in most cities. A thriving and highly efficient port has been a key factor in Singapore's growth, handling the enormous tonnages of goods that flow into and out of the city. Inside the city, these goods move to and from traditional godowns and shops as well as the latest and largest industrial plants, whose production materials and markets lie almost entirely outside of Singapore. Labor, the main ingredient added in Singapore's growing manufacturing industry, must travel between job sites and homes which are often on opposite sides of the island. The growth of tourism means increasing streams of visitors through the International Airport and into the already inadequate buses and taxis that comprise the public transport system. The success of entrepot trade depends on a continuing flow of goods and customers through the compact and densely developed business areas. In short, all of the key activities in Singapore's economic growth rely heavily on internal and external transport services.

4.02 The movement of goods and persons within the city has depended almost entirely on private and public vehicles operating on city streets. Singapore has no mass rapid transit system, no commuter railroads, and no freeways. Its buses are antiquated and bus services are provided by 11 separate, highly independent companies on a completely non-coordinated basis. Under the circumstances, it is surprising that urban transport services are as good as they are, for Singapore is measurably better off than most large cities.

4.03 Singapore fortunately has inherited relatively highly developed transport facilities from the pre-independence period. Transport improvements have required an unusually small percentage (6% to 9%) of the development budget since 1965, while the city has grown off its transport capital. The increasing size and activities of the city are beginning to strain existing transport capabilities. While services still remain good, the Singapore Government is wisely trying to anticipate future demands and to prepare to meet these needs.

4.04 The following sections deal primarily with the urban transport situation in Singapore and particularly with the Government's proposal for a mass rapid transit system. External transport systems are discussed only to the extent that they relate to overall urban development and to intra-city transport.



## Roads and Traffic

4.05 The basic urban road pattern in Singapore consists of 8 major routes radiating from the central city and 2 ringroads, 2 and 4 miles distance from the central business district. A grid system is superimposed on this pattern in the central area, with major streets forming one-way couplets. The Singapore River separates the business center from main residential areas to the north and is crossed by 5 road bridges.

4.06 The Central Area has the greatest concentration of traffic in Singapore. Studies in 1967 showed that 475,000 motor vehicles enter and leave the Central Area on an average weekday. Private cars, taxis, or light commercial vehicles comprise 75% of the traffic streams, buses are 4%, heavy trucks are 5%, and the remaining 16% are motorcycles and scooters. Traffic volumes exceed 50,000 vehicles per day on each of the main radial approach roads and bridges (see Table 2). Traffic flows follow typical urban patterns: two major peak periods at 8:00 - 9:00 A.M. and 5:00 - 6:00 P.M. each weekday, and relatively constant total weekday traffic. Sunday traffic is light; there are few places to go for leisure drives.

4.07 Average travel speed is a good indicator of the general quality of traffic service; peak and off-peak average travel speeds in Singapore are considerably higher than in most large cities. In 1967 the entire city area inside the Inner Ring Road was within 10 minutes travel time from the commercial center even during peak hours (see Table 2). Increased traffic since 1967 has caused a slight reduction in these speeds, but the overall service is still very good (excellent compared to Bangkok, Tokyo, etc.). Some congestion occurs but it is generally confined to the central business district and a few isolated traffic circles and intersections.

4.08 Automobile registrations in Singapore numbered 75,760 in 1968 and are increasing about 8% each year. Unless automobile ownership and pricing policies change drastically, SCP forecasts the number of cars will increase to 440,000 by 1992, or from the present 1 car for every 26 persons to 1 for every 8 persons. Forecasts based on present trends indicate 61% of all personal trips in 1992 will be made in private vehicles, as compared to the present 37% (Table 3). Public transport trips would decline correspondingly, from 63% of all trips now to 39% in 1992. The Government has made no deliberate attempt to alter these trends by discouraging private car ownership and usage or by encouraging public transport usage through regulation or pricing policies. However, individuals in government have pointed out the incongruity of an automobile-oriented society on a 14 by 26 mile island which has only one road connection leading to the mainland and which will soon be entirely urbanized.

4.09 The Central Area contains 9,400 parking spaces, including 3,700 on-street spaces. Space utilization is high throughout the day and open parking spaces are difficult to find. The Government has built several off-street parking garages in the central area, but plans to build others around the business district perimeter to encourage parking there instead of in



more congested areas. The current program seeks to provide enough spaces to meet parking demands, with little attempt to discourage demand. Although parking fees are charged for 67% of the on-street spaces and 98% of the public off-street spaces, the rates are so low (about US\$3-5 per hour average and US\$15 per hour maximum) that they have little effect on rationing parking demand.

4.10 Traffic engineering and management in Singapore are quite good. One-way streets are designated; street lane markings and traffic signs are used widely and effectively; and about 40% of the 117 traffic signals in the city are relatively modern vehicle-actuated installations. Appropriate traffic management techniques, combined with good driver discipline, result in quite safe and efficient traffic operations. The removal of on-street parking is one of the few remaining ways to increase the capacity of the existing street system significantly, but merchants strongly oppose this measure.

#### Highway Planning

4.11 Present highway planning is severely hampered by the absence of a well conceived, carefully evaluated, and comprehensive urban transport policy. Policy decisions are needed soon to cope with problems created by intensified commercial activities, massive public housing and urban renewal programs, commuter traffic to and from the Jurong industrial estate, the growing tourism trade, inland freight traffic related to expanding port activities, and the increasing ownership and use of private automobiles. The future transport network clearly must be geared to move both freight and people, with safety and efficiency. The Government has not yet determined how these multiple aims of transport in Singapore can best be fulfilled and reconciled with one another. Any highway and mass transit proposals should be viewed in this context of total transport needs and urban development plans.

#### Road Improvement Programs

4.12 Although road mileage increased by 29% from 1961 to 1968, the only major arterial additions were new roads to Jurong and a section of the Pan-Island Expressway built between Kallang and Toa Payoh. A second section of this route, from Toa Payoh to the Singapore-Malaysian Highway, is at tendering stage; construction of this six-mile link should be completed in 3 years. An East Coast Expressway between Changi and the central business district is planned to be built along the eastern shore on the newly reclaimed land. The Public Works Department has retained British consultants Mott, Hay and Anderson to study alternative methods for the East Coast Expressway to cross the Kallang Basin. The consultants will compare the physical and economic feasibility of a high-level fixed bridge, a low-level bridge with elevating center section, and a tunnel. Shipbuilding and repair facilities in the Kallang Basin require 70-foot vertical clearance for ship passage. East Coast Expressway construction is not expected to begin for several years.



4.13 The Pan-Island Expressway and the East Coast Expressway are initial elements in a system of expressways proposed to extend throughout the island. A 90-km system has been proposed to connect principal traffic origins and destinations, but bypassing the actual city center to relieve congestion in that area. SCP is now analyzing this system to determine road lane requirements, probable traffic and construction costs. The analyses assume that present trends and policies will continue, so they will produce no information about the possible effects of changes in these policies.

#### Public Transport

4.14 Buses are the only form of public mass transportation in Singapore now. They will continue to provide an important service regardless of what decisions are made about railrapid transit facilities; their route and schedule flexibility suit them for feeder line services to rail transit stations and for trunk line services where rail transit is not provided. However, the Singapore bus system needs a major overhaul before it will serve the city as it should. Eleven separate bus companies, operating antiquated equipment under outdated regulations, account for 42% of all person-trips in motor vehicles in Singapore (see Table 4). The Singapore Traction Company (STC) is the oldest and largest of the bus companies; it operates 450 buses of the total of 1,150 and carries 112 million of the annual 332 million bus passengers in the city. Ten other companies, known collectively as the Chinese Companies, provide the remaining services. Over 60% of the buses are more than 10 years old and 28% are more than 16 years old. There has been little coordination in establishing routes or schedules, and transfers between different carriers are not permitted. As many as 4 different companies operate on some routes while other areas are not served at all. STC has a long-standing concession for all routes through the central business district, so all passengers entering this area on other bus lines must change buses and pay additional fares. STC and the Chinese Companies have variable fare structures based on distance traveled by the passenger, but they compute the fares differently. The rate structures have not changed for years so they do not reflect current operating costs. Nearly 60% of all bus trips are work and school trips so bus patronage is highly concentrated in peak-hour periods.

4.15 The Ministry of Communication believes that bus services would be improved if some of the companies now operating would consolidate. As a first step, the 11 companies are being persuaded to merge into about 4 companies to eliminate route duplication and to rationalize schedules, with possible further consolidation later. The Omnibus Authority has been given bus regulatory powers and is awarding new routes on the basis of the company's willingness to modernize its fleet and to provide better services. Finally, the Government is considering ways to update and standardize all regulations concerning bus operations, including abolishing the concessions granted to STC in the past.

4.16 The existence of the flourishing "pirate" taxi trade (private cars which ply the main streets and operate very much like minibuses) confirms that authorized bus and taxi services are deficient, as well as that licensing



regulations are inappropriate and ineffective. During peak hours in particular, "pirate" taxis funnel off a good proportion of what otherwise would be bus passengers. The estimated 4,000 - 5,000 "pirate" taxis equal the number of legal taxis operating in the city. Government regulation has been intermittent in the past with periods of clamp down on illegal taxis operations followed by periods of laxity. Present policy is to restrict "pirate" taxi operations in Singapore, although Kuala Lumpur recently chose the other alternative and granted "pirate" taxis special licenses for carrying school-children on designated routes and other special purposes.

#### Port of Singapore Authority (PSA)

4.17 The Port of Singapore's problems are brought about by its own success. At least until very recent years, port activities have probably been the most important non-military determinant of Singapore's economic well-being; port growth has meant city growth. Now the Port finds itself surrounded by this city growth; virtually all of the PSA facilities are located in the heart of the city (including the Bank-financed East Lagoon Container Terminal Complex, Loan 462-SI). This presents two major problems:

- (a) shortage of space for expansion of port facilities to handle constantly growing numbers of vessels and cargo tonnages; and
- (b) increasing difficulties with on-shore movements of freight through the city.

4.18 The 32,345 vessels carrying about 136 million tons of cargo which entered and cleared the Port in 1968 represented a 10% increase over 1967. Three-shift cargo handling has been introduced to improve already highly efficient port services and the container terminal is nearly operational, but PSA already sees a clear need for further expansion. The 3,000 acre Pasir Panjang military base adjoins the existing port facilities on the west and PSA considers this area as its best opportunity for expansion. British military withdrawal from this base is scheduled for 1971 and the Government has indicated that the priority for future use of Pasir Panjang will be given to civil agencies. However, the Port will be competing for this property with many other agencies: Jurong Town Corporation, for industrial use; the Housing Board, for housing estates; the Ministry of Education, for a university site, and probably others. The site may be large enough and diversified enough to accommodate a mixture of all of these uses, given adequate planning and policy guidance, but these elements are still lacking.

4.19 Problems of port freight movements over city streets are increasing from dual pressures: greater quantities of goods that must be handled, and greater interference from traffic generated by other growing activities. The inner ring road (para. 4.05) has helped some truck traffic to bypass the central city, but much of the truck traffic generated by the port terminates in the central area, at godowns which have been built along the river, shops, etc.



Any solutions to the freight movement problems must be coordinated closely with overall plans for further development of the central city, with urban renewal programs which are relocating many of the shops and godowns, and with plans for traffic and street improvements.

#### Railroad

4.20 A single Malaysian-owned and operated rail line links Singapore with the West Malaysia peninsula at Johore Bahru (Map 1). The main line runs directly to the Port of Singapore and a spur serves the Jurong industrial area. The railroad is used almost entirely for freight traffic between the port and West Malaysia; the equipment and facilities are not suitable and stations are not located to serve passengers well. Freight traffic reportedly has declined because of trade restrictions imposed since Singapore's separation from Malaysia in 1965.

4.21 The spur line to Jurong was built by the Singapore Government and given to the Malayan Railway. The Jurong Town Corporation now is interested in using this line for passenger service for workers, since freight traffic is very light. Passenger service would require construction of new connecting track to the central city (present track curves northward, leading only to Malaysia), station facilities, and double-tracking portions of the line. Jurong Town Corporation has indicated its willingness to pay the improvement and operating costs for passenger service on this line but has been unable to obtain Malaysian approval. If ownership and other problems can be worked out, this line could provide passenger service at a moderate cost for commuters in the corridor between Jurong and downtown Singapore. Long-range transport planning should consider using these existing rights-of-way for one link in a rapid transit system.

#### Aviation

4.22 Air traffic is rapidly outgrowing the present facilities at Paya Lebar International Airport in Singapore. The 14% annual increase in passenger traffic that Singapore experienced during the past decade is expected to continue, causing a doubling of traffic by 1976 and again every 5 - 6 years thereafter. The "jumbo" jets are also scheduled to land in Singapore by mid-1971. The Government hired British consultants Scott, Wilson, Kirkpatrick and Partners in 1968 to consider ways the existing airport could be expanded to handle the projected growth in passenger and freight traffic. They proposed a two-phased expansion program, the first to meet traffic requirements up to 1980, and the latter for 1980 - 1990 needs. The first phase includes:

- a) lengthening the existing (and only) runway from 11,000 to 13,000 feet;
- b) widening existing taxiways and parking areas;
- c) expanding the passenger terminal building and parking facilities;



- d) building a new freight terminal and Boeing 747 hangar; and
- e) improving navigational aids.

The Government is going ahead with the first phase improvement program, which is proposed to be completed by 1976 and is estimated to cost about S\$141.5 million (US\$47.2 million equivalent).

4.23 In the longer run, consultants have proposed construction of a second runway at Paya Lebar, with attendant terminal facilities, more hangars for 747 type jets and navigational aids, for a total cost of S\$469 million (US\$156.3 million equivalent). The long term proposal is being considered side by side with an alternative proposal to move the airport to the site of the present RAF field at Changi, at the eastern tip of the island. The proposal for airport relocation includes a provision for a second runway (in addition to lengthening the existing RAF runway) to be built on land reclaimed from the sea. The proposed Changi site would have the advantage of allowing all aircraft to take-off and land with minimum interference to other activities, as the runway approach pattern would be entirely over water. In contrast, the approach pattern at Paya Lebar passes directly over some of the highest density urban development, creating serious noise problems and accident hazards.

4.24 The State City Planning recommendation is to relocate the airport to Changi but no decision has been reached by the Government. The decisions about the long term program for airport improvements should be based on a detailed analysis which would consider the operational, economic, financial, and community impact aspects of the two alternatives. The considerations should include the effects of the alternate sites on ground transport requirements, since airports are frequently the largest single generators of traffic in urban areas. No provision has yet been made for such studies.

#### Mass Rapid Transit Proposal

4.25 Some form of mass rapid transit system (high-speed, high-capacity public transport operating on exclusive rights-of-way) has been considered for Singapore since 1964. Hitachi-Alweg proposed then that two elevated Monorail lines totalling 22 miles in length should be constructed by 1974 as a first stage of an eventually much larger system. The System would have linked the housing and industrial estates in Queenstown, Pasir Panjang, Geylang, and Toa Payoh with the central business district. (See Map No.2.) The estimated initial cost was Singapore \$387 million (US\$129 million equivalent) for lines and equipment. The Government took no action on this recommendation.

4.26 The Government sponsored a study in 1968 by Messrs. Garbutt and Turner, of the London Transport Board, to investigate the feasibility of an underground rail transit system through the central area. These consultants concluded from their very preliminary investigations (4 man-months) that a rail transit system was both feasible and desirable. The suggested route proceeded on an overhead structure from Queenstown to the edge of the central city area, thence underground to the Kallang Basin, north of the Singapore river, where it reverted to elevated construction. Here it also divided into



two lines, one going east to Geylang and the other north toward Toa Payoh. The total length was 12.6 miles, of which 3.5 miles were underground and 9.1 miles were elevated. Initial construction and equipment costs were estimated at Singapore \$285 million (US\$95 million equivalent). Revenues were expected to cover operating and maintenance expenses but not capital costs.

4.27 The Garbutt and Turner Report was the basis for a further analysis by State-City Planning and Urban Renewal Department, which compared the costs of elevated and underground rail transit construction. The general alignment recommended by Garbutt and Turner was retained for these cost comparisons with the following modifications:

- a) the line to Queenstown and Toa Payoh was extended at each end to serve new housing developments;
- b) the eastern branch to Geylang was eliminated; and
- c) an entirely elevated system was considered.

The modified proposal called for a 12 mile U-shaped route through the Queenstown central city - Toa Payoh corridor (see Map 2), using conventional steel wheel equipment on elevated dual-rails. The study concluded that an elevated transit system through the central area would cost Singapore \$30 million less (US\$10 million) than an underground system. The estimated total cost for the line, stations and equipment for the modified elevated system was Singapore \$304.5 million (US\$101.5 million equivalent).

4.28 State and City Planning prepared a report (Monograph 8: Singapore Mass Rapid Transit Study) in June 1969 which presented their study findings and the following recommendations:

"It is recommended that:

- A. A high capacity transit system be constructed in the period 1972/1977 linking Queenstown, Toa Payoh, Serangoon and Geylang to the central area.
- B. The route defined for the completely elevated system in this report be protected from encroachment.....
- C. A committee comprising senior representatives of the Ministries of Communications, Finance, and National Development be appointed to supervise implementation of Recommendation A."

This report prompted the Singapore Government to ask the Bank to review the mass rapid transit proposal and to consider participation in system financing.



### Mass Rapid Transit Proposal Evaluation

4.29 The mission considered the following aspects of the Singapore mass rapid transit proposal:

- (a) relationship of the proposed mass rapid transit system to present urban development activities and urban planning;
- (b) purpose and need for the proposed system;
- (c) suitability of the proposed system for fulfilling stated objectives and identified needs;
- (d) adequacy and validity of project preparation; and
- (e) suitability of the project for Bank participation.

4.30 The mass rapid transit proposal has evolved quite independently of the overall urban planning program for Singapore. The SCP planning study has examined numerous alternative land use patterns and has selected the Ring Plan for more detailed analyses, but the mass rapid transit proposal has not resulted from any of these studies of development patterns. Moreover, no explicit relationship has been shown between the proposed mass rapid transit system and a strategy for implementing any of the plans. The Ring Plan description calls for some system of public transport to serve the urban units, but as yet there is no indication as to how or whether the specific mass rapid transit system now proposed can serve these needs.

4.31 The general purpose of any mass transit system is to move large numbers of passengers in corridors of heavy travel demands. The only other objective specifically stated by the SCP team for the Singapore system is to permit greater development concentration in the central area. Without the proposed system, SCP estimates that 166,000 persons will work in the central area; with the mass rapid transit, they estimate central area employment can increase to 360,000. SCP considers this concentration to be desirable as it helps create a "metropolitan focal point", but they have made no further attempts to justify this decision. Current development is tending towards greater dispersal of activities. Even the urban renewal program is relocating shops and homes to points outside the central area. SCP has made no analyses of the overall economic or social benefits of concentrated versus dispersed development.

4.32 Transport "needs" cannot be isolated from the urban activities which require the movement of people and goods, or from the pricing policies and regulations that affect these movements. Present "needs" in Singapore, i.e. the transport demands which are generated by present activities under existing policies, are being met quite well by private autos, trucks, taxis, and buses operating on the existing road system. (See para 4.7 and 4.10.) Future "needs" will depend on the amount of population and economic growth, the locations of new housing and industries, policies on public transport and



automobile ownership and usage, and other factors. Some of these are the subject of the present planning studies; SCP is forecasting future travel demands based on macroeconomic growth projections and planned land use patterns. However, inadequate attention is being given to possible policy changes to alter transport demands, and the sensitivity of traffic forecasts to these policies. Forecasts of total future transport "needs" which take these relationships into account are necessary before mass rapid transit "needs" can be identified.

4.33 Traffic survey data describing present level patterns and forecasts of future travel (see above para) were not available when the mass rapid transit proposal was formulated. The SCP study is now analyzing future travel projections, probable apportionment of future travel between private and public transport modes and probable usage of alternative transport systems, with and without the mass rapid transit line. These analyses have not been completed, and comparative evaluations of the alternative systems have not been made. The SCP studies have not yet shown the appropriateness of this particular mass rapid transit proposal nor have they identified the capabilities which mass public transport in general should provide.

4.34 Descriptions of the proposed mass rapid transit system's features, operating characteristics, and effects on the community are sketchy. Officials disagree as to whether an elevated system should even be permitted; because of noise and esthetic reasons, many cities have insisted that elevated transit lines be removed. The consequences of building either the elevated or an underground system in terms of costs, economic benefits, influence on city development patterns, esthetics, etc., have not been adequately demonstrated.

4.35 In summary, the mass rapid transit is still in an early stage of study by SCP; analyses have not advanced far enough to permit a conclusive evaluation of the proposal's merits by either the Bank or the Singapore Government. However, the mission found that this particular mass rapid transit proposal is not part of an integrated transport and development plan, and, believes that it may not be well suited to Singapore's needs.

## V. RELATED DEVELOPMENT ACTIVITIES

### General

5.01 Transportation's only importance lies in its relation to other activities -- in the assistance it lends and the constraints it imposes upon them. Key activities that affect the dynamics of Singapore's growth include urban renewal and land reclamation, public housing, industrialization, tourism, and utilities and services. Vigorous action agencies have made good progress in the past decade toward solving some of the problems that confronted Singapore at the time of independence in these activities. The key problem of transport planning and its relationship to land use planning have been discussed above. This section highlights the problems and prospects of Singapore in sustaining programs in the above related activities.



### Urban Renewal

5.02 Slums and dilapidated structures occupy 1500 acres of the central city area of Singapore, with population densities up to 1,000 persons per acre. Besides occupying valuable land in the commercial heart of Singapore, the slums with their substandard housing and human congestion also posed health hazards. The urban renewal program undertook slum clearance, residential and business resettlement and central area redevelopment in order to revitalize, preserve, and subsequently enhance the importance of the central area.

5.03 The Urban Renewal (UR) Department of the Housing and Development Board is the agency responsible for the urban renewal program. It has designated 1,700 acres of the central city area, both north and south of the Singapore river, as its focus of operation for the next few years. This area has been divided into 17 precincts and projects are being developed for each. All projects have been multipurpose; housing schemes and commercial development are blended in every project to preserve the character of the city. Financing comes mainly from the private sector, with the Government (through UR) providing roads, sewerage, water, gas and electricity lines. The Urban Renewal Department also clears the land site for the private developer. The Government offers attractive concessions to the developers, including a 12% property tax assessment rate (in lieu of the normal 36% rate) for a twenty-year period and ten-year interest-free loan for 80% of the contract price. So far, 28 project sites have been sold to private developers by the UR Department. Good management along with strong land acquisition powers, and the favorable response of private developers have helped make the program a success thus far.

5.04 Raffles International Centre (see Map 2) is the most ambitious and significant urban renewal project being undertaken. It is being designed by IM Pei Associates to combine a new tourist and commercial center with high rise housing to create a new focus for all central city activities. The entire development is estimated to cost some S\$300 million. Nearly all of the 33 acres of land involved is owned by the Government. The Urban Renewal Department is preparing a first phase project for 8 1/2 acres, costing an estimated S\$100 million for possible tender in 1971. According to present plans, portions of the Raffles International Centre will need funding by the public sector and will attract private foreign investment as well.

### Land Reclamation

5.05 The Urban Renewal Department is also responsible for the Government's program for reclaiming swamplands and coastal shallows at Jurong and Kallang Basin and along the East Coast. The Kallang Basin project involved the reclamation of some 400 acres to the east of the city centre. The East Coast scheme is reclaiming an additional 1,125 acres from the sea, stretching six miles along the coast line and extending as much as 2,000 feet seaward. The East Coast project will be completed by the end of 1970. Additional reclamation work will undoubtedly be carried on, but a specific program has not yet been proposed.



### Public Housing

5.06 Only a decade ago, Singapore had an acute shortage of housing. In the 1950's, 84% of the families in which no one earned more than S\$400 lived in one room or less. In 1960, "Chinatown" held 250,000 slum dwellers in the center of the city and 200,000 others lived in squatter settlements around the city. The housing problem was the result of rapid population growth and the cessation of building, even for replacements, during the Second World War. Migration was largely responsible for Singapore's population increase in the pre-war years but natural increase became the dominant factor thereafter. By 1960, Singapore had a population of 1.6 million and it was expanding at the rate of 4.6%, with only 1% of this due to migration.

5.07 The Government created the Housing the Development Board (HDB) to provide public housing -- a function which was formerly the responsibility of the Singapore Improvement Trust. The Board was given strong land acquisition laws and adequate loan funds. Public housing has absorbed about 18% of public sector development expenditure funds annually between 1960 and 1969.

5.08 During its first and second Five Year Plans (1961-1970) HDB built 110,000 units which now house well over 30% of the island population. Most of these flats are located in housing estates, the largest of which are Queenstown and Tao Payoh. The impressive achievements of HDB to date are largely attributable to the efficiency of HDB itself. The program has had easy access to land because of 50% Government land ownership in the island. The housing industry has also benefited from the availability of low cost local materials, strict Government price controls and an increasingly productive labor force.

5.09 The HDB future program (1971-1975) calls for building 100,000 housing units, most of them to be located in Telok Blangah near Pasir Panjang. The program will also encourage the home-ownership scheme, whereby people can buy flats on installments in the new and old housing estates at almost the same cost as renting them. Towards this end, some old flats are being remodelled and some spacious flats are being provided in the new program. The whole program will require an additional \$50 million to the annual appropriation for housing in the public expenditure budget.

5.10 Public housing has become a national showpiece in Singapore. Aside from the continued need for a subsidy and the diminishing supply of suitable sites for estates, success of the housing program seems assured. If circumstances permitted, the HDB could offer excellent technical assistance in the low-cost public housing field to other countries.

### Industrialization

5.11 The success of the industrialization program is reflected in the fact that since 1960 employment in manufacturing has increased at an annual rate of 13 % while total value of output in manufacturing has increased at an annual rate of 21.5%. The value added by local industry throughout the years 1960-1968 has consistently been about 30% of the value of their output. About 1/3 of manufacturing output is exported.



5.12 Jurong is the largest industrial estate on the island. Begun in 1961, Jurong covered 4,000 acres by the end of 1969. A second phase of development to the northwest of the town will add another 6,000 acres. Any further expansion of the town will be toward the central city in what has been called the "Western Corridor". This is a factor in the mission's recommendation for an integrated development program for the "Western Corridor". (See para 6.09).

#### Tourism

5.13 The Government has numerous proposals to improve tourist recreation facilities, the biggest of these being the development of the entire Blankang Mati island as a tourist complex with an aerial tramway connecting it to the main island (see Map 1). There is no lack of inspiration in tourist project suggestions; the problem is to match these aspirations with the available resources. The tourist project proposals that were outlined to the mission apparently are not supported by feasibility studies or priority evaluations.

5.14 Singapore had an acute shortage of hotel space in 1968, with only 3,125 rooms available. New incentives offered by the Government to spur the hotel construction industry proved so effective that a temporary surplus of rooms appears imminent. As of December 1969 some 4,300 rooms were available in 65 hotels; by 1975 the number of hotel rooms will reach 13,000. The Government expects that the tourist demand will adequately fill the available hotel space beyond 1975.

#### Education

5.15 A shortage of skilled manpower is becoming one of Singapore's most serious problems despite an education program on which the Government has been spending 20% of its social development allocations. The Government has set up technical and vocational schools to help meet the demand for middle level skilled manpower. However the demand for professional engineers by Singapore's industries is expected to rise by 8.7% a year over the next decade; enrollment figures for graduate engineers must rise by 22% a year to satisfy the demand.

5.16 The Government has established a new faculty of engineering and technology at the University of Singapore, but the present campus of the university is situated in the town area and has little room for expansion. The Government proposes to construct a new campus on a site of some 400 acres at the western end of the Pasir Panjang military complex. The wooded setting and accessibility of the site to the major western arterial road have been factors in its selection. The Government, with UNDP assistance, is now preparing a Master Plan for the new campus and a report is expected to be ready by mid-1970. Earlier preliminary discussions with the Government of Singapore have shown some Bank interest in this project. Since the proposed new site is located in Pasir Panjang, there is an excellent opportunity to incorporate the University in a comprehensive development project for the "western corridor" of Singapore (see para 6.09).



### Utilities and Services

5.17 Singapore has met her utilities and service requirements well during the past five years; development has not experienced appreciable bottlenecks in that area. Bank assistance to the Public Utilities Board of Singapore has totalled US\$75.3 million since 1965 and a further US\$6 million loan for Jurong Stage II Thermal Power project is under consideration. The Bank's association with PUB has helped put it on a sound financial and administrative basis. PUB has kept pace with demands and has coordinated its investment programs with other action agencies. Utility services, however, have a greater impact on the shape of future development than has been generally recognized; special effort should be made to relate the programs of PUB and other agencies to overall development plans and objectives.

5.18 The Public Utilities Board's capital investment program for 1970-1975 envisages the expenditure of US\$537 million: 72% will go to electricity projects, 20% to water projects, and 2.7% to gas projects. The investment program is directed at meeting the demand for electricity, water and gas resulting from increased industrialization. It also reflects the Government's concern about the security of its water supply sources, 60% of which lie in Malaysia. The investment program will encourage the development of domestic sources even though they may be less economic in the short term than other alternatives. Desalination offers a possible way of increasing domestic supply sources. However, PUB feels that the economics of this alternative have yet to be clearly worked out and that the program for the next five years will concentrate on more conventional sources.

5.19 The Public Works Department provides sewerage in Singapore. Today, the main system serves about 1 million people or 50% of the total population. An additional 130,000 to 150,000 people are served by secondary sewerage systems. The remainder use a conservancy or night soil buckets system. In 1968 the Bank extended a loan of US\$6 million (project total cost US\$22.4 million) for the construction of main sewers to new housing estates, Jurong, and the urban renewal areas. This project represents 95% of Singapore's sewerage extension and improvement program for the period 1968 through June 1972.

### VI. NEED FOR FURTHER STUDIES

6.01 Singapore presents a unique case in urban development. Its national and urban development policies coincide, permitting difficult questions of urban-rural development priorities to be set aside while concentrating on the substance of urban problems themselves. Capable and aggressive action agencies, pursuing more or less independent paths, have helped make Singapore grow at a remarkable pace over the past decade. Demands for space, services, and resources to sustain this growth are mounting while suitable and available sites are being depleted. As its land-use options decrease, the need grows for the Government to establish policy guidelines and to accept comprehensive physical planning as a valuable framework for decision-making.



Unfortunately, the current planning effort has fallen short of providing a confident and rational planning base. The mission recommends two studies which would be linked to effective urban development planning. The mission believes Singapore stands to gain if the action agencies current decision-making could be clearly related to a longer term coordinated perspective.

6.02 Because of the great impact that transport systems can have on urban development patterns, efficiency and environmental quality, the mission considers that studies to identify the potential role of mass transit in Singapore should continue. For despite deficiencies in the present mass rapid transit proposal for Singapore, there is evidence to show that Singapore must continue to rely heavily on some form of improved public mass transit:

- (a) residential and employment densities are already high and more growth must be provided for on severely limited land area;
- (b) increasing numbers and proportions of low income families will be concentrated in massive public housing estates;
- (c) despite increasing incomes, private car ownership will remain outside the reach of a large segment of the population.

6.03 Marginal improvements in mass rapid transit analyses may be possible within the present SCP study framework. Several man-months of technical assistance by persons experienced in the design and construction of mass transit systems involving tunneling, elevated structures, system controls, etc. would be helpful to confirm assumptions that have been made about construction conditions and costs of the proposed system. (The Japanese probably have had the most recent, extensive, and nearly comparable experience.) These services, in conjunction with work already planned by SCP, would strengthen the presentation of the current mass rapid transit proposal.

6.04 The more important questions about mass rapid transit systems in Singapore will not be answered by these refinements in the present system proposal. Further studies should focus on the following issues:

- (a) Transport Relationship to Urban Development: consequences of having or not having a mass transit system (social, economic, environmental impacts);
- (b) Alternatives Available: different modes (buses on existing streets or reserved ways, demand-actuated services, new technologies), locations, areas to be served, fare structures, levels of service quality;
- (c) System Selection: evaluation and comparison of all economic, social and financial costs and fiscal implications of alternative systems and choice of most favorable option;



- (d) Implementation: organization, financing, and time schedule for developing the selected system.

6.05 These analyses are beyond the scope of the present SCP study program. The Singapore Government should initiate a further study of mass transit and provide the policy guidance which such a study will need. In broadest terms, the study should formulate alternative proposals for mass transit systems in Singapore and evaluate the engineering, economic, fiscal and environmental implications of each alternative. The work program should follow this general sequence:

- (a) Determine the relationships between travel characteristics and present transport policies, population, employment, land-uses, incomes, etc., using data collected in the present SCP study whenever possible;
- (b) Establish consistency of forecasts of future economic and population growth with proposed land-use plans;
- (c) Investigate the effects of alternative public transport services and pricing policies on total future transport demands and public transport usage;
- (d) Examine the consequences and the physical-social-fiscal feasibility of providing the alternatives in (c);
- (e) Select the favored system;
- (f) Formulate an implementation program which includes scheduling, financing, organizational arrangements, legislative actions and policies.

6.06 The study staff should include the following professional level members for the entire study duration:

- (a) Project Manager
- (b) Transport Engineer
- (c) Mass Transit Engineer
- (d) Land-Use Planner
- (e) Urban Economist
- (f) Transport Economist
- (g) Systems Analyst, and
- (h) Computer Programmer.

Services of other specialists, particularly the following, would be needed at various times during the study:

- (a) Geologist
- (b) Soils Engineer
- (c) Structural Engineer
- (d) Tunneling Specialist
- (e) Cost Estimator



- (f) Transit Administration Specialist
- (g) Fiscal Analyst
- (h) Urban Designer; and
- (i) Sociologist.

6.07 A mass transit study of this scope would involve about 150-175 man-months of professional services and probably would cost US\$1.2-1.5 million, including computer services but excluding any detailed soil-boring programs which might be needed. Foreign exchange costs could represent 70% or more of the total study costs.

6.08 The study would require an interdisciplinary team with the highest professional competence and would take about one year to complete. Assuming that the study would recommend some mass transit system, the preliminary and detailed engineering which would be needed before construction could be completed in an additional 1.5-2.0 years.

6.09 The other study that the mission proposes concerns Singapore's "Western Growth Corridor", a development strand which stretches some 15 miles from the city center towards the industrial estate of Jurong, and where most dramatic changes can be expected over the next decade. Within this corridor are the present port facilities and associated areas where the relocation of downtown storage establishments is planned; the huge military base of Pasir Panjang which will soon convert to civilian use and which includes the site proposed for the new University of Singapore campus and public housing estates for 100,000 residents; the Mount Faber area which is to be redeveloped as a tourism resort; and further extensions of the Jurong industrial complex. Various agencies including the Ministry of Education, Jurong Town Corporation, the Housing and Development Board, the Port of Singapore Authority, and the Public Works Department are involved in the developments along this corridor, while planning for the Pasir Panjang base conversion is under the responsibility of the BECD (para 3.08).

6.10 The Western Corridor Study would enable projects in industries, housing, higher educational facilities, port facilities and related infrastructure to be undertaken within the framework of comprehensive urban development planning. The mission believes that a pragmatic study program for the future development of this corridor would dovetail with the SCP's present efforts and that the execution of projects in the corridor need not be held up in the course of such a study.



SINGAPORE

MASS RAPID TRANSIT PROPOSAL AND URBAN DEVELOPMENT

Public Sector Development Expenditure 1961-1969

	<u>1961-1965</u>		<u>1966</u>		<u>1967</u>		<u>1968</u>		<u>1969</u>	
	S\$ million	%	S\$ million	%	S\$ million	%	S\$ million	%	S\$ million	%
	----- Actual -----						----- Budget -----			
<u>ECONOMIC DEVELOPMENT</u>	<u>581</u>	<u>62.4</u>	<u>197</u>	<u>65.0</u>	<u>190</u>	<u>61.5</u>	<u>260</u>	<u>64.8</u>	<u>296</u>	<u>61.6</u>
Public Utilities	255	27.4	73	24.0	63	20.4	114	28.4	90	18.7
Industries	149	16.0	46	15.2	57	18.5	58	14.5	86	17.9
(Industrial Infrastructure)	n.a.	n.a.	(32)	(10.6)	(46)	(14.9)	(37)	(9.2)	(56)	(11.7)
(Industrial Financing)	n.a.	n.a.	(14)	(4.6)	(11)	(3.6)	(21)	(5.2)	(30)	(6.2)
Transport and Communications	132	14.2	46	15.2	33	10.7	49	12.2	69	14.3
(Civil Aviation)	n.a.	n.a.	-	-	(2)	(0.6)	(3)	(0.7)	(4)	(0.8)
(Roads and Car Parks)	n.a.	n.a.	(8)	(2.6)	(8)	(2.6)	(11)	(2.7)	(17)	(3.5)
(Port Development)	n.a.	n.a.	(7)	(2.3)	(8)	(2.6)	(14)	(3.5)	(26)	(5.4)
(Telecoms Services)	n.a.	n.a.	(19)	(6.3)	(3)	(1.0)	(5)	(1.2)	(5)	(1.0)
(Telephone Services)	n.a.	n.a.	(12)	(4.0)	(12)	(3.9)	(16)	(4.0)	(16)	(3.3)
Land Development	45	4.8	30	9.9	34	11.0	38	9.5	46	9.6
(Land Reclamation)	n.a.	n.a.	(16)	(5.3)	(14)	(4.5)	(14)	(3.5)	(21)	(4.4)
(Urban Renewal)	n.a.	n.a.	(6)	(1.9)	(9)	(2.9)	(9)	(2.2)	(10)	(2.1)
Primary Production <sup>1/</sup>			2	0.7	3	1.0	1	0.3	5	1.0
<u>SOCIAL DEVELOPMENT</u>	<u>334</u>	<u>35.9</u>	<u>90</u>	<u>29.1</u>	<u>93</u>	<u>30.1</u>	<u>93</u>	<u>23.2</u>	<u>127</u>	<u>26.5</u>
Housing	201	21.6	50	15.8	59	19.1	69	17.2	70	14.5
Education	67	7.2	18	5.9	21	6.8	12	3.0	33	6.9
Public Health	11	1.2	2	0.7	1	0.3	1	0.3	3	0.6
Others	55	5.9	20	6.6	12	3.9	11	2.7	21	4.4
(Sewerage)	n.a.	n.a.	(11)	(3.6)	(7)	(2.3)	(7)	(1.7)	(12)	(2.5)
(Community & Welfare Services)	n.a.	n.a.	(9)	(3.0)	(5)	(1.6)	(4)	(1.0)	(9)	(1.9)
<u>OTHER GOVERNMENT SERVICES</u>	<u>15<sup>2/</sup></u>	<u>1.6<sup>2/</sup></u>	<u>16</u>	<u>5.3</u>	<u>26</u>	<u>8.4</u>	<u>48</u>	<u>12.0</u>	<u>57</u>	<u>11.9</u>
TOTAL	<u>930</u>	<u>100.0</u>	<u>303</u>	<u>100.0</u>	<u>309</u>	<u>100.0</u>	<u>401</u>	<u>100.0</u>	<u>480</u>	<u>100.0</u>

TABLE 1

<sup>1/</sup> Included in Land Development.

<sup>2/</sup> Figures for 1961-1965 do not include expenditure on Defense and Internal Security.

Source: "Current Economic Position and Prospects of Singapore," October 1969, IBRD.

April 22, 1970



SINGAPOREMASS RAPID TRANSIT PROPOSAL AND URBAN DEVELOPMENTRoad System--1967

<u>Classification</u>	<u>Miles</u>	<u>Percent</u>
Major Arterials	155.2	13.6
Collectors	58.1	5.1
Local, paved	450.2	39.6
Local, unpaved	<u>474.5</u>	41.7
Total	1,138.0	

Average Travel Speeds--1967

	<u>Peak Hour</u> <u>(MPH)</u>	<u>Off-Peak</u> <u>(MPH)</u>
Entire City Network	21.6	23.7
Central Area	16.3	18.0
Streets Outside the Inner Ring Road	23.1	25.2

Average Daily Traffic on Main Roads

Anderson Bridge	86,500 vehicles per day			
Kallang Road	84,700	"	"	"
Orchard Road	71,600	"	"	"
New Bridge Road	60,000	"	"	"
Nicoll Highway	59,000	"	"	"
Serangoon Road	55,000	"	"	"



## SINGAPORE

## MASS RAPID TRANSIT PROPOSAL AND URBAN DEVELOPMENT

Transport Characteristics

	1968	1982		1992	
	Number	Number	Ratio $\frac{1982}{1968}$	Number	Ratio $\frac{1992}{1968}$
<u>Population</u>	1,932,700	2,698,900	1.40	3,440,000	1.78
<u>Households</u>	326,000	533,377	1.64	699,000	2.14
<u>Cars</u>	75,766	217,195	2.87	440,000	5.82
Cars per household	0.241	0.407	1.69	0.61	2.53
<u>Motorcycles</u>	55,589	163,775	2.94	230,000	4.14
<u>Travel: (Weekday)</u>					
Car Drivers	382,000	913,000	2.39	1,812,000	4.75
Car Passengers	250,300	493,000	1.97	1,005,000	3.05 <sup>2/</sup>
Motorcycles (Private)	225,500	544,000	2.42	527,000	2.34
Other Passengers	88,000	100,000	1.14	1/	
Sub-Total Private Vehicles	945,000	2,050,000	2.12	3,244,000	3.54
Public Transport (Bus, Taxi)	1,600,000	2,000,000	1.25	2,120,000	1.33
Total Trips in Motor Vehicles	2,545,000	4,050,000	1.51	5,464,000	2.14
<u>Percentage of Motor Vehicle Trips by Public Transport</u>	63%	50%		39%	
Car: Population ratio	1:26	1:12		1:8	

1/ Combined with car passengers

2/ Ratio of car and other passengers

Source: State and City Planning - Singapore



SINGAPOREMASS RAPID TRANSIT PROPOSAL AND URBAN DEVELOPMENT1968--Transport Survey Results

Total Person Trips by Motor Vehicles (all purposes): 2,150,142

Work Trips	- 25.0%
School Trips	- 23.6%
Social Trips	- 20.9%
Other Purposes	- 30.5%

Distribution by Mode

	<u>Total</u>	<u>Car</u>	<u>Bus</u>	<u>Taxi</u>	<u>Motorcycle</u>	<u>Other</u>
Work Trips (%)	100	23.7	40.4	21.1	9.2	5.5
School Trips (%)	100	11.5	63.8	18.9	3.3	5.5
Social Trips (%)	100	22.4	39.6	24.7	12.5	0.6
Other Purposes (%)	100	<u>35.7</u>	<u>29.3</u>	<u>22.1</u>	<u>11.5</u>	<u>1.4</u>
All Trips (%)	100	24.2	42.4	21.7	8.5	3.2

Source: State and City Planning - Singapore

April 22, 1970