

# Transport and Communications

## I. INTRODUCTION

1134. The provision of transport and communications services is essential for social and economic development. Under the Third Malaysia Plan (TMP), the sector will continue to be improved and expanded not only to facilitate and promote greater integration among all Malaysians in nation-building but also support and stimulate the development of the major sectors of the economy and to ensure its rapid growth and equitable distribution among regions.

1135. While the present transport and communications networks in Peninsular Malaysia are well placed in relation to the location of economic activity and population distribution, accelerated economic and social development under the Plan will create capacity problems. Hence, improvements and upgrading of the networks will be undertaken. Furthermore, in order to stimulate and provide incentives for the rapid growth of the less developed States as well as new regional development areas, expansion of the networks in these States and regions will also be accorded high priority. Extension and improvement of these facilities to rural communities will help contribute to the eradication of poverty.

1136. In Sabah and Sarawak, the present transport network will be improved and expanded to meet the requirements of natural resource development as well as to connect present and new production areas and population centres.

1137. A significant feature in the development of the transport sector under the Plan is the development of public transport services. The provision of such services is to cater for the increasing transportation needs of urban workers particularly those in the lower income groups.

1138. Communications facilities, particularly telephone and telegraph services, will continue to be expanded to meet the growing requirements of commerce and industry. Postal, meteorological and broadcasting facilities will also be expanded.

## II. PROGRESS, 1971-75

1139. By the end of the Second Malaysia Plan (SMP) period, total ~~pe~~ <sup>problem</sup> of development expenditure for transport and communications amounted ~~ay~~ <sup>ay</sup> \$2.4 billion compared to the revised allocation of \$2.3 billion under the Mid-Term Review (MTR) of the SMP. The details of the financial progress in respect of this sector are shown in Table 20-1.

TABLE 20-1

### MALAYSIA: PUBLIC DEVELOPMENT EXPENDITURE FOR TRANSPORT AND COMMUNICATIONS PROGRAMMES, 1971-75 (\$ million)

	<i>Revised SMP allocation, 1971-75</i>	<i>Estimated expenditure, 1971-75</i>	<i>%</i>
Roads <sup>1</sup> .. .. .	970.22	1,032.84	106.5
Railways .. .. .	97.71	104.49	106.9
Ports, shipping and marine .. .. .	366.15	441.96	120.7
Civil aviation .. .. .	253.59	202.02	79.7
Telecommunications .. .. .	515.55	494.91	96.0
Postal services .. .. .	20.49	18.17	88.7
Meteorological services .. .. .	4.04	3.71	91.8
Broadcasting .. .. .	100.89	87.17	86.4
TOTAL ..	2,328.64	2,385.27	102.4

<sup>1</sup> Includes plant and equipment of the Public Works Department (PWD).

1140. Although the overall financial achievement exceeded the revised SMP target under the MTR resulting largely from cost escalation, a number of constraints was encountered in the implementation of the various development programmes. Notable constraints included the shortage of professional and technical staff in various implementing agencies; administrative delays in land acquisition; inadequate project preparation, particularly in respect of externally financed projects; and shortage of construction materials all of which inevitably slowed down project implementation.

#### Roads and road transport

1141. Improvement and extension of the road network within the country was emphasized under the SMP. The programmes included the expansion and improvement of the main arterial roads linking major production areas and sources of raw materials to markets and ports and the construction of new roads providing access to new land settlement schemes.

1142. *Improvement to existing roads* Improvement programmes for the existing highway network were carried out based on the recommendations of the General Transport Survey (GTS) undertaken in 1967. Major improvements were largely confined to Routes I, II and III of the Federal Highway network. By the end of 1975, major improvements undertaken on Route I

included segments between the Johor Bahru Causeway to mile seven north of Johor Bahru including the Johor Bahru interchanges; the dual-carriageway between Sungai Besi and Jalan Cheras; and the Tanjung Malim town by-pass. On Route II, they included the new Temerloh bridge and on Route III, various road segments in Pahang, Trengganu and Kelantan including the new Jerteh bridge.

1143. The reconstruction of the Kuala Lumpur/Petaling Jaya highway which started in 1973 is still in progress while improvements on the Kuala Lumpur/Karak highway, including the realignment and relocation of certain segments will be completed in 1978 together with the construction of a tunnel at Genting Sempah.

1144. In *Sabah*, major improvements completed included the Tawau/Kunak/Semporna road; the Sandakan/Telupid road; Kota Kinabalu/Moyog/Kirokot road and the stretches between Tenom and Keningau and between Sikuati and Beaufort. The upgrading of the Keningau/Sepulot road including the construction of two bridges across Sungai Sook and Sungai Pagallan have also been completed.

1145. Detailed engineering work was also completed on the following roads: Papar to Sindumin on the West Coast, Tamparuli to Ranau across the Crocker Range and the Lahad Datu/Kunak/Balung road to Semporna on the East Coast.

1146. In *Sarawak*, major improvements were carried out on the main road network connecting the various Divisions. Principal improvements included the various segments of the Bintulu/Miri road; the Beluru/Long Teru road; the Simanggang/Sibu road; and the reconstruction of the Kuching/Serian road.

1147. Most of the improvement programmes to high priority urban and inter-urban road networks in the country have been carried out. Significant progress has been achieved on the improvement to the Kuala Lumpur by-passes and throughways, aimed at relieving traffic congestion in the central business district and facilitating the movement of through-traffic. These included the construction of the Jalan Sungai Besi viaduct, the six-lane widening of Jalan Pekeliling and the construction of the Jalan Loke Yew viaduct.

1148. Following the Government's acceptance of the recommendations of the Kuala Lumpur Urban Transport Policy and Planning Study, a programme for the development of public transport for the Kuala Lumpur metropolitan area was prepared. By the end of 1975, design works in respect of various road components such as the road dispersal links, busways and the traffic improvement schemes in the central area were largely completed.

1149. *Major expansion of the road network* The security problem prevailing in 1974 somewhat interrupted the construction programme of the East/West Highway. To date, about 28 miles of the 72-mile Highway have been completed. An accelerated effort is being made to speed up the construction of the remaining section of the Highway including two major bridges at Sungai Rui and Sungai Perak in order to keep pace with the impounding of the Temenggor dam.

1150. Construction work on the Kuantan/Segamat highway has progressed satisfactorily with the partial completion of 17 miles by the end of the SMP. The new Kuala Lumpur/Seremban Expressway project is almost completed.

1151. In *Sabah*, major projects undertaken included the completion of the West Coast road to Ranau, the Sandakan/Ranau road and the Kota Kinabalu/Lok Kawi road. The expansion of the Kunak/Lahad Datu/Sandakan road was also undertaken. Work completed comprised the 6½-mile gap between Kunak and Silam, the 22½-mile Lamag road from mile 32 Labuk road to Bukit Garam and 30 miles of road from Lahad Datu to Bukit Garam.

1152. In *Sarawak*, the construction of the 30-mile Ulu Batang Mukah/Sungei Arip road is almost completed. Other major projects completed included the Miri/Bintulu trunk road, the Matang/Istana road including a bridge across Sungai Sarawak at Satok, Kuching and the Bintulu/Tanjung Kidurong road. The Matang/Istana road will form an essential access for the development of the north bank of Kuching, while the Bintulu/Tanjung Kidurong road will provide access to the new port and the liquefied natural gas (LNG) plant.

1153. *Development and feeder roads* In order to serve new and *in situ* land development schemes, a number of development and feeder roads were identified in the SMP. In Pahang Tenggara, about 180 miles of feeder roads were planned and designed for construction during the TMP largely to provide access to major land development schemes of the Federal Land Development Authority (FELDA) and new townships. Similarly, in Johor Tenggara, the design of about 189 miles of development and feeder roads was completed, while the 28-mile Penggerang Highway and the 15-mile Ayer Tawar road are under construction. Design work on the Jerangau/Jabor/Tanjung Gelang highway and its associated feeder roads in the Trengganu Tengah development area has also been completed and construction will commence at the beginning of the TMP. In addition, a number of rural roads aimed at facilitating the movement of goods and people from the villages were constructed in the various States of Peninsular Malaysia.

1154. In *Sabah*, a number of development and feeder roads were constructed to serve various land development schemes located mainly in Tawau, Semporna, Lahad Datu, Sandakan, Lembah Labuk, Marudu and the Telok Kimanis areas, while in *Sarawak*, 127 miles of development and feeder roads were completed mainly in the First, Second, Fourth, Fifth and Sixth Divisions to serve both the new land development schemes as well as the security needs of these areas.

1155. *Highway maintenance* There has been rapid growth of road traffic in Malaysia in recent years. During the SMP period, the vehicle fleet in Peninsular Malaysia grew by 13.6% per annum from 669,000 vehicles in 1970 to 1,267,000 vehicles in 1975, as shown in Table 20-2. A similar trend was also registered in Sabah and Sarawak where average growth was 10.4% and 8.5% per annum, respectively. The rapid growth in traffic, coupled with the increasing use of wider and heavier commercial vehicles caused most of the major highways in the country to deteriorate thus requiring major rehabilitation and maintenance.

TABLE 20-2  
MALAYSIA: VEHICLE REGISTRATION, 1970-75  
(000)

	<i>Peninsular Malaysia</i>			<i>Sabah</i>			<i>Sarawak</i>		
	1970	1975	<i>Average annual growth rate (%) 1971-75</i>	1970	1975	<i>Average annual growth rate (%) 1971-75</i>	1970	1975	<i>Average annual growth rate (%) 1971-75</i>
Private motor cycles	350.0	722.3	15.6	5.2	5.1	-0.4	17.4	27.5	9.6
Private motor cars, taxis and hire cars..	238.4	407.2	11.3	22.1	37.4	11.1	16.0	23.3	7.8
Buses .. ..	5.9	8.7	8.1	0.5	0.7	7.0	0.4	0.5	4.6
Lorries and vans ..	55.8	92.2	10.6	4.8	9.9	15.6	2.8	4.3	9.0
Other vehicles ..	19.1	36.7	14.0	3.0	5.4	12.5	2.9	3.8	5.6
TOTAL ..	669.2	1,267.1	13.6	35.6	58.5	10.4	39.5	59.4	8.5

1156. A Highway Maintenance Study was undertaken in 1974 with the objective of determining the optimum scope and methods for road rehabilitation and maintenance by the PWD. Of the total of 1,432 miles of road surveyed, 20% necessitates immediate improvement, 35% have a remaining life of one to three years while 45% a remaining life of over three years. A detailed review of the Study's recommendations has been initiated.

1157. *Road transport* During the SMP period, a number of policy measures for the development of road transport were implemented. These included the liberalization of "A" carrier licences and of carriers below 50 cwt. The latter category of licences are now granted on application with no restriction on goods carried and routes taken. In view of the growing complexity of the transport needs of new industries, carrier licences for specialized items such as petrol, palm oil and frozen goods are also granted on application.

1158. Priority in the issuance of "A" carrier licences is given to Malays and other indigenous people to promote their participation in the road transport industry. As a result, their share in terms of the number of licences held has increased from 10% in 1970 to about 54% in 1975. The *Majlis Amanah Rakyat* (MARA) continued to provide technical advice and credit to Malay and other indigenous transport operators.

1159. In recognition of the need to improve public transport services and to provide incentives to bus operators to replace their old buses, the Government reduced the seat tax at the beginning of 1976. The tax is to be phased out over a period of four years. In the case of new buses, full exemption will be granted from 1976.

### **Railways**

1160. The dieselization programme of the Malayan Railway was completed by the end of the SMP. Although the crash programme to improve the permanent way has been carried out, a substantial backlog of work has yet to be implemented. These included track renewal, replacement of worn-out sleepers, rehabilitation of bridges and the strengthening of ballast. The reconstruction of the Seremban/Port Dickson line is in progress. By the end of the SMP period, more than one-half of the work had been completed including the construction of seven bridges.

1161. In 1975, the Malayan Railway reviewed its pricing policy in order to improve and expand its share of the transport market. The outcome of this review was the introduction of a new tariff structure which became effective in January, 1976.

1162. In spite of the various improvement and modernization programmes, the overall performance of the Malayan Railway during the SMP period was far below expectations. The Railway continued to incur an accumulated deficit of \$101.9 million up to the end of 1975. While passenger traffic showed an upward trend, increasing from 5.2 million passengers in 1970 to 6.3 million in 1975, there has been a decline in the freight handled from 3.6 million tons in 1970 to 2.9 million tons in 1975 in part due to active road transport competition.

1163. The Sabah Railway completed its modernization programme with the purchase of workshop machinery, engineering, telecommunications and signalling equipment as well as six passenger coaches in 1975.

### **Ports, shipping and marine services**

1164. With the rapid expansion of Malaysia's international trade, efforts were directed towards the development and expansion of its port facilities and related maritime services including Malaysia's own shipping line.

1165. Major expansion of facilities at Port Klang was undertaken during the SMP to cope with the rapid increase in freight traffic, both exports and imports. These included the commissioning of the 2,100 feet container wharves, the 700 feet conventional wharf and ancillary facilities and the acquisition of container cranes and handling equipment at the North Klang Straits. At the South Port, two wharves were reconstructed and one wharf was extended to provide additional facilities for liquid cargo. In addition, a second extension programme involving the construction of 3,500 feet of wharves together with ancillary facilities was undertaken in 1974 following the completion of a feasibility study in 1973.

1166. The expansion programmes together with the commissioning of the container terminal and the use of LASH and Roll-on-Roll-off methods for cargo handling have enabled Port Klang to handle an increasing volume of traffic from 3.8 million tons in 1970 to 4.8 million tons in 1975.

1167. Traffic through Penang port expanded from 3.3 million tons in 1970 to 3.8 million tons in 1975. To meet the projected growth in port traffic, the Penang Port Commission undertook feasibility studies for further expansion of the Butterworth wharves by an additional berth and the construction of a bulk cargo terminal to provide bulk loading and discharging facilities to existing and potential industries in the Prai industrial area. Following these studies, design works for these facilities were carried out and construction has commenced. In order to prepare a long-term overall port development programme for Penang port, a 20-year Masterplan study was completed in 1975.

1168. The Penang Port Commission also expanded its ferry services by acquiring six double-decker ferry vessels in 1974 and 1975 and the construction of new ferry terminals both at Butterworth and Penang Island. The additional vessels are needed to cope with the growth in commuter traffic between Penang Island and the mainland up to 1981.

1169. In *Sabah*, two major port expansion projects were undertaken during the SMP. These were the expansion of the Kota Kinabalu and Sandakan ports. At Kota Kinabalu, three ocean berths, one coaster berth and a bulk liquid cargo berth were built. The ocean berths are capable of handling both conventional and container ships.

1170. At Sandakan, a new wharf is being constructed with four berthing facilities for both conventional and container vessels. The oil jetty at Tawau was completed during the SMP.

1171. In *Sarawak*, the Kuching port expansion project has been completed, thereby increasing overall capacity to 650,000 tons per annum. The Sibuluan port expansion project will be commissioned in 1976 and will increase the handling capacity of the port from 175,000 tons to 450,000 tons per annum to meet traffic demands up to 1985. A detailed feasibility study for the development of a deep water port at Tanjung Kidurong near Bintulu has also been completed. Steps were initiated to commence design work including the LNG loading facilities.

1172. The *Malaysian International Shipping Corporation* (MISC), the national shipping line, continued its fleet expansion and diversification programmes under the SMP. By the end of 1975, MISC has a total of 20 vessels in operation with a combined tonnage of 500,000 deadweight. The fleet comprises eight cargo liners, a bulk carrier, three woodchip carriers, one ore/oil carrier, three palm oil carriers, three coastal vessels and one general purpose vessel. MISC liner ships now call regularly at all the important ports on the Far East/Europe run. In addition to liner services, MISC ships are also chartered out to other shipping operators. In order to improve and promote better shipping services and hence strengthen the trade links between Sabah and Sarawak and Peninsular Malaysia, MISC also started its coastal services in 1973. Currently, six vessels are in operation.

#### **Civil aviation and air transport**

1173. The overall progress in the implementation of civil aviation programmes was rather slow. In Peninsular Malaysia, design work for the expansion of the Kuala Lumpur international airport terminal building is in progress while construction work for the expansion of Penang airport only started in 1975. The new Johor airport at Senai was completed and became operational in January, 1974. A number of major works were undertaken and completed in respect of domestic airports in Ipoh, Alor Star, Kota Bharu and Kuala Trengganu by the end of 1975 including improvements to radio and visual aids at these airports.

1174. In *Sabah*, expansion of the Kota Kinabalu airport is still in progress, whilst a Masterplan for the reconstruction of the Sandakan airport has been completed. In Sarawak, the upgrading of Miri airport to meet Boeing 737 requirements and the expansion of Kuching international airport are also in progress and will be completed during the TMP period.

1175. Passenger traffic at major airports in the country increased by 17.6% per annum during the SMP period while air freight traffic grew by 24.8% per annum as shown in Table 20-3.

1176. Following the recommendations of the Airport Tariff Study completed in 1974, the Civil Aviation Act was amended in February, 1975 to enable the development of a commercial accounting system for airport operations. Airport tariffs were also revised to reflect more accurately the cost of providing airport services and facilities. This revision is expected to increase airport revenues by about \$12 million annually.

1177. In 1973, the Government assumed responsibility for the control of air traffic services within the Kuala Lumpur and Kota Kinabalu Flight Information Regions (FIRs).



TABLE 20-3

## MALAYSIA: PASSENGER AND FREIGHT TRAFFIC AT AIRPORTS, 1970-75

	Passenger traffic (000)			Freight traffic (metric tons)		
	1970	1975	Average annual growth rate (%) 1971-75	1970	1975	Average annual growth rate (%) 1971-75
<b>PENINSULAR MALAYSIA</b>						
Kuala Lumpur .. .. .	513.0	1,362.6	21.6	2,658.0	11,239.0	33.4
Penang .. .. .	198.7	560.6	23.1	440.0	4,337.0	58.0
Ipoh .. .. .	46.1	89.8	14.3	71.0	161.0	17.8
Kota Bharu .. .. .	30.6	87.6	23.4	237.0	696.0	24.0
Malacca .. .. .	15.4	28.3	12.9	20.0	198.0	58.2
Johor Bahru <sup>2</sup> .. .. .	—	24.4	—	—	70.0	—
Alor Star .. .. .	4.4	15.5	28.6	14.0	17.0	4.0
Trengganu .. .. .	3.8	14.8	31.3	18.0	26.0	7.6
Kuantan .. .. .	3.9	10.6	22.1	13.0	15.0	2.9
Sub-total .. .. .	815.9	2,194.2	21.4	3,471.0	16,759.0	36.7
<b>SABAH</b>						
Kota Kinabalu .. .. .	290.6	458.4	9.5	3,127.8	4,889.8	9.4
Sandakan .. .. .	129.0	208.6	10.1	778.6	1,279.2	10.4
Labuan .. .. .	31.6	93.6	24.3	129.9	344.3	21.5
Lahad Datu .. .. .	46.6	99.7	16.4	205.3	446.7	16.8
Tawau .. .. .	79.0	154.7	14.4	436.8	1,474.9	27.6
Sub-total .. .. .	576.8	1,015.1	12.0	4,678.4	8,434.9	12.5
<b>SARAWAK</b>						
Kuching .. .. .	144.0	200.1	6.8	1,259.5	3,372.4	21.8
Sibu .. .. .	108.7	186.0	11.3	575.4	902.4	9.4
Miri .. .. .	—	131.2	—	—	923.7	—
Bintulu .. .. .	28.1	33.9	3.8	88.2	141.0	9.8
Sub-total .. .. .	280.8	551.2	14.4	1,923.1	5,339.5	22.7
TOTAL .. .. .	1,673.5	3,760.5	17.6	10,072.5	30,533.4	24.8

<sup>2</sup> The Johor Bahru airport commenced operations on 1st January, 1974.

1178. The *Malaysian Airline System* (MAS), the national flag carrier, which started operations in October 1972 with seven Boeing 737, nine F27, and three BN2 aircraft, had acquired three Boeing 707, two additional Boeing 737 and one each of F27 and BN2 aircraft by the end of the SMP period. In addition, one DC-10 aircraft was also ordered in 1975 to be delivered in August, 1976.

1179. Besides providing increased frequencies of service on domestic sectors, MAS from the outset as a regional carrier, provided services to Singapore, Brunei, Jakarta, Medan, Bangkok, Hong Kong and Madras. With the Boeing 707 operations, its international routes cover Manila, Hong Kong, Taipei, Tokyo, Kuwait, London, Sydney and Melbourne. As a result of these expansions, total revenue increased from \$61.4 million in financial year 1972/73 to \$264.7 million in 1974/75.

#### **Telecommunications**

1180. A number of major programmes were implemented for the expansion of telecommunications facilities in Peninsular Malaysia, Sabah and Sarawak. By the end of 1975, major projects completed included automatization of nine manual exchanges in Peninsular Malaysia and 20 in Sarawak; provision of 88,932 new direct telephone lines in Peninsular Malaysia, 7,574 in Sabah and 9,168 in Sarawak; expansion of the microwave systems in Peninsular Malaysia, Sabah and Sarawak involving a total of 380,000 circuit miles; the introduction of subscribers trunk dialling (STD) facilities in the First, Second, Sixth and Seventh Divisions of Sarawak; and the provision of a direct satellite link in 1975 between Peninsular Malaysia, Sabah and Sarawak, enabling simultaneous sharing of television programmes by the three regions.

1181. With regard to external service facilities, major achievements included the provision of additional international circuits involving expansion of telex, telegraph and telephone services; extension of the international automatic exchange from 300 to 700 lines with provision of 20 additional manual positions; commissioning of international and national automatic telex exchanges; and the commissioning of a computerized message switching centre. With regard to staff training, by the end of the SMP period, the target of 91,000 trainee-weeks for the telecommunications staff was achieved.

1182. The demand for telephone services has been increasing steadily over the SMP period. In spite of the installation of a total of 105,674 new direct telephone lines, the number of applicants on the waiting list have not been eliminated. By the end of 1975, there were still a total of some 40,000 applicants in Peninsular Malaysia, 4,700 in Sabah and 3,500 in Sarawak. One significant feature of the expansion of telephone services during the SMP period was the increase in the level of telephone penetration in Malaysia. At the end of 1972, the penetration was only 2.0 telephones per 100 population but by the end of 1975 this level was increased to 2.4. By the end of the TMP period, this level is expected to reach 5.8.

#### **Postal services**

1183. The coverage of postal services was considerably expanded under the SMP particularly in the rural areas of Peninsular Malaysia, Sabah and Sarawak to meet the demand for postal services which has been growing by 8% per annum in Peninsular Malaysia, 19.2% in Sabah and 10.4% in Sarawak. In Peninsular Malaysia, major facilities completed included 119

post offices, 340 postal agencies and 73 mobile post offices. In Sabah, 11 post offices and seven mobile post offices were provided whilst in Sarawak six post offices and nine mobile post offices were provided. Work on the construction of new General Post Offices for Kota Bharu, Ipoh, Kuantan, Sandakan and Kuching was in progress and will be completed during the TMP.

#### **Meteorological services**

1184. To improve weather forecasting and to develop weather information, meteorological services were expanded including the installation of a storm warning radar at Kluang, Johor; the establishment of seismological stations at Kuala Lumpur, Kluang, Kota Kinabalu; and upper air stations at Kuala Lumpur, Kuantan, Penang, Kota Bharu and Kuching. The Meteorological Department also purchased hydrometeorological equipment for its major stations for the reception of weather satellite data.

#### **Broadcasting services**

1185. Major broadcasting service projects completed included the new Radio House Complex and the National Broadcasting Training Centre at Angkasapuri, the extension of TV coverage to the East Coast and Central Region of Peninsular Malaysia; and the inauguration of simultaneous telecast services in 1975 linking Peninsular Malaysia with Sabah and Sarawak. Approximately 80% of the population in the country are now within TV and radio coverage, thus enhancing efforts made through radio and television broadcasts in the realm of nation-building, especially in promoting national unity.

### **III. PROGRAMMES, 1976-80**

1186. *Objectives* The development programmes for transport and communications under the Plan are aimed at consolidating and making further improvements to existing facilities and services to meet the requirements of social and economic development. The capacity of transport and communications facilities on the West Coast of Peninsular Malaysia, although already well developed, will be further improved and upgraded to meet normal traffic growth. On the other hand, in the East Coast States, the rapid rate of land development and the projected expansion of urban and industrial growth will require the rapid extension and upgrading of the transport and communications facilities. Such facilities will be provided ahead of effective demand, if necessary, to accelerate dispersal of industries and urban growth for the redressal of regional imbalances. The extension of the transport networks particularly the construction of development and farm-to-market roads will provide access to new areas and will form part and parcel of an overall integrated regional development programme.

1187. In Sabah and Sarawak, further expansion and improvements to the transport system will be carried out under the Plan to facilitate economic development, and social and political integration. Priority will be given to improvement and expansion of ports, airports and construction of trunk and feeder roads, especially to agricultural development areas. The road development programmes include improvements and upgrading of trunk roads to connect major population centres, access to the ports and industrial estates and feeder roads to new agricultural and development areas. Rural air services and riverine transportation will also be expanded to meet the transport requirements for the interior areas. These will be accomplished through the construction of jetties along the rivers and new rural aerodromes in areas which are not yet accessible by land transport.

1188. *Programmes* Given the supporting but essential role of transport and communications in the overall development strategy under the TMP, the following major programmes will be implemented:—

- (i) upgrading and improvement of major road networks in Peninsular Malaysia, Sabah and Sarawak to meet the projected growth in traffic;
- (ii) construction of new development and feeder roads to areas where land will be developed and people settled;
- (iii) construction and improvement of farm-to-market roads in presently settled agricultural areas where *in situ* agricultural improvement programmes will be implemented;
- (iv) expansion of ports, marine services and the shipping fleet of MISC to meet the projected growth in international trade;
- (v) expansion and upgrading of airports and related facilities and the purchase of additional aircraft for MAS to facilitate international and domestic air travel;
- (vi) continuing improvement and modernization of the Malayan Railway system by replacing obsolete rolling and coaching stock, installation of new equipment and modernizing communications and signalling facilities to improve its efficiency and ensure its economic role in the total transport system; and
- (vii) expansion of telecommunications, postal, meteorological and broadcasting facilities to serve the requirements of administration, commerce and industry.

#### **Roads and road transport**

1189. *Improvement to existing roads* Roads play a dominant role in the transportation system in Peninsular Malaysia. Road traffic is expected to grow at an average rate of 12.5% per annum over the Plan period. This growth is expected to occur largely along the major traffic corridors on the West Coast as well as in specific sections on the East Coast resulting from the rapid rate of land development and urbanization in these areas. Major works on road improvements, especially to Route I, the main north/south

artery on the West Coast and Route II which provides the only link between the developed West Coast and the East Coast were initiated during the latter part of the SMP and will be completed during the first half of the Plan period.

1190. The new Kuala Lumpur/Seremban Expressway (38 miles) and improvements to existing road between Seremban and Kuala Lumpur on Route I are under construction. The other two major segments of Route I which will be constructed during the Plan period are the Kuala Lumpur/Rawang/Batang Kali road (25 miles) and the Ipoh/Changkat Jering road (39 miles). Other segments of Route I will also be improved and upgraded during the Plan period. These include the stretch between Ipoh and Bidor (40 miles) and the stretch in and round Butterworth.

1191. A major reconstruction and improvement programme for Route II is a stretch between Kuala Lumpur and Karak (55 miles) involving the construction of a three-quarter mile tunnel. This road is expected to be completed and opened to traffic by the end of 1977. The reconstruction of the Kuala Lumpur/Petaling Jaya highway is expected to be completed in early 1977.

1192. The remaining improvement programme will be confined to the widening, strengthening and realignment of roads along major Federal roads especially in the States of Kelantan, Trengganu, Malacca, Negri Sembilan, Kedah and Perlis.

1193. *Major expansion of road network* Construction works for the East/West Highway and the Kuantan/Segamat road will continue under the Plan period and will be completed by 1977 and 1978 respectively. A new highway linking Jerangau, Jabor and Kuantan port will be constructed under the Plan. The road will provide the main access to the Trengganu Tengah regional development area.

1194. Feasibility studies will be initiated on a number of road projects for implementation during the Plan period. These include the feasibility study on the East/West Highway connections with the West Coast and the East Coast road network and a feasibility study for the Kuala Krai/Gua Musang/Kuala Lipis road. The latter is vital for integrated regional development of the Kuala Lipis and Ulu Kelantan areas. The construction of this road will provide easy access to southern Ulu Kelantan which is now only accessible by rail and, seasonally, by small river craft and also to connect FELDA settlements south of Kuala Krai and east of Gua Musang where 36,000 acres of new land will be developed for rubber smallholdings. It will also serve the exploitation of timber resources and help promote the establishment of integrated timber-based industries in the Gua Musang and Kuala Lipis areas.

1195. With the completion of this road, the Ulu Kelantan and North Pahang areas will be connected to both the Kuantan port in the East Coast and the developed areas in the West Coast. It will also meet the security requirements of the areas.

1196. Detailed design for the construction of a bridge linking Penang with the mainland will also be carried out during the TMP period.

1197. *Development and farm-to-market roads* With the rapid rate of land development, especially in the new regional development areas of Johor Tenggara, Pahang Tenggara and Trengganu Tengah, the development of feeder roads to support agriculture and land development as well as urbanization programmes in these areas, will be intensified during the Plan. About 409 miles of development and feeder roads will be constructed in these three regional development areas during the Plan period. A substantial portion of the development roads programme under the Plan is for FELDA schemes in Pahang, Johor and Trengganu where most of such schemes will be implemented. A sum of \$198.5 million has been allocated for these development roads under the Plan.

1198. In an effort to accelerate *in situ* agricultural improvement schemes throughout the country, the construction and improvement of farm-to-market roads which form an integral part of the overall agricultural package programme will be carried out. Under the Plan, such a programme will initially be carried out for the six northern districts in Kelantan. Other areas will also be identified during the Plan period for the implementation of such programmes.

1199. Improvements and extensions to State and rural roads will continue to be undertaken by the respective State Governments under the Plan. A total of \$205.9 million has been provided for this purpose including a grant of \$107 million by the Federal Government. About \$80 million or 75% of the programmes financed directly by the Federal Government are for rural roads in the less developed States of Kedah, Perlis, Kelantan, Trengganu and Pahang.

1200. The rural road development programmes will form an important part of the overall integrated rural development package programmes for raising the productivity and incomes of the rural people by providing greater access to existing populations and improved marketing and distribution outlets for rural produce. In addition, some of these roads will provide necessary physical infrastructure to meet the security needs of the country particularly for the Northern States of Perlis, Kedah and Perak as well as Kelantan.

1201. *Other roads* Federal financial aid to the Municipalities of Ipoh, Georgetown and Malacca will be provided for road programmes aimed at improving traffic flows, especially through-traffic from built-up areas to the main arterial roads.

1202. *The development of public transport* A first major public transport programme will be implemented in the Kuala Lumpur metropolitan area under the Plan. The standard of public transport services in Kuala Lumpur and the surrounding areas needs to be improved as buses are extremely crowded. Further, the high and increasing proportion of low-occupancy

vehicles has led to inefficient utilization of road space resulting in severe congestion which particularly affects bus services. The prime objective of this programme is to increase the cost-effectiveness of the transport system by raising the efficiency of public transport. In addition, the provision and development of public transport service constitutes an important poverty redressal effort for urban areas by making available cheap and efficient transport to serve those in the lower income groups. The availability of cheap and efficient public transport will also increase the accessibility of the poor to employment opportunities.

1203. The programme includes the expansion of the bus fleet by existing bus operators as well as the expansion of mini-bus services. Investment in physical facilities includes road improvements to relieve the city centre of heavy traffic flows by according priority to buses and other high-occupancy vehicles; and improve traffic engineering and control in the central areas to assist the movement of people and raise environmental standards.

1204. The physical programme will be complemented by a series of policy and administrative measures which will be implemented in stages, including restraint measures to discourage the use of private vehicles by raising parking charges, areal road-pricing and the enforcement of parking and traffic regulations. The road component of this programme will also facilitate the collection and dispersal of inter-regional traffic using the Federal through-routes. Similar public transport programmes will also be extended to other major urban areas.

1205. In order to improve public transport services especially for those in the lower income groups, the Malayan Railway provides daily commuter services between Kuala Lumpur and Port Klang and between Kuala Lumpur and Seremban.

1206. The allocations for road development in Peninsular Malaysia under the TMP are shown in Table 20-4 below.

1207. In *Sabah*, the upgrading and improvement of trunk roads to be undertaken under the Plan period include the bituminous surfacing and improvement of the Lahad Datu/Kunak/Balong/Semporna road (90 miles) in the East Coast and the bituminous surfacing and improvement of the road section between Papar and Sindumin (71 miles) on the West Coast and the upgrading of the Tamparuli/Ranau road (44 miles) which provides access to the interior of Sabah from the West Coast.

1208. In *Sarawak*, construction works will proceed to complete the 42 miles of the trunk road between Sungei Arip and Bintulu. Other new trunk road projects include the construction of Kuching/Bako road linking the Bako National Park with the Matang/Istana Road, the completion of the Bintulu/Tanjung Kidurong road, the Beluru/Long Teru road, the Lawas/Merapok/Sindumin road and the construction of bridges along the Miri/Bintulu road.

TABLE 20-4

PENINSULAR MALAYSIA: PUBLIC DEVELOPMENT  
EXPENDITURE FOR ROAD PROGRAMMES, 1976-80  
(\$ million)

Improvements to existing Federal roads ... ..	146.3
Major expansion of Federal road network	480.1
East/West Highway ... ..	86.2
Kuantan/Segamat road ... ..	60.6
Kuala Lumpur/Karak road ... ..	110.6
Improvement and realignment Route I	98.4
Kuala Lumpur/Petaling Jaya highway	24.3
Telok Anson/Lumut road ... ..	10.0
Jerangau/Jabor road ... ..	80.0
Penang Linkage ... ..	10.0
Development roads (FELDA, Jengka, Regional Authorities) ... ..	198.5
Kuala Lumpur public transport ... ..	95.0
Kuala Lumpur by-passes and throughways	23.1
Municipal roads ... ..	9.1
State and rural roads <sup>3</sup> ... ..	205.9
Highway maintenance programme	30.0
Plant and equipment ... ..	81.5
Others ... ..	8.2
TOTAL ... ..	1,277.7

<sup>3</sup> Include farm-to-market roads. Allocation includes \$107 million Federal grants to States.

1209. A programme for development and feeder roads will be implemented to meet the requirements of new land development in Tawau, Sandakan and Kudat Residencies in Sabah and in the First, Second and Fourth Divisions in Sarawak as well as to provide better access to isolated villages. These programmes form part of the effort to eradicate poverty and to improve living conditions in the rural areas.



1210. The allocations for road development in Sabah and Sarawak are shown in Table 20-5 below:

TABLE 20-5  
SABAH AND SARAWAK: PUBLIC DEVELOPMENT  
EXPENDITURE FOR ROAD PROGRAMMES, 1976-80  
(\$ million)

	<i>Sabah</i>	<i>Sarawak</i>	<i>Total</i>
Trunk roads ... ..	135.0	115.4	250.4
Development and feeder roads ... ..	46.6	68.8	115.4
Urban road improvement ... ..	12.0	13.5	25.5
Highway maintenance programme ... ..	15.0	—	15.0
Plant and equipment ... ..	41.1	40.0	81.1
Others ... ..	0.3	12.3	12.6
TOTAL ...	250.0	250.0	500.0

#### Highway maintenance programme

1211. While there are regular surfacing and routine preventive maintenance programmes carried out in respect of Federal and State roads, such programmes have not been systematically organized. Whilst the findings and recommendations of the Highway Maintenance Study are being reviewed for the purpose of drawing up a comprehensive road rehabilitation and investment programme, a pilot project will be carried out in Kelantan, Johor, Perak and Sabah. A provision of \$45 million is provided under the Plan for this purpose.

#### Railways

1212. Under the Plan, the programmes of the Malayan Railway will be expanded as part of the effort to modernize and improve the system. These programmes will be implemented with a view to strengthening the role of the Railway in the national transportation system. Over the Plan period, passenger revenue is projected to increase by 27.6% from \$34.8 million in 1975 to \$44.4 million in 1980 and freight revenue by 44.9% from \$44.1 million in 1975 to \$63.9 million in 1980. It is also estimated that the Railway will carry 7.8 million passengers by 1980, an increase of 2.3% per annum over the Plan period.

1213. In order to improve the quality of passenger service and reduce operating costs, about 40% of the Railway's passenger coaches will be replaced with 34 air-conditioned luxury-class coaches and 53 non-air-conditioned economy class coaches during the Plan period. Seating accommodation will be such that it will be suitable for day and night travel.

With the introduction of these coaches, the Railway will provide two types of passenger service, *i.e.* economy and luxury. To ensure efficient service and encourage greater use of the Railway by the travelling public, passenger terminal facilities at major stations will either be rebuilt or renovated.

1214. It is also envisaged that during the TMP period significant increases in freight traffic will occur especially for such commodities as aviation fuel, palm oil, latex, livestock and marine and domestic containers. Ton-miles are also expected to increase by about 80% from 523 million in 1975 to 941 million in 1980. In order to handle the increased traffic, the Railway will purchase 341 bogie oil tanks; 117 latex tanks; 139 hopper wagons; 122 palm oil tanks; 100 container flats; 50 cattle wagons and 150 bogie underframes during the Plan period.

1215. The improvement of the permanent way is an essential element in the development programme of the Railway in order to meet its service objectives. Following the study on permanent way improvement carried out in 1974, a number of investment programmes will be implemented including track renewal, mechanization of track maintenance, flattening of sharp curves, strengthening of track formation, improvement of fastenings, increasing the number of sleepers per mile and supplying ballast under the sleepers. The improvement programmes also cater for investment in essential civil engineering plant and machinery. These programmes will enable the Railway to carry heavier and more intense traffic, reduce the incidence of derailments and increase operating speeds.

1216. A survey of railway bridges is now in progress, the objective of which is to ensure that they are structurally sound for present traffic conditions as well as to determine their capacity for increased load conditions. A realistic bridge renewal programme will also be formulated for implementation in stages.

1217. The present signalling and telecommunications systems are inadequate for operation of heavy-density traffic and for fast movement of trains. To meet these requirements, the signalling and telecommunications systems will be modernized or upgraded, where applicable, through the introduction of a tokenless block system and UHF/VHF radio links. The implementation of these systems will benefit the Railway in terms of operating efficiency and safety.

1218. In order to improve the housing and living conditions of Railway employees, particularly the lower grade staff and general labourers, present housing facilities will be upgraded. A total of 900 housing units will be built at Bukit Mertajam, Ipoh, Kuala Lumpur, Gemas and Kuala Krai.

1219. Feasibility studies for possible extension of the railway network will also be undertaken. These include the links between Kuala Lumpur, Kuantan, Kuala Trengganu and Kota Bharu as well as between Ipoh and Lumut.

1220. To meet the above requirements, an allocation of \$200 million is made under the Plan, as shown in Table 20-6 below.

TABLE 20-6

PENINSULAR MALAYSIA: PUBLIC DEVELOPMENT  
EXPENDITURE FOR RAILWAY PROGRAMMES, 1976-80

(\$ million)

Passenger coaches and facilities	...	...	...	...	...	54.0
Track renewals	...	...	...	...	...	25.0
Rehabilitation programme	...	...	...	...	...	21.1
Purchase of diesel mainline locomotives	...	...	...	...	...	16.0
Signalling and telecommunications	...	...	...	...	...	15.0
Hopper ballast wagons	...	...	...	...	...	3.4
Diesel shunting locomotives	...	...	...	...	...	10.0
Johor port rail link	...	...	...	...	...	10.0
Capital spares for locomotives and diesel railcars	...	...	...	...	...	10.0
Realignment of Port Dickson branch	...	...	...	...	...	11.5
Track maintenance	...	...	...	...	...	5.0
Wagon construction	...	...	...	...	...	5.0
Others	...	...	...	...	...	14.0
					TOTAL	200.0

In addition, plans are underway to modernize the Sentul Workshop and to take advantage of the Railway's other assets, particularly its land, to generate new sources of revenue.

**Port, shipping and marine services**

1221. The programmes for port expansion will be accelerated during the Plan period to handle the increasing volume of imports and exports resulting from the rapid economic growth in Malaysia. In 1975, about 90% of the total volume of international trade of Peninsular Malaysia was handled through the two major ports of Klang and Penang. The commissioning of the two new ports at Johor Bahru and Kuantan in 1977 and 1978 respectively, will further increase the share of Peninsular Malaysia's international trade through Malaysian ports. The combined handling capacity of the major Peninsular Malaysia ports will be almost doubled from 6.8 million tons in 1975 to 11.4 million tons in 1980.

1222. The Penang Port Commission will continue to increase its capacity and efficiency through the provision of additional berth capacities and modern shipping and cargo handling facilities. The expansion programmes include the construction of a bulk cargo terminal at the Prai Industrial Estate, a vegetable oil tanker pier, construction of sixth berth-cum-container terminal and expansion of the lighter fleet. These programmes will provide sufficient capacity to meet throughput requirements up to 1985.

1223. The Klang Port Authority will complete the construction of an additional 3,500 ft. of general cargo-cum-container wharves and other supporting facilities in 1977. These expansion programmes will increase the total handling capacity of the port by 900,000 tons.

1224. The Johor port is designed as a specialized port to handle bulk liquid and dry cargo. The facilities originally planned include an oil jetty and back-up tank farms, one coaster wharf and two ocean wharves for dry cargo. However, with the rapid rate of development in the hinterland, including the establishment of a new industrial estate at Pasir Gudang, two additional dry cargo berths and an additional general purpose berth will be constructed during the TMP.

1225. The Kuantan port, when completed, will have three general cargo berths, one multi-purpose berth, one mineral oil jetty, a twin-dolphin berth for palm oil tankers and ship repair facilities. The main hinterland areas that will be served by the port include the State of Trengganu, the districts of Kuantan, Pekan and Jerantut and the northern part of the Pahang Tenggara development area. It is estimated that upon commissioning in 1978 the port will handle a throughput of 1.2 million tons and this will steadily increase to 1.6 million tons by 1980.

1226. To facilitate coastal trade and fishing and encourage small-scale industrial development, a number of jetties in towns along coastal areas including Malacca, Kuala Trengganu and Lumut will be constructed.

1227. In *Sabah*, the new port facilities at Kota Kinabalu and Sandakan will be commissioned in 1977. The Sabah Ports Authority has also initiated a 20-year development Masterplan study for all ports in the State. Detailed engineering design for expansion of Tawau port is now in progress.

1228. In *Sarawak*, an additional 700 feet of wharf will be constructed opposite the existing port at Pending Point, Kuching. This expansion will be sufficient to meet demands up to 1988. A new deep-water port will be developed at Tanjung Kidurong to support the agricultural and industrial development in the Fourth Division as well as oil and natural gas exports. The new port will be managed by the newly established North Sarawak Port Authority. Riverine and coastal transport will continue to play an important role in the economy of Sarawak. Minor wharfage facilities in outlying areas will therefore be provided under the Plan to meet the transport requirements of these isolated communities.

1229. Under the Plan, the corporate strategy and objectives of MISC are:—

- (i) to continue to expand and diversify its fleet so as to achieve a target of over 1,000,000 tons by 1980; and
- (ii) to meet the policy objectives of the Malaysian Government with respect to:—
  - (a) making Malaysia a maritime nation;

- (b) reducing the country's dependence on foreign ships by increasing the level of participation in Malaysian international and coastal shipping businesses;
- (c) shipping commitments in bilateral, regional and other trade agreements; and
- (d) training and development of Malaysians in technical, professional and commercial aspects of shipping business, especially in regard to the Malaysianization of floating staff and support to higher education institutions.

1230. In order to increase its level of participation in international and coastal shipping, a diversified fleet of vessels is being placed on order. During the Plan period, a total of 19 new vessels is scheduled to join the MISC current fleet of 20, thus increasing the total tonnage by another 500,000 tons by 1980. The new vessels consist of nine bulk carriers, five LNG tankers and five coastal vessels. Projects in the pipeline include the purchase of additional parcel tankers and container ships for the liner trade.

1231. Expansion and diversification of fleet will continue to become an important corporate feature of MISC as part of its strategy and planning to raise its level of participation in international shipping based on UNCTAD code of 40:40:20.

1232. In its coastal shipping sector, the objective of MISC is to modernize the shipping services so that more efficient and reliable services can be provided to meet the needs of shippers.

1233. To meet the needs of trained staff, MISC has also established a Maritime Training Centre in Malacca. It is envisaged that 1,000 seamen would be required to man the MISC vessels alone by 1980. The Training Centre will also provide intensive practical management courses for MISC executives relevant to their specific functions and needs for career development.

1234. In addition, scholarships will be offered to students who are now studying abroad or who are about to go abroad to pursue courses principally in marine engineering and naval architecture. An intensive effort will also be made to locate and recruit experienced Malaysian technical and operating staff *e.g.* chief engineers, second officers who are now serving on foreign liners to serve with the Corporation thereby relieving the need to employ expatriates in this category of staff. Training of officers on board the vessel will also continue to be part of the Corporation's effort to ensure that experienced Malaysian staff is available to man the ships.

1235. The Merchant Shipping Act of Peninsular Malaysia, Sabah and Sarawak has been reviewed and a new Merchant Shipping Act applicable to the whole of Malaysia is being drafted. The objective of the new Act is to promote greater participation in coastal trade by Malaysian ships and greater local equity participation in the shipping industry.

### **Civil aviation and air transport**

1236. The rapid growth in air traffic, both passenger and freight, is a testimony to the strength of the Malaysian economy. Airport facilities throughout the country will be expanded, improved and upgraded to meet the projected growth in traffic as well as to ensure the safety of airline operators and passengers.

1237. In *Peninsular Malaysia*, the expansion of airports and aviation facilities at Penang, Kuala Lumpur and Kota Bharu will be completed. Both Kuala Lumpur and Penang international airports are being upgraded and improved with modern facilities to cater largely for the operation of wide-bodied jet aircraft in anticipation of a large inflow of tourist traffic from abroad. Improvements to terminal facilities as well as to aeronautical and commercial operation facilities at Kuala Lumpur and Penang are designed to handle a peak-hour traffic of 2,600 and 1,000 passengers respectively.

1238. Pending the completion of a Masterplan study for Kuantan airport, an expansion programme is now in progress to cater for both the requirements of civil as well as military aircraft. Plans are also being prepared to expand the Kuala Trengganu aerodrome to cater for medium-range jet aircraft operations. The location of the Ipoh aerodrome is too restrictive for future requirements and as such a token provision has been made for the identification of a new site under the Plan.

1239. In line with the rapid growth in air freight traffic, a feasibility study will be undertaken to make the new Johor airport at Senai an air cargo centre for Malaysia and the region. The study will also examine the viability of making the airport facilities interface with other modes of transport, especially the railway.

1240. Provision has also been made for implementing some new STOL airstrips in Pulau Langkawi, Pulau Tioman, Dungun, Taiping, Segamat and Jerantut. These airstrips will cater for both civil and military needs.

1241. Under the Plan, a total allocation of \$118.4 million has been made for Peninsular Malaysia.

1242. In *Sabah*, the objective is to improve existing facilities and provide new ones, where necessary, to ensure safe and efficient air transport. The network will be upgraded and developed within the context of promoting and enhancing social, cultural and economic links between Sabah and other States of Malaysia. Under the Plan, the development of Kota Kinabalu airport as an international and regional airport will be completed. It is envisaged that the new facilities will be able to meet traffic requirements up to 1985. Passenger traffic in 1975 was 458,000 and this traffic will increase by 5.5% per annum to reach 600,000 in 1980.

1243. Towards the latter part of the Plan period, a Masterplan study for a new airport in Tawau will also be undertaken in order to meet projected traffic growth. This will be carried out within the context of the physical expansion plan for the town itself.

1244. New rural aerodromes will also be built in order to serve isolated communities in Sabah. These projects will be implemented in such a way that maximum cost effectiveness and utilization of the facilities are achieved. To meet the programme requirements under the Plan, a total allocation of \$46.7 million has been provided for Sabah.

1245. In *Sarawak*, the expansion of Kuching airport is in progress. The runway is being extended to 8,000 feet while a new terminal complex will be built. The project is scheduled to be completed in 1978 and will handle over 400,000 passengers by 1980.

1246. The expansion of Miri airport is to cater for medium-range jet aircraft. The runway is being extended to 6,500 feet. Other facilities to be provided include aircraft parking apron and taxiways and navigational aids and communications equipment. The project is scheduled for completion in 1979 and will be able to handle traffic volume of around 400,000-450,000 by 1980. The improvements to Miri airport are essential in view of rapid agricultural and industrial development within the Miri/Bintulu region. In view of the physical constraints faced by expanding the existing Sibul airport, a new airport will be constructed about ten miles from Sibul town to meet the requirements of medium-range jet aircraft under the Plan.

1247. Other new airport projects which are being planned include Bintulu, Limbang and several rural aerodromes. The latter are to cater for the needs of isolated rural communities in the interior of Sarawak while Limbang aerodrome is to provide an air transport link with Kuching, the State capital. The allocation for civil aviation in Sarawak amounts to \$45.9 million under the Plan.

1248. MAS will continue its expansion programme under the TMP. It will take delivery of one DC-10 aircraft in August, 1976 and a second in September 1977. The DC-10 services are planned to be introduced initially to Hong Kong, Taipei and Tokyo and later to London, Sydney and Melbourne. Two additional wide-bodied aircraft and six B737 aircraft will also be acquired by 1980/81. By the end of the TMP period, MAS plans to extend its international services to cover Jeddah, Frankfurt, Rome, Amsterdam, Osaka, Seoul, Colombo and Perth.

### **Updating of the General Transport Survey**

1249. The transport development programmes under the SMP was largely based on the findings and recommendations of the GTS carried out in 1967. Since then there have been substantial changes in the overall transport situation in the country following the rapid rate of land development and the growth of new centres of economic activity. Some of the major changes that have direct consequences on the overall transport demand pattern include the opening of new regional development areas and growth centres and the construction of the Johor and Kuantan ports. These changes have brought about considerable impact on the various modes of transport, particularly the railway.

1250. In the light of these developments and recent increases in fuel prices, the GTS carried out in 1967 will be revised and updated. The review will focus on the present and projected development for all sectors of the economy and their consequences on the demand for transport investment and policies for the next 15 years. The review and updating will give special attention to the role of the Malayan Railway in the overall transport system.

### **Telecommunications**

1251. The telecommunications programmes under the Plan are geared to meet projected demands by industrial, commercial and housing developments. Major programmes to be undertaken during the Plan period include:—

- (i) installation of new crossbar and electronic telephone exchanges, supplemented by mobile exchanges to overcome short-term delays;
- (ii) installation of microwave, VHF, UHF, coaxial and pulse code modulation (PCM) systems;
- (iii) laying of a submarine cable system between Peninsular Malaysia, Sabah and Sarawak;
- (iv) expansion of the telex networks;
- (v) establishment of a public data switching network to cater for organizations using computers or modern electric business machines;
- (vi) construction of a second satellite communications earth station at Kuantan for operation with the Pacific Ocean Satellite; and
- (vii) expansion of the telecommunications network of the countries of the Association of Southeast Asian Nations (ASEAN).

1252. By the end of the TMP period, the national telephone system plan, which started in 1965, will be completed through the installation of new crossbar automatic trunk exchanges as well as the use of electronic switching exchanges at all major telephone exchanges.



1253. To progressively reduce the number of deferred applications for telephones, 396,000 new exchange lines will be installed during the Plan period. The regional distribution of these new lines is shown in Table 20-7 below.

TABLE 20-7

MALAYSIA: NUMBER OF ADDITIONAL EXCHANGE LINES,  
1976-80

<i>Peninsular Malaysia</i>								<i>Unit</i>
North	...	...	...	...	...	...	...	100,200
Central	...	...	...	...	...	...	...	150,690
South	...	...	...	...	...	...	...	49,600
East	...	...	...	...	...	...	...	34,200
<i>Sabah</i>	...	...	...	...	...	...	...	29,300
<i>Sarawak</i>	...	...	...	...	...	...	...	32,010
<b>TOTAL</b>								<b>396,000</b>

1254. To meet the demand for telephone services, the *subscribers' network* will also be expanded. Over the Plan period, a total of 452,600 cable pairs, to be used mainly for telephone and telegraph services, will be installed in the various regions of the country as shown in Table 20-8.

TABLE 20-8

MALAYSIA: SUBSCRIBERS' NETWORK, 1976-80

<i>Peninsular Malaysia</i>								<i>Unit</i>
North	...	...	...	...	...	...	...	77,400
Central	...	...	...	...	...	...	...	241,280
South	...	...	...	...	...	...	...	46,000
East	...	...	...	...	...	...	...	34,920
<i>Sabah</i>	...	...	...	...	...	...	...	25,000
<i>Sarawak</i>	...	...	...	...	...	...	...	28,000
<b>TOTAL</b>								<b>452,600</b>

1255. The extension of the subscribers' network will be phased in with the telephone/telegraph/telex/data expansion programme. Over the Plan period, the demand for computerized telex services is expected to grow by 30%-50% per annum. To meet this demand, additional telex and data facilities will be provided particularly for the industrial and commercial sectors. The completion of these programmes will increase the number of subscribers by 149,439, thereby satisfying 42.9% of total demand.

1256. The programme for the *trunk and junction network* will also be expanded under the Plan. It is estimated that total circuit requirements will increase by 15%-20% per annum over the five-year period. In meeting these requirements, the STD system will be expanded throughout the country. This involves the extension of PCM systems, coaxial cable systems, microwave radio systems, as well as aerial and underground cables and overhead carrier systems. More junction links will also be constructed in order to extend telecommunications services to rural areas, new townships and other growth centres.

1257. Existing overseas communication links will be expanded in line with the growing cultural, diplomatic and economic ties between Malaysia and the outside world. Under the Plan, 160 satellite earth circuits, covering 18 countries, will be established. The main projects to be implemented under this programme are:—

- (i) a second satellite earth station at Kuantan beamed towards the Pacific Ocean and expansion of the existing earth station at Kuantan;
- (ii) the laying of an intra-Malaysia sub-marine cable between Peninsular Malaysia, Sabah and Sarawak;
- (iii) expansion of the microwave link and multiplex equipment at the Kuantan earth station; and
- (iv) participation in the telecommunications network of ASEAN.

1258. To meet the financial requirements of the above projects/programmes, an allocation of \$1.1 billion has been made under the Plan as shown in Table 20-9.

TABLE 20-9

MALAYSIA: PUBLIC DEVELOPMENT EXPENDITURE FOR  
TELECOMMUNICATIONS PROGRAMMES, 1976-80  
(\$ million)

	<i>Peninsular Malaysia</i>	<i>Sabah</i>	<i>Sarawak</i>	<i>Total</i>
Switching ... ..	348.47	26.55	29.80	404.82
Subscribers' network ... ..	293.02	19.86	11.81	324.69
Trunk and junction network ... ..	204.41	14.20	20.40	239.01
External services ... ..	44.10	—	—	44.10
Telex and telegraph ... ..	37.40	—	—	37.40
Training ... ..	5.00	—	—	5.00
Others ... ..	24.99	—	—	24.99
<b>TOTAL ...</b>	<b>957.39</b>	<b>60.61</b>	<b>62.01</b>	<b>1,080.01</b>

### **Postal services**

1259. Under the Plan, the Postal Department's expansion programme will be guided by the objective of providing every town with a population of 3,000 and above with complete post office facilities, a postal agency for all areas with a population of 1,000 and above and mobile post offices for outlying areas and land development schemes. To support the expansion programme, a training institute to train all grades of personnel will be established in Kuala Lumpur. A new Postal Headquarters building will also be constructed in Kuala Lumpur. Other General Post Offices which will be constructed include Kota Bharu, Ipoh, Kuantan, Sandakan and Kuching. An allocation of \$36 million has been provided under the Plan.

### **Meteorological services**

1260. The Meteorological Department will continue to upgrade the quality of meteorological services in particular those related to the needs of civil aviation, agriculture, research and education. Priority will be given to the establishment of a network of agro-meteorological stations in the country to provide adequate meteorological support for proper agricultural planning. In 1976, with the assumption of control of the Flight Information Region over Malaysian air space, a strengthened meteorological support service will be required. Two more storm warning radar systems will be established in Penang and Kluang thus completing the network over Peninsular Malaysia. A storm warning system will be constructed in Kota Kinabalu and Kuching. In addition, the present flood warning and weather forecasting system will be upgraded.

### **Broadcasting**

1261. Radio and Television Malaysia will continue to extend the coverage of its services particularly to smaller towns with the provision of local and regional broadcasting and recording studios. The major programmes under the Plan include the introduction of Colour TV and the provision of regional studios at Kuala Lipis, Kuantan, Alor Star, Bintulu, Kapit, Sarikei, Sandakan and Tawau. A new TV transmitting station will also be constructed at Tenom.

## **IV. FINANCING OF TRANSPORT AND COMMUNICATIONS PROGRAMMES**

1262. In view of the relatively high foreign exchange content of major transport and communications projects, funds from external sources such as the World Bank, the Asian Development Bank and the bilateral aid programmes will continue to be utilized to finance these projects. Under the TMP, it is estimated that external financing will meet as much as 40% of the transport and communications development programmes.

1263. Table 20-10 sets out the allocations for transport and communications development programmes under the Plan.

TABLE 20-10

MALAYSIA: PUBLIC DEVELOPMENT FOR TRANSPORT  
AND COMMUNICATIONS PROGRAMMES, 1976-80

(\$ million)

	<i>Peninsular Malaysia</i>	<i>Sabah</i>	<i>Sarawak</i>	<i>Total</i>
<i>Transport</i> .. .. .	2,071.3	351.8	395.9	2,819.0
Road <sup>4</sup> .. .. .	1,277.7	250.0	250.0	1,777.7
Railways .. .. .	200.0	—	—	200.0
Ports <sup>5</sup> .. .. .	475.2	55.1	100.0	630.3
Civil aviation .. .. .	118.4	46.7	45.9	211.0
<i>Communications</i> .. .. .	1,051.2	65.0	75.8	1,192.0
Telecommunications .. .. .	957.4	60.6	62.0	1,080.0
Postal services .. .. .	30.8	0.9	4.3	36.0
Broadcasting .. .. .	56.4	2.7	8.4	67.5
Meteorological services .. .. .	6.6	0.8	1.1	8.5
<b>TOTAL</b> ..	<b>3,122.5</b>	<b>416.8</b>	<b>471.7</b>	<b>4,011.0</b>

<sup>4</sup> Including PWD plant and equipment.

<sup>5</sup> Including marine services.