

Chapter XVI
Transport and Communications

CHAPTER XVI

Transport and Communications

I. INTRODUCTION

Transport and communications are integral elements in the development process. Adequate and efficient transport and communications infrastructure facilitates the movement of resources between centres of production and consumption. The contribution of transport, storage, and communications to the Gross Domestic Product (GDP) was 6.0 per cent in 1985.

The various modes of transport and communications were expanded and upgraded during the Fourth Malaysia Plan period to support the expansion of the economy. During the Fifth Malaysia Plan period, the thrust of the transport and communications sector will be on the completion of ongoing programmes and projects necessary for the overall socio-economic development of the country.

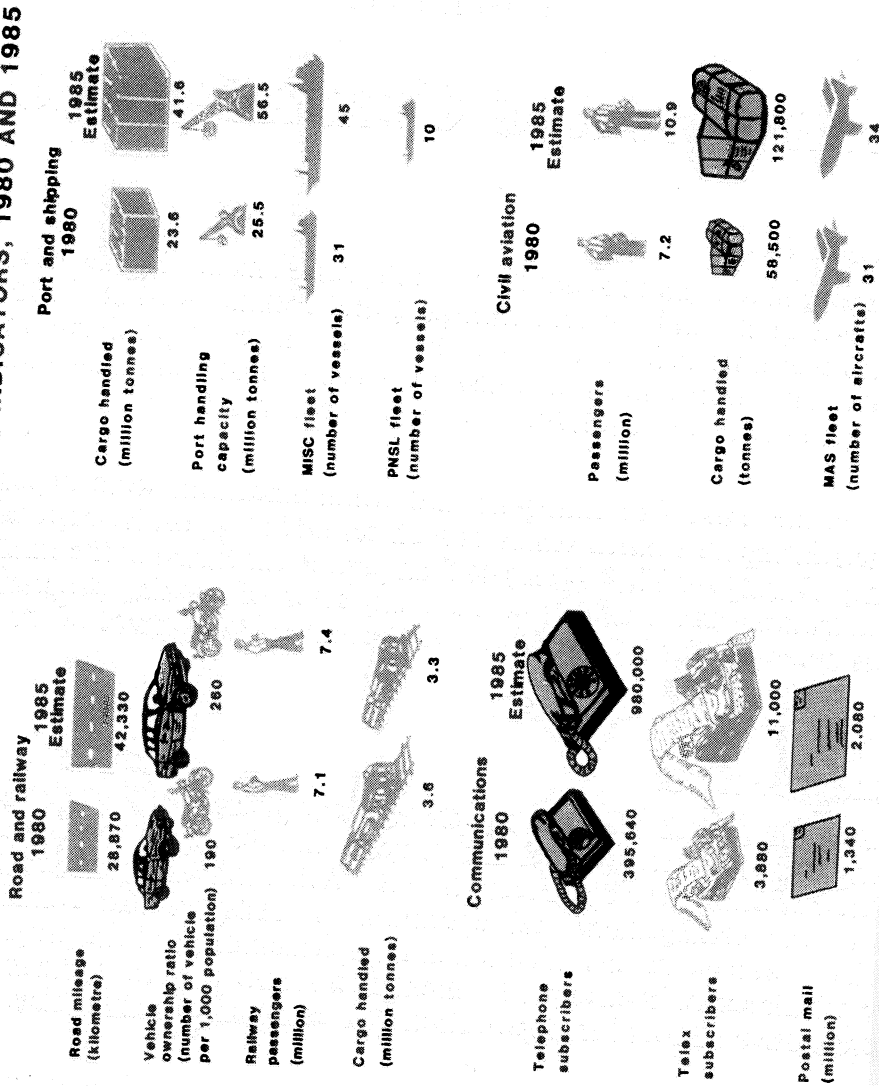
II. PROGRESS, 1981-85

During the Fourth Plan period, priority was given to the implementation of ongoing transport programmes and projects and the expansion of the domestic and international telecommunications links. Attention was given to the improvement of the management and operation of transport and communications facilities as well as the identification and implementation of the programmes for active private sector involvement. Emphasis was also given to the formulation of a comprehensive national transportation and communications policy.

The various modes of transport are road, rail, air, and maritime transport including inland waterways. The rapid expansion of the economy gave rise to pressures and strains on the transport system and in order to keep pace with the demand, the capacity of the various modes was increased. Satisfactory progress was achieved in the implementation of the various programmes and projects in the transport and communications sector. Chart 16-1 gives the major transport and communications indicators.

MALAYSIA: TRANSPORT AND COMMUNICATIONS INDICATORS, 1980 AND 1985

CHART 16-1



Road transport

The major policy objectives and strategies in the road transport subsector during the Fourth Plan period were geared not only to the improvement of the physical infrastructure but also to the institutional and management aspects of the subsector. This included the involvement of the private sector in the provision and management of road transport facilities and services. With regard to public transportation, emphasis was on the continuing improvement of the public transport services, particularly in the metropolitan areas, in order to reduce traffic congestion and pollution caused by the greater use of private transport for commuting purposes. Equal emphasis was given to the maintenance of the infrastructural facilities.

During the Fourth Plan period, the total road network increased at 7.9 per cent per annum from 28,870 kilometres in 1980 to 42,330 kilometres in 1985 comprising 9,180 kilometres of federal, 29,560 kilometres of state, and 3,600 kilometres of municipal roads. Road distribution by type and jurisdiction is shown in Table 16-1.

Paved roads under federal jurisdiction form the national network of highways, while a substantial part of paved roads under state jurisdiction constitutes the local network of trunk roads. The gravel and earth roads constitute the feeder and access roads and generally forming a part of the rural road network system. The distribution of roads in the various states in 1985 by surface type and jurisdiction, as shown in Table 16-2, indicated that the States of Johor, Melaka, Negeri Sembilan, Pahang, Perak, Perlis, Pulau Pinang, and the Federal Territories of Kuala Lumpur and Labuan had high percentages of paved roads. The overall annual rate of growth of the road network during the Fourth Plan period was 7.9 per cent, as shown in Table 16-3.

TABLE 16-1

**MALAYSIA: ROAD DISTRIBUTION BY TYPE AND JURISDICTION,
1980 AND 1985
(kilometres)**

<i>Surface type</i>	<i>Federal road</i>		<i>State road</i>		<i>Municipal road</i>		<i>Total</i>	
	<i>1980</i>	<i>1985</i>	<i>1980</i>	<i>1985</i>	<i>1980</i>	<i>1985</i>	<i>1980</i>	<i>1985</i>
Paved	4,940	7,060	15,550	17,390	- ¹	3,595	20,490	28,045
Gravel	760	1,820	5,300	11,210	-	-	6,060	13,030
Earth	520	295	1,800	960	-	-	2,320	1,255
Total	6,220	9,175	22,650	29,560	-	3,595	28,870	42,339

Source: Highway Planning Unit, Ministry of Works.

Note :

¹ The figure is included under state road.

TABLE 16-2

MALAYSIA: KILOMETRES OF ROAD BY SURFACE TYPE AND JURISDICTION, 1985
(kilometres)

State	Federal jurisdiction				State jurisdiction				Municipal (paved)	Total kilometres of road ²	% of paved road	Total kilometres of paved road	% of paved road
	Paved	Gravel	Earth	Total	Paved	Gravel	Earth	Total					
Johor	1,235	450	70	1,755	2,195	245	35	2,475	180	4,410	10.4	3,610	81.9
Kedah	310	65	5	380	1,915	880	35	2,830	20	3,230	7.6	2,245	69.5
Kelantan	615	105	20	740	755	520	65	1,340	45	2,125	5.0	1,415	66.6
Melaka	120	-	-	120	760	40	-	800	60	980	2.3	940	95.9
Negeri Sembilan	645	375	-	1,020	950	230	-	1,180	240	2,440	5.8	1,835	75.2
Pahang	1,920	820	100	2,840	1,090	420	120	1,630	-	4,470	10.5	3,010	67.3
Perak	745	-	20	765	1,880	110	100	2,090	600	3,455	8.2	3,225	93.3
Perlis	90	-	-	90	345	50	-	395	-	485	1.1	435	89.7
Pulau Pinang	125	-	-	125	865	65	70	1,000	200	1,325	3.1	1,190	89.8
Sabah	-	-	-	-	2,290	4,880	160	7,330	225	7,555	17.8	2,515	33.3
Sarawak	-	-	-	-	1,050	2,980	150	4,180	440	4,620	10.9	1,490	32.3
Selangor	680	-	-	680	2,055	750	35	2,840	780	4,300	10.1	3,515	81.7
Terengganu	575	5	80	660	1,240	40	190	1,470	-	2,130	5.0	1,815	85.2
Federal Territories ¹	-	-	-	-	-	-	-	-	805	805	1.9	805	100.0
Malaysia	7,060	1,820	295	9,175	17,390	11,210	960	29,560	3,595	42,330	100.0	28,050	66.3

Source: Highway Planning Unit, Ministry of Works.

Notes:

¹ Figures are rounded up to the nearest kilometre.² Encompassing Kuala Lumpur and Labuan.

TABLE 16-3
MALAYSIA: LENGTH AND DENSITY OF ROAD, 1985
(kilometres)

State	Length of road ²		Average annual growth rate, 1981-85 (%)	Road network density per sq. km. of land area	Road length per capita (km./1,000 population)
	1980	1985			
Johor	3,290	4,410	6.0	0.23	2.38
Kedah	2,440	3,230	5.7	0.34	2.67
Kelantan	1,190	2,125	12.3	0.14	2.02
Melaka	830	980	3.4	0.59	1.99
Negeri Sembilan	1,600	2,440	8.8	0.37	3.90
Pahang	3,810	4,470	3.2	0.12	4.45
Perak	2,750	3,455	4.7	0.16	1.79
Perlis	435	485	2.2	0.61	2.94
Pulau Pinang	950	1,325	6.9	1.28	1.26
Sabah	4,560	7,555	10.6	0.10	5.90
Sarawak	1,725	4,620	21.8	0.04	2.99
Selangor	2,850	4,300	8.6	0.54	2.34
Terengganu	1,770	2,130	3.8	0.16	3.19
Federal Territories ¹	670	805	3.7	3.30	0.70
Malaysia	28,870	42,330	7.9	0.13	2.68

Source: Highway Planning Unit, Ministry of Works.

Notes :

¹ Encompassing Kuala Lumpur and Labuan.

² Figures are rounded up to the nearest kilometre.

The number of registered motor vehicles increased at 9.1 per cent per annum from 2.6 million in 1980 to 4.0 million in 1985, as shown in Table 16-4. The total number of private motor cars increased by 8.8 per cent per annum from 843,300 in 1980 to 1,285,600 in 1985, registering a motor car ownership ratio of 81.6 vehicles per thousand population in 1985.

Major road programmes undertaken included trunk road improvements, interurban highways, and development roads. In Peninsular Malaysia, major projects completed included the East-West Highway joining Jeli in Kelantan and Grik in Perak, the Kuantan-Segamat Highway, the Kuala Krai-Gua Musang Highway, and the Kuala Lumpur-Petaling Jaya Traffic Dispersal Scheme. In addition, the highway rehabilitation programme, covering the Federal Route I in Johor and Perak and Federal Route III in Terengganu and Kelantan, was completed while that in Pahang covering Federal Route II and Route III was still under implementation.

The interurban toll highway projects, linking Bukit Kayu Hitam in the north and Johor Bahru in the south, together with the Penang Bridge, the New Klang

Valley Expressway, and the Kuala Lumpur-Karak Highway, were in various stages of implementation. Only the Bukit Kayu Hitam-Jitra and the 13.5 kilometre Penang Bridge project segments were completed during the Fourth Plan period.

In Sabah, the trunk highway projects, linking Tamparuli with Ranau, Semporna with Lahad Datu, and Papar with Sindumin, were completed. Other projects implemented during the second half of the Fourth Plan period included the Lahad Datu-Sandakan Road, the Sandakan-Telupid Road as well as a number of agricultural access roads serving agricultural development areas. About 90 kilometres of the trunk highway were bitumen-surfaced, while 95 kilometres constructed up to gravel standard. In addition, a total of 104 kilometres of roads was rehabilitated.

In Sarawak, the construction and completion of the stretch of road, located on the Ulu Batang Mukah-Bintulu section of the First Trunk Road System, provided a land transportation link between Kuching and Miri. Other works undertaken during the Fourth Plan period included the upgrading and bitumen surfacing of Ulu Oya Road, Kuching-Sibu Road, Miri-Bintulu Road, and the improvement of certain sections of the Bau-Lundu Road. The upgrading and improvement of the various project segments of the Pan-Borneo Highway, comprising the Lutong-Brunei Border Road, the Limbang-Brunei Border Road, the Lawas-Merapok Sindumin Road, and the Lawas-Temburong Road, were also undertaken. In addition, preliminary works on the construction of a bridge across Sungai Pendaruan, which forms a common border between Sarawak and Brunei, were

TABLE 16-4
MALAYSIA: REGISTRATION OF MOTOR VEHICLES,
1980 AND 1985
(number)

<i>Type of vehicles</i>	<i>1980</i>	<i>1985</i>	<i>Average annual growth rate 1981-1985, (%)</i>
Bus	14,970	19,290	5.2
Taxi and hired car	18,755	26,600	7.2
Lorry and van	189,865	272,830	7.5
Private car	843,280	1,285,620	8.8
Motorcycle	1,449,230	2,279,750	9.5
Others	82,580	126,340	8.9
Total	2,598,680	4,010,430	9.1

Source: Road Transport Department.

also carried out. By the end of the Fourth Plan period, about 30 per cent or 290 kilometres of a total of about 990 kilometres of the First Trunk Road System were bitumen-surfaced.

A study to review the road network of both Sabah and Sarawak was commissioned in 1985. The study, among others, would identify constraints on the optimal operation of road transport as well as to establish priorities for the expansion and improvement of the trunk and feeder road transport networks, particularly in Sarawak.

In pursuance of the basic objective of providing adequate access to rural areas and improving intrastate road transportation network, about 2,350 kilometres of rural roads, including security roads, were constructed and improved. This represented an achievement of 85 per cent of the Fourth Plan target of 2,770 kilometres. About 5,300 kilometres of the existing village roads were upgraded to bitumen-surfaced standard.

Measures undertaken to improve the public transport services in Kuala Lumpur and its conurbation included the development of a rapid transit system comprising the cable-suspended aerobus and the light rail transit (LRT) projects. Preliminary works including line survey and soil investigations on both projects were completed.

With respect to the privatization of road projects, an agreement was entered into between the Government and a private company in 1984 allowing the company to reconstruct, maintain, and collect tolls on the 15 kilometre North Klang Straits Bypass. A similar agreement was also reached with another private company to construct, maintain, and collect tolls on the grade-separated interchanges on the existing Jalan Kepong-Jalan Kuching-Jalan Batu Roundabout. The North Kelang Straits Bypass was privatized, while the interchanges at Jalan Kepong-Jalan Kuching-Jalan Batu Roundabout were under construction. Other road projects identified for private sector participation included the widening to six lanes of the four-lane Federal Highway from Subang Jaya to Klang and the construction of the 41 kilometre New Klang Valley Expressway.

In terms of strengthening the administrative and management aspects of the road transport, measures undertaken included the review and updating of the Road Traffic Ordinance of 1958, improvement in the system regarding the issuance of driving licences, and the introduction of the demerit point system aimed at inculcating discipline among drivers. Steps were also taken to elevate to federal status about 1,000 kilometres of trunk roads in Sabah and about 1,200 kilometres in Sarawak.

The Road Axle Load Study was also commissioned in 1985 with the objectives of, among others, determining the extent to which the existing road pavements and bridges need to be upgraded and future facilities designed to enable them to

withstand higher loadings, arising from the introduction and usage of heavier commercial vehicles. These measures were necessary both to avoid premature damages to the road and bridge structures and to reduce environmental hazards as well as the occurrence of road traffic accidents related to the use of such heavy commercial vehicles.

Rail transport

The Malayan Railway (KTM) continued to be upgraded and modernized during the Fourth Plan period. Emphasis was directed to the upgrading of the operational safety, raising the line capacity, increasing the maximum train speeds, reducing delays in train schedules, increasing the haulage capacity, and improving the overall services provided. Projects completed by the end of the period included the renewal of 358 kilometres of tracks and rehabilitation of 23 bridges, realignment of 10 kilometres of tracks having sharp curves, improvement of all the unmanned crossing by the installation of manually manned gates, and the construction of the 32 kilometre spur line linking Kempas with the Johor Port in Pasir Gudang.

In order to improve the level of services provided to customers, new rolling stock was purchased which included 15 main line diesel locomotives, 10 diesel shunting locomotives, 50 passenger coaches, and 590 wagons. With the implementation of the rolling stock replenishment programme, KTM had 97 main line diesel locomotives, 45 diesel shunting locomotives, 295 passenger coaches, and 4,449 wagons by the end of 1985. Machinery and equipment for track maintenance and for the replenishment of the Sentul workshop were also acquired.

The volume of passenger traffic carried by KTM during the Fourth Plan period increased by 0.8 per cent per annum from 7.1 million in 1980 to 7.4 million in 1985. In terms of revenue earned, the increase was 1.3 per cent per annum from \$57.9 million in 1980 to \$61.7 million in 1985. There was, however, a decline of 1.7 per cent per annum in the volume of freight traffic from 3.6 million tonnes in 1980 to 3.3 million tonnes in 1985. The revenue earned also decreased by 3.3 per cent per annum from \$62.7 million in 1980 to \$53.1 million in 1985. The decline in the volume of freight traffic was mainly due to the increasing competition by the road haulage operators, the capacity constraint of KTM, and the general economic slowdown.

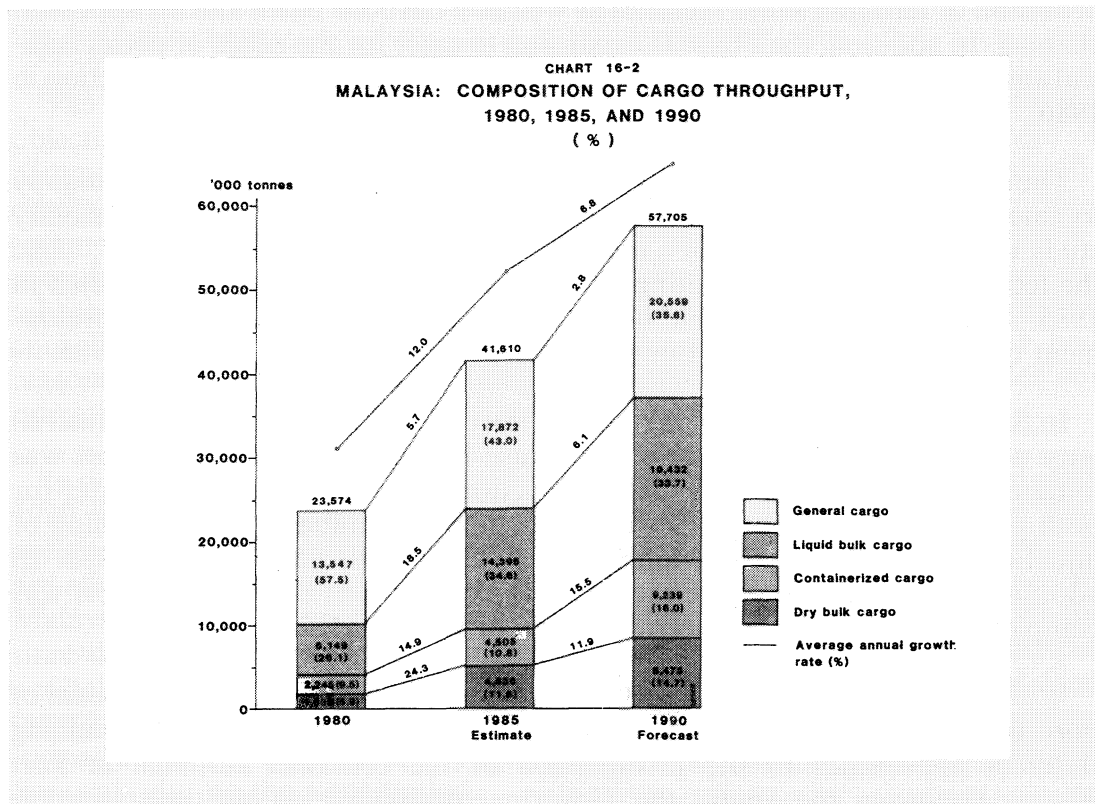
The construction of the rail link from Sungai Way to the National Oil Corporation (PETRONAS) fuel farm in Subang, Selangor was in progress. Works on the provision of a rail link and other associated facilities to the new General Post Office and the Postal Services Department Headquarters at the Dayabumi Complex in Kuala Lumpur were near completion.

Following the completion of the Railway Master Plan Study in 1983, a study on the new East-West and the West Coast railway projects was carried out and completed in 1985 with a view to determining the feasibility of the development of a standard gauge and electrified railway system.

Maritime transport

During the Fourth Plan period, the development and expansion of port facilities and related maritime services, including shipping lines, were undertaken to cope with the growth in traffic and other associated activities. Expansion of port facilities was undertaken with the primary objective of establishing an efficient and commercially-oriented system of ports, thereby enhancing the utilization of Malaysian ports for the trade. Efforts were also directed towards the expansion and modernization of shipping tonnage to enable greater participation and utilization of the Malaysian shipping lines in domestic and international trade, primarily aimed at reducing the outflow of foreign exchange in the form of freight and insurance payments. In domestic shipping, efforts were made to increase the share of the shipping tonnage registered locally and owned by Malaysians.

Ports. The total cargo tonnage handled by ports increased by 12.0 per cent per annum from 23.6 million tonnes in 1980 to 41.6 million tonnes in 1985. Chart 16-2 shows the composition of cargo throughput handled. General cargo registered a growth of 5.7 per cent per annum, liquid bulk cargo 18.5 per cent per annum, containerized cargo 14.9 per cent per annum, and dry bulk cargo 24.3 per cent per annum. The handling capacity of ports increased from 25.5 million tonnes in 1980 to 56.5 million tonnes in 1985.



Major programmes for the expansion of Port Klang included the construction of the dry and liquid bulk terminal facilities, the general cargo and dolphin wharves, and other supporting facilities. Dredging and reclamation of the South Straits of Port Klang were also completed. The Port Klang Authority took over the administration and operation of the Malacca Port from the Marine Department, effectively from July 1983, in order to streamline the administration and control of the Port. The expansion programme for Penang Port included the construction of an additional bulk cargo berth, a vegetable oil jetty, and the acquisition of equipment and ferries. Dredging of the North Channel of the Port was also undertaken. Detailed design for the construction of the container terminal in North Butterworth was also completed in 1985.

For Johor, the Phase II expansion, involving the provision of an additional multipurpose ocean berth for general cargo as well as containers and two berths for dry bulk cargo, was completed. In addition, the construction of the dangerous cargo jetty, lighterage wharf and storage facilities, and the first stage development of the Free Trade Zone comprising the customs complex, was also completed. The Kuantan Port was fully operational by 1984. The Phase I of the commercial complex at the Port, initiated in 1982, was completed in 1985. In Terengganu, the Phase I construction of the Petroleum Supply Base to meet the requirements of the petroleum exploration activities was completed in 1983, which included the provision of terminal shore facilities as well as a harbour basin and an approach channel. In addition, the Phase II expansion to cater for the needs of petrochemical and heavy industries was under construction and scheduled for completion in 1986.

The construction of the Langkawi Jetty in Kedah was completed in 1984 mainly to cater for the transportation requirements of the cement plant. A feasibility study to determine the need for a miniport in Perlis was completed in 1984, while the technical studies for the siting of a miniport in Kelantan was completed in 1985. A technical and economic study to determine the viability of the development of a miniport at Pulau Bunting in Kedah was also completed in 1985.

In Sabah, the expansion of the Tawau Port and the Sepangar Bay industrial jetty was completed, while that of the Phase I of the Kota Kinabalu Port was initiated in 1985. In Sarawak, the construction of the Bintulu Port to cater for both general and bulk cargo as well as specialized facilities for the handling of liquefied natural gas (LNG), ammonia, and urea was completed in 1982. In addition, a study to determine the Phase II expansion of the Kuching Port was completed and detailed engineering design of the project initiated.

With regard to private sector participation in the operation and management of port facilities services, a study was undertaken with a view to determining different approaches to the privatization of the container terminal at Port Klang. Following the study, the Government decided on the most feasible

approach of privatizing the container terminal at Port Klang. In addition, a number of other areas were identified for privatization. These included the dry bulk cargo and tug boat operations in Port Klang, dredging and marine services in Penang Port, container and bulk cargo terminal operations in Johor Port, and the marine services in Kuantan Port.

Shipping. In the field of shipping, a number of measures were undertaken to reduce the dependence on foreign carriers for Malaysian trade as well as the substantial payments on freight and related items. The capacity of the national lines was expanded. The Malaysian International Shipping Corporation (MISC) expanded its fleet from 31 vessels with a tonnage capacity of 817,100 deadweight tonnes (dwt) in 1980 to 45 vessels with a tonnage capacity of 1,483,900 dwt in 1985. The share of the seaborne trade of the country carried by MISC increased from 2.7 per cent in 1980 to 11.9 per cent in 1985 for containerized cargo and 2.0 per cent to 2.1 per cent for liquid bulk cargo, while there was a decline in the carriage of the dry bulk cargo from 27.4 per cent to 15.3 per cent during the same period. MISC was involved in the entire shipment of the LNG since 1983. Perbadanan Nasional Shipping Line (PNSL), a wholly-owned subsidiary of the National Corporation (PERNAS), was established in 1982. By 1985, PNSL operated a fleet of 10 vessels with a tonnage capacity of 264,900 dwt. PNSL was largely involved in the carriage of liquid bulk and dry bulk cargo. The share of the seaborne trade of the country carried by PNSL increased from 31.2 per cent in 1983 to 31.4 per cent in 1985 for liquid bulk cargo and 2.3 per cent to 11.1 per cent for dry bulk cargo.

The Malaysian National Shippers Council (MNSC), established with the objective of protecting the interests of shippers with respect to the shipment of commodities as well as the long-term improvement of shipping services, significantly increased its membership. This increase was largely from the various commodity organizations, thus representing a wider section of the exporters, manufacturers, and producers. The Freight Booking Centre (FBC) was established in 1984 as a private company with the primary objective towards the consolidation of cargo of Malaysian shippers in order to obtain fair and reasonable freight charges for Malaysian shippers by establishing greater co-operation with national shipping lines.

In domestic shipping, the Government introduced the Cabotage Policy in early 1980, to be implemented in stages. The aim of the Policy is to ensure that eventually only Malaysian-registered vessels, owned and operated by Malaysians, are allowed to operate in domestic shipping. The number of licences issued to Malaysian-registered vessels by the Domestic Shipping Licensing Board (DSLBS), since the inception of the Policy, increased from 164 in 1980 to 440 in 1985. The coastal trade between Peninsular Malaysia and Sabah and Sarawak increased from 2.4 million tonnes in 1980 to 3.6 million tonnes in 1985 which, respectively, formed about 29 per cent and 33 per cent of the total seaborne trade of Sabah and Sarawak, during the same period.

Marine, Measure were undertaken to provided adequate, efficient, and properly maintained navigational facilities to ensure the safety of navigation in Malaysian territorial waters and in areas where Malaysia has sovereign rights over natural resources. These included the purchase of additional dredgers, vessels, launches, communications equipment, and navigational aids.

Air transport

During the Fourth Plan period, the air passenger traffic increased at 8.6 per cent. per annum from 7.2 million in 1980 to 10.9 million in 1985. Domestic passenger traffic increased from 4.9 million in 1980 to 7.3 million in 1985, representing an annual growth of 8.3 per cent. The international passenger traffic grew at 9.4 per cent per annum, from 2.3 million to 3.6 million during the same period.

The cargo traffic handled increased from 58,500 tonnes in 1980 to 121,800 tonnes in 1985, a growth of 15.8 per cent per annum. Domestic cargo increased from 27,900 tonnes in 1980 to 40,300 tonnes in 1985, growing at 7.6 per cent per annum, while the international cargo increased from 30,600 tonnes to 81,400 tonnes during the same period, representing an annual growth of 21.6 per cent.

The expansion and the improvement of the terminal building of Kuala Lumpur International Airport were completed in 1983. A new cargo complex serving the airport was completed in 1985 to cater for the increasing demand up to the year 2000. Facilities at airports in Alor Setar, Kota Bharu, Kuala Terengganu, and Kuantan were also improved and upgraded. Preliminary works on the upgrading and expansion of the Langkawi Airport commenced in 1985. A new airport, which has the capacity to handle aircraft operational requirements up to F27 type, was constructed by PETRONAS in Kerteh, Terengganu to facilitate movements of its exploration personnel. The Master Plan Study on Air Traffic Control System and Airspace Management Modernization Programme was also completed in 1985.

The improvement and expansion of several airports in Sabah and Sarawak were completed. These included the Kuching and the Kota Kinabalu international airports expansion programmes and the construction of new airport facilities at Miri and Sandakan. Preliminary design studies on a new terminal building and other related facilities at Labuan and Lahad Datu and detailed engineering design for a new airport at Sibu were also completed. Improvement works on rural airstrips in both states were carried out.

The national carrier, Malaysian Airline System (MAS), played a significant role in providing safe and efficient air transport services at both the domestic and international levels. It carried about 4.2 million passengers during its 1980-81 financial year and this total increased to 5.6 million during the 1984-85 financial year, representing an annual growth of 7.4 per cent. The volume of cargo carried

also increased from 47,800 tonnes to 74,400 tonnes during the same period, growing at an annual rate of 9.3 per cent. MAS was privatized by the Government in 1985, whereby 30 per cent of its equity were sold to the public.

Telecommunications

During the Fourth Plan period, telecommunications programmes were expanded to provide more efficient services, in particular telephone and telex services, as well as telecommunications facilities for radio and television broadcasting, civil aviation, police, customs, and other Government agencies. With the extension and installation of new telephone exchanges, the telephone exchange line capacity was increased from 660,500 lines in 1980 to 1.8 million in 1985, representing an achievement of 85.1 per cent of the Fourth Plan target.

The capacity increase, together with the expansion in local subscriber cable network, enabled the provision of facilities to 980,000 telephone subscribers and 11,000 telex subscribers compared with the Fourth Plan target of 1.6 million telephone and 15,000 telex subscribers. This increased the telephone-population ratio from 2.7 per hundred in 1980 to 6.3 per hundred in 1985.

Telecommunications links between Malaysia and overseas were expanded and improved with the upgrading of the two earth satellite stations in Kuantan and Melaka, the commissioning of the Commonwealth Indian Ocean submarine cable linking Pulau Pinang with Madras in 1981, the ASEAN Malaysia-Singapore-Thailand submarine cable in 1982, and the Pulau Pinang-Medan submarine cable in 1984. In addition, a new international telephone exchange using computer-controlled equipment was commissioned. The exchange increased substantially the capacity and facilities of the direct dial telephone services from four countries in 1980 to 65 countries in 1985.

Several new services were also introduced including videotax, telefax, and automatic telephone using radio (ATUR). This increase in the volume and range of telecommunications services was made possible by the increasing use of advanced telecommunications technology such as computer-controlled exchanges, satellite transmission system as well as digital transmission equipment in the expansion and modernization of telecommunications.

In 1985, the tariffs on telephone and telex services were restructured with a view to realigning the charges more closely with the cost structure of telecommunications services. The new charges for domestic and international telex calls, introduced in 1985, involved reductions ranging from 33.0 per cent to 67.0 per cent of the previous charges. The new charges for international telephone calls, introduced in stages commencing in 1985, were 10.0 per cent to 67.0 per cent lower than the previous charges. The charge per unit of telephone call within the country, however, was increased from 10 to 13 cents but the rebate of 100 basic units continued.

The telecommunications services would be privatized to improve the capacity and efficiency of the services. A company, wholly owned by the Government, was set up and registered in 1984. The company is expected to take over the functions of providing telecommunications services from the Telecommunications Department.

Postal services

The overall mail traffic increased by 9.2 per cent per annum, from 1,340 million in 1980 to 2,080 million in 1985. In addition, the Postal Services Department provides a variety of services on behalf of a number of agencies. The concept of one-stop centre was introduced in 1982 concerning payments of electricity, telephone, and housing assessment rates during normal office hours.

The construction of a new General Post Office and Postal Services Department Headquarters equipped with modern facilities was completed in 1983, while a new General Post Office at Kota Kinabalu was completed in 1985. In the same year, the Postal Department introduced a National Post Code and commercial accounting systems. Services to the rural areas were also expanded through the establishment of new post offices, postal agencies, and mobile post offices, benefitting an additional 900,000 population.

Meteorological services

During the Fourth Plan period, the quality of meteorological services, particularly those catering for the needs of civil aviation, agriculture, research, and education, was upgraded. Apart from providing such services, the Meteorological Department was also involved in the provision of marine meteorological and oceanographical services. In order to provide storm warnings to fishermen and marine users, a visual strong-wind warning system was established at various locations with the co-operation of the Fisheries Development Authority of Malaysia and the Department of Fisheries.

A number of activities, such as the automation of weather forecasting, numerical weather prediction, and the monsoon studies, were carried out. In addition, agro-meteorological service to provide information and advice to agricultural agencies as well as environmental studies were undertaken. In order to constantly monitor earthquake activities in the region and its surrounding areas, the Department maintained a network of four seismology stations located at Ipoh, Kluang, Kota Kinabalu, and Kuala Lumpur.

III. PROSPECTS 1986-90

The Government is concerned with the need for the development of an integrated transport and communications system in the country. In pursuance of this objective, long-term policies and programmes to co-ordinate and integrate the development of the sector will be formulated. These policies and

programmes are necessary for the provision of an efficient transport and communications system that will facilitate the overall development of the country.

During the Fifth Plan period, the thrust of the transport and communications sector will be on the completion of ongoing programmes and projects. Efforts will also be made to continue with the improvement of the operation and management of transport and communications facilities as well as to identify and implement programmes for active private sector financing and management. In this regard, the operation and management of the container terminal in Port Klang will be undertaken by a private company to be set up jointly with the Port Klang Authority. On the basis of the decision of the Government to privatize the interurban toll highway projects, a detailed study on the procedures and approaches to be adopted is being undertaken. A similar study is being undertaken with respect to the privatization of MISC. In addition, in view of the resource constraint, an indepth study will be undertaken to determine the appropriate timings for the implementation of the aerobus and LRT projects in Kuala Lumpur as well as the new East-West railway line linking Port Klang with Paka via Kuantan.

Road transport

During the Fifth Plan period, apart from the emphasis given to the completion of ongoing projects, road improvement programmes on existing facilities will also be undertaken. In addition, a comprehensive and intensive maintenance programme on the existing trunk road network, including all the associated facilities, will be undertaken, taking cognizance that an effective preventive maintenance system will reduce the total road transport user costs and the public funds needed for capital replacement.

A programme will be initiated to systematically investigate and test, under local conditions, the feasibility of introducing, on a large scale, concrete or rigid pavement technology in road construction. Trial stretches of concrete pavements under different types of loadings and soil conditions will be constructed and closely monitored in order to ascertain whether a programme of concrete pavement construction can be adopted. A long-term programme of research and development on the technology of road construction will be undertaken to develop suitable method for certain condition in view of the unsuitability of concrete pavements under certain soil conditions as well as to improve the technology in order to reduce the construction costs involved in its application.

A road master plan study will be initiated to determine the future needs for road facilities. The study will be multimodal in approach in order to provide a basis for the formulation of future road development policies and strategies. Road development priorities will, therefore, be determined within the context of the master plan study.

The overloading of commercial vehicles is one of the main factors that causes roads to be prematurely damaged. In order to overcome this problem, one of the measures to be undertaken will be the introduction of a weighing-in-motion system, located at strategic locations along the trunk road network, which will determine the loadings of commercial vehicles.

Works on the construction of the incomplete segments of the interurban toll highway projects will be continued during the Plan period. The completion of these projects and other trunk road expansion and improvement programmes in the country will improve the land transportation system and increase productivity through the reduction of transportation costs and time. In addition, the completion of urban transport projects will provide additional urban transport facilities and services.

In the light of the high rate of private motor vehicle ownership and use which has led to uneconomic utilization of road space, the introduction of area road pricing of low occupancy vehicles during peak hours in major urban centres of the country will be considered. Under this proposed system, tolls will be imposed on low occupancy vehicles passing through central business areas. This measure will encourage the use of high occupancy vehicles such as buses and taxis thereby ensuring a more efficient use of urban transport facilities.

The construction and upgrading of rural roads will continue to be given priority with the objective of improving the existing intrastate transportation network. The rural road programme comprises both the construction of new access and the upgrading of the existing earth or gravel road facilities. Improved transportation accessibility to the rural areas will promote economic and social activities and at the same time facilitate the implementation of other sectoral development programmes such as agriculture, health, and community development. In addition, the programme to upgrade the existing village roads to bitumen-surfaced standard will be maintained. The continued implementation of both the rural and village roads development programmes has the ultimate objective of improving the socio-economic well being of the rural population.

Rail transport

Investments in rail transport during the Fifth Plan period will be made to enable KTM to play a more active role in freight transportation, both in terms of the conventional and container traffic. Major capital investment to be undertaken by KTM will include track rehabilitation, purchase of rolling stock, and completion of the 8 kilometre rail link between Sungai Way and Subang as well as the rail link to the new General Post Office Headquarters. A railway marshalling yard and other related facilities will be developed at Kempas in Johor, principally to facilitate train movements to and from the Johor Port in Pasir Gudang.

Maritime Transport

During the Fifth Plan period, the focus will be on the consolidation and strengthening of existing port facilities and related maritime services. Integrated planning of port expansion will be undertaken to match the needs of the country and improve efficiency and productivity of port operations as well as increase the utilization of Malaysian ports. In the provision of container facilities, Port Klang will be developed as the main line container terminal, while the other ports will be limited to the handling of conventional and feeder vessels. In shipping, measures will continue to be taken to improve national shipping activities and promote their growth. Existing practices in shipping will be reviewed to bring about a reduction in the outflow of freight and insurance payments as well as the increased utilization of Malaysian vessels for the trade of the country. The various aspects of the institutional infrastructure, which provide the support for the development of the shipping industry, will be improved. In addition, measures will continue to be taken to reserve domestic shipping to vessels registered locally and owned by Malaysians.

Ports. The total cargo tonnage to be handled is estimated to increase at an annual rate of 6.8 per cent from 41.6 million tonnes in 1985 to 57.7 million tonnes in 1990, as shown in Chart 16-2. General cargo is expected to increase at 2.8 per cent per annum from 17.9 million tonnes in 1985 to 20.6 million tonnes in 1990, liquid bulk cargo at 6.1 per cent per annum from 14.4 million tonnes to 19.4 million tonnes, containerized cargo at 15.5 per cent per annum from 4.5 million tonnes to 9.2 million tonnes, and dry bulk cargo at 11.9 per cent per annum from 4.8 million tonnes to 8.5 million tonnes. In order to cope with the expected growth in cargo throughput, programmes for the effective utilization of existing facilities, together with expansion and improvement programmes of the ports, will be undertaken. By the end of 1990, the total handling capacity is expected to reach 65.5 million tonnes compared with 56.5 million tonnes in 1985.

For Port Klang, the detailed engineering design and the construction of Berth 15, additional breasting dolphins, container stacking yard, and the marine base will be undertaken. The construction of Berth 15 is to provide additional general cargo and container capacity, while the breasting dolphins will provide additional liquid bulk cargo capacity. The construction of the road and bridge access to enable the provision of port facilities at Pulau Lumut, which include facilities for conventional cargo, petrochemicals, and hazardous goods, will also be initiated in the latter part of the Fifth Plan period.

For Johor Port, the second stage development of the Free Trade Zone, involving the construction of a customs complex, infrastructural facilities, and godowns, will be completed by 1987. The Kuantan Port will undertake the construction of terminal facilities to provide for the operation of a ferry service to Kuching and

Kota Kinabalu. In addition, the operation of Phase II of the Petroleum Supply Base at Tanjung Berhala in Terengganu will begin in 1986, while the detailed design for a miniport in Kelantan and the construction of a miniport in Perlis to provide for facilities such as fish landing, cargo handling, and passenger ferry service, will be undertaken.

In Sabah, the expansion of the Kota Kinabalu Port involving the construction of additional berth facilities, transit sheds, and storage areas, initiated during the Fourth Plan period, will be completed in 1987, while the expansion of the Sandakan Port, involving the construction of a container yard and container freight station, will also be undertaken to provide the Port with improved facilities in the handling of both general and containerized cargo. In Sarawak, the Bintulu Port will be provided with additional equipment and ancillary facilities, while the construction of Phase II of the Kuching Port, initiated during the Fourth Plan period, will be completed. This will enable the Port to meet the demand for facilities up to the year 1990.

In the administrative and management aspects of the ports, the National Ports Study will be undertaken to establish a basis for future development and management of a national port system. The Study will formulate overall policies and determine the long-term requirements for port expansion as well as the improvement of the operation and management of existing ports in order to enable an integrated and co-ordinated planning of port expansion, thereby improving the utilization of Malaysian ports. Measures will also be taken to establish quantified corporate objectives for all ports within the framework of an overall national policy.

The tariff study on the federal ports to review the existing tariff structures and rates and the cost of the services rendered will be continued. The Study will also look into the objective of standardizing the nomenclature and simplifying the tariffs used by the various ports in the country. Efforts will also be made to ensure that port tariffs are implemented in line with the operational, commercial, and financial strategies of the ports, in order for them to be effective in improving the utilization of the ports and their competitiveness.

Shipping. During the Fifth Plan period, the activities of both MISC and PNSL will be consolidated and strengthened to cater for the increasing demand and to increase their participation in both domestic and international shipping. MISC will maintain its current fleet of 45 vessels with a total tonnage capacity of 1,483,900 dwt. In the carriage of LNG, all the five LNG carriers will be deployed by MISC to service the export of LNG to Japan. PNSL will embark on a policy towards increasing its competitiveness in the existing services. The position of PNSL in the liner trade will be further strengthened through a joint venture container service to Australia and west coast of the United States of America. In the carriage of liquid bulk and dry bulk cargo, measures will be undertaken to increase the share of PNSL in the carriage of these cargo.

In order to further accelerate the participation of Malaysians in international shipping, the shipping community will be encouraged to utilize Malaysian vessels. MNSC, which brings together major commodity organizations under its umbrella to look into shipping issues, will be further strengthened in order to effectively represent the interests of shippers in the country. Simultaneously, FBC will work towards the consolidation of cargo in order to obtain more reliable and economical services for Malaysian shippers. In addition, new bilateral shipping agreements will be initiated to enable Malaysia to increase its share in international shipping and expand its activities.

In order to promote the growth of the domestic shipping industry, DSLB will continue to issue additional licences to Malaysian-registered vessels to further increase their participation in domestic shipping. An intermodal study, with the objective of reducing the burden on land transportation, will be undertaken. The study will determine the feasibility of improving coastal shipping as a mode of domestic transportation in the country. The long-term objective of the Government is to encourage the development of the domestic shipping industry, thus paving the way for Malaysia to become an important maritime nation.

In line with the objective of the Government to facilitate, develop, and upgrade essential ferry services and other water transportation links in the country, PNSL will commence a passenger-freight service linking Kuantan, Kuching, and Kota Kinabalu in 1986. This is consistent with the objective of the Government to foster greater national integration between Peninsular Malaysia, Sabah, and Sarawak. In addition, a ferry service between Johor and Singapore to promote the growth of tourism will also commence operation in 1987. This ferry service will provide an additional means of transport for tourists.

Marine. In order to enable the Marine Department to play a more effective role in ensuring the safety of marine transportation and the environment, efforts will continue to be made to improve both the preventive and enforcement measures. Measures will also be undertaken to maintain adequate search and rescue services at national and regional levels through mutual arrangements and co-operation with neighbouring countries. A review of the various regulations pertaining to merchant shipping in Peninsular Malaysia, Sabah, and Sarawak, with a view to integrating the respective merchant shipping ordinances into a uniform act, will be completed. This will enable effective regulation of shipping activities in the country.

Air transport

Malaysian Airports are projected to handle a total of 14.2 million passengers by 1990 compared with 10.8 million in 1985, thus registering an annual growth rate of 5.6 per cent. Domestic passenger traffic is projected to increase at an annual rate of 3.3 per cent from 7.3 million in 1985 to 8.6 million in 1990, while international passenger traffic is projected to increase at 9.6 per cent from 3.6 million in 1985 to 5.7 million in 1990.

In terms of cargo traffic, the volume is projected to increase at 14.6 per cent per annum from 121,800 tonnes in 1985 to 241,300 tonnes by 1990. Domestic cargo is projected to increase from 40,300 tonnes to 58,100 tonnes, at an annual growth rate of 7.6 per cent, while international cargo is expected to increase from 81,400 tonnes to 183,800 tonnes during the same period, representing an annual growth rate of 17.7 per cent.

Improvement and upgrading works will be undertaken to provide the necessary facilities at the Kuala Lumpur and Penang international airports as well as other airports at Alor Setar, Ipoh, Kota Bharu, and Kuala Terengganu. The present airport facilities at Ipoh will be expanded, and sufficient landing and navigational aids facilities will be provided to cater for all aircraft operations up to the requirement of B737. The Langkawi and Kuantan airports and the Pulau Tioman airstrip will be upgraded and expanded to cater for the needs of the tourism industry. The upgrading works on the Langkawi Airport are scheduled for completion in 1987 with facilities capable of handling aircraft operation up to the airbus requirements. The Kuantan Airport will also be expanded and upgraded with facilities sufficient to cater for B747 aircraft operations.

The Air Traffic Control System and Airspace Management Modernization Programme will be undertaken in the Kuala Lumpur and Kota Kinabalu flight information regions. This will involve increasing air traffic control system capacity through the installation of advanced radar and data processing system, improving radio navigational and communications systems, and making available trained personnel to provide efficient services as well as support the system technically.

Telecommunications and navigational aids facilities will be installed at the Sandakan Airport. The construction of a parallel taxiway and the installation of associated ground lighting system at the Kuching International Airport will be completed during the Fifth Plan period. A new airport for Sibiu will be constructed to cater for B737 aircraft operations. Works on the installation of navigational aids facilities and airfield lighting system in Miri are expected to be completed during the period. Rural airstrips in Long Seridan, Long Semado, and Mukah in Sarawak will also be improved.

MAS plans to acquire additional aircrafts to supplement its existing fleet to accommodate traffic growth for both domestic and international services. With the increase in its capacity, MAS is expected to carry a total of 5.9 million passengers in 1985 and 7.4 million in 1990 increasing at an annual rate of 4.5 per cent. The volume of cargo carried is also projected to increase from 74,400 tonnes in 1985 to 106,800 tonnes in 1990, at an annual growth rate of 7.2 per cent.

Telecommunications

During the Fifth Plan period, telecommunications services will be further expanded to cope with the increasing demand for both the domestic and

international services. The development of telecommunications will be directed towards the objective of providing more access to the people, including those living in remote areas, as well as upgrading the quality of services, particularly in the business sector.

The capacity of the telephone network will be increased to provide adequate telephone services to a total of 2.4 million subscribers, thereby increasing the telephone-population ratio per hundred from 6.3 in 1985 to 13.8 in 1990. Towards this end, some programmes and projects will continue to be implemented on a turnkey basis, including the installation of the local network cables, switching projects, and long lines network.

Telecommunications services will also be expanded to the rural areas. The number of public telephones in the rural areas will be increased by using the ATUR system, domestic satellite, and other new radio-based telecommunications techniques. The rural areas will also be provided with small exchange line capacity. In order to further upgrade the quality of telecommunications services, computerization of customer services, such as Customer Automated Services System and Directory Enquiry System, will also be implemented to provide efficient services to the users.

The external services programme will include the replacement of the earth satellite station at Kuantan and the installation of the optic fibre to the submarine cable between Peninsular Malaysia, Sabah, and Sarawak. Other services that will be implemented include the expansion of the capacity of telecommunications links to overseas with a mix of submarine cable and satellite transmission links.

The company which was set up to take over the functions of providing telecommunications services from the Telecommunications Department is expected to commence its operations in 1986. It is also required to implement various development programmes during the Plan period.

Postal services

The postal services programme will continue to be geared towards the long-term targets of establishing a post office for every area with a population of more than 3,000 and a postal agency for an area between 1,000 to 3,000 population. The number of mails handled are envisaged to increase from 2,080 million in 1985 to 2,500 million in 1990.

Programmes to be implemented during the Fifth Plan period include the construction of new post offices and a Postal Training Institute in Bangi, and the establishment of minipost offices to be operated by private individuals to meet the increasing demand for postal services. In addition, further efforts will be undertaken to speed up the processing of letters and to improve services at post office

counters. A new service called GIRO system will be introduced to provide convenient, secure, and speedy payment of bills among GIRO account holders without using cash transaction. This will further increase efficiency in banking and money transaction in the country. The system, when implemented, will serve the needs of the consumers and will directly benefit all sections of the community in terms of convenience in the payment of utility bills, salary payments, credit transfer, rental collection, and insurance premiums.

Meteorological services

The meteorological services programme will be expanded to provide meteorological and geophysical services and facilities. The weather forecasting services will continue to provide continuous weather watch over Kota Kinabalu and Kuala Lumpur flight information regions.

The usage of computer system will also be intensified to cope with the expansion of research and electronic data processing activities. In addition, more weather stations in agricultural estates will be established to assess the impact of weather on the production of cash crops.

Air pollution monitoring station will be expanded and improved. In response to increasing public awareness of seismic hazard and the need to promote co-operation among the agencies in activities related to seismology and earthquake engineering, the establishment of a National Committee on Seismology and Earthquake Engineering will be considered. In addition, a storm warning radar will be installed at the Kuching International Airport while the existing radar system at the Kuala Lumpur International Airport will be replaced. The existing satellite receiving facilities at the Kota Kinabalu and Kuching International Airports will be upgraded.

IV. ALLOCATION

The development allocation and estimated expenditure during the period 1981-85 and the allocation for the period 1986-90 for transport and communications are shown in Table 16-5.

V. CONCLUSION

The thrust of the sector during the Fifth Plan period is essentially on the completion of ongoing programmes and projects to further improve mobility and accessibility, thereby ensuring improvement in the services provided. The investment in the rural sector will also be aimed at improving the standard of living of the population in the rural and isolated areas. Together with other rural development programmes, transport and communications programmes will accelerate the upgrading of the socio-economic status of the communities.

TABLE 16-5
MALAYSIA: PUBLIC DEVELOPMENT EXPENDITURE
FOR TRANSPORT AND COMMUNICATIONS, 1981-90
(\$ million)

<i>Programme</i>	<i>Fourth Plan allocation, 1981-85</i>	<i>Estimated expenditure, 1981-85</i>	<i>Fifth Plan allocation,¹ 1986-90</i>
Transport	7,151.77	7,172.29	10,760.93
Road and bridges	4,094.17	4,166.67	7,644.10
Railways and rapid transit	651.19	650.86	1,049.42
Ports and marine services	1,484.67	1,481.02	400.69
Civil aviation	921.74	873.74	1,666.72
Communications	3,001.90	2,501.58	9,706.04
Telecommunications	2,900.44	2,400.48	9,572.38
Postal services	94.00	93.98	119.64
Meteorological services	7.46	7.12	14.02
Total	10,153.67	9,673.87	20,466.97

Note:

¹ Under the Fifth Plan, the public sector has been redefined to include the non-financial public enterprises (NFPEs) which previously were treated as belonging to the private sector.

