Chapter X

Transport And Communications

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Transport And Communications

I. INTRODUCTION

10.01 The adequate provision of transport and communications infrastructure has been the key to supporting the growth momentum of the economy. It has also played an important role in promoting rural development and expanding opportunities for rural households to participate in the growth process. The rapid growth in the various sectors of the economy has created higher and more sophisticated demands on the distribution, capacity and efficiency of the transport and communications network in the country.

10.02 During the Fifth Malaysia Plan, apart from the physical expansion of projects, emphasis was placed on the qualitative and safety aspects of transport and communications facilities. Consideration was also given to environmental protection through the reduction of negative impact on the environment arising from infrastructure development. In this regard, programmes were initiated to reduce urban congestion and thereby travel cost and time as well as pollution problems. Attention was also given to the identification and implementation of programmes for private sector involvement.

10.03 During the Sixth Malaysia Plan, the Government will continue to expand, upgrade and improve transport modes to maintain Malaysia's strength in providing good infrastructural and communications facilities. The programmes will adequately serve the rising demand for such facilities and support the rapid growth in industrial, tourism and other economic activities. The private sector is expected to play a more complementary role and take advantage of the opportunities created by Government initiatives. The greater role expected for user charges mainly from privatization will be further emphasized, and the incorporation of information technology into the sector will enhance its future growth potential and lead to greater internationalization of the sector.

II. PROGRESS, 1986-90

10.04 The transport and communications sector grew at 8.6 per cent during the Fifth Plan period, exceeding the original target of 7.6 per cent anticipated under the Plan. The sector's contribution to Gross Domestic Product increased slightly from 6.6 per cent in 1986 to 6.9 per cent by 1990. The rapid expansion in the transport and communications sector generated 41,000 employment opportunities, which accounted for 4.1 per cent of the total jobs created.

10.05 The development thrust in the sector was towards the expansion, upgrading and rehabilitation of the network, improving operational and management efficiency and upgrading the safety aspects. The actual amount of public sector investment in the sector totalling $7,615 million accounted for nearly 21 per cent of the total Federal allocation under the Plan. A major portion of this investment was directed towards strengthening land and sea transportation, thereby giving rise to a fairly sophisticated network of roads and port facilities.

Road Transport

10.06 Road transport continued to account for nearly 90 per cent of the total freight and passenger movement. Accordingly, major programmes were undertaken for the expansion of the major road networks and the rehabilitation and upgrading of roads and bridges. Extensive improvements to urban transport systems were pursued to reduce congestion through traffic dispersal schemes and improvements in public transportation.

10.07 The roads subsector accounted for nearly three-quarters or $6,011 million of the total allocation for transport and communications. As shown in *Table 10-1*, the road network comprising Federal and state roads, increased by 46 per cent, from 43,415 kilometres in 1985 to 63,445 kilometres in 1990. A fifth or 13,028 kilometres were Federal roads, inclusive of 415 kilometres of toll expressways. Over the Plan period, the development of Federal roads had been impressive with an increase of 129 per cent compared with 33 per cent with respect to state roads. The development of paved roads was emphasized and by 1990, 74 per cent of the road network were paved compared with 69 per cent in 1985. However, new earth or gravel roads were still provided as these roads were forerunners to the development of remote areas, particularly through the opening up of land for agriculture. Sabah and Sarawak had a high percentage of unpaved roads mainly due to existing lower traffic volume and the scattered nature of the population.

TABLE 10-1

ROAD DISTRIBUTION BY TYPE AND JURISDICTION, 1985-90
(kilometres)

State	Federal Roads		State Roads		Total						Road Paved (%)	
					1985			1990				
	1985	1990	1985	1990	Paved	Unpaved	Total	Paved	Unpaved	Total	1985	1990
Johor	798	2,003	3,399	3,960	3,690	507	4,197	5,000	963	5,963	88	84
Kedah	264	502	4,027	4,398	3,191	1,100	4,291	3,969	931	4,900	74	81
Kelantan	628	597	2,944	3,191	2,479	1,093	3,572	3,083	705	3,788	69	81
Melaka	118	152	1,157	1,903	1,198	77	1,275	1,690	365	2,055	94	82
Negeri Sembilan	577	1,297	1,516	2,651	1,852	241	2,093	3,208	740	3,948	88	81
Pahang	1,020	2,958	2,270	3,775	2,555	738	3,290	5,095	1,638	6,733	78	76
Perak	678	1,289	3,212	4,924	3,468	422	3,890	5,787	426	6,213	89	93
Perlis	121	145	815	645	831	105	936	747	43	790	89	95
Pulau Pinang	125	149	1,383	2,032	1,301	207	1,508	2,079	102	2,181	86	95
Sabah	–[1]	1,067	7,307	7,591	2,579	4,728	7,307	2,981	5,677	8,658	35	34
Sarawak	–[1]	1,318	4,450	3,560	1,445	3,005	4,450	1,704	3,174	4,878	32	35
Selangor	678	720	2,782	7,862	2,660	800	3,460	7,363	1,219	8,582	77	86
Terengganu	690	831	2,110	2,859	2,448	352	2,800	3,146	544	3,690	87	85
Wilayah Persekutuan Kuala Lumpur	–	–	346	1,066	300	46	346	1,038	28	1,066	87	97
Total	**5,697**	**13,028**	**37,718**	**50,417**	**29,994**	**13,421**	**43,415**	**46,890**	**16,555**	**63,445**	**69**	**74**

Note: [1] Federalization of roads in Sabah and Sarawak commenced in 1986

10.08 Major road projects undertaken included the construction and completion of various portions of the North-South Expressway, a major stretch of the New Klang Valley Expressway (NKVE) and a major portion of the Sungai Perak West Coast/Lumut road. In Sabah, the construction of the West Coast trunk road Beaufort - Kota Kinabalu - Kota Belud - Kudat, while in Sarawak the First Trunk Road System from Sematan to Miri and Limbang were completed. These major projects were aimed primarily at providing better inter-urban linkages as well as improved access to the industrial sites. These projects also contributed to savings in time and vehicle operating costs as well as improved non-quantifiable safety and comfort benefits. The journey between Seremban and Melaka on the new 85.9 kilometre expressway reduced travel time by 39 minutes.

Rural Roads

10.09 In line with the overall balanced approach to development, the emphasis on rural road development continued to be on the provision of adequate access to rural areas and improvements in the intra-state road network to promote economic activities and facilitate the implementation of development programmes. The focus was on the construction and upgrading of rural roads linking small towns or districts as well as security roads and *kampung* roads. *Kampung* roads were upgraded to bituminous surfacing while the others were constructed to meet improved standards.

10.10 Under the Fifth Plan, 949 kilometres of rural roads benefiting 919 villages were constructed compared with the target of 1,146 kilometres, as shown in *Table 10-2.* This programme had a wide coverage although the emphasis was on the bigger and relatively poorer states and states with the capacity to implement the programmes. Consequently, Kedah, Kelantan, Negeri Sembilan, Perak and Sarawak received a greater share of the rural road programme. Under the programme of upgrading the existing village roads to bitumen-surfaced standard, about 11,470 or 97 per cent of the Fifth Plan target of 11,790 kilometres, were upgraded.

Urban Transportation

10.11 The urban transportation programmes implemented aimed at meeting the rapid increase in urban traffic through traffic dispersal schemes and improvements in public transportation. Higher income levels and vehicle ownership created congestion problems, particularly in the Klang Valley and major urban centres. The number of registered motor vehicles grew at an average rate of 4.4 per cent, from 4.2 million

TABLE 10-2

DEVELOPMENT OF RURAL ROADS BY STATE, 1986-90
(kilometres)

State	5MP		
	Target	Achieved	(%)
Johor	75	50	67
Kedah	150	140	93
Kelantan	90	70	78
Melaka	30	26	87
Negeri Sembilan	110	90	82
Pahang	85	64	75
Perak	126	119	94
Perlis	11	11	100
Pulau Pinang	41	41	100
Sabah	173	117	68
Sarawak	165	156	95
Selangor	20	15	75
Terengganu	70	50	71
Total	**1,146**	**949**	**83**

in 1985 to 5.2 million in 1990. The congestion problem was most serious in Selangor and Wilayah Persekutuan Kuala Lumpur, where car sales accounted for nearly 43 per cent of the total sales in the country. Accident fatalities remained at a high rate of 7.3 deaths per 10,000 vehicles during the Fifth Plan period.

10.12 As part of the traffic dispersal schemes, road and interchange projects were implemented within the city areas of Kuala Lumpur, George Town, Ipoh, Johor Bahru, Alor Setar and Kota Kinabalu. In view of the high costs of these schemes, privatization was promoted as a means of reducing the Government's financial burden. The major projects included NKVE, the Shah Alam Expressway and the Pulau Pinang North Coastal Road. The double tracking project of the Malayan Railway (KTM) represented another measure to improve public transportation. Studies were conducted to improve the Klang Valley bus system and for the development of a rail-based commuter system for the greater Klang Valley.

Rail Transport

10.13 With the existing railway network adequately serving the various parts of the country, the thrust in railway development was on speedier service and better commuter services. In line with this, the main programmes undertaken were the strengthening and rehabilitation of tracks, computerization, double tracking, purchase of additional locomotives and construction of additional stations and facilities. Inland Container Depots (ICDs) to promote intermodal and improved services in terms of frequency and product packages were established. With these improvements, the volume of passenger traffic carried by KTM increased at 5 per cent per annum, from 1,408.8 million passenger-kilometres in 1985 to 1,794.2 million passenger-kilometres in 1990. The railway's share of containers increased threefold from 35,750 Twenty Foot Equivalent Units (TEU) in 1985 to 91,800 TEU in 1990. The double-tracked sectors are expected to generate traffic demand and facilitate the development of real estate in the locality of the various stations as well as promote tourism and leisure-related business along the railway corridor.

10.14 Consistent with the Government's efforts to corporatize KTM, a commercial orientation was pursued which enabled KTM to realize operational profits of $1.54 million in 1988 and $2.91 million in 1990 after a series of losses in the previous years. This turnaround in operational profits was attributed to increased operating income from higher freight and passenger traffic arising from aggressive traffic promotion.

Maritime Transport

10.15 During the Fifth Plan, the rapid expansion of trade and industries led to increased demand for the expansion of port facilities and related maritime services. Increasing emphasis was placed on improving efficiency and productivity of port operations to enhance the utilization of Malaysian ports. In domestic shipping, measures were taken to increase the share of the shipping tonnage handled by ships registered locally and owned by Malaysians. Specific measures were taken to provide a more conducive environment and these included a review of the relevant legislation in the subsector, customs and immigration practices and the operations of shipping agencies and hauliers.

Ports

10.16 The nation's ports handled almost 80 per cent of the foreign trade and greatly supported the expansion in domestic seaborne trade. At the same time, the ports contributed significantly to regional

development in stimulating economic activities centering on the ports. The total throughput handled grew by 8.9 per cent per annum, increasing from 52.2 million tonnes in 1985 to 80 million tonnes by 1990, as shown in *Table 10-3*. Total exports handled by the ports grew at 10.2 per cent, largely from growth in liquid and bulk cargo. Imports grew by 8.5 per cent boosted by rapid increases in the imports of intermediate and capital goods as well as consumer goods. Container handling recorded an impressive increase of 13.1 per cent, to register 739,880 TEU by 1990.

10.17 During the period, a number of port expansion programmes were undertaken, such as in the Kelang, Pulau Pinang and Johor Ports. In addition, the operation of Phase II of the Petroleum Supply Base in Kemaman, Terengganu began in 1986, while preliminary works for the construction of the Kuala Perlis jetty and the upgrading of the Kuala Kedah jetty were undertaken. In Sabah, the Kota Kinabalu and the Sandakan Ports were expanded to provide improved facilities for handling both general and containerized cargo. In Sarawak, the construction of the Phase II expansion of the Kuching Port was completed.

10.18 As part of the privatization programme, the container terminal at Port Kelang was privatized in 1986. Specific studies to determine the most feasible approach to the privatization of the Kelang, Johor, Pulau Pinang, Bintulu and Kuantan ports were undertaken during the period. Another major step undertaken to improve port operations was the introduction of the concept of an electronic data interchange (EDI) network for automated processing of trade documents which also link the ports with other relevant Government agencies.

TABLE 10-3

COMPOSITION OF CARGO THROUGHPUT, 1985-95
(million tonnes)

Type of Cargo	*1985*	*1990*	*1995*	*Average Growth Rate, 5MP (%)*	*Average Growth Rate, 6MP (%)*
General Cargo	12.3	21.0	30.5	*11.3*	*7.7*
Dry Bulk Cargo	12.3	17.9	26.0	*7.8*	*7.8*
Liquid Bulk Cargo	20.3	27.9	41.7	*6.6*	*8.4*
Containerized Cargo	7.3	13.2	26.8	*12.6*	*15.2*
Total	**52.2**	**80.0**	**125.0**	*8.9*	*9.3*

Shipping

10.19 Local participation in shipping had expanded as reflected by the increase in the number of Malaysian vessels and tonnage carried. The number of Malaysian vessels increased by 4.7 per cent per annum, from 714 in 1985 to 898 in 1990. The two major shipping lines, the Malaysian International Shipping Corporation (MISC) and *Perbadanan Nasional Shipping Line* (PNSL) expanded their capacity. MISC's fleet increased from 44 vessels in 1985 to 51 in 1990 while that of PNSL increased from nine to ten vessels, resulting in marginal increases in their capacity. The share of sea-borne trade carried by MISC remained at 19.7 per cent, while that carried by PNSL increased from 7.1 per cent in 1985 to 10.5 per cent in 1990.

10.20 The marginal increase in shipping capacity in the face of a rapid increase in trade activities further aggravated the nation's reliance on the import of shipping services. The limited local shipping capacity to transport Malaysian goods and the inability of local traders to handle cargo on a *cif* basis continued to encourage foreign buyers to make their own shipping and insurance arrangements. As a result, freight and insurance payments abroad doubled from $2,727 million in 1985 to $5,491 million in 1990 and the deficit in this item rose from 17.8 per cent of the total services deficit to 37.8 per cent.

Air Transport

10.21 The thrust in the aviation sector under the Fifth Plan was on the completion of on-going projects as well as upgrading of existing facilities. Continued efforts were undertaken in response to the rising demand for air travel resulting from improvements in living standards and the rise in the value of time as well as accommodate increased demand in air cargo from greater industrialization. Total air passenger traffic increased by 10.9 per cent per annum, from 10.3 million in 1985 to 17.3 million in 1990, largely due to the worldwide rise in travel demand. The number of international passengers nearly doubled to 6 million in 1990 from 3.6 million in 1985. Cargo handled recorded a 14.8 per cent growth to reach 241,590 tonnes, attributed mainly to the increase in the movement of high value-added commodities, notably electronics, spares for industries as well as fruits and cut-flowers. There were also new trends in air cargo movement involving the shift towards full freighter services.

10.22 Since the nation has a fairly adequate airport network, the focus of development was on upgrading and improving the airports. Major improvements at the Subang International Airport included the

lengthening of the runway for direct long haul wide-bodied aircraft operations and the refurbishment of Terminal II for domestic services. Work commenced on the new airport at Sibu. The other major projects completed include resurfacing work and upgrading works to enable wider-bodied aircraft landings at a number of airports.

10.23 While emphasis was given on the development of airports in the capital cities, continued support was also given to the development of rural airstrips. Lack of accessibility to the remote areas, particularly in Sabah and Sarawak, necessitated the expansion of rural air services and construction of a number of new airstrips.

10.24 The Malaysian Airlines, the privatized national airline, expanded and upgraded its domestic and international services with the expansion of its fleet from 35 in 1985 to 50 in 1990 which comprised a diversified fleet of B747, DC 10, A300, B737, F50, F27 and Twin Otters. Spurred by tourism, the number of international passengers served by Malaysian Airlines increased at a rate of 8.7 per cent, from 2.5 million to 3.8 million over the period. The airline served 8 new international destinations and additional frequencies were mounted for 10 destinations. The airline carried a total of 5.6 million passengers in 1985 and this increased to 7.9 million in 1990, indicating a growth of 7.1 per cent per annum. The airline recorded steady increases in operating revenues mainly attributable to the rapid expansion in network and increase in passenger and cargo traffic.

Telecommunications

10.25 During the Fifth Plan, the telecommunications subsector recorded significant progress in meeting customer demand and achieving operational efficiency. The services also underwent structural changes whereby privatization, deregulation and liberalization of the subsector were initiated to ensure more efficient resource management and better access to capital. In addition, attention was focussed on the expansion and upgrading of facilities and services so as to cope with the increasing demand, to widen accessibility to a larger spectrum of the population and to keep pace with rapid technological innovation.

10.26 Under the Fifth Plan, the capacity of the telephone network increased to only 1.58 million subscribers compared with the target of 2.4 million. This resulted in an increase in the telephone-population ratio per hundred from 6.5 in 1985 to 8 in 1990, with a shortfall in meeting the target of the telephone-penetration ratio of 13.8.

10.27 Improved management practices and aggressive marketing by *Telekom Malaysia Berhad* which was corporatized in 1987, resulted in the shift from basic telephone services into advanced business services to support the move towards higher value-added manufacturing and service-oriented activities. Data services, such as the Malaysian Packet Services (Maypac), Circuit Switched Services (MAYCIS) datel, telefax and the Mobile Radio Communications Services such as the automatic telephone using radio (ATUR) system, Trunked Radio and Paging System experienced rapid growth. With a total investment of $4,000 million in the network infrastructure and about 266,000 trunk and junction circuits digitized, the total exchange line capacity was increased by 11.9 per cent to 2.3 million lines.

10.28 Private operators were licensed to operate the payphone services in designated urban areas throughout the country and to operate the second cellular mobile radio service, namely the ART 900, in direct competition to *Telekom Malaysia Berhad* owned cellular service, the ATUR 450. Licences were also issued to operate localized radio communications services such as paging, trunked radio system and radio leased channels. However, to protect the interest of subscribers, a regulatory body was established to ensure fair and effective competition. The access and acceptance fees for certain services were abolished in 1990 to promote the open market sale of subscriber equipment.

10.29 In terms of regional and international integration, an optic fibre cable link between Kuantan and Kota Kinabalu was implemented as part of the ASEAN submarine cable system to meet the demand for improved telecommunications services. This system will improve the overall telecommunications services, particularly in domestic telephone and television communications. Malaysia also invested in the international satellites organisation.

10.30 As part of the efforts to improve accessibility and the quality of life of the rural population, telecommunications services were expanded to the rural areas. The exchange line capacity was increased from 1.8 million in 1985 to 2.7 million in 1990 and the effective cable pairs from 2.2 million to 3.7 million throughout the country. This enabled an additional 172,520 rural households to have access to such services. In addition, the number of rural payphones increased from 250 to 6,770 during the Fifth Plan period.

Postal Services

10.31 During the Fifth Plan, the postal services were modernized and its network expanded to meet the rising demand for more innovative product packages and the requirements of the expanded economic activities. The overall mail traffic increased marginally from 2,080 million in 1985 to 2,200 million in 1990. This was due to competition from the courier services and the rapid advancement of the data transmission technology. In order to provide more efficient services and to meet the rising demand, 65 post offices were constructed while 179 mini post offices and 84 postal agencies were established. Priority was also accorded to extend the services to the rural areas and to a larger section of the population.

10.32 With respect to the modernization of postal services, besides the introduction of Culler-Faces Cancellor, Automatic Letter Sorting Machines with Letter Indexing Desks were installed at 11 post offices to provide more efficient mail services and expedite mail delivery. In addition, 100 receipting machines were installed and 280 post offices were computerized to enhance the role of post offices as a one-stop centre and to facilitate the transaction of *Amanah Saham Nasional* unit trust which was listed in January, 1991. The Expedite Mail Services was also introduced at competitive rates, thus benefiting the general public and the local industries. The Postal Services Department maintained its courier services at affordable rates despite the competition from other premium services.

Meteorological Services

10.33 During the Fifth Plan, the meteorological and geophysical services and facilities were upgraded and modernized to cater for the needs of the multi-disciplinary user sectors. In this regard, aeronautical weather forecasting was upgraded and expanded to enable effective weather watch over the Kuala Lumpur and Kota Kinabalu Flight Information Regions. In addition to upgrading the weather satellite receiving system, the storm-warning radar at the Subang International Airport was replaced and a new system was installed at the Kuching International Airport to enhance safe operation of aircrafts.

10.34 In the efforts to comprehensively assess the degree of atmospheric environment degradation, a total of 12 sets of air pollution monitoring equipment were installed at selected sites throughout the country. Additional meteorological and agro-meteorological stations and seismological network were set up for more complete data acquisition.

III. PROSPECTS, 1991-95

10.35 The development of the transport and communications sector during the Sixth Malaysia Plan will be in line with the changes in demand in the sector arising from the transformation of the economy and shifts in the relative importance of the various modes. With rising complexity and cost of development, greater opportunities for private sector participation will be created to reduce the heavy financial implications of such development on the Government and infuse more private entrepreneurship. A wider dispersal of the sector's facilities will be realized to promote development of the backward regions and bringing the rural areas closer to the growth centres.

10.36 The development of the sector will be undertaken in an integrated manner to promote multimodalism and complementarity among the modes. Communications facilities and services will be further expanded and modernized to meet the growing domestic and international demand. Technological innovations will also be introduced to keep abreast with developments in the sector. Increased efficiency through greater competitiveness in the sector will be stressed to induce changes and to create new investment opportunities. During the Plan period, the sector is expected to grow at a rate of 10.5 per cent, much faster than the growth of the national economy. About 60,000 or 5.3 per cent of the new employment opportunities to be created during the Plan period will be provided by the sector.

10.37 Given the strategic role of the sector in the nation's economic growth and social change, a number of major programmes will be undertaken during the Plan period. These include the improvement of the major inter-urban road network and upgrading of road systems within the urban areas, modernization of the railway system and the expansion of maritime and air transportation facilities. The programmes will also involve the upgrading of the telecommunications, postal and meteorological facilities to meet the higher demand and sophistication required by the users. The distribution of the allocation for transport and communications by subsector and major projects is indicated in *Table 10-4.*

Road Transport

10.38 Development in the subsector will seek to improve inter-urban linkages and alleviate transport-related problems arising from continued concentration of people and economic activities in the urban centres. The strategies will also address the need to disperse growth through the

TABLE 10-4

DEVELOPMENT ALLOCATION FOR TRANSPORT AND COMMUNICATIONS BY SUBSECTOR AND MAJOR PROJECT, 1991–95
($ million)

Subsector	*Allocation*	*Programme*	*Distribution of Allocation by Programme (%)*
LAND TRANSPORT	**8,952.8** *(83.0%)*	**Expressways**	*9.2*
		(i) Upgrading of KL-Karak Expressway	
		(ii) North-South Toll Expressway Project (Privatized Project)	
		Highways	*49.2*
		(i) East-West Highway Western Section	
		(ii) KL-Petaling Jaya Traffic Dispersal Scheme	
		(iii) Simpang Pulai-Lojing-Gua Musang-Kuala Berang Road	
		(iv) Integrated Development of Johor Causeway	
		(v) Road and Bridge Construction to Pulau Lumut, Kelang	
		(vi) Improvement of the Trunk Road System in the West and East Coast of Sabah	
		(vii) Construction & Rehabilitation of East-West Highway, Sabah	
		(viii) Upgrading & Improvement of Pan-Borneo Highway, Sarawak	
		(ix) First Trunk Road Construction, Sarawak	
		Rural Roads	*11.9*
		(i) Construction, Upgrading and Improvement of Rural Roads	
		(ii) Construction, Upgrading and Improvement of Security Roads	
		(iii) Construction and Maintenance of Existing Village Roads	
		Railways	*12.7*
		(i) Track Rehabilitation Programme	
		(ii) Double Tracking Project	
		(iii) Purchase of Rolling Stocks	
		(iv) Construction of Padang Besar Railway Station	
AIR TRANSPORT	**997.5** *(9.2%)*	**International Airports**	*2.6*
		(i) Upgrading of Subang International Airport	
		(ii) Upgrading of Senai Airport	
		(iii) Upgrading of Langkawi Airport	

TABLE 10-4—*(cont.)*

Subsector	*Allocation*	*Programme*	*Distribution of Allocation by Programme (%)*
		Domestic Airports	*3.1*
		(i) Upgrading of Kuantan Airport	
		(ii) New Sibu Airport	
		(iii) New Limbang Airport	
		(iv) Development of Labuan Airport	
		(v) Resurfacing of Sandakan Airport	
		(vi) New Bintulu Airport	
		(vii) New Tawau Airport	
		Airstrips	*0.4*
		(i) Sitiawan Airstrip	
		(ii) Pangkor Airstrip	
		Air Traffic Safety	*3.1*
		Modernization of Air Traffic Control Facilities	
MARITIME	**768.6** *(7.1%)*	**Ports**	*7.0*
		(i) Port Development in Pulau Lumut, Port Kelang	
		(ii) Phase III & Phase IV Expansion Projects, Johor Port	
		(iii) Port Development Programmes	
		Marine	*0.1*
		(i) Development of Kuala Perlis Passenger Jetty	
		(ii) Upgrading and Construction of Jetties	
		(iii) Upgrading of Kuah Jetty Facilities	
		(iv) Improvement and upgrading equipment and other facilities in the Department	
		(v) Ferry Services	
COMMUNICATIONS	**72.9** *(0.7%)*	**Telecommunications**	*0.4*
		Regulatory Services	
		Meteorological	*0.3*
		Services	
		(i) Construction of Meteorological & Agrometerological Stations	
		(ii) Replacement of Equipment	
		(iii) Equipment for Air Pollution Monitoring	
		(iv) Radar Integration Equipment for Peninsular Malaysia	
TOTAL	**10,791.8** *(100%)*		

expansion of the road network. The road subsector will account for nearly two-thirds of the total allocation for the sector under the Sixth Malaysia Plan, of which a major portion will be for the implementation of continuation projects, the upgrading of existing roads, new road construction, the rehabilitation of roads and road safety works. A major programme will be the upgrading of the timber and sub-standard bridges on the Federal Highway.

10.39 The construction of the remaining sections of about 464 kilometres of the North-South Expressway, 34 kilometres of the North-South Link Expressway, 48 kilometers of the Shah Alam Expressway and the widening of 14.5 kilometres of the Federal Highway II to three lane dual carriage will be undertaken. The North-South Expressway will be completed in 1994. The first phase of the Shah Alam Expressway will be operational by 1993. In addition to providing improved accessibility, these expressways are expected to spearhead industrial, tourism and trade development in the west coast corridor of Peninsular Malaysia. The expressways will reduce travel time substantially between 25 to 30 per cent per kilometre for normal journeys.

10.40 Improving urban transportation will continue to be emphasized to overcome the congestion problems in the Klang Valley as well as other urban areas in the country. New measures will be introduced to increase ridership of high occupancy vehicles notably buses and the train and to provide new mass transit transport services such as the light rail transit system. The quality of bus services will be improved through more relaxed opportunities to enter the market and increased frequencies with consequent reduction in total travel time. The completion of the railway double tracking project is also expected to divert part of the road traffic to the railroad. The project will halve the travel time from the present 90-minute trip between Kuala Lumpur and Seremban.

10.41 Accessibility to rural areas through improvements in the infrastructure network will be enhanced to promote economic and social activities of the rural population as well as to facilitate the implementation of other sectoral programmes. The construction and upgrading of about 650 kilometres of rural roads and the upgrading of 14,600 kilometres of village roads will be undertaken. These roads will also provide necessary physical infrastructure to meet the security needs of the country, particularly in the northern states of Perlis, Kedah, Perak and Kelantan.

10.42 The maintenance of roads and highways including all associated facilities will continue to be given priority since effective preventive maintenance will reduce transport costs and increase overall cost-

effectiveness of capital investment. In order to preserve the structural integrity of the road pavements and bridges, a two-pronged strategy will be adopted. Firstly, the maintenance system will be improved and modernized. Secondly, the enforcement of laws on vehicle weight restriction will be intensified to reduce overall maintenance cost. The weighing-in-motion systems strategically located on the trunk road network will be introduced. In this regard, the policies based on the findings of the National Road Axle Load Study will assist in the construction and management of road transport.

10.43 Increased use of concrete pavement technology in road construction will be pursued. Research will continuously be directed at the development of new technologies as well as adapting imported technologies to suit local conditions. Indigenous research on pavement evaluation and overlay design and behaviour of embankment over soft ground will also be continuously carried out, especially on technologies that will enhance the efficiency of the road construction industry. In addition, environmental impact assessment studies will be carried out as steps to reduce the negative impact of road transport development on the environment.

10.44 The continued increase in vehicles and traffic densities over the period has made it increasingly necessary to reduce fatalities caused by road traffic accidents, particularly since fatalities could increase with the growth in car ownership. Hence, the Government has recognized road safety as a national problem and has targeted to reduce fatalities caused by road traffic accidents by 30 per cent by the year 2000, thereby reducing fatality rates from 7.12 per 10,000 vehicles in 1990 to 5 per 10,000 vehicles by 1995. Among the measures to be taken include revision of certain road traffic regulations, strengthening of enforcement agencies, improvements in road infrastructural facilities and road signs, road safety and new driver-testing programmes.

Rail Transport

10.45 With the physical rail network adequately developed, the emphasis will be on improving convenience and comfort of rail transport. These improvements will also help alleviate urban congestion by diverting part of the road traffic to the railway. The focus of development will be on providing an efficient and low-cost service for which rail has a competitive advantage. Passenger and freight traffic is expected to increase from 1,794.2 million passenger-kilometres and 1,423.5 million tonne-kilometres in 1990 to 2,232 million passenger-kilometres and 1,949.5 million tonne-kilometres in 1995, respectively.

10.46 Under the Sixth Plan, KTM will emphasize on two major segments of passenger transportation: the present market connected with express trains, mail trains and local trains, and the new market segment which will be generated from the commuter services to be introduced with the double-tracking projects between Kuala Lumpur - Port Klang - Subang International Airport and Seremban - Rawang. It is projected that these commuter services will largely cater for short distances and carry about 30 million passengers in 1995. The Study on Rail-Based Commuter Services in Klang Valley will assist in developing this commuter services market. In this regard, the programme will concentrate on integrated rail-based commuter services to upgrade and improve the system. It will also cover the commercial aspects of the integrated system with focus on off-track activities and land development to enhance the viability of the system. Express train services between Tumpat and Kuala Lumpur will also be introduced. The electrification of railways in the Klang Valley will provide speedier rail services and thereby increase the attractiveness of the rail services.

10.47 The role of KTM in promoting intermodalism will be further enhanced with the expected increase in container traffic. The carrying capacity of KTM will be improved with the increase in track capacity arising from the double tracking project. The intermodal system will be a lucrative market that will provide better flexibility, higher utilization of assets and hence higher profit margins. Accordingly, KTM will strategically shift its market towards the handling of general cargoes in containers and improve the logistics and operation of yards and terminal facilities. More ICDs will be built through joint-ventures with the private sector to support the growing requirements. In order to provide a good control system, KTM will also install the Computerized Wagon Control System to track wagons and allocate loads, thereby achieving a higher level of utilization and better returns of the rolling stocks.

10.48 In line with the Government's privatization policy, the corporatization of KTM will be undertaken. The corporatization of KTM will improve its operations and management and thereby raise efficiency, productivity and financial viability. A regulatory framework will also be established to ensure that the regulatory functions will be undertaken effectively.

Maritime Transport

10.49 The basic policies for maritime transport development under the Sixth Plan will be to create an efficient port system that can provide speedier services, lower rates as well as facilities in line with developments

in the external shipping and trading patterns. Strategies in the sector will incorporate important new directions in transport practices and information technology.

10.50 The thrust will be on providing adequate capacity to meet the anticipated growth in traffic and increasing efficiency, competitiveness and productivity. An integrated development of ports will be undertaken and the privatization of port facilities and services accelerated so as to improve the operation and management of these facilities. In shipping, measures will continue to be taken to promote the expansion of the local mercantile fleet and increase the participation and utilization of Malaysian shipping lines in domestic and international trade so as to reduce the outflow of freight and insurance payments. The effectiveness of the Cabotage Policy in increasing the share of the shipping tonnage by vessels locally registered and owned by Malaysians will be reviewed to promote competition through greater liberalization.

Ports

10.51 In line with the rapid growth of the economy, the total cargo throughput to be handled by the ports is estimated to increase from 80 million tonnes in 1990 to 125 million tonnes in 1995, representing an annual growth of 9.3 per cent, as shown in *Table 10-3*. In order to cater for this growth in cargo throughput, measures will be taken to increase the utilization of existing facilities and expand port capacity where necessary. By the end of the Plan period, the total handling capacity of the Malaysian ports is expected to increase to 130 million tonnes as compared with 79.8 million tonnes in 1990, thereby providing sufficient capacity to meet the expected increase in throughput.

10.52 The rapid increase in the global use of containers in the international carriage of goods is expected to generate greater containerized traffic at the Malaysian ports. With this development, other inland services associated with containerization will also be developed, including the upgrading of organizational facilities to meet the demands of intermodalism. The introduction of EDI and intermodalism will not only involve the ports but will also require active cooperation of many Government agencies as well as the private sector. This will include banking and insurance services, customs, freight forwarders and shipping agents. Specific training programmes designed to meet the new demands from these innovative strategies will be stepped up.

10.53 The construction of the highway and bridges and the general, liquid and dry bulk cargo and container berths and supporting facilities at Kelang Port will be completed by 1995. The Kelang Port will be developed as the main line container terminal connected by an efficient internal transportation system in line with the concept of intermodalism. The North Butterworth Container Terminal will be constructed to provide additional container facilities. The Phase III expansion of the Johor Port involving the construction of two additional container berths and other supporting facilities and the Phase IV expansion involving the construction of container and general cargo berth facilities will be completed during the Sixth Plan. The Kuantan Port will be expanded with additional general cargo/multipurpose berths to enable the port to handle the expected increase in the volume of cargo. The construction of a container yard and the purchase of straddle carriers at the Kota Kinabalu Port and the construction of additional general cargo berths at Sandakan Port will be undertaken. In Sarawak, the Bintulu Port will undertake the construction of a Liquefied Natural Gas (LNG) jetty.

10.54 The container haulage system will be continuously improved. New procedures and innovations will be adopted to relieve congestion along the highway routes. In view of the growing importance and complexity of international trade and greater intensity of global competition which requires timely and accurate information, the EDI system will be developed, the first phase of which will be confined to the Klang Valley. A national approach towards increasing port efficiency and productivity will be adopted with the establishment of a mechanism to plan, implement, monitor and evaluate port performance, particularly after the privatization of the various ports.

10.55 Privatization will be pursued actively in the port sector. The studies that have been completed will guide the privatization of port facilities and services. In this regard, the remaining services of Kelang Port will be privatized in 1991 followed by the ports of Bintulu, Johor, Kuantan and Pulau Pinang. A regulatory mechanism will also be established to monitor the performance as well as future development of these privatized entities.

Shipping

10.56 Given the heavy dependence on foreign vessels and the resultant heavy outflow of funds, a coordinated approach to strengthening the shipping industry will be pursued. The possibility of

relaxing legislative restrictions to foreign equity participation in the industry will be explored and the formation of joint-ventures with foreign shipping lines will be promoted. The expansion of the merchant fleet, provision of efficient and appropriate supporting services, growth and development of an efficient shipbuilding and repairing industry and training and development of Malaysians in the professional, commercial and managerial aspects of the shipping industry will also be stressed. The activities of both MISC and PNSL will be expanded and diversified in both domestic and international shipping. During the Plan period, three new vessels are scheduled to join the MISC's current fleet of 51 to raise its capacity to 1.48 million tonnes by the end of 1995. PNSL will acquire an additional 12 vessels aimed at forming a diversified fleet of crude oil tankers, chemical and parcel tankers, bulk carriers and LNG carriers. By the end of 1995, its fleet in operation is expected to increase to 22, with a total capacity of 0.58 million tonnes.

10.57 In order to further encourage the utilization of Malaysian vessels for the country's trade, efforts towards strengthening the Shippers Council and the freight forwarding services will be continued in order to promote the interests of the local shippers. Shipping commitments in bilateral, regional and other trade arrangements in international shipping will be widened to further expand the shipping network.

10.58 In domestic shipping, the policy of confining domestic shipping to locally registered vessels will be reviewed. The performance of the domestic ship-owning and ship-operating community will be further improved in terms of efficiency and productivity so that the operations will be viable and profitable. The coastal trade between Peninsular Malaysia and Sabah and Sarawak is expected to increase to 4.5 million tonnes in 1995 which will constitute about 19.8 per cent of the total sea-borne trade of Sabah and Sarawak during the period.

10.59 Specific measures will be taken to enhance efficiency in the subsector. Liberalization of the haulier system will be continued to accelerate delivery time. With the development of the EDI network, the physical movement of documents will be replaced by a computer network that will connect the port authorities, the shippers and the forwarding agents and enable improved flow of information for faster clearance of documentation. Greater emphasis will be given to the carriage of Malaysian goods by the local shipping lines. The merchandise insurance industry will be developed further to encourage shippers and ship owners to insure with local insurance companies and reduce the need for reinsurance.

10.60 As shipping is a capital-intensive industry, the lack of sufficient financing has resulted in slow growth of the local shipping industry and a fleet which is mainly more than 15 years old. Although the Government has consistently provided fiscal incentives to attract greater investment into the industry, the limited success in stimulating growth of the Malaysian fleet remains a major concern. In this respect, the Government will assist in accelerating investment in the industry by instituting a loan scheme to supplement the efforts of the commercial banks, particularly *Bank Industri Malaysia Berhad* (BIMB). The loan scheme, which could be managed by BIMB to ensure that the fund is administered on sound commercial principles, should give priority for the smaller firms that have limited access to the financial market. In addition to improving access to ship financing, greater attention needs to be given to the close monitoring of the shipping industry in order to determine the types of vessels to be acquired, the identification of appropriate trades or sectors and the possibility of greater utilization of the local shipyards.

Air Transport

10.61 Given the anticipated growth of the economy, there will be continued efforts to expand and improve air transport in response to the increasing volume of international and domestic passenger and cargo traffic. As the Asia - Pacific region is expected to be the second important region in air transport development, passenger traffic in Malaysia is expected to grow between 7 and 10 per cent per annum over the Sixth Plan. The airports will handle between 17 to 19 million passengers by 1995, while the volume of freight is projected to increase at an annual average rate of 13 per cent for the international sector and 8 per cent for the domestic sector. With the exception of Subang International Airport, the increase in traffic is not expected to exert demand beyond the handling capacity of the existing airports. The Subang International Airport, being the main gateway and premier airport, will be upgraded. Additional parking bays will be constructed to cater for the rise in traffic demand for the interim period. However, in the long-run, new airport facilities may be required to accomodate the increase in traffic demand after 1995.

10.62 As the existing airports can adequately serve the traffic requirements for the first half of the 1990's, and since generally peak periods are not a major concern in the majority of the airports, the *hub and spoke* concept will be pursued actively. This concept based on the main and feeder airport system, aims at maximizing the use of airport capacity. A 'hub' is a collection, consolidation and distribution centre while a 'spoke' is a feeder airport to the main 'hub'. Since this concept

will emphasize greater frequencies, development efforts will focus on safety aspects such as the upgrading of air traffic control system, navigational and communication aids, and minor upgrading of existing facilities. The cargo complex at the Subang International Airport with some capacity upgrading will be able to handle cargo traffic until 1995. The upgrading of airports supporting tourism will also be given priority to complement the efforts towards developing the tourism industry. In order to provide better access to the remote areas, particularly in Sabah and Sarawak, the Government will continue to upgrade and improve the rural airstrips. In addition, the Government will continue to regulate safety and security standards in line with international requirements.

10.63 In line with the strategy to corporatize the airports, aviation charges will be reviewed to ensure efficiency in the use of capital resources in developing airport infrastructure. However, affordability and national interest considerations can be catered for under a new regulatory framework. The corporatization of the airports and the establishment of the National Airport Authority will further upgrade the efficiency of the airports in the country.

10.64 The nation's liberal and open sky policy will be continued to further encourage foreign airlines to increase services into Malaysia to promote tourism. New and additional traffic rights will be sought, particularly in Europe, the Far East as well as in the Southeast Asian region. Services will be launched to new destinations in North and South America, the South Pacific, India, China, the Middle East and Africa. On the domestic sector, Malaysian Airlines will operate additional frequencies and capacity to meet the growth in domestic demand by replacing existing aircrafts and acquiring additional aircraft such as B737 - 400/Combi and F50. The purchase of additional B747 - 400/ Combi will be able to accommodate the combined passenger and cargo needs.

Telecommunications

10.65 Under the Sixth Plan, the sector is expected to intensify its efforts to provide modern, efficient and high quality telecommunications services at affordable and competitive prices. A total of $5,350 million will be invested by *Telekom Malaysia Berhad* in the subsector for the digitalization of the domestic and international networks, the commissioning of the digital microwave network running from north to south and the launching of the Integrated System Digital Network (ISDN) on a commercial basis. With these developments, the exchange line capacity is targeted to increase from about 2.54 million in 1990 to 3.43 million in 1995.

10.66 It is anticipated that the telephone services will grow at about 14 per cent, as shown in *Table 10-5*. This will improve the telephone-population ratio per hundred from 8 in 1990 to 13 in 1995. In addition, the ATUR 450 will be expanded at a rate of 12 per cent per annum to cater for the rising demand. However, this service will be complemented with new systems such as the ATUR 800. A new generation of cordless telephones will be introduced for the general public. It is envisaged that other new mobile radio communications services, such as the ATUR digital systems, mobile data and Value-Added Network Services (VANS) including satellite-based services, will be considered. The potential for growth in the data and leased services is encouraging due to the increasing demand for data transfer. Although the demand for telex service will continue to decline further, this service will still be maintained, particularly as a means of communication to Third World countries.

10.67 As for regional development and international integration, about $1,020 million will be invested on switching and building new exchanges as well as upgrading the exchanges from analogue to digital. The digital microwave transmission will continue to be expanded and the optic fibre system will be implemented to enable high speed digital links

TABLE 10-5

GROWTH OF TELECOMMUNICATIONS SERVICES BY TYPE, 1990-95

Type of Services	*Subscribers*		*Average Annual Growth Rate, (%)*
	1990	*1995*	
Telephone	1,579,634	3,028,446	*14*
Telex	8,115	6,280	*-5*
Cellular (ATUR)	87,000	250,000	*24*
Paging	36,000	160,000	*35*
Maypac	1,125	2,640	*19*
Trunked Radio System	1,250	12,000	*57*
Datel	5,678	21,702	*31*
Leased Circuits	15,071	39,574	*21*
Telefax	36,716	120,000	*27*

between exchanges and for trunk links nationwide. As for the international network, $475 million will be spent on digital switching and for the use of cable and satellite facilities to support the rapid growth in international traffic. In addition, the new fully digital international telephone gateways will also be implemented.

10.68 The extension of telecommunications services to rural areas will continue with an investment of $1,390 million. Rural telephones are projected to increase by 12 per cent while the rural pay-phones at an average of 20 per cent. Where the provision of services by conventional means are uneconomical or impractical, multi-access radio system, single channel radio and radio call service or ATUR will be used. Solar-powered public pay-phones will also be installed in areas where there are no main power supply. The rental rates for rural telephones will be reduced regardless of their distance from the exchange stations. Telephone penetration in rural areas will be increased from the current level of 1.8 to 3.1 per hundred by 1995.

10.69 The Government will review the tariff structure for all telecommunications services which has prevailed since 1985 so that the tariff and rental charges will be more reflective of cost and to attract local and foreign investors. In addition, it will also introduce new systems to manage radio spectrum in view of the demand for the radio communications services in the country.

Postal Services

10.70 The postal services will continue to be expanded and modernized to improve quality and extent of coverage. In line with the changing socio-economic and technological environments, measures will continue to be taken to provide new and innovative services. The computerization programme will be extended to smaller post offices to provide improved counter services. This will be supplemented with the introduction of the tracking and tracing system for mail-related services and improving other supplementary services.

10.71 The Mail Order Business will be further promoted to generate new shopping methods where business establishments will operate from a single location and reach the entire consumer market. In addition, its services as a one-stop centre will be expanded to other small towns and the post offices will be made into convenient service-oriented centres providing services such as packaging, stationery and gift shops. Mechanization of the postal services will be continued to further promote efficiency.

10.72 In line with the socio-economic objectives, the post offices will continue to extend communications facilities, cash transmissions and delivery services to the remote areas which are not being provided by other establishments to enable the rural population to enjoy the benefits of such facilities and services. With the corporatization of the Postal Services Department, the corporatized entity will be able to diversify into the consumer market and participate in financial services.

Meteorological Services

10.73 During the Sixth Plan, the current activities of the Meteorological Department will be further modernized and expanded to ensure more efficient collection and faster dissemination of data necessary for aeronautical weather forecasting. In addition to the replacement of the storm-warning radar at Kota Bharu and Kuantan and the installation of a new radar in Sibu, all the storm-warning radars will be integrated under a single system to obtain a complete overall view of storm conditions in the country. The existing seismological monitoring system will be replaced by a telemetry system for more efficient monitoring of seismological activities. As part of the Government's efforts to alleviate the environmental problems associated with air pollution and flash floods in the urban areas, the Automatic Applied Meteorological Observing System will be implemented, initially as a pilot project in the Klang Valley.

Facilities And Private Investment

10.74 The programmes in the sector will further enhance the nation's reputation of having a well-developed and efficient transport and communications system. With the Sixth Plan programmes, which include the construction of major highways and innovative urban mass transit systems, modernization of the railroad, upgrading of port and airport capacity and the expansion of telecommunications services, the sector will be well placed to meet the demands from the rapid growth in industrialization and trade. The sector's facilities will be sufficient to attract private investment and eliminate any potential bottlenecks in the sector. The Government is also committed to provide the incentives and opportunities for the private sector to participate in the development of transport and communications, notably in the construction and operation of transport and telecommunications facilities.

IV. ALLOCATION

10.75 Recognizing that the efficiency of transport and communications facilities is critical to economic growth and competitive strength, substantial investment is required to finance the sector's development. As shown in *Table 10-6*, a total of $25,190 million is expected to be invested in the sector under the Sixth Plan. Of this, $10,792 million will form the Federal component with the rest from the Non-Financial Public Enterprises notably Malaysian Airlines, MISC, PNSL, *Telekom Malaysia Berhad* and the Port Authorities. Of the total Federal funding, $7,585 million or 70 per cent is for road development. The allocation for the communications sector will amount to $73 million which will be complemented by a substantial investment of $5,350 million by *Telekom Malaysia Berhad.* This sizeable infusion of public sector funds will also offer significant opportunities for private sector involvement in the construction, maintenance and management of transport and communications facilities.

V. CONCLUSION

10.76 The high economic growth expected in the Sixth Plan period will exert pressure on the Government to expand investments to increase capacity and improve the quality of services in the transport and communications sector. The Government will continue to place heavy emphasis in developing the sector to ensure that the sector's facilities are provided ahead of demand and are of high quality. The strategic focus of these programmes will be to support national economic growth arising from rapid private sector investment in industrial and other commercial activities. The private sector is expected to participate more actively and take advantage of the opportunities created by the development of the sector.

TABLE 10-6

DEVELOPMENT ALLOCATION FOR TRANSPORT AND COMMUNICATIONS, 1986-95

($ million)

Sector	*Federal Government*		*NFPEs*		*Total*	
	Expenditure 5MP	*Allocation 6MP*	*Expenditure 5MP*	*Planned Expenditure 6MP*	*Expenditure 5MP*	*6MP*
TRANSPORT	**6,823.0**	**10,718.9**	**4,393.4**	**8,940.7**	**11,216.4**	**19,659.6**
Railways & Light Transit	370.0	1,368.1	527.1	609.0	897.1	1,977.1
Ports & Shipping	243.3	768.6	1,107.3	2,877.1[1]	1,350.6	3,645.7
Ports	151.3	757.6	506.3	1,968.0	657.6	2,725.6
Shipping	92.0	–	601.0	909.1	693.0	909.1
Marine Academy	–	11.0	–	–	–	11.0
Civil Aviation	198.7	997.5	2,759.0	3,934.6[2]	2,957.7	4,932.1
Roads & Bridges	4,849.6	6,298.7[3]	–	1,520.0[4]	4,849.6	7,818.7
Peninsular Malaysia	1,262.5	4,057.6	–	1,520.0	1,262.5	5,577.6
Sabah	440.0	390.4	–	–	440.0	390.4
Sarawak	548.7	786.8	–	–	548.7	786.8
Malaysian Highway Authority	2,555.4	991.0	–	–	2,555.4	991.0
Machinery	43.0	63.1	–	–	43.0	63.1
Research & Development	–	9.9	–	–	–	9.9
Rural Roads Programme	1,161.4	1,286.0	–	–	1,161.4	1,286.0
Rural Roads	525.2	550.6	–	–	525.2	550.6
Village Roads	499.2	500.0	–	–	499.2	500.0
Security Roads/KESBAN	137.0	235.4	–	–	137.0	235.4
COMMUNICATIONS	**791.9**	**72.9**	**3,512.4**	**5,457.9**	**4,304.3**	**5,530.8**
Telecommunications	778.7	41.3	3,432.2	5,350.0[5]	4,210.9	5,391.3
Postal Services	–	–	80.2	107.9	80.2	107.9
Meteorological Services	13.2	31.6	–	–	13.2	31.6
Total	**7,614.9**	**10,791.8**	**7,905.8**	**14,398.6**	**15,520.7**	**25,190.4**

Notes:

[1] Investment by the Port Authorities, MISC and PNSL

[2] Expenditure by Malaysian Airlines

[3] Excludes allocation for Dewan Bandaraya ($40.1 million)

[4] Includes privatized highways such as North-South Link, Kulim-Butterworth and Seremban-Port Dickson

[5] Investment by *Telekom Malaysia Berhad*