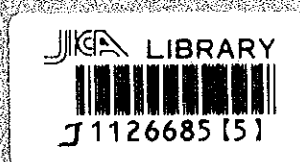


**JAPAN INTERNATIONAL COOPERATION AGENCY
ECONOMIC PLANNING UNIT
PRIME MINISTER'S DEPARTMENT
MALAYSIA**

**A STUDY
ON
THE DEVELOPMENT AND PROMOTION PLAN
FOR
THE SUPPORTING INDUSTRY IN MALAYSIA**

MAIN REPORT

VOLUME I : OVERVIEW OF THE INDUSTRY



August 1995

**THE JAPAN RESEARCH INSTITUTE, LIMITED
JAPAN ASIA INVESTMENT CO., LTD.**

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PREFACE

In response to a request from the Government of Malaysia, the Government of Japan decided to conduct a Study on the Development and Promotion Plan for the Supporting Industry in Malaysia and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent a study team, led by Mr. Takashi Nobehara of the Japan Research Institute, Ltd. and organized by the Japan Research Institute, Ltd. and Japan Asia Investment Co., Ltd. to Malaysia six times from March 1994 to June 1995.

The team held discussions with the officials concerned of the Government of Malaysia, and conducted related field surveys. After returning to Japan, the team conducted further studies and compiled the final results in this report.

I hope this report will contribute to the promotion of the plan and to the enhancement of friendly relations between two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of Malaysia for their close cooperation throughout the study.

August 1995



Kimio Fujita

President

Japan International Cooperation Agency

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ACRONYMS AND ABBREVIATIONS

AFM	Automobile Federation of Malaysia
AFTA	Ascan Free Trade Area
AOTS	Association for Overseas Technical Scholarship
ASEAN	Association of South-East Asian Nations
AIJV	Ascan Industrial Joint Venture
BBC	Brand to Brand Complementation
BPMB	Bank Pembangunan Malaysia Bhd.
CBU	Completely Built Up
CEPT	Common Effective Preferential Tariff
CIAST	Centre for Instructor and Advance Skill Training
CIF	Cost, Insurance and Freight
CKD	Completely Knocked Down
CPI	Consumer Price Index
EAEC	East Asia Economic Caucus
EC	European Community
ECR	Export Credit Refinancing
EPU	Economic Planning Unit
FOB	Free on Board
FTZ	Free Trade Zone
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GNP	Gross National Product
GVW	Gross Vehicle Weight
IAF	Industrial Adjustment Fund
IBA	Industrial Building Allowance
ICA	Industrial Coordination Act
ICU	Implementation and Coordination Unit
IMF	International Monetary Fund
IMP	Industrial Master Plan
ISO	International Standardization Organization

ITA	Investment Tax Allowance
ITAF	Industrial Technical Assistance Fund
ITI	Industrial Training Institute
HICOM	Heavy Industries Corporation of Malaysia Bhd.
HRDF	Human Resource Development Fund
JAMA	Japan Automobile Manufacturers Association
JAPIA	Japan Automobile Parts Industry Association
JICA	Japan International Cooperation Agency
K.L.	Kuala Lumpur
LMCP	Local Material Content Policy
LMW	Licensed Manufacturing Warehouse
LSI	Large Scale Industries
MACPMA	Malaysia Automobile Component Parts Manufacturers Association of Malaysia
MARA	Majlis Amanah Rakyat
MASAAM	Motorcycle and Scooters Assemblers Association of Malaysia
MATRADE	Malaysia External Trade Development Corporation
MDP	Mandatory Deletion Programme
MECIB	Malaysian Export Credit Insurance Bhd.
MIDA	Malaysian Industrial Development Authority
MIDF	Malaysian Industrial Development Finance Bhd.
MIMOS	Malaysian Institute of Micro-Electronic Systems
MITI	Ministry of International Trade and Industry
MITIC	Malaysian Industrial Technology Information Centre
MMTA	Malaysian Motor Trader Association
MMVAA	Malaysian Motor Vehicle Assembler Association
MOE	Ministry of Environment
MOF	Ministry of Finance
MOSTE	Ministry of Science, Technology and Environment
MOT	Ministry of Transport
MS	Malaysian Standard

MSI	Medium Scale Industries
NEP	New Economic Policy
NIES	Newly Industrializing Economies
NPC	National Productivity Corporation
OECD	Organization for Economic Cooperation and Development
OECF	Overseas Economic Cooperation Fund
OEM	Original Equipment Manufacture
OMV	Open Market Value
OPP	Outline Perspective Plan
PERODUA	Perusahaan Otomobile Kedua Sdn. Bhd.
PROTON	Perusahaan Otomobile National Bhd.
QC	Quality Control
OCC	Quality Control Circle
QCD	Quality, Cost and Delivery
RA	Reinvestment Allowance
R & D	Research and Development
REM	Replacement Equipment Manufacture
RRIM	Rubber Research Institute of Malaysia
SEDC	State Economic Development Corporation
SIRIM	Standards and Industrial Research Institute of Malaysia
SITC	Standard International Trade Classification
SMI	Small and Medium Scale Industries
SSI	Small Scale Industries
TQC	Total Quality Control
TSI	Trade Specification Index
VAT	Value-added Tax
VDP	Vendor Development Programme
UTM	Universiti Teknologi Malaysia
WTO	World Trade Organization
4 WD	4-wheel Drive

INTRODUCTION

This is the Final Report (Main Report – Volume I) of "A Study on the Development and Promotion Plan for the Supporting Industry in Malaysia."

The report consists of the following three volumes:

Summary	:	Proposal of Development Plan
Main Report	Volume I :	Overview of the Industry
	Volume II :	Analysis and Recommendation

1. OUTLINE OF THE STUDY

In response to the request of the Government of Malaysia, the Japan International Cooperation Agency (JICA) agreed with the Economic Planning Unit of Malaysia to undertake "A Study on the Development and Promotion Plan for the Supporting Industry in Malaysia" on December 22, 1993. The major objective of the Study is to formulate a plan for supporting industry in Malaysia, focusing on the automotive parts and components industry.

In order to implement the Study, the JICA Study Team was formed. The team mainly consists of the staff members of the Japan Research Institute, Limited (formerly the Sumitomo Business Consulting Co., Ltd.) and Japan Asia Investment Co., Ltd.

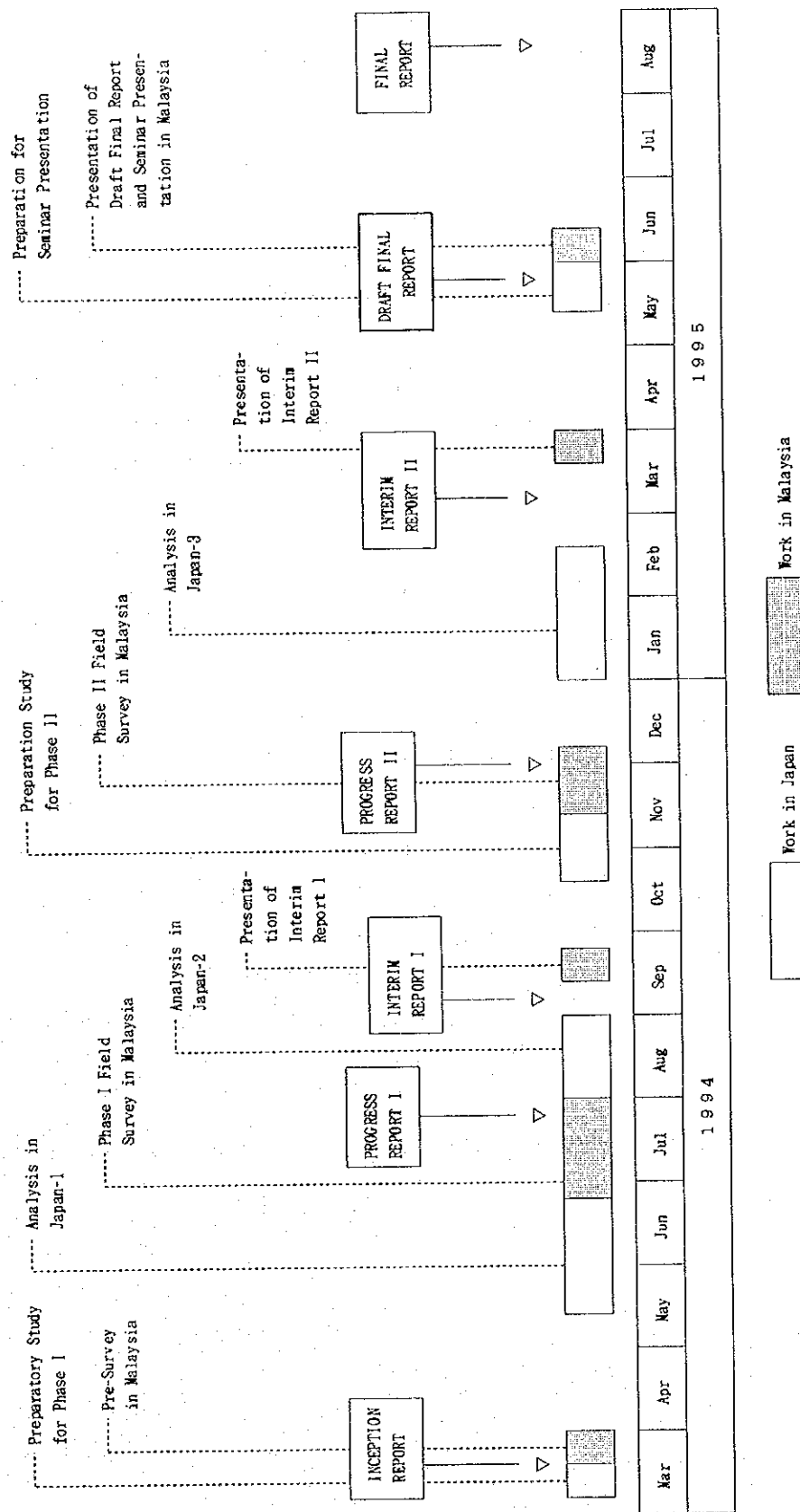
The study period for the project is from March 1994 to August 1995, and was divided into two phases. The study period of the 1st phase was between March 1994 and September 1994 and that of the 2nd phase was between October 1994 and August 1995. The major objective of the study in each phase was as follows.

Phase I : Based on the present policies and regulations for the development of the automotive parts and components industry and the understanding of the current status of the target industry in Malaysia, priority areas and products for future development were selected.

Phase II : Based on the results of an in-depth study of the selected priority areas and products, a sectoral master plan for the development of the automotive parts and components industry was proposed.

The overall implementation schedule of the Study was as shown in Fig. I-1.

Fig. I - I. Work Schedule



2. IMPLEMENTATION OF STUDIES IN MALAYSIA

(1) Field Interview Survey

From the nature of the study which covers a wide range of areas, the field interview survey by direct visit was used as the principal method of survey in Malaysia.

In the field work in phase I, the emphasis was placed on the visit of as many companies and organizations as possible in order to understanding the current industry status in Malaysia. Thus, intensive visits were made in July, 1994, dividing the team members into the following four groups :

- Parts Group I : Mainly visited those automotive parts manufacturers which produce engine, transmission, brake, suspension and steering related products.
- Parts Group II : Mainly visited those automotive parts manufacturers which produce electrical system, wheel, body and accessory related products.
- Assembler : Mainly visited automobile and motorcycle assemblers as well as large-scale automotive component manufacturers.
- Policy Group: Mainly visited government organizations, public service organizations and financial institutions which are directly or indirectly concerned with the development of the automotive industry.

The number of companies and organizations visited during the phase I survey period was as follows :

Types of companies and organizations visited	No. of companies / organizations
1. Automotive parts and components manufacturers (K.L. and Selangor area) (Penang area) (Johore area)	45 (36) (5) (4)
2. Automotive assemblers	9
3. Motorcycle assemblers	4
4. Industry associations and others	3
5. Government and other public organizations	15
TOTAL	76

In the phase II field survey, the in-depth interview survey was conducted during the period between November and December, 1995, dividing the team members into the following four groups :

Key Components: Group	Mainly visited automotive assemblers and parts manufacturers which are currently producing or have potential to produce engine and transmission related key parts.
Export-oriented: Product Group	Mainly visited those automotive parts manufacturers which are currently producing or intended to start to produce export products.
Engineering Sub- : sector Group	Mainly visited those engineering subsector companies which undertake a part of the major processing work for automotive parts production.
Policy Group:	Mainly visited government organizations, public service organizations and financial institutions which are directly or indirectly concerned with the development of the automotive parts industry.

In this field survey, the emphasis was placed on the collection of necessary data and

information for analysis. Thus, repeated visits were made to important companies and organizations rather than numerous visits of new companies and organizations.

The number of companies and organizations visited was as shown below :

Types of companies and organizations visited	No. of companies / organizations
1. Automotive manufacturers and assemblers	4
2. Key component manufacturers and Engineering subsector companies	12
3. Automotive parts manufacturers producing export-oriented products	10
4. Government and other public organizations	11
5. Industry associations and others	5
T O T A L	42

(2) Questionnaire Survey

Because the number of companies that could be covered by direct visit is limited, two questionnaire surveys were conducted making use of a Malaysian local consulting company, RMA-Perunding Bersatu Sdn. Bhd.

During the phase I study period, a questionnaire survey targeting 235 Malaysian automotive parts and components manufacturers was conducted, and 1) their current status of operations, 2) managerial and technical problems and 3) expectations for policy supporting measures were investigated.

The rates of effective responses for the questionnaire survey were as follows :

Location of companies	No. of companies contacted	No. of effective answers	Rate of effective respondents
1. K.L.	34	7	20.6%
2. Selangor	140	72	51.4
3. Penang	13	6	46.2
4. Johore	16	6	37.5
5. Kedah	4	2	50.0
6. Perak	12	10	83.3
7. Kelantan	1	0	0.0
8. Malaka	5	3	60.0
9. Negeri Sembilan	5	1	20.0
10. Terengganu	2	1	50.0
11. Sabah	1	0	0.0
12. Sarawak	2	0	0.0
TOTAL	235	108	46.0%

In the Phase II survey period, another questionnaire survey was conducted with the purpose of obtaining further detailed information for the secondary subcontractors. From the results of the previous questionnaire survey, the target companies were selected, and a questionnaire survey was conducted by direct visit to each target company by local consultants. The number of companies visited was 29, and their major activities were as follows:

Major production processes of companies	Number of Companies
1. Machining	8
2. Press work	5
3. Plating and surface treatment	4
4. Heat treatment	2
5. Painting	1
6. Plastic moulding	3
7. Rubber moulding	1
8. Mould and die manufacturing	5
Total	29

3. IMPLEMENTATION OF STUDIES IN JAPAN

(1) Collection and Analysis of Secondary Data and Information Available in Japan

In advance of the field survey in Malaysia, secondary data and information related to the study were collected by visiting the industry associations related to automotive parts manufacturing, major automotive assemblers and automotive parts and components manufacturers.

(2) Questionnaire Survey in Japan

With the aim of investigating the intentions of Japanese automotive parts manufacturers toward future overseas operations and their interests in investing in Malaysia or promoting technical tie-ups with Malaysian manufacturers, a mailed questionnaire survey was conducted during the period between June and August, 1994. The results of the responses for the survey were as follows:

Production item	No. of companies contacted	No. of effective answers	Rate of effective respondents
1. Engine-related parts	645	166	25.7%
2. Transmission-related parts	679	103	15.2
3. Body-related parts	396	157	39.6
4. Other parts	1,915	185	9.7
TOTAL	3,635	611	16.8%

(3) Study on the Business Strategies of the World Major Automotive Assemblers and Automotive Parts Manufacturers in the Asian Region

Mainly based on a survey of the literature, which was supplemented by a limited number of interviews, the business strategies of major Japanese and other countries' automotive assemblers and automotive parts manufacturers in the Asian market were investigated.

3. ORGANIZATION OF THE STUDY TEAM

The JICA Study Team is a Joint Venture between the Japan Research Institute, Limited and Japan Asia Investment Co., Ltd., and is composed of the following members.

Team Leader	Takashi NOBEHARA The Japan Research Institute, Limited
Supporting Industry Development Systems	Seiichi AOKI The Japan Research Institute, Limited
Automobile Industry Policy	Kazuo MISHIMA The Japan Research Institute, Limited
Sub-contracting Systems	Tatsuro BANDO The Japan Research Institute, Limited
Market Demand Analysis	Yoichi MATSUI The Japan Research Institute, Limited
Management & Pro- duction Control	Mitsuo SHIMIZU The Japan Research Institute, Limited
Automotive Parts Industry - Metal	Susumu HONGO Hino Motors, Ltd.
Automotive Parts Industry - Plastic & others	Kazuo KIMIJIMA JRI Business Consulting Co., Ltd.
Deputy Leader Automotive Parts Industry - Electric & electronics	Makoto SAKAI Japan Asia Investment Co., Ltd.
Motorcycle Parts Industry	Hiroshi IMAI The Japan Research Institute, Limited
Investment Promotion	Koichi KOBAYASHI Japan External Trade Organization
Export Promotion	Tomohiro ANDO Institute of International Trade and Investment

From the Malaysian side, the following members are assigned as counterparts.

MITI	Mr. Tajudin Baharom Mr. Robert Lian Mr. Nor Ayob A. Latif Mr. Othman Omar Mr. S. Rangunathan
MIDA	Mr. Ahmad bin Mohd. Sarkan Mr. Ong Wah Teng
TREASURY	Ms. Siti Halimah Ismail
SIRIM	Mr. Yahaya Ahmad Dr. Mustaza Ahmadun

CHAPTER 1. AUTOMOTIVE INDUSTRY IN MALAYSIA

1. INDUSTRIAL DEVELOPMENT AND POSITION OF THE AUTOMOTIVE INDUSTRY

1.1. HISTORY OF THE AUTOMOTIVE INDUSTRY IN MALAYSIA

In the middle of the 1960s, the Malaysian Government started to encourage the import substitution of the automotive industry. In 1964, the government introduced an automotive industry policy which consisted of measures to promote and protect local assembly, and measures to promote the localisation of parts and components were introduced. In response to these measures, automobile assembly plants were established. One example of these plants was the joint venture of Aktienbolag Volvo established in 1967. In 1969, automotive assembly became subject to government approval with the introduction of the assembly slots system in which assembly slots were allocated by the government to franchise holders. At that time there were 7 approved assembly plants engaging in production of 126 models of 28 makes. The assembly slots system continued until it was abolished in 1990 in response to the industry's request for flexibility to introduce suitable models in the market.

The size of the automotive market in Malaysia increased from 28,915 units in 1971, to 47,945 units in 1975, and to 110,973 units in 1980. During this period the average annual growth rate was 15.4%. However, the nature of local automotive assembly in Malaysia was small-scale and ineffective, and the progress of localisation was slow.

Table 1-1-1 History of the Automotive Industry Policy in Malaysia

Year	Policy and Measure	Content
1964	Announcement of a new automotive industry policy	To encourage local assembly and progressive localisation.
1967	Introduction of high import duty on CBU units and import license system	To restrict CBU imports through high import duty and import license system to promote local assembly.
1968	Establishment of the Investment Incentives Act	To promote the automotive parts and components industry by designating automotive parts and components as a priority industry.

Table 1-1-1 History of the Automotive Industry Policy in Malaysia (Continued)

Year	Policy and Measure	Content
1969	Introduction of assembly slots system Announcement of the local content policy	To establish a local assembly system of automobiles by allocating assembly slots to franchise holders. To set the local content target of 20% on a value basis to be achieved in 1977.
1972	Modification of the local content policy	To set the local content target of 35% on a weight basis to be achieved in 1982.
1976	Modification of a local content policy	To designate items to be localised. Twenty-seven items were designated. The localisation of these items meant 30% of localisation for passenger cars and 25% for commercial vehicles.
1980	Introduction of the Mandatory Deletion Programme	To oblige local makers to use parts and components listed for mandatory deletion. For those items in the list which were approved as localised based on the application from local part manufacturers, imports of these items were to be banned.
1982	Announcement of a National Car Project Modification of control on sales prices of automobiles Increase in import duty on CKD kits	To promote a national car project with the assistance of the government. To modify the sales price control system of automobiles. Sales prices were to be examined with the consideration of import prices and exchange rates. To increase import duties on CKD kits for passenger vehicles progressively.
1983	Establishment of PROTON	To set up a joint venture engaging in the production of a national car with the investment of HICOM and Japanese companies
1985	Announcement of the list of parts and components the localisation of which would be encouraged Announcement of the Industrial Master Plan	To announce the list of 102 items to be localised. To start the medium and long-term industrial development plan (1986-95) covering the automotive industry.
1989	Announcement of a plan to reduce import quota on CBU unit imports	To reduce import quota to 5% of domestic production by 1995.
1990	Abolishment of the assembly slots system	To abolish the assembly slots system which had been introduced in 1969.
1991	Announcement of a second National Car Project	To start the production of 660 cc-level passenger cars as a second national car.
1992	Introduction of a new local content policy	To announce a new local content policy which indicates the localisation targets on a point system up to 1996.

Since the end of the 1970s, further policy initiatives were introduced in an effort to push the rationalisation of the automotive industry and the localisation of automotive parts and components. In 1976, the local content policy was reviewed and parts and components for localisation were identified. In 1980, a new local content programme was introduced. This programme took the form of the Mandatory Deletion Programme (MDP) and parts and components on the deletion list had to be procured locally. In 1982, the government announced the National Car Project, the major objectives of which were to realise an effective scale of automobile production and to promote the localisation of parts and components.

The Perusahaan Otomobil Nasional Berhad (PROTON) was incorporated as a joint venture of the Heavy Industries Corporation of Malaysia (70%), Mitsubishi Motor Corporation (15%), and Mitsubishi Corporation (15%) in 1983. The company was granted preferential tax and duty rates in order to realize an efficient scale of production by gaining a large market share and to achieve as large an extent of local sourcing as possible. With technical assistance from Mitsubishi Motor Corporation, PROTON started the production of a national car, SAGA, in 1985.

In the Medium and Long Term Industrial Master Plan (IMP) (1986 - 1995), the following policy instruments were recommended for the development of the automotive industry.

- Assistance for PROTON to establish its base;
- Rationalisation of the automobile industry in the country;
- Market development through phasing out CBU imports, appropriate pricing to stimulate domestic demand, incentives for export promotion and quality enhancement;
- Development and rationalisation of the components subsector through incentives;
- Manpower development to support the automotive industry
- Promotion of technology and R&D activities; and
- Increase in the role of the industry association.

In the IMP, it was suggested that the automotive industry be rationalised so as to result in perhaps a maximum of three vehicle manufacturers including PROTON by 1995. Major automotive production projections in the IMP were as shown in Table 1-1-2.

Table 1-1-2 Automotive Production Projections in IMP

Year	Passenger Car		Commercial Vehicle		Motorcycle		Automotive Parts	
	Target (Units)	Actual (Units)	Target (Units)	Actual (Units)	Target (Units)	Actual (Units)	Target (RM Million)	Actual (RM Million)
1986	115,280	42,180	35,630	19,814	233,230	109,829	908.0	88.6
1987	124,260	33,685	39,690	15,295	248,550	77,655	1,115.6	103.9
1988	133,910	61,338	44,160	23,787	264,880	99,517	1,353.8	140.5
1989	144,300	81,873	49,100	48,772	288,280	151,710	1,625.0	193.3
1990	155,550	116,526	54,540	75,054	300,840	211,804	1,926.9	284.8
1991	166,620	137,029	60,040	81,099	318,950	229,865	2,186.5	405.1
1992	178,580	141,985	66,080	35,054	338,150	242,374	2,495.7	344.9
1993	191,350	130,176	72,680	34,929	358,500	265,551	2,784.7	-
1994	205,030	-	79,910	-	380,090	-	3,134.2	-
1995	219,670	-	87,830	-	402,970	-	3,522.7	-
Growth Rate(86/90)	7.77%	28.92%	11.29%	39.51%	6.57%	17.84%	15.44%	33.90%
Growth Rate(91/95)	7.15%	-	10.00%	-	6.02%	-	12.82%	-

Note: Automotive parts production amounts are at 1981 constant price basis.

Source: MITI, MIDA, MMVAA, MMTA

In 1991, a new local content programme for passenger and commercial vehicles was introduced. This policy indicates the year-by-year targets of localisation up to 1996 and this is the basis for the country's localisation policy at present.

In 1991, a second National Car Project was launched following the success of PROTON. Perusahaan Otomobil Kedua Sdn. Bhd. (PERODUA) was set up with the participation of a Japanese car manufacturer, Daihatsu. PERODUA started the production of the second national car, KANCIL (660 cc) in July, 1994. New national car projects following PERODUA are currently under preparation in Malaysia.

1.2. AUTOMOTIVE INDUSTRY IN THE MANUFACTURING SECTOR

The automotive industry comprises passenger cars, commercial vehicles, motorcycles and parts and components subsectors.

The trend of the industry's output is shown in Table 1-1-3. The output of the industry increased at an average annual growth rate of 27.4% on a constant price basis during the period 1986 - 1992, exceeding that of the whole manufacturing sector. Value added of the automotive industry grew by 27% per annum on a constant price basis during the same period.

The proportion of value added to output was 30.2% in 1992. Value added per employee increased from RM20,864 in 1986 to RM41,821 in 1992.

In spite of the rapid growth since 1986, the share of the automotive industry in the output of the whole manufacturing sector is still small and it was 2.9% in 1992. In terms of value added, the automotive industry accounted for 3.4% of the whole manufacturing sector.

Table 1-1-3 Position of the Automotive Industry in Malaysia

	Output		Added Value		Number of Employees	
	Automotive Industry (RM '000)	Share in the Manufacturing Sector	Automotive Industry (Rm '000)	Share in the Manufacturing Sector	Automotive Industry (Persons)	Share in the Manufacturing Sector
1986	740,534	1.6%	228,164	1.8%	10,936	2.3%
1987	893,961	1.7%	268,916	2.0%	10,251	2.0%
1988	1,380,070	2.2%	392,237	2.6%	11,621	1.9%
1989	2,054,325	2.8%	554,332	3.0%	16,366	2.6%
1990	2,886,277	3.3%	871,047	3.9%	20,834	2.5%
1991	3,378,059	3.4%	1,019,461	4.2%	24,375	2.5%
1992	3,169,091	2.9%	956,397	3.4%	22,869	2.1%

Note: At constant 1981 price based on Producer price index for Malaysian External Trade Statistics.

Source: MITI

Table 1-1-4 Size of the Automotive Industry in Malaysia

Industry	Year	No. of Companies	Sales Values* (RM '000)	Paid ** Employees
Manufacture and Assembly of Motor Vehicles	1991	9	2,422,868	8,103
	1992	10	2,380,442	7,176
	1993	12	3,030,135	7,548
Manufacture and Assembly of Motorcycles and Scooters (No. of Employees: 30 or more)	1991	19	820,996	30,741
	1992	21	907,394	36,296
	1993	24	1,025,057	47,613
Manufacture of Motor Vehicle Parts and Accessories (No. of Employees: 30 or more)	1991	29	608,846	4,940
	1992	36	529,933	5,191
	1993	45	828,123	9,238

Note: * Sales values of own manufactured products (Ex-factory basis)

** Paid employees engaged at end of period

Source: Monthly Manufacturing Statistics, Department of Statistics

2. AUTOMOTIVE INDUSTRY IN MALAYSIA

2.1. DOMESTIC PRODUCTION AND THE MARKET

2.1.1. Trend of Domestic Production

(1) Transition of Production Achievement

Table 1-2-1 shows the trend of motor vehicle production and related economic indices from 1981 to 1993 in Malaysia. In this period, total production of all motor vehicles grew by 47.2%, among which passenger car production grew by 48.2% and commercial vehicles by 43.5%.

For the period from 1982 to 1993, for which the related economic indices have been collected, net domestic production increased by 100.5%, gross national production per capita by 104.3%, the consumer price index by 34.9% and total motor vehicle production by 66.2% (passenger cars by 52.6% and commercial vehicles by 248.9%).

Production of motor vehicles in Malaysia recorded its first peak in 1984, and then marked a sharp drop afterwards due to a recession in 1986 and 1987 and finally declined to a level in 1987 of 40% of the peak figures of 1984. Although it had been recovering continuously after the recession, the motor vehicle market became overheated in 1990 and 1991. In order to cool it down, the Malaysian government adopted such policies as shortening the car purchase loan period, raising excise duties for dual purpose vans and 4WD vehicles (doubled to 30% for vans and increased from 15% to 45% for 4WD vehicles) and consequently motor vehicle production in 1992 decreased by 20% compared to the previous year. Production of commercial vehicles, for which the strictest regulations were applied, dropped by 60% in 1992. Although the car purchase loan period was allowed to increase back to 5 years in 1992, production of light trucks, vans and 4WD vehicles was still less than half of that in the peak year because of the higher selling prices caused by higher excise duties. Commercial vehicles produced as a whole were 81,000 units in 1991 but only 35,000 units in 1993.

Table 1-2-1 Motor Vehicle Production in Malaysia

	Passenger Vehicles*1		Commercial Vehicles		Total		Economic Index				
	Units	Increase (%)	Units	Increase (%)	Units	Increase (%)	Population (mil)	GDP(Net)*2 Increase (%)	GNP per capita (RM)	CPI*3	Bank *4 Lending Rate(%)
1981	87,822	8.34%	24,353	-3.31	112,175	5.57	NA	NA	NA	NA	NA
1982	85,321	-2.85%	14,043	-42.34	99,364	-11.42	14.4	5.6	4,068	5.8	12.00
1983	100,223	17.47%	18,239	29.88	118,462	19.22	14.7	6.3	4,451	3.7	10.75
1984	96,361	-3.85	28,555	56.56	124,916	5.54	15.3	7.8	4,858	3.9	12.25
1985	69,769	-27.60	42,053	47.27	111,822	-10.48	15.7	-1.0	4,580	0.4	12.00
1986	42,180	-39.54	19,814	-52.88	61,994	-44.56	16.1	1.2	4,131	0.6	11.50
1987	33,685	-20.14	15,295	-22.81	48,980	-20.99	16.5	5.3	4,527	0.8	9.25
1988	61,338	82.09	23,787	55.52	85,125	73.80	16.9	8.9	5,077	2.5	9.00
1989	81,873	33.48	48,772	105.04	130,645	53.47	17.4	9.2	5,494	2.8	8.50
1990	116,526	42.33	75,054	53.89	191,580	46.64	17.8	9.7	6,208	3.1	9.00
1991	137,029	17.60	81,099	8.05	218,128	13.86	18.2	8.7	6,791	4.4	10.00
1992	141,985	3.62	35,054	-56.78	177,039	-18.84	18.6	7.8	7,543	4.7	10.50
1993	130,176	-8.32	34,929	-0.30	165,125	-6.73	19.0	8.5	8,311	3.6	10.50

Note: *1: 1981-1989 MIDA information and 1990-1993 MMVAA information PROTON Annual Report *2: 1978 Price

*3: 1980 = 100 *4: After 1985 - Finance company rate

Source: Motor Vehicle Production, MIDA, 1994, Annual Report, PROTON, 1992, 1993,

Vehicle Production Achievement, MMVAA, 1990-1993, Annual Report, Bank Negara Malaysia, 1984-1993

The production of passenger vehicles recovered in 1990, coming back to the level of the first half of the 1980s and reached a high of 141,985 units in 1992. PROTON achieved production of 100,000 units in 1992 for the first time in its history, increased its production capacity to 120,000 units per year in April, 1993 and is now proceeding with expansion work to increase its production capacity to 150,000 units. This expansion is scheduled for completion by the end of 1994. Contrary to this achievement by PROTON, those manufacturers who have their cars assembled, and who once assembled more than 100,000 units annually before the emergence of PROTON in 1985, have been reducing their production of passenger vehicles to 49,000 units in 1991, 37,000 units in 1992 and 27,000 units in 1993. This drop in production volume can be mainly attributed to their higher sales prices due to the following. Firstly, the import duty on CKD parts and the excise duty on them are much higher than those for PROTON. Secondly, due to their smaller purchase volumes, local parts for these non-PROTON models are also more expensive under the local content programme. Lastly, assembled Japanese models largely depend on parts and components imported from Japan, and their import cost tends to become higher reflecting the recent upward evaluation of the Japanese Yen.

(2) Production Trend of Passenger Vehicles and Commercial Vehicles

1) Passenger Vehicles

Although major sectors in passenger vehicles had been these with either 1,300 cc or 1,500 cc engines until 1987 or 1988, the mainstream of production became 1,500 cc engine vehicles afterwards as the growth of the Malaysian economy accelerated so that disposable income kept growing and demand for cars with bigger engines increased. Production of 1,300 cc cars grew only slowly while, on the contrary, that of 1,600 cc cars increased. After PROTON started marketing 1,500 cc and 1,600 cc cars in 1993, those with 1,500 cc and 1,600 cc engines represented the major segments of the market.

In the segment of cars with 1,151 cc to 1,750 cc engines, PROTON was a major supplier occupying a production share of 92.5% in 1993 (102,838 units out of 111,126 units). The number of assembled cars other than PROTON was only 8,288 units in this segment but it was still a volume zone for them in addition to the 7,032 units in the 1,951 cc to 2,150 cc segment.

Nissan, one of the major suppliers of assembled cars, started marketing their so-called Asian Car from the end of July, 1993, aiming for monthly sales of 300 units. As this car is a wagon with a 1,600 cc engine which PROTON does not have and the price difference is rather small, Nissan's target may have a chance to be met and, and if so, production of assembled cars in this segment may be increased by 40%.

Both Japanese and American car manufacturers are now planning to introduce Asian Strategic Cars of which the designing through manufacturing is intended solely to be done in Asia, especially ASEAN countries. Since they are aiming at the common use of parts and components among the different types of cars and the utilisation of the BBC scheme, they may have considerable competitive advantage over National Cars, if their plan is realised.

The production volume in the below 1,000 cc, low-priced car segment had also been increasing until the disclosure of the Second National Car Plan. The future prospects of this segment depend on the performance of PERODUA who kicked off sales of their 660 cc cars in August, 1994.

The 2,000 cc segment, which has been consolidating its production bases to a certain level since 1989, was the last field where the assembled car manufacturers could see the possibility of larger volume production. However, PROTON is now planning to participate in this segment with a new type car in 1994. Whether this segment is expanded by the stimulation of PROTON's participation so that other assembled car manufacturers can take the chance to expand their production of 2,000 cc cars or whether PROTON again takes the major share depends on the popularity of PROTON's new car.

The 3rd National Car Plan, which will be a joint venture of PROTON, CITROEN and another company, and will produce 1,100 cc and 1,400 cc cars with petrol engines from 1995 and with diesel engines later on, was disclosed in July, 1994. Since the details of the plan have not yet been released, the effect of the plan on the production of other cars can not be determined yet.

2) Commercial Vehicles

The biggest characteristic of commercial vehicle production until 1991 was that van production

had accounted for more than 50% of the total production of commercial vehicles in Malaysia. Although in 1992 production decreased to less than 1/3 of earlier production due to stricter governmental guidelines on financing and an increase in excise duties, van production had already started recovering in 1993. Besides vans, light trucks, pick-ups and 4WD vehicles have been the major products among commercial vehicles and the demand for those should continue in the future because they can be used for carrying both passengers and goods. There are also national projects for light trucks and vans, and, if realised, the various duties and taxes will be reduced so that the selling prices will also be reduced. This will create the feasibility of expanding production in this segment.

Table 1-2-2 Production of Passenger Vehicles By Engine Capacity

Engine Capacity (CC)	1987		1988		1989		1990		1991		1992		1993	
	Unit	%	Unit	%	Unit	%	Unit	%	Unit	%	Unit	%	Unit	%
Below 1,000	802	2.38	1,001	1.63	2,084	2.55	3,835	3.28	5,554	4.08	1,926	1.64	1,282	1.04
1,001-1,150	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,151-1,350	11,957	35.50	23,578	38.44	25,737	31.44	26,611	22.75	31,984	23.49	29,230	24.82	27,565	22.30
1,351-1,550	16,027	47.58	29,822	48.62	40,549	49.53	61,202	52.32	69,719	51.19	63,609	54.01	63,394	51.28
1,551-1,750	938	2.78	1,790	2.92	4,202	5.13	9,220	7.88	11,643	8.55	11,440	9.71	20,167	16.31
1,751-1,950	1,438	4.27	825	1.35	1,449	1.77	3,258	2.78	3,108	2.28	1,937	1.64	2,188	1.77
1,951-2,150	1,886	5.60	2,946	4.80	5,295	6.47	8,811	7.53	11,517	8.46	6,669	5.66	7,032	5.69
2,151-2,350	281	0.83	1,341	2.19	2,221	2.71	3,132	2.68	1,746	1.28	2,327	1.98	933	0.75
Above 2,351	356	1.06	35	0.06	336	0.41	910	0.78	913	0.67	635	0.54	1,060	0.86
Total	33,685	100.00	61,338	100.00	81,873	100.00	116,984	100.00	136,184	100.0	117,773	100.00	123,621	100.00

Source: MIDA, 1994

Table 1-2-3 Production of Commercial Vehicles of Different Categories

Type of Vehicle	1987		1988		1989		1990		1991		1992		1993	
	Unit	%	Unit	%	Unit	%	Unit	%	Unit	%	Unit	%	Unit	%
Trucks (GVW)														
Below 3T	20	(0.61)	3,419	(61.16)	6,575	(63.17)	9,437	(62.60)	12,143	(66.93)	6,089	(65.30)	6,104	(64.46)
3-5T	2,006	(61.05)	849	(15.19)	742	(7.13)	960	(6.37)	1,292	(7.12)	505	(5.42)	567	(5.99)
5-8T	873	(26.57)	464	(8.30)	736	(7.07)	1,039	(6.89)	771	(4.25)	726	(7.79)	1,044	(11.02)
8-12T	156	(4.75)	160	(2.86)	168	(1.01)	209	(1.39)	336	(1.85)	327	(3.51)	308	(3.25)
12-15T	86	(2.62)	505	(9.03)	1,646	(15.81)	2,252	(14.94)	1,638	(9.03)	471	(5.05)	361	(3.81)
Above 15T	145	(4.41)	193	(3.45)	542	(5.21)	1,177	(7.81)	1,932	(10.65)	1,206	(12.93)	1,086	(11.47)
		(100.00)		(100.00)		(100.00)		(100.00)		(100.00)		(100.00)		(100.00)
Total Trucks	3,286	21.48	5,590	23.50	10,409	21.34	15,074	20.08	18,142	22.37	9,324	26.60	9,470	27.11
Pick up	1,774	11.60	2,044	8.59	3,768	7.73	5,983	7.97	7,235	8.92	5,628	16.06	4,985	14.27
Van	7,821	51.13	11,303	47.52	24,623	50.49	40,845	54.42	40,312	49.71	11,440	32.64	12,917	36.98
4x4	1,851	12.10	4,003	16.83	9,116	18.69	11,873	15.82	13,500	16.65	6,572	18.75	5,552	15.90
Bus	563	3.68	847	3.56	856	1.76	1,279	1.70	1,910	2.36	2,090	5.96	2,005	5.74
Total	15,295	100.00	23,787	100.00	48,772	100.00	75,054	100.00	81,099	100.00	35,054	100.00	34,929	100.00

Source: MIDA, 1994

(3) New Production Plan of Each Manufacturer

1) PROTON

- Expanded production capacity up to 120,000 units per year in April, 1993. 0
- Now expanding production capacity up to 150,000 units per year (To be completed by the end of 1994)
- Further expansion plan of production capacity up to 200,000 units per year in the future
- First National Car (M1)
 - * Left-handle-drive car already developed for export (mainly to EC)
 - * Production of 2,000 cc car (to begin in the first half of 1995: 5,000 units to 10,000 units per year)
 - * CKD parts production for 2-door type PROTON
 - The latter half of 1994: 2,000 units per month
 - 1995: 10,000 units per year
 - 1996: 30,000 units per year
 - * CKD parts export to Indonesia: 1,000 units at the beginning
 - * CKD parts export to Philippines and assembling
 - * Export ratio :
 - 1994: 20% (24,000 units-Planned)
 - 1995: 25% (37,500 units-Planned)
 - 1996: 30% (45,000 units-Planned)
- Light bus production in Vietnam (a joint project with Mitsubishi Motors and Mitsubishi Corporation)

2) PERODUA

- Second National Car (M2)
 - Marketing of KANCIL (660 cc) started in August, 1994
 - Production planned 10,000 units in the first year
 - Production plan for the near future : 20,000-25,000 units per year
 - Production capacity : 45,000 units per year
 - (There is an expansion plan up to 60,000 units per year in the future.)
- Future plan to develop an 850 cc car for export

3) A Joint Venture of USAHASAMA PROTON-DRB Sdn Bhd (USPD) (A Joint Venture of PROTON and Diversified Resources Bhd. (DRB)) and CITROEN

- Third National Car (M3)
 - Plan to start marketing of 1,100 cc car in July, 1995
 - Plan to start marketing of 1,400 cc car in April, 1996
 - Plan to manufacture a diesel engine car in the future

4) National Light Truck Project (Industri Otomotif Komersial Sdn. Bhd.)

- A joint venture with Hyundai, ROK
- Plan for manufacturing 1-ton light trucks: 10,000 units per year starting from 1996

5) Plan of National Van Project

- Plan for manufacturing vans
- Various car manufacturers are now submitting proposals

6) NISSAN

- Started marketing of their Asian Car with a 1,600 cc engine in July, 1994 (Planned overall production 35,000 units per year in Thailand, Taiwan, Malaysia and the Philippines. In Malaysia, 3,500 units per year.)

2.1.2. Trend of Domestic Market

(1) Transition of the Domestic Market and Market Size

Changes in total demand for motor vehicles including those for export from 1987 to 1993 are shown in Table 1-2-4.

As mentioned before, domestic demand for motor vehicles kept growing continuously in the early 1980s but, because of the recession, it dropped sharply to 52,000 units in 1987. After the recession ended, the economy of Malaysia recovered quickly and the motor vehicle market expanded considerably. The sale of motor vehicles in 1991 was 194,000 units which was about four times that of 1987. Export to the United Kingdom and Singapore also increased in 1991, exceeding 10,000 units in the export sector. Hence, total demand for motor vehicles in 1991 exceeded 200,000 units.

One of the major phenomena in the market after the recession was the fast growth in the sales of commercial vehicles. Sales of passenger vehicles and commercial vehicles from 1987 to 1991 in Peninsular Malaysia increased by 3.5 times and 4.4 times, respectively. The fast development of the Malaysian economy in this period, especially in the manufacturing sector, was the reason for the increase in the sale of light trucks below 3 tons.

Table 1-2-4 Total Demand for Motor Vehicles in Malaysia (1987 - 1993)

(Unit: Units)

	Domestic										Export	Grand Total
	Passenger Vehicles			Commercial Vehicles			Total					
	Peninsular Malaysia	Sabah Sarawak	Total	Peninsular Malaysia	Sabah Sarawak	Total	Peninsular Malaysia	Sabah Sarawak	Total Domestic			
1987	35,267	1,763	37,030	13,729	1,372	15,101	48,663	3,135	52,131	2,850	54,981	
1988	53,532	2,676	56,208	23,786	2,378	26,164	77,318	5,054	82,372	1,648	84,020	
1989	73,793	3,689	77,482	35,564	3,556	39,120	109,357	7,245	116,602	12,557	129,159	
1990	106,454	5,322	111,776	59,407	5,940	65,347	165,861	11,262	177,123	13,423	190,546	
1991	121,660	6,083	127,743	60,217	6,021	66,238	181,877	12,104	193,981	14,648	208,629	
1992	109,432	5,471	114,903	35,652	3,565	39,217	145,084	9,036	154,120	19,375	173,495	
1993	120,735	6,294	127,029	33,666	4,466	38,132	154,401	10,760	165,161	20,226	185,387	

Note : Number for Sabah & Sarawak For 1993 : Actual Figures

For 1987 - 1992 : Passenger Vehicles = Peninsular × 5%

Commercial Vehicles = Peninsular × 10%

Source : MMTA (as for the number of motor vehicles registered in Peninsular Malaysia (1987 - 1993) and the number of motor vehicles shipped from Peninsular to Sabah & Sarawak in 1993)

MIDA (as for the number of motor vehicles exported)

Another phenomenon symbolising the market was the quick diffusion of vans. With the increase of disposable income during the period, people started looking for dual purpose vehicles for carrying both goods and people, especially for large families, and the sales of vans increased by more than five times. The reason that vans became so popular was not only their convenience but also that the pricing was attractive. Comparing the first quarter of 1991 on-road sales price of one of the then most popular types of vans with that of the PROTON SAGA 1,500 cc Sedan, the van price was RM26,700 while PROTON was RM23,900 so that the difference was only RM2,800 or 11.7%. For the same reason, 4WD sales also expanded by more than 7 times.

However, a series of serious accidents involving vans happened, and the government instituted regulations limiting driving speed on the highway and the number of passengers in the front seats. These measures, in conjunction with the financial restraints which the government introduced, as mentioned in 2.1.1. (1) of this Chapter, caused the demand for vans to drop sharply. At the same time, the sales price of vans became comparatively expensive (the above-mentioned difference of sales price compared to the PROTON became wider reaching about RM6,000, or 23.7% in the first quarter of 1992). The increased price differential coupled with the psychological effect of vans being a dangerous car seriously affected the purchase behavior for vans. The sales of commercial vehicles decreased by 40% in 1992 compared with the previous year, and 1993 sales were almost the same as in 1992. In the first quarter of 1994, sales recovered by only 4% over 1993.

Passenger vehicle sales were also dampened by the said financial regulations adopted in August, 1991 and, in 1992, were further staggered by the purchase delays of prospective buyers waiting for PROTON's new 1,500 cc and 1,600 cc cars. Thus, sales in 1992 dropped by 10%. In the middle of 1993, PROTON's new models were released and the financial regulations also had been lifted in April, 1992, so the demand for passenger vehicles came back quickly. Due to the limit of supply capacity of PROTON caused by the change in the production lines and the strong demand for exports, sales in 1993 fell just short of the 1991 record. PROTON, having completed the expansion of its production capacity up to 120,000 units per year in April, 1993 and now undertaking another expansion of plant capacity up to the 150,000 unit per year level which is supposed be completed by the end of 1994, set their sales target of 1994 at 123,000 units which

will be 20% more than 1993 results. However, in the first quarter of 1994, the market of passenger vehicles shrank by 1.21%; PROTON sales increased by a meager 0.16% while sales of other assembled cars were down by 5.21%. For assembled cars, the price hike due to the continuing Yen evaluation was the likely reason for the weakening demand.

With the 660 cc KANCIL of PERODUA having been put on the market in August with a sales aim of 10,000 units in the first year and the forementioned Nissan Asian Car also going on the market in July, the Malaysian market for motor vehicles in 1994 may be nearing a record high as long as slumping sales of assembled passenger vehicles can maintain their similar level of 33,000 units in 1993.

Table 1-2-5 Automobile Sales Projection for 1994

	Passenger Vehicles	Commercial Vehicles	Total
PROTON	100,000	-	100,000
PERODUA	10,000	-	10,000
Assembled Cars	31,500	39,000	70,500
Total	141,500	39,000	180,500

Note: For PROTON, PERODUA: Projected based on interview results.

For other assemblers:

Passenger vehicles: Record in the 1st quarter of 1994 x 4 (i.e., 7,415 units x 4 = Approx. 30,000 units) + Asia Car sales (1,500 units)

Commercial vehicles: Assuming same as the 1993 record.

Total demand for 1994: PROTON's export plan, 23,000 units, plus the above 180,500 units = 203,500 units.

If existing models of assembled cars sell as in 1993 (namely, 3,000 units), assembled passenger vehicles will be 34,500 units. Therefore, total motor vehicles will be 206,500 units in 1994.

Source: Field Interviews

(2) Characteristics of the Domestic Market

1) Sales by Types of Motor Vehicles

Sales of passenger vehicles and commercial vehicles, based on the number of registrations, in Peninsular Malaysia from 1984 to 1993 are shown in Table 1-2-6.

Around 1984, the Malaysian economy was still heavily dependent on primary industry, at least in terms of number of employees. At that time passenger vehicle sales amounted to about 80% of total sales of motor vehicles, which was more like the European pattern than an Asian, Japanese or American pattern. Even in the recession period, although the number of passenger vehicles sold dropped sharply, commercial vehicle sales also decreased so that the sales ratio of passenger vehicles remained around 70% of total sales. This is in striking contrast to the fact that in East Asian countries including Japan and major ASEAN countries, the passenger vehicles ratios were still quite low (from 17% to 55%) in around 1985 or 1986, except for Taiwan, which exceeded the 70% level in 1986 when their economy began its fast growth, and Singapore, which had a traditionally high percentage of passenger vehicles.

Table 1-2-6 Number of Newly Registered Motor Vehicles in Peninsular Malaysia (1984-1993)

	Passenger Vehicles		Commercial Vehicles		Total
	Unit	%	Unit	%	
1984	86,808	78.98	23,107	21.07	109,915
1985	56,809	64.59	31,143	35.41	87,952
1986	47,028	69.31	20,819	30.69	67,847
1987	35,267	71.98	13,729	28.02	48,996
1988	53,532	69.24	23,786	30.76	77,318
1989	73,793	67.48	35,564	32.52	109,357
1990	106,454	65.99	59,407	34.01	165,861
1991	121,660	66.89	60,217	33.11	181,877
1992	109,432	75.43	35,652	24.57	145,084
1993	120,735	78.20	33,666	21.80	154,401

Source: Vehicle Registration VS Production Achievement, MMTA

Table 1-2-7 Sales Ratio of Passenger Vehicles in Major Countries
(Unit: Units)

	1980	1985	1990	1992	Remark
UK	84.8	86.5	87.3	88.8	'60=77.5 '70=81.8
France	85.3	83.8	83.8	85.4	'60=83.8 '70=86.2
Germany	93.3	94.7	92.1	93.7	'60=90.4 '70=92.8
USA	78.0	70.0	65.5	62.7	'60=87.5 '70=82.4
Japan	56.9	55.9	65.6	64.0	'60=35.7 '70=57.9
Taiwan	60.5	69.2	74.8	76.1	'86=71.8
ROK	44.0	55.3	65.6	69.1	
Indonesia	12.7	17.5	20.5	23.7	
Thailand	30.1	25.5	21.7	33.5	
Singapore	76.2	73.2	85.8	84.2	
Malaysia	79.0	64.6	66.0	78.20	
	('84)				

Source : Automotive Industry Handbook, Daily Automobile
Journal, 1994

After 1988 when the economy emerged from the recession, the commercial vehicle ratio went up sharply and in 1990 the ratio between passenger vehicles and commercial vehicles became 66 : 34, which was equivalent to those in the United States, Japan and ROK. During those days, manufacturing and commerce were quickly expanding in Malaysia, and inevitably the necessity for the transportation of goods increased.

However, because of the stricter governmental regulations on commercial vehicles, the passenger vehicle ratio reached nearly 80% in 1993. This was quite an opposite trend against the trend of the actual economy. In the usual course when a country proceeds with industrialisation and area development, it is natural that the ratio of commercial vehicles goes up quickly. It would be desirable to increase the production of commercial vehicles in line with the growth of industrialisation.

2) Sales by Car Makers

The most significant factors in the Malaysian motor vehicle market are the overwhelming market share of PROTON on the one hand and that there are too many models of cars on the other.

PROTON, as shown in Table 1-2-8, held 57% (94,103 units) of the total motor vehicles market and took 74% share in the passenger vehicle market in 1993. Regarding other car makers, 25 models were assembled by 8 assemblers and sold in 1993. The numbers of assembled vehicles sold in 1993 were only 32,926 passenger vehicles and 38,132 commercial vehicles.

Table 1-2-8 Motor Vehicles Sales and Share by Make

	1984		1987		1991		1993	
	Unit	%	Unit	%	Unit	%	Unit	%
PROTON	-	-	22,852	46.64	78,058	42.92	94,103	56.98
TOYOTA	22,150	20.15	4,088	8.34	18,482	10.16	14,274	8.64
NISSAN		26.80	6,649	13.57	17,758	9.76	11,563	7.00
HONDA	11,381	10.35	2,211	4.51	12,171	6.69	9,026	5.46
DAIHATSU	7,532	6.85	2,639	5.39	11,356	6.24	7,731	4.68
FORD	10,848	9.87	2,715	5.54	12,094	6.65	5,423	3.28
MITSUBISHI	5,512	5.01	831	1.70	7,383	4.06	4,737	2.87
ISUZU	3,701	3.37	1,688	3.45	5,573	3.06	3,505	2.12
MAZDA	6,584	5.99	1,499	3.06	5,219	2.87	3,241	1.96
OTHERS	12,750	11.60	3,824	7.80	13,783	7.58	11,558	7.00
TOTAL	109,915	100.00	48,996	100.00	181,877	100.00	165,161	100.00

Note : Figures in 1993 are the total of Peninsular, Sabah and Sarawak

Figures in other years are only sales in Peninsular Malaysia

Source : Vehicle Registration, MMTA

Toyota, Nissan, Honda and Ford held 70% of the market in 1984, the year before PROTON emerged on the market. But in 1987, when the market hit bottom, those four companies went down to 32%, being affected by PROTON which had come into the market two years before. In that year, 1987, PROTON took a 65% share and the others 23% in the passenger vehicle segment. When the economy rebounded in 1991, the four companies held 33% of the overall market and 27% (32,310 units) in the passenger vehicle segment, whereas PROTON's share dropped by only 1% to 64%.

PROTON's share jumped further to 74% in the passenger vehicle segment in 1993 when the new model WIRA was put on the market, while the four companies' share went down to 18% in the same segment and 24% in the overall market.

As shown in Table 1-2-9, there is no company except PROTON which sells more than 10,000 units per year in either the passenger vehicle or commercial vehicle segment. Those who have their cars assembled are not able to achieve the economies of scale which is essential for car makers. The recent surge in the evaluation of the yen pushed up their car prices even higher and their competitiveness relative to the PROTON or PERODUA is becoming even weaker.

Table 1-2-9 Motor Vehicles Sales by Make and by Region in 1993

(Unit: Units)

	Peninsular Malaysia			Sabah & Sarawak			Total		
	Passenger Vehicles	Commercial Vehicles	Total	Passenger Vehicles	Commercial Vehicles	Total	Passenger Vehicles	Commercial Vehicles	Total
PROTON	88,732	-	88,732	5,371	-	5,371	94,103	-	94,103
TOYOTA	4,839	6,635	11,474	360	2,440	2,800	5,199	9,075	14,274
NISSAN	6,271	4,759	11,030	73	460	533	6,344	5,219	11,563
HONDA	8,799	-	8,799	227	-	227	9,026	-	9,026
	(4)						(4)		(4)
DAIHATSU	1,984	5,288	7,272	147	312	459	2,131	5,600	7,731
	(289)						(289)		(289)
FORD	2,697	2,365	5,062	24	337	361	2,721	2,702	5,423
MITSUBISHI	97	4,317	4,414	-	323	323	97	4,640	4,737
	(97)						(97)		(97)
ISUZU	-	3,505	3,505	-	-	-	-	3,505	3,505
MAZDA	1,523	1,505	3,028	8	205	213	1,531	1,710	3,241
	(48)						(48)		(48)
OTHERS	5,793	5,292	11,085	84	389	473	5,877	5,681	11,558
	(380)	(177)					(380)	(177)	(557)
TOTAL	120,735	33,666	154,401	6,294	4,466	10,760	127,029	38,132	165,161
	(818)	(177)					(818)	(177)	(995)

Note : Sales in Peninsular Malaysia are the number of vehicles registered.

Sales in Sabah & Sarawak are the number of vehicles shipped from Peninsular Malaysia to Sabah & Sarawak.

Numbers in () are sales of imported CBU units.

Source: MMTA

In addition to this, National Car manufacturers are increasing their activities. Although the Second National Car, KANCIL is not competing directly with assembled cars, it may erode future demand for assembled cars since the car purchase loan period is rather long, so new car demand may be delayed. PROTON as well is going to start marketing a new 2,000 cc car in the beginning of 1995,

which may cut away a big piece of the last large market for assembled cars.

Moreover, the Local Content Policy requires that assembled cars which compete with PROTON have to meet the goal of 50% usage (although it will be calculated by the points attributed to each part) of domestically made parts and components at the end of 1994, 55% at the end of 1995 and 60% at the end of 1996. Many automotive manufacturers stated that heavy investment would be required to raise the local content ratio beyond the 40% level, and they would have to raise the sales price of their cars to write off such heavy investment. As a result they would probably be unable to sell enough cars to cover such investment because of the resulting high price.

Plans for the Third National Car and Fourth National Project to produce light trucks have already been disclosed. A Fifth Project to manufacture vans is now under consideration. Thus the market for assembled cars is quickly disappearing, coupled with the widening price difference from existing National Cars caused by the ongoing strengthening of the Yen. Assembled car manufacturers seem to be facing a time of final decision - they themselves will try to become a partner for a new National Car Project, they may seek a niche market by importing CBU after they reach a compromise with the Government to change its policy, or they would concentrate their efforts on the development of Asian Cars. In any case, not many alternatives are left for them.

3) Situation of Motor Vehicles Existing in Malaysia

According to the statistics of the Ministry of Transport, the number of registered motor vehicles at the end of 1993 is as follows ;

Table 1-2-10 Number of Vehicles Registered by Type of Vehicle in Malaysia (1993)

Type of Vehicle	No. of Vehicle Registered
Passenger vehicles	2,255,420
Taxis	36,458
Chauffeured cars	7,586
Buses	33,358
Goods-carrying vehicles	466,871
Trailers	29,077
Others	179,871
Total	3,008,641

Source: Ministry of Transport

Since the estimated population of Malaysia at the end of 1993 was 19.1 million, the number of motor vehicles for each 1,000 people was 158 units. For reference, the numbers of motor vehicles registered in major countries are as follows ;

Table 1-2-11 Number of Vehicles Possessed in Major Countries (1991)

Country	No. of Vehicles	No. of Vehicles per 1,000 Population
United States	190,741,000	755
Germany	32,684,490	517
Japan	59,914,623	483
United Kingdom	26,571,625	463
Taiwan	2,300,000	115
Republic of Korea	4,247,816	98
Thailand	2,601,099	45
Indonesia	2,931,048	16

Source : Automotive Industry Handbook, Daily Automobile Journal, 1994

The ownership ratio of motor vehicles in Malaysia is higher than Taiwan by 37% and ROK by 61%. If the difference of income level is taken into consideration, Malaysia's ownership ratio of motor vehicles is even higher than those countries.

In Taiwan and ROK, so-called motorization started around 1985. In 1985, Taiwan's ownership

ratio per 1,000 people was 70 units and that of ROK was 27 units, although their income level were already higher than that of Malaysia even now.

Nevertheless, it is not necessarily always true to say that there is not much room for increase when one country already has a high ownership ratio. For example, in Taiwan, there were about 950,000 new registrations of cars in the two years of 1990 and 1991 but the total number of registered cars increased by only one million from 1985 to 1991. In ROK, new registrations were more than 2 million in 1990 and 1991 but total registered motor vehicles increased by only 2.3 million from 1985 to 1991. In other words, an equivalent number of cars registered between 1985 and 1989 had been scrapped and replaced with new cars.

In order to realize such replacement, a country must achieve economic growth so that national income is improved but, at the same time, such growth can be accelerated by setting up favourable conditions for it through policy making. Such political efforts can hasten the replacement of older cars and create new frontiers in a limited market.

To try to estimate the size of replacement demand, it may be useful to examine the age of existing motor vehicles in Malaysia.

As shown in Table 1-2-12, among the 3 million motor vehicles registered at the end of 1993, 26.8% were less than 5 years old, 13.9% were 6 to 10 years old and about 60% were over 10 years old. The estimated number of vehicles registered before 1984 in this table is based on the premise that the motor vehicles registered within the past 10 years are still on the roads and if not, the number vehicles registered before 1984 would be even larger.

Table 1-2-12 Motor Vehicles Registration in Malaysia

(Unit: Units)

	Passenger Vehicles	Commercial Vehicles	Total
Total registration number at the end of 1993 (A)+(B)+(C)	2,299,464 (100%)	709,177 (100%)	3,008,641 (100%)
New registration between 1989 and 1993 (A)	558,933 (24.3%)	248,054 (35.0%)	806,987 (26.8%)
New registration between 1984 and 1988 (B)	293,415 (12.8%)	123,840 (17.5%)	417,255 (13.9%)
Total registration number at the end of 1983(Est.) (C)	1,447,116 (62.9%)	337,283 (47.5%)	1,784,399 (59.3%)

Note: Passenger Vehicles : Passenger cars, taxis and chauffeured vehicles

Commercial Vehicles : Goods-carrying, buses, trailers and others

Source: Transport Statistics, Ministry of Transport, Malaysia, 1994
Vehicle Registration, MMTA

63% of passenger vehicles and nearly half of commercial vehicles were over 10 years old. Considering production volume of motor vehicles before 1983, it can be presumed that many motor vehicles are much older than 10 years.

In the case of Japan, as shown in Table 1-2-13, in 1992 there were no motor vehicles older than 10 years (minus 4.4%), when an estimate is made based on the records of registration in the past 10 year. Among the 61.6 million motor vehicles registered at the end of 1992, 58.8% were less than 5 years old and 45.6% were 6 to 10 years old. However, the actual situation is that the registrations of many cars less than 10 years old have been cancelled and, at the end of March, 1992, there were 1.95 million passenger vehicles which were first registered more than 10 years and 4 months ago according to "1993 The Motor Industry of Japan", published by the Japan Automobile Manufacturers Association, Inc. in 1993. This figure is equivalent to 5% of the registered number of passenger vehicles at the end of 1992. According to the same source, the average age of Japan's passenger vehicles was 4.53 years old at the end of 1992.

Table 1-2-13 Motor Vehicles Registration in Japan

(Unit: Units)

	Passenger Vehicles	Commercial Vehicles	Total
Existing number of motor vehicle at the end of 1992	38,963,793 (100%)	22,694,351 (100%)	61,658,114 (100%)
New registration between 1988 and 1992	22,546,012 (57.9%)	13,694,990 (60.3%)	36,239,002 (58.8%)
New registration between 1983 and 1987	15,756,071 (40.4%)	12,347,052 (54.4%)	28,103,123 (45.6%)
Remaining	661,710* (1.7%)	-3,345,691 (-14.7%)	2,683,981 (-4.4%)

Note: Actual number of passenger vehicles registered more than 10 years and 4 months ago was 1,950,732 units at the end of March, 1992, which is equivalent to approximately 5% of those owned in Japan at the end of 1992.

Source: The Motor Industry of Japan, 1993, Japan Automobile Manufacturers Association, Inc., 1993

The following data shows the number of motor vehicles owned, the number of motor vehicles sold annually and the number of years in which the latter can replace the former in 1991 in major countries of the world.

By looking at Table 1-2-14, it can be estimated how many years it would take to replace the existing number of motor vehicles with newly sold cars, if the sales of 1991 continued and the same number of aged motor vehicles were demolished at the same pace.

Table 1-2-14 Estimated Average Age of Vehicles

	Number of Vehicles Owned (A) (^{'000} units)	Number of Annual Sales (B) (^{'000} units)	Estimated Age (A/B) (Years)
United States	190,741	12,578	15.16
Germany	33,424	3,676	9.09
Japan	59,915	7,525	7.96
United Kingdom	26,572	1,801	14.75
Taiwan	2,300	477	4.82
Republic of Korea	4,248	1,104	3.85
Thailand	2,601	269	9.67
Indonesia	2,931	249	11.75
Malaysia (1993)	3,009	165	18.22

Source : Automotive Industry Handbook, Daily Automobile Journal, 1994.

In the case of the U.S. and the U.K., the replacement years were rather high in 1991 because the sales in 1991 were not active due to a recession in the motor industry. In 1990, the number of years for replacement in the U.S. was 13.6 years and in the U.K., 11.5 years. In 1980, it was 9.5 years for both the U.K. and Germany. In comparison, in the case of Malaysia, it was 15.59 years at its best in 1991 when there was the highest number of motor vehicle registrations, 192,759 units according to the Transport Statistics 1991/1992, Ministry of Transport. That is to say that aged cars are kept in use and the sales of new cars are relatively weak compared to the size of market. Statistics reported only 27,945 cancellations of motor vehicle registrations during the 10 years from 1982 to 1992. In order to shorten the replacement period of new cars to 10 years as it is in other countries while keeping the total possession number unchanged (about 3 million units), the aim has to be that 300,000 new cars shall be sold each year, and the same number of aged cars shall be scrapped for 10 years. The new vehicle sales of 300,000 units is 100,000 units more than the 1992 record. To realize this increase of sales, replacing the aged cars through the restriction and guidance of governmental policies would be the first target for expanding the motor vehicles market. Not only to stimulate the motor vehicle and motor vehicle parts industries but also to improve safety in traffic and transport, to prevent air pollution and to conserve energy by

improving fuel efficiency, it will be necessary to replace the aged cars with newer cars as much as possible by setting up an institutional system for replacement.

This will be beneficial in breaking through the ceiling limiting the possibility for market expansion, especially with Malaysia's high ownership ratio of motor vehicles and small population.

It can be said that motor vehicles have long been necessities for the people, as seen in the high ownership ratio, even though the income level was still quite low. This would seem to indicate that there is a big potential demand for replacing old cars with newer cars. Once the first target is cleared, the market may enter a spiral expansion process, coupled with the effect of the expected growth of GDP at the rate of 7% p.a. through the year 2000, as planned in OPP2.

2.2. AUTOMOTIVE INDUSTRY DEVELOPMENT POLICY

2.2.1. Governmental Bodies Concerned

The major ministries and governmental agencies involved in the planning and implementation of the automotive development policies are as follows:

- The Ministry of International Trade and Industry (MITI)
Government body supervising the automobile industry and automotive parts and components industry and in charge of the formulation and implementation of the automotive policy.
- The Malaysian Industrial Development Authority (MIDA)
A bureau under MITI in charge of investment promotion. MIDA processes the applications for industrial incentives.
- The Economic Planning Unit
A bureau under the Prime Minister's Department, in charge of the formulation of national economic development policies and plans.

- The Ministry of Finance

In charge of taxes and duties related to the automobile industry and the automotive parts and components industry.

- The Ministry of Transportation

In charge of the formulation and implementation of policies on road transportation including road traffic and vehicle registration.

- Heavy Industries Corporation of Malaysia, HICOM

Investment corporation 100% owned by the government, which plans, invests in, and manages capital-intensive industrial projects. HICOM invests in projects related to the automotive industry including PROTON.

- Commercial Vehicle Licensing Board

A board under the Ministry of Public Enterprises. The Board issues licenses for heavy commercial vehicles.

2.2.2. Automotive Development Policy

(1) Restriction on Completely Built-up (CBU) Imports

Imports of all categories of CBU motor vehicles (other than special purpose vehicles), are restricted. Up to 1991, the ceiling of CBU imports was 10% of the total local production a year. However, since 1991, CBU imports have been reduced consecutively by 1% of the total production so that by 1996 imports will be moderated to a level of 5% of the total production.

Table 1-2-15 Ceiling of CBU Unit Imports

Year	Imports/Domestic Production
1990	10%
1991	9%
1992	8%
1993	7%
1994	6%
1995	5%

Source: MITI

High import duty is imposed on imported passenger cars (CBU units) in order to protect local manufacture. The import duty on passenger cars is a form of progressive taxation. Import duties on passenger cars are as shown in Table 1-2-16.

Table 1-2-16 Import Duty on CBU Unit Imports of Passenger Cars

Import Value	Import Duty
RM20,000 or less	140%
RM20,001 - 25,000	160%
RM25,001 - 30,000	185%
RM30,001 - 35,000	210%
RM35,001 - 40,000	250%
Exceeding RM40,000	300%

Note: Import duty is progressively imposed.

Source: Forin

(2) Licenses Given to Motor Vehicle Assembly Plants

Motor vehicle assembly licenses have been given to limited assembly plants for the purpose of developing local assemblers. There are currently 14 motor vehicle assembly plants in operation. Four of them assemble motorcycles, seven assemble both passenger and commercial vehicles, one assembles solely commercial vehicles, and the others, PROTON and PERODUA Manufacturing, manufacture passenger cars only.

(3) Local Content

In 1980 the Mandatory Deletion Programme was introduced for passenger and commercial cars. Thirty items are presently included in the list of mandatorily deleted components. In 1992 a Local Content Programme for passenger and commercial vehicles was implemented. Under this programme, local content targets of 45% to 60% to be achieved over 5 years have been set for various categories of vehicles.

(4) Preference to the National Car Project (PROTON)

A 42 % import duty is imposed on imported CKD parts in Malaysia. In support of the National Car Project, PROTON was initially granted a full exemption from import duty on imported CKD parts. In 1991, the import duty was imposed at 13% per cent. In addition, a 50% exemption from excise duty has been granted to PROTON.

(5) Sales Prices of Vehicles

Motor vehicle prices are under the control of the Government in order to benefit consumers. The price of each model of motor vehicles has to be approved by the Minister of International Trade and Industry. The net selling price can be applied on the basis of all the cost items such as imported CKD price, direct labour cost, plant costs, marketing & administration cost, margins, etc.

2.2.3. Direction of Policies

(1) Issues which have an influence on the directions of policies

The Government considers that the future development of the motor vehicle industry will revolve around national projects set by the Government, namely, PROTON and PERODUA. They are expected to provide the main catalyst for the development of parts and components manufacture.

The government considers that the major issues which will have an influence on the direction of

policies are as follows:

- i. Supply of efficient and competitive parts and components
 - The parts and components industry should be nurtured and developed into an efficient and competitive industry for the development of the automotive industry in Malaysia toward the manufacturing stage.
- ii. Small domestic market
 - The number of assemblers would have to be reduced and rationalised and their operations diversified into other areas in order to remain viable.
 - Malaysia should have its own commercial vehicle manufacturing plant.
- iii. Upgrading of engineering design capabilities
 - The automotive industry needs to develop design and engineering capability in the long term through the establishment of R&D facilities and engineering design centres.
- iv. Skill upgrading
 - The development of skilled manpower for the automotive industry is required since the labour supply has become one of the major problems.

3. INDUSTRIAL STRUCTURE

3.1. GENERAL STRUCTURE

The structure of the automotive industry is as illustrated in Fig. 1-3-1. Major constituents of the automotive industry are as follows:

i. Franchise Holders

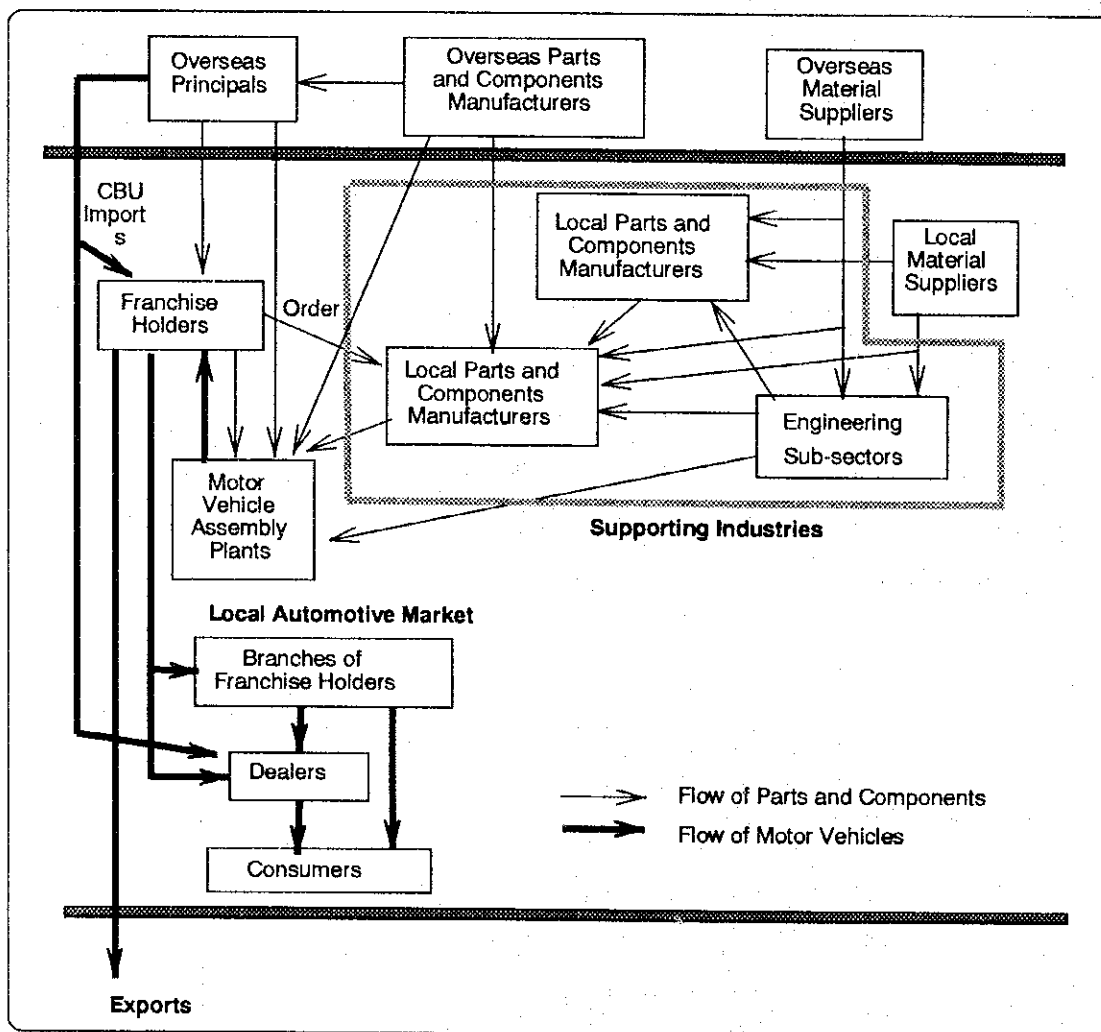
Companies which are approved to assemble/manufacture motor vehicles are called franchise holders. There are 26 franchise holders in Malaysia, including 4 motorcycle franchise holders. Most of them contract with assemblers for production of the motor vehicle approved. In addition to the franchise holders, PROTON and PERODUA, the 2 national car projects, manufacture their own brand of vehicles. These companies sell their products by themselves or through their sales companies.

Table 1-3-1 List of Franchise Holders in Malaysia

1. Auto Dunia Sdn. Bhd.
2. Auto Bavaria Sdn. Bhd.
3. Daihatsu (M) Sdn. Bhd.
4. AMIM Holdings Sdn. Bhd.
5. Kah Motor Co. Sdn. Bhd.
6. Automotive Corporation (M) Sdn. Bhd.
7. Cycle & Carriage Bintang Bhd.
8. Tan Chong & Sons Motor Co. Sdn. Bhd.
9. MBF-Peugeot Sdn. Bhd.
10. UMW Toyota Motor Sdn. Bhd.
11. Federal Auto Holding Bhd.
12. Lion Suzuki Motor Sdn. Bhd.
13. Hino Malaysia Sdn. Bhd.
14. Kinabalu Motor Assembly Sdn. Bhd.
15. United Straits Fuso Sdn. Bhd.
16. Emastulin Automobile Sdn Bhd
17. B-Trak Sdn. Bhd.
18. Perindustrian Jaya Tlisa Sdn. Bhd.
19. Atokami Sdn. Bhd.
20. Landrover Malaysian Sdn. Bhd.
21. Directional (Malaysian) Sdn. Bhd.
22. Boon Siew Sdn. Bhd.
23. Hong Leong Yamaha Distributors Sdn. Bhd.
24. Kawasaki Sunrock Sdn. Bhd.
25. Suzuki Assemblers Malaysian Sdn. Bhd.
26. MBF Commercial Vehicle Sdn. Bhd.

Source: MIDA

Fig. 1-3-1 Structure of the Automotive Industry in Malaysia



ii. Assemblers and Manufacturers

There are 8 motor vehicle assemblers in operation in Malaysia in addition to 4 motorcycle assemblers. They engage in the assembly of various makes and models. These consisted of 16 makes and 89 models in 1992.

Besides themselves, there are two national car manufacturers, PROTON and PERODUA. PROTON produces passenger vehicles only while PERODUA produces passenger vehicles and is also engaged in assembly of commercial vehicles.

Table 1-3-2 List of Automotive Assemblers and Manufacturers in Malaysia

	Name of Company	Passenger Cars	Commercial Vehicles	Motorcycles
Motor-cycle Assembler	Kar Motor Sdn. Bhd.			Honda
	Hong Leong Yamaha Motor Sdn. Bhd.			Yamaha
	Suzuki Assemblers Malaysia Sdn. Bhd.			Suzuki
	Kawasaki Sunrock Sdn.Bhd.			Kawasaki
Motor Vehicle Assembler	Kinabalu Motor Assembly Sdn. Bhd.		Isuzu, Pacific	
	Associated Motor Ind. (M) Sdn.Bhd.	Ford, BMW, Mazda	Ford, Jeep, Land Rover, Suzuki, Scania	
	Assembly Services Sdn. Bhd.	Toyota, Daihatsu	Toyota, Daihatsu, Hino	
	Cycle and Carriage Bintang Sdn. Bhd.	Mercedes	Mercedes, Mazda	
	Swedish Motor Assemblers Sdn.Bhd.	Volvo,Suzuki, Renault	Volvo, Daihatsu, Suzuki	
	Tan Cheon Motor Assemblies Sdn. Bhd.	Nissan, Subaru, Audi	Nissan, Subaru, Volkswagen	
	Oriental Assemblers Sdn. Bhd.	Honda, Mercedes, Peugeot,	Honda	
	Automotive Manufacturer (M) Sdn. Bhd.	Citroen, USPD	Tata, Isuzu, Mitsubishi	
Motor Vehicle Manufacturer	Perusahaan Otomobil Nasional Sdn. Bhd.(PROTON)	PROTON		
	PERODUA Manufacturing Sdn. Bhd. (PERODUA)	PERODUA	Daihatsu	

Source: MIDA

iii. Supporting Industries

The supporting industries consist of parts and components manufacturers and supporting engineering sub-sectors. In addition, material suppliers play an important role as the upstream sector to the automotive industry.

Parts and components manufacturers can be divided into first tier manufacturers, second tier, third tier, etc. They are also classified into two types: manufacturers which are catering to the original equipment market and those which are mainly catering to the spare parts replacement market.

iv. Industry Associations

Under the Automobile Federation of Malaysia (AFM), there are four industry associations related to the automobile industry as follows:

- The Malaysian Automobile Component Parts Manufacturers' Association, MACPMA
- The Malaysian Motor Vehicle Assemblers Association, MMVAA
- The Malaysian Motor Traders Association, MMTA
- The Motorcycle and Scooter Assemblers Association of Malaysia, MASAAM

3.2. CHARACTERISTICS OF THE INDUSTRY

The characteristics of the automotive industry in Malaysia can be summarised as follows:

- The size of the domestic market is small. The production of passenger vehicles was 124 thousand units in 1993.
- The market has shown favourable growth in the late 1980s.
- Imports of CBUs are minimal in the domestic market due to high import duties and the ceiling of import licenses.
- PROTON occupies the overwhelming market share, almost three fourths of the total passenger car market.
- A number of other brands compete for the rest of the market.
- The automotive industry remains highly dependent on foreign principals for technology and critical parts and components. Assemblers import CKD parts from foreign principals.
- The National Car Projects, especially PROTON at this moment, play a nucleus role in the development of local parts and components manufacturers.
- The Local Content Program is one of the most significant factors for procurement in the automotive industry. While PROTON have achieved more than 80% of local content, other assemblers have relatively low levels of local content.

- The technological level, including R&D capabilities, of the industry is still insufficient for the establishment of self-reliance in product development.

4. MOTORCYCLE INDUSTRY IN MALAYSIA

4.1. DOMESTIC PRODUCTION

Though the production of motorcycles bottomed out during the recession period between 1985 and 1987, it has recovered remarkably since 1988 and sustained a rapid growth of 13.98% to a record of 276,139 units in 1993.

Table 1-4-1 Motorcycle Production by Assembler in Malaysia
(Unit : Sets)

	1988	1989	1990	1991	1992	1993
Yamaha	33,066	53,439	76,973	102,024	112,816	113,031
Honda	37,850	56,962	75,913	67,370	72,033	82,250
Suzuki	27,720	37,949	58,376	51,057	46,900	60,178
Kawasaki	322	2,795	8,355	9,271	10,517	20,680
Total	98,958	151,145	219,617	229,722	242,266	276,139
Growth (%)	26.5	52.7	45.3	4.6	5.5	14.0

Source : Motorcycle and Scooter Assemblers Association of Malaysia (MASAAM), 1994

At present, about 18 models ranging from 70 to 150 cc are manufactured in Malaysia and more than 70% of the products are 2-stroke models.

Sales of motorcycles in Malaysia have grown rapidly since 1988 when sales were 96,751 units, reaching 273,344 units in 1993. Peninsular Malaysia accounted for more than 90% of the nation's total sales.

The number of registered motorcycles in Malaysia at the end of 1993 (the number in Sabah was calculated as of the end of March, 1993) was 3,703,838 units. The motorcycle ownership rate at the end of 1993 was one unit per 5.16 people which is almost as high as those in Taiwan and Japan. Judging from these, the motorcycle market in Malaysia can be said to be saturated.

In the opinion of the four motorcycle assemblers here, neither rapid increases nor rapid falls in motorcycle sales in the near future can be expected, because the domestic market has been saturated. The annual sales volume of motorcycles in Malaysia is predicted to stay between 250,000 and 300,000 for the coming few years, although there would be some fluctuation from year to year.

4.2. PARTS LOCALISATION

4.2.1. Industrial development policy for the motorcycle industry

Malaysia's industrial development policy for the motorcycle industry has been developed together with that for the automotive industry.

The first step started in the late 1960s and early 1970s with the initial purpose of encouraging local assembly to reduce dependence on CBU imports.

As the second step, local content policy mainly aiming at the development of the domestic motorcycle industry was projected by reducing dependence on imported parts and components and developing the local parts and components manufacturing industry. In 1981, a local content programme was introduced setting local content targets of 60% to be achieved in five years.

The purpose of the localization policy was mainly aimed at the following two points:

- a. Increase in the local content ratio of parts and components used for the domestic assembly of motorcycles
- b. Development of Malaysian parts and components manufacturers (development has the following two goals)
 - i. Improvement of technology and engineering ability to produce precise, refined and high-quality products
 - ii. Enabling export of products by developing competitiveness in the international market

As a result, local manufacturers that originally produced REM parts and components have been developed and are able to produce OEM ones for the motorcycle industry. This has been contributing to an increase in the local content ratio of motorcycles assembled domestically.

4.2.2. Progress in localization of parts and components for the motorcycle industry

As mentioned above, the domestic production of OEM parts and components used for the assembly of motorcycles in Malaysia has been increasing steadily.

Production of not only REM(after sales) but also OEM parts and components is necessary for the development of the parts and components manufacturing industry for motorcycles in Malaysia. Many manufacturers that originally produced REM parts and components have gradually been gaining enough technology to produce OEM ones through technical cooperation with excellent overseas manufacturers contributing to an increase in local content.

As for parts and components which are procured in Malaysia, that is, localized ones, the present ratio of local content differs not only from assembler to assembler but also from model to model for each assembler and therefore the kind of parts and components which can already be procured in Malaysia differs from model to model, too. For this reason, some parts and components are locally procured by all the assemblers and used for all the models, while others are partly procured locally for some models and partly imported for others. The following parts and components listed below are those which are currently procured in Malaysia and used for the assembly of most models.

(1) Body/Pressed Parts

Main frames, frame covers, fenders, leg shields, tail covers, fuel tanks, chain case covers, front forks, swing arms, handles, seat assemblies.

(2) Engine

Spark plugs, exhaust system, gaskets, cylinder heads, crankcase covers, pistons, cylinder covers.

(3) Suspension, Steering and Brake System

Shock absorbers, drive chains, sprockets, brake assemblies, brake shoes, wheel rims, spokes and nipples, tyres, steering system assemblies, steering stems.

(4) Electrical system

Battery ignition coils, regular relays, instrument panels, fuse sets, head lamps, signal lamps, tail lamps, wiring harnesses, CDI units.

(5) General Parts

Speedometer cables, tachometer cables, keys and switches, locks, kick starter levers, specialised bolts and nuts, screws, clips, studs, hoses, tubes, brackets, small rubber and plastic parts, tyres/tubes, batteries, brake and gear shifts, pedals/levers, control cables, rear view mirrors, reflectors, emblems.

Most of the parts and components procured locally are not manufactured only by the local parts and components manufacturers. In many cases, they are classified into one of the following four cases:

- a. Manufactured by motorcycle assemblers themselves
- b. Manufactured by Malaysian affiliated companies of overseas parts and components manufacturers that are supplying their products to principals of motorcycle assemblers
- c. Manufactured by Malaysian manufacturers having technical cooperation agreements with overseas parts and components manufacturers that are supplying their products to principals of motorcycle assemblers
- d. Manufactured by foreign affiliated manufacturers other than the above

For example, iron casting parts which need high-quality technology and precise sizing control are usually manufactured by motorcycle assemblers themselves and only a few parts are manufactured

by local parts and components manufacturers. Important metal press parts and components are also manufactured in-house themselves or procured from foreign affiliated parts and components manufacturers. Though such parts and components as frames, fuel tanks, mufflers and oil cushion units are regarded as localized ones, most of them are manufactured by assemblers or procured from foreign affiliated manufacturers for safety reasons. Thus, most of the important functional and safety parts and components are generally manufactured in-house, while small and less important parts and components which do not need precise finishing are ordered from local manufacturers.

In the case of aluminum diecasting parts, Malaysia has only a short history of manufacturing and most of the molding dies are imported. Dies are generally lent to parts and components manufacturers by assemblers and manufacturers do not possess them themselves.

On the other hand, parts and components which are not currently localized are as follows:

Engine

Sub-assembly of clutch and transmission system, clutch plate covers, countershafts, drive shafts, gears, crankshafts, connecting rods, bearings, oil pumps, carburetors, engine valves, timing chains

As listed above, the number of engine-related parts and components have been increasing year by year though the localization is the most delayed among all the parts and components. Increase in local content has contributed to the production of motorcycle engines locally assembled by joint venture companies between HICOM and Japanese motorcycle makers with an increasing number of engine parts and components being manufactured locally. Each of them assembles engines and processes such small aluminum parts and components as cylinder head covers, cylinder heads, crankcase covers and so forth. However, some parts and components which require high-quality such as cylinder blocks are presently imported as CKD parts from Japan.

In total, as a result of continuous efforts taken by motorcycle assemblers and parts and components manufacturers, parts and components contributing to the local content are currently in excess of 75% for motorcycle assembly calculated from averaging all the models of each assembler.

It is expected that the local content will increase progressively through in-house production of critical parts such as those for engines and transmissions as well as through procurement of other parts and components either from existing or newly established parts and components manufacturers.

All of the motorcycle assemblers are still eager to procure local parts and components for the purpose of reaching a higher level of localization. To achieve this, each of them has its own selection criteria and evaluation form to judge the present technical levels of local parts and components manufacturers which are originally derived from their Japanese partners. In addition, various kinds of technological assistance are supplied from assemblers to their sub-contractors though financial assistance is a rare case in Malaysia.

However, the problems of production of intermediate materials such as raw castings for engines and transmissions, and forged parts as well as various sub-components for the production of parts and components for motorcycles still remain unsolved, and it is necessary to enable assemblers to procure such parts and components locally as the next step to increase further the local content percentage.

Though the motorcycle assembly industry is likely to continue growing as a whole, future drastic increases in motorcycle sales cannot be expected. In addition, the Malaysian domestic market for motorcycles is not large enough for assemblers to enjoy economies of scale. As a result, none of the four assemblers is big enough to make use of economy of scale necessary to procure local parts and components at reasonable costs. This is one of the greatest deterrents to achieve further levels of localization in Malaysia.

4.3. RELATIONSHIP WITH THE AUTOMOTIVE INDUSTRY

4.3.1. Common and Similar Parts and Components for Motorcycles and Automobiles

Even if some parts and components for motorcycles have the same names and purposes as other ones, each one differs from assembler to assembler or from model to model so that the numbers of exactly the same ones are very limited. The same thing can be said between motorcycle parts

and components and automotive ones, and therefore there are not exactly the same ones. From the viewpoint of finding similarities among them, however, there are some parts and components groups for motorcycles which have similar purposes, functions and manufacturing methods as automotive ones. Here, they are named as "common and similar parts and components". Examples of common and similar parts and components which are also regarded as mandatory deletion program items for the automotive industry are as follows:

batteries, exhaust systems, horns, shock absorbers, spark plugs, tyres, wheel nuts, wiring harnesses

These common and similar parts and components can be manufactured by the same manufacturers if other economic conditions are ignored. In fact, some manufacturers have already manufactured similar and common parts and components and supplied them to both the motorcycle and automotive industries.

4.3.2. Common Parts and Components Manufacturers Supplying to Both Motorcycle and Automotive Assemblers

By comparing and analyzing vendor lists of both motorcycle and automotive assemblers, some parts and components manufacturers can be found that are supplying their products to both motorcycle and automotive industries. Here, they are named as "common parts and components manufacturers". Major parts and components which are produced by common parts and components manufacturers are as follows:

- seats
- spark plugs
- exhaust systems
- shock absorbers
- wheel rims
- spokes and nipples
- tyres/tubes
- relays
- fuses
- wiring harnesses
- horns
- cables
- bolts and nuts(excluding specific and precise ones)

- batteries
- rear view mirrors
- emblems

4.3.3. Relation between Motorcycle Industry and Automotive Industry

As mentioned earlier, the average local content ratio of motorcycles has reached a level in excess of 75% and is much higher than that of automotive parts and components. In this sense, the process of increasing the local content for motorcycles can be regarded as a model case for the future localization of automotive parts and components.

When the automotive industry considers further steps of localization of parts and components, the localization process pattern of the motorcycle industry can be referred to to some extent. In the case of the automotive industry, there are not so many kinds of parts and components which local manufacturers are able to produce by themselves without any help from overseas manufacturers. Just as in the case of the motorcycle industry, an increase in the local content ratio of automotive parts and components will be achieved mainly through one or more of the following cases at least in the short run.

- a. Manufactured by automotive assemblers themselves
- b. Manufactured by Malaysian affiliated companies of overseas parts and components manufacturers that are supplying their products to principals of automotive assemblers
- c. Manufactured by Malaysian manufacturers having technical cooperation agreements with overseas parts and components manufacturers that are supplying their products to principals of automotive assemblers
- d. Manufactured by foreign affiliated manufacturers other than the above

Some of the problem areas concerning the localization of motorcycle parts and components are or will be common to the localization of automotive ones. The following problem areas are most typical.

As for motorcycle assemblers, they sell almost all of their products within the limited domestic market in Malaysia, and only a limited number are exported. As a result, even the total production

volume of motorcycles is not enough to provide economies of scale. In addition, four assemblers are competing for domestic shares and the production of each assembler is therefore small. They cannot introduce mass production and therefore cannot enjoy economies of scale.

As for motorcycle parts and components manufacturers, they cannot adopt mass production systems because the production volume of each model is very small. Also, the specifications of parts and components differ from assembler to assembler and from model to model. As a result, they must produce various kinds of parts and components in small lots on one production line and change molding dies very frequently. Moreover, they must keep a larger inventory of raw materials and sub parts and endure higher storage costs, because they must supply many kinds of parts and components to assemblers.

There are few manufacturers in Malaysia that can produce small but precise parts and components such as diecasting parts materials, forged parts and other various critical parts. In addition, not all the parts and components can be procured domestically and most of them are still imported. Achieving an increase in the local content rate such parts and components is one of the most difficult problems to be solved.

CHAPTER 2. CURRENT STATUS OF THE MALAYSIAN AUTOMOTIVE PARTS AND COMPONENTS INDUSTRY

1. OUTLINE OF LOCALISATION OF AUTOMOTIVE PARTS IN MALAYSIA

1.1. LOCALISATION LEVEL OF AUTOMOTIVE PARTS BY MAJOR MANUFACTURERS

1.1.1. Definition of Major Manufacturers

Based on the Local Material Content Policy (LMCP), the requirements for localisation of automotive parts per year are shown in Table 2-1-1, Localisation Target by Vehicle. The requirements for localisation for small-sized cars with small engines (Category I) are more severe than those for medium- and large-sized cars.

Table 2-1-1 Localisation Targets by Vehicle

Classification of Vehicles		Local Content Points				Product Range*	
Categories	Vehicles	'93	'94	'95	'96	PROTON	Non-PROTON
I	Passenger vehicles ~ 1,850cc	40	50	55	60	Yes	Yes
II	Passenger vehicles 1,851~2,850 cc Commercial vehicles ~ GVW 2,500kg	30	35	40	45	No	Yes
III	Passenger vehicles 2,851 cc ~ Commercial vehicles GVW 2,501kg ~	Mandatory deletion items				No	Yes

Note: * "Yes" means that there are product ranges and "No" means that there are no ranges in each category.

Source: Local Material Content Policy, MITI, 1994

The current status of car sales registration is shown in CHAPTER 1. 2. in detail. As shown, the domestic sales units in Malaysia in 1993 were 165,161. The breakdown of the total sales by category is shown in Table 2-1-2, Sales Units of Automobiles in 1993. Passenger cars represent 77% of

the total units in 1993, and four companies, PROTON, Honda, Nissan and Toyota, account for about 70% of the total.

Table 2-1-2 Registered Sales Units of Automobiles in Malaysia in 1993

Classification of vehicles	Manufacturers		Registered Sales Units	Shares
Passenger Vehicles	PROTON		9,4103	57%
	Non-PROTON	Honda	9,026	6%
		Nissan	6,344	4%
		Toyota	5,199	3%
		Others	12,357	7%
Commercial Vehicles	Non-PROTON		38,132	23%
Total			165,161	100%

Source: Number of Registration, MMTA, 1993

In this chapter those four companies, PROTON, Honda, Nissan and Toyota are positioned as the major makers in Malaysia and the current status of localisation of automotive parts in the area of passenger cars is outlined.

1.1.2. The Current Status of Localisation of Major Makers' Production

In the Local Content Point System announced by MIDA, automotive parts are divided into nine categories and LMCP points are allocated to each sub-group of the nine categories. The current status of localisation, LMCP points, of representative automobiles of major makers in Category 1 is shown in Table 2-1-3, Localisation Levels of Major Makers' Production. The status of localisation of each automotive part in the sub-groups is shown in the APPENDIX.

Table 2-1-3 Localisation Levels of Major Manufacturers' Production

Parts Group	Localisation levels					
	Local content points		Examples of localised vehicles of major manufacturers			
	Sub-Total of Parts Group	Mandatory Deletion Items	PROTON	Non-PROTON		
				Company A	Company B	Company C
1.Engine	24.53	3.88	16.49	8.82	8.26	7.92
2.Power Transmission	14.36	0.00	4.71	0.10	0.00	1.10
3.Electrical System	9.56	4.66	8.93	4.87	4.66	3.25
4.Brakes	1.92	0.11	0.99	0.19	0.11	0.11
5.Suspension & Steering	8.97	1.89	5.80	1.73	1.56	1.89
6.Wheels	3.54	2.03	3.54	3.54	2.03	2.06
7.Body	34.44	10.01	34.99	13.99	13.30	27.26
8.Direct Consumable	5.00	5.00	5.00	5.00	5.00	5.00
9.Accessories	12.19	0.00	11.22	9.22	9.02	11.73
Total	115.51	27.68	91.67	47.46	43.94	60.26

Note: As of July, 1994.

* Achievements of localisation taking all the models into consideration, not a specific model. Therefore, the total is higher than that of any single model.

Source: Interview survey

1.2. THE CURRENT STATUS OF LOCALISATION OF MAJOR MAKERS' PRODUCTION

1.2.1. Market Size

It is necessary to take into account the fact that the market share of PROTON is much bigger than that of non-PROTON makers when estimating the localisation and technology level of Malaysian automotive parts manufacturing. In order to grasp precisely the real capabilities of the overall automotive parts industry in Malaysia, localisation levels of major makers should be analyzed individually.

PROTON is politically supported by the Malaysian government more favorably than non-PROTON makers are. Accordingly, PROTON has the advantage in production volume and can increase the localisation level of automotive parts with its expanding market share. On the other hand, all the market shares of the other companies are less than one tenth the market share of PROTON and the depreciation percentage in manufacturing costs is high due to their small production volume. Accordingly, it is more economical for them to import price-competitive KD parts than to localise the manufacturing of automotive parts. In other words, it can be said that to a considerable extent PROTON has localised the manufacturing of automotive parts but the localisation level of the overall automotive parts industry is low. Moreover, the import of finished cars is limited by the government, which enables 10 assemblers and 25 makers to survive in this small industry. Such import limitation has weakened the Malaysian automotive industry by decreasing market competition and increasing Malaysian makers' dependency on foreign companies for facilities and technologies, although it can raise the localisation of automotive parts manufacturing for PROTON which has an overwhelming market share in this industry.

1.2.2. Localisation of Automotive Parts Production by Product Group

Therefore, it is necessary to divide Malaysian makers into two groups, PROTON and non-PROTON makers, when analyzing the localisation level of the nine categories of automotive parts. The nine categorised parts groups are as follows:

- i. Engine parts group
- ii. Power transmission parts group
- iii. Electric system parts group
- iv. Brake parts group
- v. Suspension and steering parts group
- vi. Wheel parts group
- vii. Body parts group
- viii. Direct consumable parts group
- ix. Accessory parts group

(1) Engine Parts Group

In this group, production of the following items is localised by PROTON and non-PROTON makers.

- * engine assembly
- * fuel pipe (mandatory deletion item)
- * air cleaner (mandatory deletion item)
- * fuel tank (mandatory deletion item)
- * exhaust pipe front (mandatory deletion item)
- * silencer front and rear (mandatory deletion item)
- * radiator (mandatory deletion item)
- * radiator hose/clamp (mandatory deletion item)
- * fan complete
- * fan shroud
- * cables and linkages for engine control

1) Localisation Level of PROTON's Production

PROTON has already localised more than 80% of the parts items in this group. Moreover, PROTON is trying to localise the manufacturing of another 10% soon. The items in the other 10% are as follows:

- * cylinder head
- * crankshaft
- * gear ring
- * bolt for cylinder head

The parts items PROTON has not localised in this group are:

- * intake and exhaust valve system
- * fuel carburetion system
- * connecting rod, etc.

These items are thought to be ones which are going to be localised in the future.

2) Localisation Level of Non-PROTON Makers' Production

The non-PROTON makers have localised automotive parts listed in the mandatory deletion items shown above. These parts are peripheral ones which do not have a great effect on the function and capability of engines. The makers have not localised the main parts of engines. However, some makers have localised the manufacturing of the same items as PROTON has done. Those items are:

- * camshaft pulley
- * engine gasket complete
- * expansion tank/cap for cooling system
- * catalytic converter

However, these makers are not thinking about increasing the number of localised items in this group.

(2) Power Transmission Group

The items which both PROTON and non-PROTON makers have localised in this group are as follows:

- * clutch control cables

1) Localisation Level of PROTON's Production

PROTON has localised all the clutch related parts. PROTON assembles gear box related parts imported from foreign companies and has localised control related parts to some extent. PROTON is trying to localise gear box housings soon, but with gears or main shafts PROTON has no choice but to depend on importing.

PROTON cars are front drive, so it is not necessary to use propeller shafts and the front drive shaft assembly has been localised.

2) Localisation Level of Non-PROTON Makers' Production

Almost none of the parts in this category have been localised.

(3) Electric System Group

Parts which both PROTON and other makers have localised in this group are as follows:

- * battery (mandatory deletion item)
- * battery cables
- * alternator (mandatory deletion item)
- * belt for alternator drive
- * starter motor (mandatory deletion item)
- * spark plug (mandatory deletion item)
- * wiper motor (mandatory deletion item)
- * horn (mandatory deletion item)
- * wiring harness complete (mandatory deletion item)
- * flasher (mandatory deletion item)

1) Localisation Level of PROTON's Production

The parts PROTON has not localised yet are just the following five. As for parts item in this group, the localisation level of PROTON is approximately 95% on a LMCP point basis.

- * ignition coil
- * electrical distribution center <fuse box>
- * bulbs
- * cigar lighter
- * turn signal lamp switch

2) Localisation Level of Non-PROTON Makers' Production

The parts localised by non-PROTON makers are limited to the above mandatory deletion items.

Those other than mandatory deletion items have not been localised.

However, some makers are preparing to localise the following parts just as PROTON has done.

- * ignition cables
- * lamps
- * instrument cluster

(4) Brake Parts Group

The parts both PROTON and non-PROTON makers have localised in this group are as follows:

- * tubings (mandatory deletion item)

1) Localisation Level of PROTON's Production

73%, the LMCP point ratio, of the parts in this group have been localised by PROTON. There are only four items remaining and Proton is trying to localise the following two items.

- * brake caliper
- * servo

For the last two items, PROTON depends on imports.

- * brake pad/shoe for wheel brake
- * brake shoe for parking brake

2) Localisation Level of Non-PROTON Makers' Production

All the makers have localised tubing parts which are mandatory deletion items. In addition, some makers have finished localizing or are going to localise soon the following items.

- * hand brake cable
- * brake lever for parking brake (which is going to be localised)

(5) Suspension and Steering Parts Group

The parts items both PROTON and non-PROTON makers have localised in this group are as follows:

- * front shock absorber (mandatory deletion item)
- * rear shock absorber (mandatory deletion item)
- * strut (mandatory deletion item)
- * coil spring/leaf spring (mandatory deletion item)
- * shackle pins <which are sometimes not necessary in specification> (mandatory deletion item)
- * u-bolts (mandatory deletion item)
- * worm and pinion gear
- * tie rod

1) Localisation Level of PROTON's Production

The localisation level in this group is 85%, the LMCP point ratio. The remaining 15% is the following six items and three of these items are going to be localised soon.

- * power pump (which is going to be localised soon)
- * oil reservoir (which is going to be localised soon)
- * hoses (which are going to be localised soon)
- * rear suspension arm
- * steering column
- * pulley

2) Localisation Level of Non-PROTON Makers' Production

Each maker has localised the items which are listed in mandatory deletion items. Basically, parts other than items listed above have not been localised so much, but some makers are trying to localise the following two items.

- * front and rear stabiliser
- * steering wheel

(6) Wheel Parts Group

Both PROTON and almost all non-PROTON makers have localised parts items in this group, although some makers have not.

(7) Body Parts Group

Both PROTON and non-PROTON makers have localised the following parts items in this group.

- * floor assembly
- * roof assembly
- * rear windscreen glass (mandatory deletion item)
- * front windscreen glass (mandatory deletion item)
- * front side glass (mandatory deletion item)
- * rear side glass (mandatory deletion item)
- * windscreen washer container/hose (mandatory deletion item)
- * body side trim moulding (mandatory deletion item)
- * mud flaps (mandatory deletion item)
- * seat assembly (mandatory deletion item)
- * front and rear seat belt (mandatory deletion item)
- * carpets (mandatory deletion item)
- * sound proofing (mandatory deletion item)
- * spare wheel cover
- * rubber mats

1) Localisation Level of PROTON's Production

PROTON has localised 100% of the parts in this group. Stamping parts are in-house manufactured and trimming parts are out-sourced from its vendors.

2) Localisation Level of Non-PROTON's Production

Regarding stamping parts, doors and fenders which are specific limited models of some makers

have been localised and are exported on a BBC basis. Basically, however, panels are imported on a CKD basis and assembled through spot welding.

In the trimming parts category, Non-PROTON makers have localised mainly mandatory deletion items. Some of them have localised the following resin moulded parts or rubber parts. Bumpers are exported on a BBC basis.

- * hood bonnet hardware
- * foot lid hardware
- * foot floor hardware
- * emblem (which is going to be localised soon)
- * window and door moulding
- * weather strip
- * front and rear bumper
- * wing mirror
- * door inside panel
- * sun visor
- * dashboard incld. glove box
- * rear view mirror
- * roof lining (which is going to be localised)
- * console (which is going to be localised)
- * boot trims/mouldings
- * rear parcel shelf

(8) Direct Consumable Parts

Both PROTON and non-PROTON makers have localised all the parts in this group.

(9) Accessory Parts

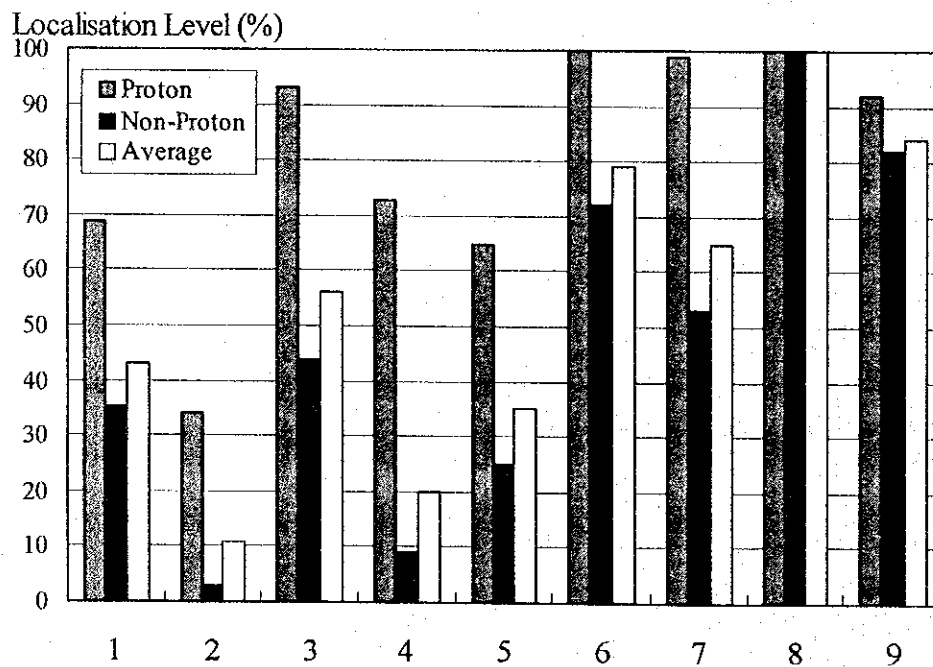
Both PROTON and non-PROTON makers have localised all the parts in this group.

1.3. LOCALISATION LEVEL BY PARTS GROUP

The localisation level by parts group is shown by LMCP points ratio in Fig. 2-1-1, Localisation Level by Parts Group. This table shows the LMCP points attainment levels of major makers by parts group.

"PROTON" means the attainment level of only PROTON and "Non-PROTON" means the average attainment ratio of the three non-PROTON makers. "Average" means the average attainment ratio of four companies, PROTON and the three non-PROTON makers.

Fig. 2-1-1 Localisation Level by Parts Group



Number	1	2	3	4	5	6	7	8	9
Parts Group	Engine	Trans- mission	Electrical System	Brake	Suspension & Steering	Wheel	Body	Direct Consumable	Accessory
Estimation	△	×	○	×	△	◎	○	◎	◎

Note: ◎ : 75% to 100%, ○ : 50% to below 75%, △ : 25% to below 50%, × : below 25%

Source: Interview survey

As shown, the parts whose manufacturing has been localised considerably are the following five items.

- * Direct consumable parts group
- * Accessory parts group
- * Wheel parts group
- * Body parts group
- * Electric system parts group

On the other hand, parts whose localisation level is low are the four following groups.

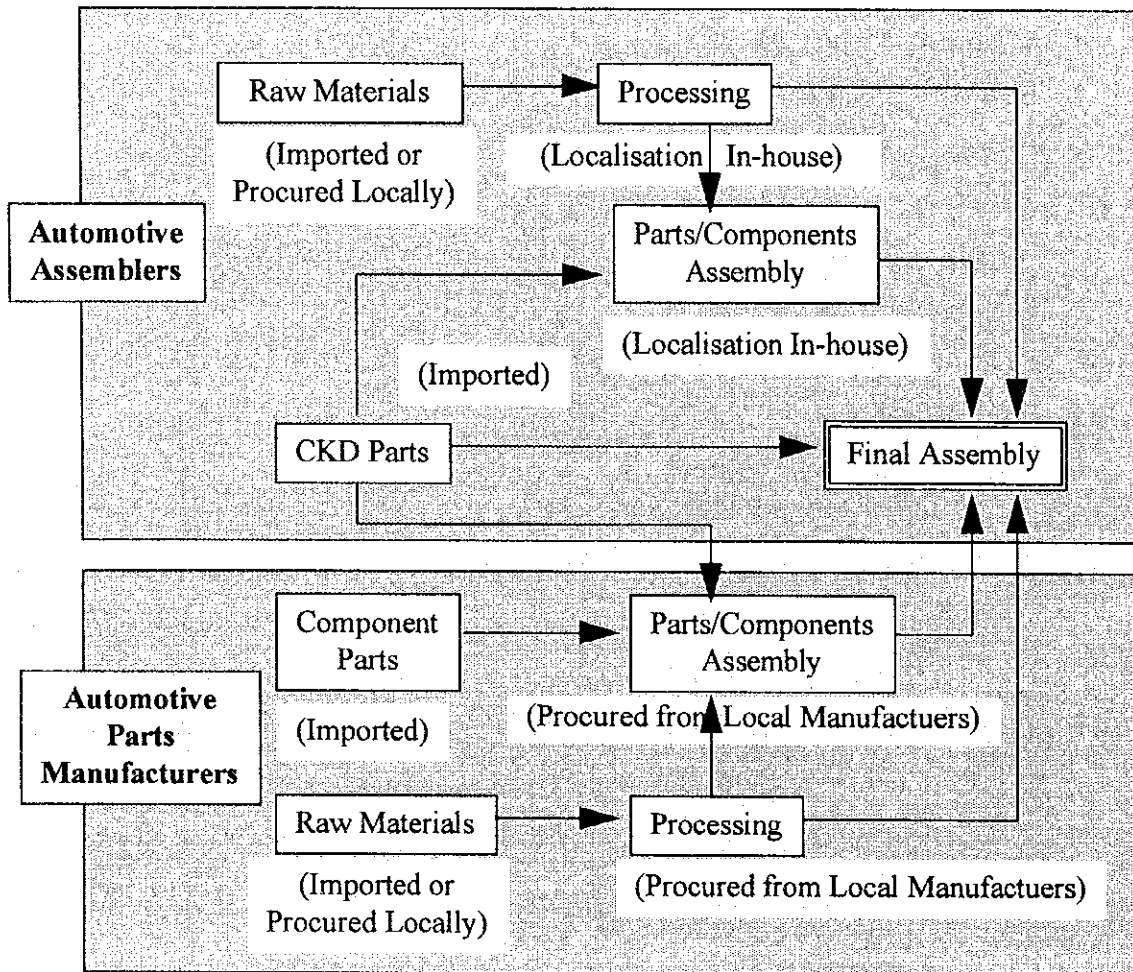
- * Engine parts group
- * Suspension and steering parts group
- * Brake parts group
- * Power transmission parts group

The power transmission parts group is the least localised of the above four groups. It is characteristic that the differences in the localisation attainment ratios between PROTON and non-PROTON makers in these four groups are very big. These four parts groups consist of important parts which have great effects on the function and capabilities of automobiles and require high level technologies for localisation, and which need specialised machines for manufacturing. Therefore, large investments are necessary in these groups, which creates a big depreciation burden for non-PROTON makers whose production volume is small and price competitiveness is weak.

1.4. SOURCES OF LOCALISED AUTOMOTIVE PARTS

Procurement sources of localised automotive parts can be divided into two sources: one is in-house parts which car sales and assembly companies make by themselves and the other is out-sourced parts which car sales and assembly companies procure from domestic subcontractors. The following chart shows the outline of the procurement sources of localised parts in Malaysia.

Fig. 2-1-2 Outline of Procurement Sources



The detailed breakdown of procurement by individual parts item is shown in the APPENDIX.

1.4.1. Localisation through In-house Manufacture of Parts and Components

The parts and components which major makers manufacture in-house are the following three items.

- * Engine parts group
- * Power transmission parts group
- * Body parts group

(1) In-house Manufactured Items in the Engine Parts Group

Engine assembly of CKD parts is conducted by PROTON and some of the non-PROTON makers. Only PROTON is doing machining of engine parts such as cylinder heads, valve covers, cylinder blocks, crankshafts, flywheels and intake manifolds. However, flywheels and intake manifolds are going to be changed to out-sourcing from domestic subcontractors.

(2) In-house Manufactured Items in the Power Transmission Parts Group

Only PROTON is conducting gear box assembly of CKD parts.

(3) In-house Manufactured Items in the Body Parts Group

Both PROTON and non-PROTON makers are doing assembly of floors, fenders, engine compartments, roofs, doors and bonnet. Non-PROTON makers are using panels of CKD parts.

PROTON manufactures in-house all the body stamping parts except for hinges and non-PROTON makers manufacture some of them in-house.

1.4.2. Localisation of Out-sourced Parts

Main manufacturing methods of localised out-sourced parts are machining and assembly. Some of the raw materials such as glass, resin (PP resin) and natural rubber can be procured within Malaysia, but most of the raw materials are imports. As for compound parts such as air conditioner related parts, other electric parts, shock absorbers, clutches and brakes, most component parts are imported from overseas and they are assembled in Malaysia, which means that localised added-values of these compound parts are not high.

2. OUTLINE OF AUTOMOTIVE PARTS AND COMPONENTS MANUFACTURERS IN MALAYSIA

2.1. TARGET COMPANIES OF THE STUDY

The number of automotive parts and components manufacturers in Malaysia is assumed to be around 300, based on the survey conducted by the JICA Study Team. The team selected 235 companies out of the list, sent them questionnaires and collected 109 answers. In addition, the team also visited 45 companies in March and July. The number of target companies of the study was derived from those companies which responded to the questionnaire and the companies visited. They amounted to 118 as shown in Table 2-2-1. Analysis of the questionnaire survey is based on answers from the 109 companies, while present situation and problem information is derived mainly from the analysis of the 118 companies. However, the study team has more information on some parts and components which was collected from other sources than the above mentioned target companies and this is also included whenever necessary.

Table 2-2-1 The Number of Companies of the Study

	Number of Company
Number of Automotive Parts and Components Manufacturers in Malaysia	Approximately 300
Number of Questionnaires Sent	235
Number of Responses (A)	109
Response Ratio	46%
Number of Companies Visited by Study Team in March and June - August, 1994	45
Of Which Questionnaires Returned	36
Of Which Questionnaires Not Returned (B)	9
Number of Target Companies of Study (A) + (B)	118

Note: Assumed by analyzing data and lists below:

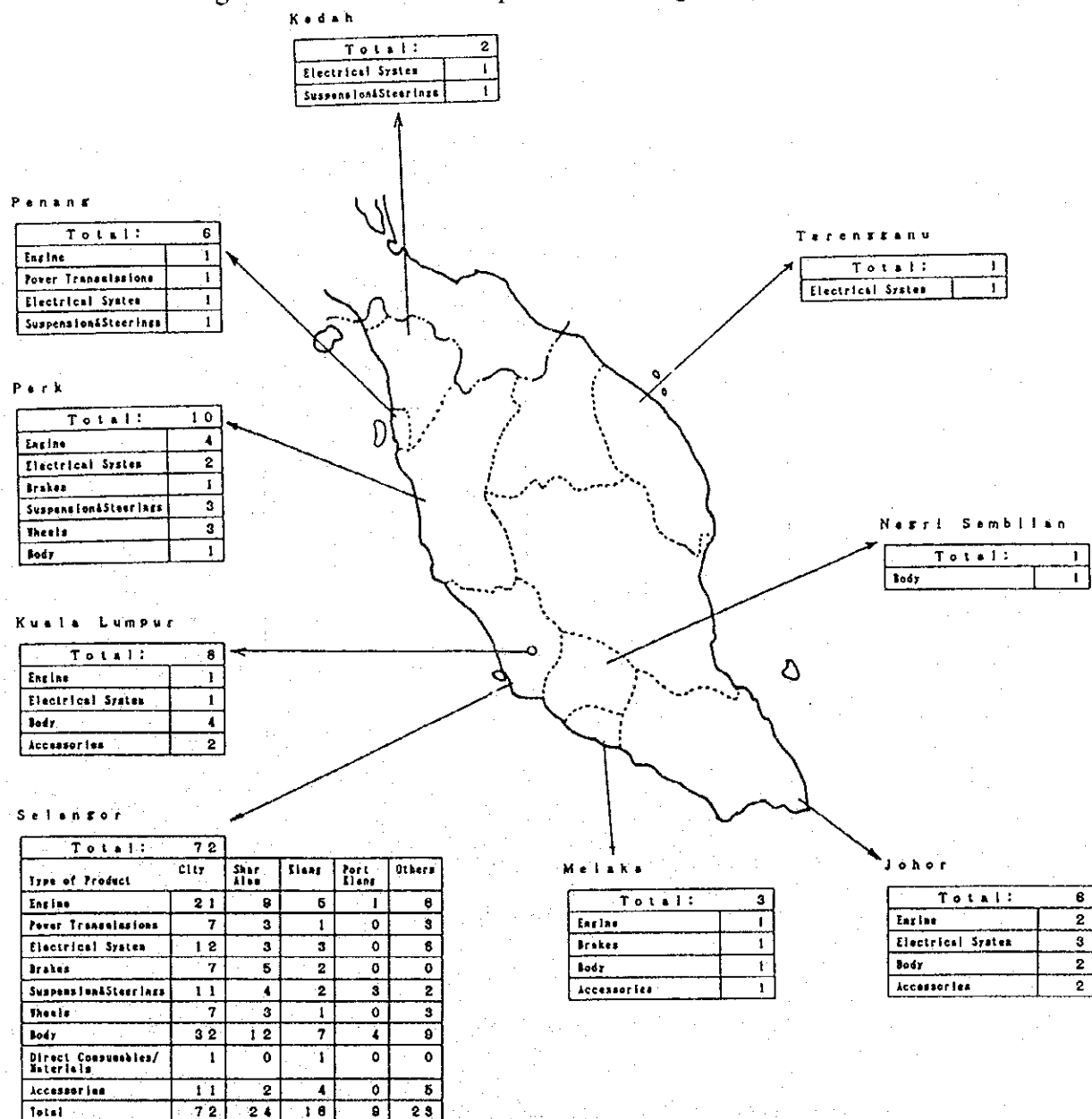
1. Lists of parts and components manufacturers(MIDA and MACPMA)
2. Vendor lists of the following assemblers:
PROTON, PERUDUA, Oriental Assemblers, Tan Chong Motor Assemblers, Assembly Service, Associated Motor Industries(M), Swedish Motor Assemblies, Automotive Manufacturers(M) , Cycle & Carriage Bintang

Source: Questionnaire and interview survey

2.2. LOCATION OF COMPANIES SURVEYED

Fig. 2-2-1 shows the locations of the companies which answered the questionnaire.

Fig. 2-2-1 Location of Companies Answering the Questionnaire



Note: The total number of companies by type of parts and components is not consistent with the total number of companies answered, because some companies produce more than two types and are therefore double counted.

Source: Questionnaire Survey, JICA Study Team, July to August, 1994