

REPORT**THE RISE OF THE PRIVATE CAR IN KUALA LUMPUR,
MALAYSIA****– Assessing the Policy Options –****Jamilah MOHAMAD***Professor
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Kuala Lumpur, Malaysia**(Received March 8, 2007)***1. INTRODUCTION**

In many cities today, the private car has become an important and dominant mode of transport¹⁻³. The increasing dominance of the private car as a mode of transport is due to inherent advantages associated with its use. The unrestricted freedom that car users enjoy is one important reason why many people wish to own a car. Whilst public transport modes necessitate the sharing of services with strangers, the private car affords privacy and comfort for its user.

Additionally, the private car has become more popular and dominant than public transport because it is usually available when required, takes the user from door to door and can reach dispersed destinations. It is also worth noting that the private car has become a symbol of power, status and prestige. Furthermore, private cars enable drivers to offer free lifts to travellers, and expensive car models are often associated with wealth in society⁴. It is therefore not surprising that car ownership and use are widely perceived as both a sign of affluence and increasing personal wealth.

According to Ohmae⁵, in countries that have reached USD3000 per capita GNP (income threshold), there is always a strong and steady demand for consumer goods such as refrigerators, colour TVs and relatively cheap motorcars. This, he says, was particularly the case in Japan when it reached the USD3000 income threshold. Ohmae further asserted that for the people below USD3000 per capita GNP, “between say, USD1500 and USD3000, the emphasis is more on motorbikes; below USD1500, it is more on bicycles”⁵. Ohmae finally

noted that “at USD5000 income threshold, there is usually a need to construct modern and high-speed highways, build up-to-date airports as well as the demand for high quality and posh cars”.

Rapid motorization thus became an important feature of many East Asian cities such as Bangkok, Manila, Seoul and Jakarta⁶⁻⁸. Over the 1980-1990 period, the spectacular economic performance of the East Asian miracle economies such as South Korea, Taiwan, Hong Kong, Singapore, Thailand, Indonesia and Malaysia has created numerous employment opportunities, increased incomes and reduced poverty⁹⁻¹². In Malaysia, for example, since 1987, the economy has grown at an average of 8.5 per cent each year, making it one of the fastest-growing economies in the world¹³⁻¹⁵. By early 1997, just before the Asian economic and financial crises, unemployment stood at 2.9 per cent and the poverty rate at 8 per cent¹⁶. Malaysia’s recent rapid growth in car ownership particularly in conurbations such as Kuala Lumpur offers evidence that rising incomes are the major driving force for car ownership.

**2. RISING CAR OWNERSHIP IN FEDERAL
TERRITORY OF KUALA LUMPUR**

Kuala Lumpur, as Malaysia’s capital city, has enormously benefitted from the country’s rapid economic growth and development. The city is also one of the major recipients of Foreign Direct Investment (FDI) in Malaysia and its contribution to the country’s GDP is quite substantial. In the period 1986-1991, Kuala Lumpur’s GDP grew at 7 to 12 per cent annually making it one of

the fastest-growing cities in Malaysia^{17,18}. Between 1995 and 2000, the GDP for Kuala Lumpur increased from USD 6045 million to USD 7419 million, an average annual growth of 4.6 per cent¹⁹. In addition, the per capita GDP for Kuala Lumpur increased from USD 6514 in 1995 to USD 8086 in 2000. In other words, the per capita GDP for the whole city increased by average of 6.1 per cent annually during 1995-2000. Such developments have contributed to the movement of people from other parts of Malaysia into the city to seek employment and a better quality of life.

The growth of population in Kuala Lumpur has been very rapid, especially during the period 1970-90, when the average annual growth rate was 4.3 per cent²⁰. The net-migration rates also experienced a major increase over the period 1970-80. In 2000, the Federal Territory of Kuala Lumpur had the highest population density in Malaysia with 1269.5 persons per square kilometre, followed by Selangor state with 524.8 persons per square kilometre¹⁹. The total population of Kuala Lumpur increased from 1.21 million in 1990 to about 1.42 million in year 2000. It has a total employment of about 0.84 million in 2000 of which 83 per cent is in the tertiary sector.

Although Kuala Lumpur is not regarded as a mega-city²¹ due to its relatively small size and population, there are clear indications that the city is rapidly expanding and developing into what McGee and Robinson²² have termed as a Mega-Urban Region, covering the whole of Klang Valley with an area of 284300 hectares, including towns such as Petaling Jaya, Shah Alam, Klang, Subang Jaya, Bangi and Selayang. Under Malaysia's Vision 2020, which aimed to transform Malaysia into a developed nation by the year 2020, many new areas have been identified and developed to reposition Kuala Lumpur to effectively compete with other cities such as Bangkok, Singapore, Jakarta and Manila for a favoured position within the global economy^{17, 18}. Examples of projects that have been implemented include the Federal Government Administrative Centre of Putrajaya, Kuala Lumpur International Airport (KLIA), Kuala Lumpur City Centre (KLCC) and Kuala Lumpur Sentral Station (KLSS).

The new Federal Government Administrative Centre of Putrajaya is situated in the Multimedia Super Corridor (MSC). The MSC was designed and launched to serve as a catalyst for the development of the information technology (IT) sector in Malaysia and to help shift the Malaysian economy from its current input-output development model based on manufacturing and primary commodities towards a knowledge-based economy (K-economy)¹⁹. When fully completed, Putrajaya is expect-

ed to accommodate 76,000 government employees.

Additionally, an important decision was taken by the Federal Government to transfer Malaysia's main international airport from Subang to Sepang. At Sepang, about an hour's drive away, a new world-class airport, the Kuala Lumpur International Airport (KLIA) was built at a cost of USD 2.63 billion. In short, the move to build a new airport away from the city centre of Kuala Lumpur as well as the development of Putrajaya about 30 km away was intended to ease traffic congestion in the city centre. However, these new developments are expected to attract more people into the mega-urban region of Kuala Lumpur, and spread out traffic over a wider region.

As the most important city in Malaysia, the Federal Territory of Kuala Lumpur continues to be flooded with newly-registered motor vehicles each year. The Federal Territory's percentage share of the newly-registered motor vehicles in the whole of Malaysia was 20.88 in 1991, 19.11 (1993), 19.59 (1994), 24.24 (1995), 27.12 (1996), 28.01 (1997), 19.13 (1998), 24.71 (1999), 24.96 (2000), 25.08 (2001) and 26.94 (2002). Its annual percentage share plummeted to 19.13 in 1998 especially after the 1997 Asian financial crisis that badly affected car demand in Malaysia. Recently however, Kuala Lumpur's percentage share of the total new registered motor vehicles annually in Malaysia has been going up again in tandem with Malaysia's gradual economic recovery.

Table 1 shows the number of vehicles registered in Kuala Lumpur over the period 1983-2004. The table shows spectacular increases in growth rates of motor vehicle registered except during/immediately after recession periods such as 1986-1988 and 1997. It is clear that the rapidly-expanding car market in the Federal Territory of Kuala Lumpur and other parts of the Klang Valley is a direct product of the spectacular economic performance of these areas and the huge economic role such areas play to the general development of Malaysia (Table 1).

It is further observed that in 1995 alone about 1.4 million motor vehicles plied Kuala Lumpur city roads each working day, exceeding the city's population of 1.3 million. Additionally, "the average number of vehicles entering the city, estimated at 740,000 daily, grew at an average annual rate of 17.5 percent during the Sixth Plan period [1991-1995] compared with 7.4 per cent during the Fifth Malaysia Plan period [1986-1990]"²³. Such developments will certainly require massive new investments in the city's road sector as well as serious improvements in the traffic management aspects. The recent rapid economic transformation, the burgeoning population as well as the visible affluence among its inhabitants have

Table 1 Number of motor vehicles registration (in '000s) in Federal Territory Kuala Lumpur and annual growth rate (1983-2004)

Year	No. reg	Growth Rate (%)	Year	No. reg	Growth Rate (%)
1983	236.16	-	1994	848.75	15.05
1984	285.68	20.97	1995	1293.56	52.41
1985	327.60	14.67	1996	1465.92	13.32
1986	350.10	6.87	1997	1540.77	5.11
1987	368.73	5.32	1998	1857.06	20.53
1988	395.40	7.23	1999	2001.41	7.77
1989	443.80	12.24	2000	2158.18	7.83
1990	514.30	15.89	2001	2357.97	9.26
1991	599.66	16.60	2002	2550.00	8.14
1992	659.05	9.90	2003	2729.00	7.02
1993	737.75	11.94	2004	2966.21	8.69

Source: Road Transport Department, Federal Territory

collectively taken a heavy toll on the inadequate facilities and services that are provided by the authorities.

It is reported that in 2007²⁴, 1.305 million vehicles cross the Middle Ring Road (MRR I) on a daily basis while 2.125 million vehicles cross the Middle Ring Road (MRR II) daily. Seventy percent of vehicular trips crossing MRR I and MRR II (representing 42,600 vehicles and 86,500 vehicles respectively) during the morning peak hour are single-occupancy vehicles (SOV). The daily vehicular traffic at the CPA (Central Planning Area) boundary has increased by 1.7% pa (in vehicle units) and 0.7% pa (in pcu) from 1985 to 1997, and by only 0.4% (in vehicle units) and 0.1% pa (in pcu) from 1997 to 2005. Compared to earlier forecast by the SMURT-KL Study²⁵, the present traffic volume entering the CPA boundary has already exceeded SMURT-KL forecast of 1,187,000 pcu/day in 2010.

Aside from the income factor, the recent rapid growth in car ownership in the Kuala Lumpur mega-urban region and Malaysia in general can be attributed to the existence of various car assembly facilities as well as the involvement of Malaysia into car manufacturing. Malaysia's auto industry began in 1926 and by the end of 1980, the industry had attracted 11 assemblers, which produced 25 makes of commercial and passenger vehicles, 122 models and 212 variants. In 1984, "Malaysia had a person-to-car ratio of 1 to 20.8, which was second only to Singapore in the ASEAN region"²⁶.

Malaysia had, in the early 1980s, embarked on various projects, which had been outlined in the country's heavy industrialization program that had been drawn by the HICOM (the Heavy Industries Corporation of Malaysia) which had been set up in 1978. One such project was

the plan to establish a national car manufacturing plant. In May 1983, together with the Japanese Mitsubishi Motor Company, the Malaysian Government established a car manufacturing company called the National Automobile Enterprise Co Ltd (Perusahaan Otomobil Nasional Bhd) or Proton as it is internationally known. In this joint-venture project, the Malaysian Government contributed 70 per cent of the total paid-up capital of USD 50 million while Mitsubishi Corporation and its affiliate, Mitsubishi Motor Corporation; each contributed 15 per cent^{27,28}.

Proton started production in July 1985. The first cars to be produced by Proton were named Saga and 105 Sagas were produced each day in the first year when the plant was running at 25 percent of installed capacity although it was initially designed to produce 21.3 units per hour with a volume of 40,000 units per year on a single shift, or 120,000 cars a year over three shifts²⁹. Since its debut in July 1985, Proton has moved to dominate, up until recently, the Malaysian automobile market and most of its cars are sold locally with a small percentage (less than 20 percent) being exported to a few countries. By exempting Proton from the high import duties, the government was able to offer its cars at a price that undercut imported vehicles. In addition, imported cars in Malaysia attract between 140 percent and 300 percent in taxes and imported car parts are charged 40 percent duty⁴. Such protectionist measures have strengthened Proton's position in the Malaysian domestic car market and have then contributed to the company's viability, profitability and survival.

In the first nine months of its debut, Proton sold 7,500 units of cars and this constituted 11 percent of the

total market share of the passenger car market in Malaysia. Its share, however, surged to 73 percent in 1988 before falling to 62 percent in 1990 due to low domestic demand for cars. In 1993, Proton's market share increased to 74 percent before falling again to about 64 percent in the period 1995-1998. It is also important to note, that while Proton's domestic car market share has somewhat plummeted in recent years, this does not mean that the Malaysian Government's measures and policies, which were deliberately instituted to protect its national car from other private car assemblers, are failing.

In 1993, the Malaysian Government established another national car manufacturing company called Perodua (Perusahaan Otomobil Kedua Sdn Bhd) to strengthen its local auto industry before the commencement of the ASEAN (The Association of Southeast Asian Nations) Free Trade Area (AFTA). The shareholders of Perodua consist of UMW Corporation Sdn Bhd (38 percent), Daihatsu Motor Co Ltd of Japan (41 percent), Med-Bumikar Mara Sdn Bhd, PNB Equity Resource Corporation Sdn Bhd, Mitsui & Co. Ltd of Japan and Daihatsu (Malaysia) Sdn Bhd³⁰. Taken together, Proton and Perodua dominate much of the Malaysian car market. The two car manufacturing companies have a total domestic car market share of about 90 per cent but recently Perodua has eroded Proton's market share in Malaysia.

It is somewhat apparent that both Proton, as well as Perodua domestically-manufactured cars that were previously heavily protected by the Malaysian government have greatly contributed to the country's recent rapid motorization scenario. These locally-manufactured cars by the two national car manufacturers, which are affordable to many middle-class Malaysians, have contributed to the increasing number of single-occupancy vehicles and traffic congestion.

The Federal government too, had through its ministries, provided loans to civil servants to buy cars. The fact that the majority of locally-produced cars by the two national car manufacturers is domestically sold thus makes it untenable for the Government to promote policies that restrict car ownership. The Malaysian Government views its auto industry as a strategic sector that needs real support and protection. Rising car sales are also an important sign of positive and strong consumer sentiment which the Malaysian economy needs badly. More importantly, the car sector generates both tax and export revenues as well as employment and has a strong link with other industries such as steel, rubber, glass, oil and insurance.

3. CONSEQUENCES OF RAPID MOTORIZATION

Since the early 1980s, the motorization process in Kuala Lumpur has been going on almost unhindered. While private cars and motorcycles have helped to improve the mobility needs of many Asian cities, including Kuala Lumpur, there are valid reasons to worry about the rising trends of the single occupancy vehicles. One reason is that as the number of single occupancy vehicles has risen, so has the need for ample and adequate road space especially in the Central Business District of cities such as Kuala Lumpur. For instance, between 1990 and 1995, Malaysia as a whole experienced a 15 per cent decrease in kilometres of road per 10,000 vehicles. This decrease was particularly due "to higher rate of increase in vehicles, which grew by 41 per cent compared to 19 per cent for roads"²³.

An important challenge posed by the recent rapid motorization phenomenon in Kuala Lumpur is increasing traffic congestion. Traffic congestion is a major urban problem in many cities both in the developed and developing world. According to Lewis³¹, "Traffic congestion is a direct result of increased traffic flow. The volume of traffic on a link consists of a series of vehicles, the drivers of which each want to minimize their own journey time on the road. The speed and flow of the traffic is entirely dependent on the behaviour of each vehicle's driver. Each vehicle's progress therefore is necessarily dependent (except on an empty road) on how its driver adapts his or her behaviour to that of other drivers. Thus, congestion is primarily a function of personal behaviour and dynamics". In addition, traffic congestion further induces accidents and air pollution.

During peak-hour periods, the average traffic flow in the CBD of Kuala Lumpur is 28 km/h, compared with only 13 km/h in the Bangkok metropolitan region³². While Kuala Lumpur's traffic flow conditions have not reached a critical level, the city's uncontrolled motorization process, the burgeoning population as well the limited ability to increase supply of physical resources such as roads and parking facilities especially in the CBD may help create a traffic situation similar to that of Bangkok.

Rapid motorization also has an effect on public transport use in Kuala Lumpur. Presently, there are about 4 major private companies operating approximately 15000 bus trips per day. Taxis in Kuala Lumpur are operated by different taxi service operators. Currently, there are about 24,721 taxis licensed in Kuala Lumpur, run by 4,183 operators. Rail services have become significant since the implementation of two Light Rail Transit Sys-

Table 2 Average route travel speed

No.	Route	Average Route Travel Speed (km/h)			
		Inbound		Outbound	
		A.M. Peak		A.M. Peak	
		1986	1997	1986	1997
1.	Inner Ring Road	26.7	15.0	21.2	17.3
2.	Middle Ring Road	23.6	17.1	33.4	13.6
3.	Jln Ipoh, Jln Kuching	32.3	35.6	25.5	67.3
4.	Jln. Kepong, Jln Ipoh	25.6	19.3	17.2	28.2
5.	Karak Highway, Jln. Sentul	23.7	26.4	37.0	45.0
6.	Jln.Gombak, Jln. Pahang	10.3	12.4	36.6	27.0
7.	Jln. Ampang	19.5	10.4	24.9	19.5
8.	Jln.Cheras, Jln Pudu	15.8	14.0	34.8	22.8
9.	Seremban Highway	38.8	20.3	68.7	60.6
10.	Federal Highway II	39.9	21.7	45.7	26.9
11.	Jln. Pantai	24.3	13.4	32.7	19.6

Source: SMURT-KL STUDY, 1998

tems, ie. STAR and PUTRA. Together they provide 56 km of rail network with 49 stations. In 2000, the STAR LRT on average handled 77,803 passengers per day while PUTRA LRT handled 121,950 passengers per day in the same year³³.

In November 2004, a government-owned operator RapidKL began operation. RapidKL (Rangkaian Pengangkutan Integrasi Deras) operates Klang Valley's two LRT lines – renamed Putraline and Starline, as well as 107 bus routes. They make up about 65 percent of the public transportation in the Klang Valley. In addition to the LRT, the Kuala Lumpur monorail system serves downtown Kuala Lumpur with its 8.6 km route with 11 stations. Meanwhile, KTM Komuter Trains ply along 153 km of tracks with 40 stations connecting Kuala Lumpur to outlying townships within a 50 km radius, namely to Rawang and Seremban, and between Sentul and Port Klang. In addition, Express Rail Link (ERL) provides two rail services, the KLIA Express and KLIA Transit servicing the Multimedia Super Corridor. In 2003, Starline had a daily passenger ridership of 94,480, Putraline 150,494, ERL 6,014 and KL Monorail 27,000²³ respectively.

Kuala Lumpur has one of the lowest public trans-

port passenger levels in Asia due in part to the rising levels of private car ownership and use. The recently-launched Kuala Lumpur Structure Plan 2020³⁴ revealed that public transport accounted for only 20 percent of total Kuala Lumpur passenger movements compared to 80 percent for private transport. Obviously, such developments are not good for the urban poor who cannot afford cars and who badly need accessible, affordable and reliable transport to access distant places with abundant employment opportunities.

The modal split for person trips at MRR1 using private transport (car/taxi/motorcycle) is 54.3% (in 1985), 64.1% (1997) and 61.1% (2005) while the share of public transport (bus and, later, rail in 1997) is 37.4% in 1985, 25.1% in 1997 and 28.6% in 2005 respectively. Only 20% of Kuala Lumpur is within the transit corridor (i.e. areas within 400 m on each side of a rail line).

Aside from the above challenges, rapid motorization is also responsible for the increasing air pollution, car accidents and the unpleasant noise in Kuala Lumpur. Between 1990 and 2000, the number of reported car accidents in Kuala Lumpur increased by 92.9 per cent from 19,365 to 33,735. Table 3 shows the number of accidents

Table 3 Total road accidents in Kuala Lumpur, 1987-1996

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Total No. of Accidents	20,104	18,728	16,068	19,365	22,800	24,697	27,000	27,439	27,939	33,375
CASUALTIES	DEATH	203	210	249	265	298	287	350	323	396
	INJURY	2,958	2,699	3,192	3,712	3,875	4,473	4,444	4,697	4,350

Source: Compiled from the Ministry of Transport Yearbooks

which involved deaths and injuries in Kuala Lumpur for the years 1987-1996. In Kuala Lumpur, 52% of the total number of fatal /serious accidents caused by vehicles, were caused by motorcycles, 30% private cars, 10% lorries/vans, 3% buses and 2% taxis respectively.

Turning to the issue of air pollution, motor vehicles have been blamed for the high levels of suspended particulate matter (SPM) in the air. According to Pendakur (1995)²¹, in 1989, the estimated 2.8 million vehicles in Kuala Lumpur released about 3700 tons of SPM in the air. According to the SMURT-KL Study²⁵, in 1997, there is a problem with the ambient air quality in Kuala Lumpur with unfavourable conditions prevailing at busy traffic crossings. Daily NO₂ at Pudu and Cheng Lock crossings exceeded WHO guidelines (0.15 mg/m³ or 73 ppb) and 8-hour measurement of CO at busy crossings showed values over the Malaysian guidelines. Extensive use of private vehicles in Kuala Lumpur has also affected visibility and increased the incidence of asthma, conjunctivitis and other diseases²¹.

4. TRANSPORT DEMAND MANAGEMENT MEASURES

Transport Demand Management (TDM) has been described as “the art of influencing traveler behavior for the purpose of reducing travel demand or redistributing travel demand in space and time”³⁵. The initial suggestions for implementing TDM measures in Kuala Lumpur started with the Urban Transport Policy and Planning Study undertaken in 1973³⁶. The recommendations put forward by its consultants included defining and preserving rights-of-way for short- and long-term improvements for public transport, eliminating extensive parking provision in the core area and improving the Kuala Lumpur Central Area Traffic Circulation system.

The Area Licensing Scheme was also adopted as one of the components of the Second Urban Transport

Project³⁷. The key concept underlying the area licensing scheme is that a special, supplementary license must be obtained and displayed if a motorist wishes to enter a designated restricted area within which congestion is to be reduced. The intent of this scheme is that a significant number of motorists would be discouraged from using their private vehicles for the journey to work in the morning peak period.

The Kuala Lumpur Master Plan Transportation Study 1981 report³⁸ also presented short-term proposals for bus transport improvements and proposals for continued investigations into the Light Rail Transit system. In order to complement the selected Kuala Lumpur Structure Plan strategy, new roads and road improvements were also recommended to provide accessibility to the new growth centres. Bus services were to be developed with maximum penetration into these growth areas and would be the principal means of internal circulation as well as serving an important feeder role to the chosen Rail Transit System.

Other than the proposals for the LRT system, the study viewed that the need for traffic limitation policies in Kuala Lumpur has not diminished since the previous study in 1973. The team outlined a possible traffic restraint policy for Kuala Lumpur consisting of four instruments of control. They were designed to limit the use of certain streets, for all or part of the day, for buses and high-occupancy vehicles only; control the car park pricing structure; control the supply of parking in the heavily-congested commercial core, and the implementation of an earlier proposal for the imposition of a charge for motorists who enter the Central Area during the morning peak period.

Japan International Cooperation Agency (JICA) also completed another study in 1997 aimed at achieving integrated urban transport strategies with the objectives of environmental improvement in Kuala Lumpur²⁵. The various TDM measures include traffic constraints and

Table 4 Area road pricing initiatives in Kuala Lumpur

Year	Study Recommendations
1976	World Bank-financed Second KL Urban Transport Project proposed Area Road Licensing similar to scheme in Singapore (High Occupancy Vehicle – HOV) exemption with cordon pricing
1987	Klang Valley Transport Study by JICA proposed Cordon Charge on passenger cars with less than 4 persons travelling into the Central Area within the IRR in morning peak hours (HOV Exemption with Cordon Pricing)
1997	SMURT-KL Study by JICA proposed Overall Area Pricing in the CBD whereby charges are applied to all cars using congested arterial road segments during peak periods
2007	KL Local Plan Study proposed Area Road Pricing Zone with Congestion Charging on 14 designated congested arterial roads in the CBD

Source: City Hall 2007

area licensing. Following the results of the study, City Hall had planned to implement an area licensing system in the CBD. This attempt was, however, abruptly suspended due to the insufficient public transport system at that time.

Recently, the KL Local Plan recommended that congestion charging be implemented after a detailed feasibility study was carried out by City Hall Kuala Lumpur²⁴. The Local Plan recommended that implementation of congestion charging is to be undertaken after the public transport network and systems are comprehensively in place and working efficiently.

5. ASSESSING PRESENT AND FUTURE POLICY OPTIONS

One of the earliest options adopted in Kuala Lumpur has been the policy of building new motorways and toll expressways. It is, however, imperative to note that the strategy has somewhat failed to achieve its intended objective of curbing traffic congestion in Kuala Lumpur. Many major roads leading to the city centre are still experiencing traffic congestion especially during peak hours.

Highway construction in Kuala Lumpur has not only proved to be too costly but also environmentally and socially inimical³⁹. The ever increasing demand for mobility had prompted builders to build highways traversing densely-populated areas. Many houses have thus been demolished resulting in many families being displaced and uprooted. The noise generated by the vehicles using the new highways has become unbearable for the residents of the affected areas. Meanwhile, the Federal Government has had to compensate highway concessionaires whose toll highways have failed to achieve the forecasted traffic volumes. Between January and June 2002, the Government had spent about USD184.2 million to compensate highway concessionaires for their loss of revenue due to lower toll rates⁴⁰. If the current policy of compensating highway concessionaires continues, the Government will be expected to pay about USD5 billion to various concessionaires over the next 20 years.

Experience from the highly-motorized countries such as the UK and US show that road construction alone is not sufficient to solve traffic congestion in cities and that other policy measures such as high parking charges, strict enforcement of parking and traffic regulations, public transport development and high fuel taxes are equally important⁴¹⁻⁴³. In addition, there is a general agreement among practitioners and academics that emphasis on road construction only attracts more private vehicles.

Turning to the issue of public transport development, it is important to mention that while many projects have been implemented to improve the sector, there are certain policy lacunas that need to be bridged before an efficient, reliable, convenient and sustainable public transport system can be established in Kuala Lumpur. One such lacuna is the failure to control the rising trend of private car ownership, which has badly affected the performance, efficiency and viability of public transport. While the undeclared official policy has been not to discourage private car ownership and use without a well developed public transport system in place, experience from some Asian cities such as Singapore, Hong Kong and Seoul show that the motorization process was first restrained when there was no high quality, technologically sophisticated and high capacity light rail transit or mass rail transit systems.

Since the mid-1990s, however, there have been various attempts in Kuala Lumpur to introduce a set of new traffic management policy measures such as park-and-ride, one-way streets and the introduction of bus lanes. An obvious example is the park-and-ride facilities that are provided near some LRT stations to encourage car users to use the LRT systems. Attempts to increase parking charges have largely failed as free parking spaces are quite pervasive in many parts of the city. The easy availability of parking spaces in Kuala Lumpur is due to two factors, first, the opposition faced by the city's transport planners from businessmen; and secondly, the lack of strict enforcement of parking and traffic regulations in the city.

Thus, in Kuala Lumpur, no real progress has been made towards implementing the Area Licensing Scheme (ALS) proposed³⁷. In November 1978, thirteen steel gantries (entry gateways) were erected by City Hall as a preparation for implementing the ALS. However, a Cabinet decision in May 1979 decided to reject the proposal based upon three considerations. Firstly, the public transport supply was considered inadequate to cater for the increased demand anticipated as a result of the introduction of the scheme. Secondly, City Hall had not provided adequate park-and-ride facilities for private car commuters wishing to transfer to public transport use. Thirdly, there was no provision then of an alternative route, outside the ALS boundary, to take through traffic without needing to cross the CBD.

From the above discussion, it is clear that the strategies employed to alleviate traffic congestion in the Kuala Lumpur conurbation have not worked and that a new approach is needed to overcome the problem. To be practi-

cal and sustainable, the new approach should not only focus at improving traffic flow (especially through highway construction) but also implementing measures that may seem politically unpopular. Some of these measures (for example a congestion charging scheme, high auto and fuel taxes, high parking charges and strict parking controls) have been recommended before in various transport studies that were undertaken in Kuala Lumpur but failed to be implemented due to lack of political will and opposition from both the 'car owning lobby' as well as the business community²⁸.

There is also a consensus among Malaysian policy-makers and transport watchers, that plans to establish efficient public transport should precede efforts that aim to control automobile use in the city. Such agreement and beliefs are however refuted by Barter⁴⁴ who argues that delaying or postponing car restraint measures is not prudent and may jeopardise or complicate future plans to implement the same measures when the majority of travellers have become used to private transport. There are examples of cities that have managed to establish efficient and congestion-free transport systems whereby car restraint measures preceded heavy and massive investment in high capacity and sophisticated systems such as mass rail transit (MRT) or light rail transit (LRT) systems.

6. CONCLUDING REMARKS

The main conclusion to be drawn in this paper is that private car ownership and use have not been restrained or controlled in Kuala Lumpur. Unless deliberate and tough policies are instituted to discourage car ownership and usage, like in Singapore, Tokyo and Seoul which is still difficult in many major cities because of the employment and revenue (both tax and export revenues) generated by the motorcar industry, the strong link that exists between the motorcar industry and other industries (such as steel, oil, rubber, and insurance), the increasing power and influence of the car lobby as well as the existing deficiencies in public transport, attempts to develop transport systems that are sustainable will continue to be an illusion.

There are critical success factors involved in determining the future of far-reaching TDM measures. Politically, as in the case of the Area Licensing Scheme, it was necessary to secure political acceptance and commitment at the highest levels (project champion) in order to achieve plan objectives. Secondly, there must be genuine public acceptance and financial constraints must also be recog-

nized at the early stages of identifying possible transport options. Policy makers need to ensure that finance would be available for provision of selected transport facilities, and then, there is a need to ascertain the available spending power of the population to use facilities provided, especially in terms of fare levels. If financial considerations are not taken into account, proposals may take a long time to materialize.

This paper has illustrated the attempt by transport policy-makers in Kuala Lumpur to draw up some TDM measures towards improving the traffic situation in Kuala Lumpur. It has shown that while the policies have been far-ranging, to date there has yet to be a singular success achieved with these measures.

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