Towards a Sustainable Urban Transport System in the Klang Valley, Malaysia: The key challenges

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Abstract

Growing urban population and increasing household incomes in the Klang Valley have led to a rise in motor vehicle ownership. A change in lifestyle has created greater demand for travel. Some well-intended policies have been formulated and implemented to rectify transportation problems in the area; however, they do not indicate the trend towards fulfilling sustainable transport agenda. It seems that not much consideration is given on the environmental and social aspects of the transportation system. Against this backdrop, the aim of the paper is to examine the factors that influenced the state of the urban transportation system in the Klang Valley. It will examine the way the policy agenda is being influenced by the practices, attitudes and beliefs of those working in the transport-related field. The primary data were gathered via semi-structured interviews. Government documents and archival records provide the main source for secondary data. The ideology and mentality of the transport communities seem to have major influence on sustainable transport agenda in the Klang Valley.

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1. Introduction

Mobility, interaction and communication have become leading phenomena that act as catalyst for progress. Mobility has always been considered as a positive phenomenon in a growing economy. However, the increasing mobility of people and goods is also a source for concern. One of the

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consequences of increased mobility is dispersed urban form. Dispersed urban form has caused a demand for more roads in many cities. This scenario consequently led to longer journeys, more congestion, more fuel consumption and pollution (World Bank, 1996). Past and present conventional or traditional policies will not result in sustainable urban development. However, these policies are more likely to be adopted by many cities. On the other hand, non-traditional or sustainability-oriented policy embraces a more holistic approach. It is more people-oriented and takes greater account of environmental and social criteria.

Similar to many urban areas in Southeast Asia, growing urban population and increasing household incomes in the Klang Valley have led to a rise in motor vehicle ownership. A change in lifestyle has created greater demand for travel. Some well-intended policies have been formulated and implemented to rectify transportation problems in the area; however, they do not indicate the trend towards fulfilling sustainable transport agenda. The main objective of the policies seems to be reducing traffic congestion. It seems that not much consideration is given on the environmental and social aspects of the transportation system. Against this backdrop, the aim of the paper is to examine the factors that influenced the state of the urban transportation system in the Klang Valley. The focus will be on the challenges towards achieving sustainable transport agenda. It will examine the way this policy agenda is being influenced by the practices, attitudes and beliefs of those working in the transport-related field.

2. Literature review

Many writers argue that a step towards incorporating environmental and social measures into policy objectives will weaken economic growth (Banister et al., 2000). The same argument has been used in various countries in support of economic growth. This is especially true in developing countries which more often than not, regard environmental and social measures as jeopardising their future economic growth or economic stability. Generally, economic systems seldom echo the true costs of development, particularly the environmental and social costs and tend towards decisions based on securing short-term economic gain rather than long term investment (Carmona, 2001). This is often due to the lack of political will to influence development processes because of the dominant pressures to firstly achieve economic goals superseding social and environmental objectives.

There are interdependencies between transport, consumption and economic growth (Whitelegg, 1993). The same idea is also raised by Banister et al. (2000) who state that there is a close links between economic activity, transport energy consumption and the increased dependence on cars. The increase in economic activity may result in the increase in freight as well as human movement. This in turn may lead to car dependency as people need to travel to obtain goods or commute to workplace. Thus, in order to promote sustainable transport policy, it is essential to decouple economic activity and transport use.

There are no technologies that will address the fundamental question of social injustices caused by a sprawling and auto centric landscape (Cervero, 1998). Cervero argues that the inequality caused by the car cannot be compensated even if we might be able to produce non-polluting, highly-efficient car. This is due to the fact that urban sprawl created by car-dominated cities isolates the poor from job opportunities as well as denying mobility to those who are incapable of driving (Cervero, 1998; Dimitriou, 1990). While the benefits of motorized transport are reaped by people in higher socio-economic group, the costs are also borne by those in the lower income groups since it is them who are most likely to live alongside major arterial road or in heavily trafficked streets (Huby, 1998, p. 111). In addition, traffic accidents are another serious issues caused by motorization. Road traffic crashes and their repercussions are a significant burden to all societies in both developed and developing country (Masuri et al., 2011).

Transport planning needs to be considered in the closest possible relationship to land-use planning since it is acknowledged that the development of the city affects the transportation choices that are
available (Hall & Pfeiffer, 2000). Part of the problem in shaping urban form is the spatial separation of activities and the distribution of land uses, which increase the need to travel (Marshall, 2001). Marshall advances that sustainable travel patterns should be built into the patterns of urban form. If this can be undertaken then it can help towards achieving more sustainable travel by reducing distances as well as triggering a switch to non-motorised modes. Marshall suggests that several land-use measures that can contribute to sustainable transport include the promotion of compact cities, mixed use development, location of homes near facilities, walk and cycle friendly development, public transport-oriented development, car-free development, and settlement size that is suitable for supporting public transport system.

Transportation policies must be evaluated alongside land-use policies (Hall & Pfeiffer, 2001). However, according to Mees (2000) land-use policies will not lead to people to use car less if there is no other attractive means. He suggests that land-use policies should be packaged together with good public transport alongside town centres, which are safe and attractive to cyclist, pedestrians and public transport users. He further adds that planning policies that encourage land-use patterns which reduce the needs for cars are essential; however, there is still a need to provide high quality public transport. Solving this problem will require more than traditional policies, which most of the times only give emphasis on new or expanded infrastructure and technology. Many urban highway and traffic engineering schemes associated with transportation planning effort seems to rely upon the misconceptions that problems of traffic congestion and car parking can be resolved only by engineering measures, independent of land use measures (Dimitriou, 1990).

Public policy and politics are vital factors that affect the viability of different forms of urban transportation similar to incomes, car ownership, social change and suburbanization (Mees, 2000). Both of the factors shaped the types of institutional arrangement of agencies in a country. Seven out of nine factors that cause barriers to sustainability listed by Banister (2001) are either directly or indirectly related to institutional factors. These factors include unclear responsibility among agency, fragmentation of responsibilities between and within agencies, divergent agendas between different agencies, lack of professional or political support, lack of funding and/or tax support, low fuel prices, and the insignificant of sustainability agenda compared to economic growth.

3. Research methodology

The data for this study were gathered via semi-structured interview and document analysis. The respondents for the semi-structured interviews came from various sectors, who are directly or indirectly involved in urban transport policy formulation and implementation. Document analysis involves government documents, newspaper articles, periodicals, news articles and publications linked to transportation. In total, 45 respondents were interviewed. Some of the interviewees were selected by searching the websites of several agencies that deal with transport related matters. They were then contacted via electronic mail to request for their participation. This was later followed by a telephone call. In addition, a snowball technique was utilised to get certain individuals to participate in the study. This was done by asking the first batch of interviewees to suggest relevant individuals who could provide further useful information for the interview process. These individuals were then contacted by telephone to seek their agreement to be interviewed.

Four sets of interview questionnaires were prepared for different groups of stakeholders. These four groups consisted of government officials, experts in transportation-related issues (academics and NGO representatives), representatives from the motor industry and representatives from public transport operator. One federal minister was interviewed, however, due to his busy schedule the interview was
brief and questions asked were very limited. Nevertheless, the interview helped to give the overall perspective of the politician on transportation issues.

An interview guide was used to ensure that all issues intended for the research were covered in each of the interviews. The interview guide contained outlines of the topics and subtopics to be covered during the interviews. The questions included in the interview guide were open-ended to allow respondents to provide opinions and perception in their own words.

The researcher adopted the coding procedure as advocated by Cope (2003). The first set of codes was constructed after reading the transcripts while marking important sections, phrases, or individual words and assigning them with a code, while keeping in mind the research questions that have been established at the outset of the study. This then was the first list of codes that the researcher thought important, along with some notes about them.

Codes emerged from the collection of data through an iterative process called ‘analytic induction’ and this process of categorisation helps to organise the material so that interesting relationships can be observed and reflected back to the research objectives (Crang, 2005). When all coding had been completed, the list of categories generated was studied so that they could be collapsed into a much smaller number of themes. Examination and re-examination of the coded data was undertaken in order to identify emergent themes.

4. Analysis and findings

4.1. Transport and the economy

Transport policy outcomes can be understood as the product of different streams of policies that interact, compete, and contradict each other. Transport policy is fundamental to the needs of the capitalist economy which gives businesses and economic interests at a privileged position. Unfortunately, in the case of the Klang Valley, business interests and politicians typically still believe that road infrastructure equates with economic success and that expensive transport infrastructure projects will deliver solutions. The dominant policy in the country has always been investing in the strategic road networks to enhance the competitiveness of regions and urban areas.

A sustainable economy must be responsive to economic, social, and environmental constraints. However, in the Klang Valley, economic systems seldom echo the true costs of development, particularly the environmental and social costs and tend towards decisions based on securing short-term economic gain rather than a more holistic long term investment. This is due to the lack of political will to influence development processes because of the dominant pressures to firstly achieve economic goals superseding social and environmental objectives. The argument was that a step towards incorporating environmental and social measures into policy objectives will weaken economic growth.

4.2. Transport and the environment

Traffic congestion leads to higher oil consumption and emissions, which are poisoning the air in urban areas. In Malaysia, there is no limit on the age of a vehicle for it to be classified as ‘road-worthy’. As such, there are as many old vehicles on the road as there are new ones. There is no compulsory periodical inspection of private motor vehicles to ensure that they are properly regulated. Lack of enforcement is one of the factors that hampered efforts to decrease these emissions despite the fact that there are several regulations already in place to control the emissions from these sources. Certain types of engines, such as the two-stroke engine emit hydrocarbon and smoke at a much higher rate than four stroke engines and produce the majority of emissions. Motorcycle that uses this two-stroke engine represents 48 percent
(Road Transport Department, 2004) of motor vehicle population in the country. However, at present there are no emission standards for motorcycles.

In Bangkok, Jakarta and Kuala Lumpur, the annual costs from dust and lead pollution are estimated at US$5 billion, or about 10 percent of combined city income (World Bank cited in UNESCAP, 2003). The level of total suspended particulates in Malaysia is occasionally higher than the acceptable recommended levels of the World Health Organisation (Ishak et al., 2004). The Klang Valley is most prone to serious air pollution compared with other parts of the country due to its geographical location and rate of development (Department of Environment (DOE), 2003). For the past years, emissions from mobile and stationary sources as well as open burning activities remain the most significant sources of air pollution in Malaysia (DOE, 2003). Within this group, emissions from motor vehicles were the principal contributors of air pollution. Emissions from these mobile sources contributed 80.4 percent of the total pollutants in the country.

4.3. Transport and land use

Transportation system will affect city’s development. Thus, transportation policies must be evaluated alongside land-use policies. Unfortunately, many urban highway and traffic engineering schemes associated with transportation planning effort in the Klang Valley seems to rely upon the misconceptions that problems of traffic congestion and car parking can be resolved only by engineering measures, independent of land use measures. These approaches is unacceptable since the location of new housing, commercial area and other related development will decide future levels of travel and car dependence.

In the case of the Klang Valley, land-use measures independently are insufficient to promote sustainable transport since people would still likely prefer the individuality of a car and choose to live in area with large lots and garden which can lead to urban sprawl. Mass motorization in Malaysia particularly the Klang Valley contributes toward creating unfairly structured city. The dispersal of activities in car-dominated Klang Valley reduces the opportunities for local travel. Land-use patterns are arranged to suit the convenience of car drivers and wide roads as well as car parks make walking and cycling difficult and dangerous.

The period throughout 1980s and 1990s has been marked by rapid population growth in Kuala Lumpur as well as a corresponding boom in real estate development. In the early 1990s, several new towns were developed in the country especially near and around Kuala Lumpur and the Klang Valley in the midst of the economic boom (Barter, 1999). These new towns matched the type described by Hall and Pfeiffer (2000, p. 122) as ‘edge cities’, which are developed by speculators around highway access and are lacking in public transit access. The development of this phenomenon is made easier by the excessive construction of the highway and expressway networks in the country.

Property developers in Malaysia, particularly in the Klang Valley prefer to build new townships on greenfield sites around large urban centres to meet the needs of the rapidly growing population. This evidence is observed by the proliferation of large office blocks, shopping complexes and housing estates within the periphery of major urban centres. As a result, new townships develop along major highway corridors. In the absence of a highway network, these developers sometimes build their own highways to cater for prospective buyers. In most of these areas, private vehicles become a necessity due to the lack of public transport serving the area. Private vehicles, especially the car, make huge demands for space for both their movement and parking.

With greenfield developments, which subsequently led to urban sprawl, densities are fairly low in Malaysian township with an average of about 30-45 persons per hectare (Hashim, 2004). According to Kenworthy and Laube (cited in Barter, 2004), the urban density for Klang Valley is 58 persons per hectare. The figure in Table 1 shows that low densities cannot efficiently support public transportation
and discourage the community to walk to daily activities. Public transport modes according to Mees (2000, p. 3) “work effectively in high density, area with flats and rather dense central business district compared to area with separate houses, suburban office parks and shopping malls.” As shown in Table 1, it seems that the densities for new development in the Klang Valley do not cater to the needs of the public as well as non-motorised transport. This means that new developments in the Klang Valley do not provide the potential densities needed to operate successful service for public transport. They also do not provide a comfortable distance for those who rely on walking and other non-motorised transport modes.

Table 1. Minimum density for different types of transportation mode

| Densities defined by some studies                                    | Population density (Persons/Hectare) | Source                                                                 |
|---------------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------------|
| Minimum density for encouraging people to walk to daily activities  | 130-400                              | Cities and automobile dependent research by Newman and Hogan on various cities |
| Minimum density for tram services                                   | 240                                  | Local Government Management-Board Sustainable Settlement Guide          |
| Minimum density for bus service                                     | 100                                  | Local Government Management-Board Sustainable Settlement Guide          |

Source: Adapted from Hashim (2004)

Table 2. Density for new development in the Klang Valley

| New Township    | Acreage  | Population | Density (person/hectare) |
|-----------------|----------|------------|--------------------------|
| Putrajaya       | 4,581    | 300,000    | 65                       |
| Cyberjaya       | 7,001    | 370,000    | 53                       |
| Bukit Jelutong  | 892      | 31,068     | 35                       |
| Kota Kemuning   | 736      | 32,715     | 44                       |
| Berjuntai Bistari| 11,736  | 500,000    | 43                       |

Source: Adapted from Hashim (2004)

4.4. Klang Valley’s urban transport policy issues

Many agree that urban transport is a political rather than a technical issue (Barat 1990; Mees 2000; Banister, 2001). The technical aspects are relatively simple. The difficult decisions relate to who is going to benefit from the models adopted. Among the elements that are often considered are the needs of different stakeholders. These stakeholders in the Klang Valley include the disadvantaged, politicians, car owners and business people who are powerful lobbyists. In the Malaysian scenario, the main lobbyists, the ones that have the most profound effect on the development and implementation of urban transport policy are the property developers, car manufacturers as well as those that depend on motor vehicle industries. In addition, vested and entwining political and economic interest, especially in the road and bridge construction industry and the national car projects, have led to more roads, which invariably are rapidly filled with more cars and motorcycles.

Although there are policies on spatial development in Malaysia that come in various forms such as the structure plan, unbalanced and unchecked growth continues to spread into other areas. It is apparent that the impact of the Klang Valley urban transport system would somehow influence or be influenced by these developments. There is evidence that this phenomenon is caused by two main factors; firstly, the current planning policy still encourages further traffic growth. This practice can be observed by looking at large out-of-town shopping and housing developments that are still being planned and built. These
developments inevitably generate further traffic and counter any advances made through the improvement of the transport system. Most of the time, the authorities approve development according to the submissions by the developers. It is not surprising to see that many of the development in Malaysia are ‘developer led’. Secondly, intervention by politicians and developers as well as privatisation of transport infrastructure is another issue that contributes to urban sprawl.

As things stand now in Malaysia, there is a lack of a national transport policy that can link the various frameworks from the federal down to the local government. This scenario has been noted as contributing to the lack of guidelines, which hampers an effective implementation framework. In addition, it has been suggested that a national transport policy fail to be adopted in Malaysia mainly because many of its principles and recommendations would risk the competitiveness of the motor vehicle industries. However, federal government needs to set framework and rules to contextualise the work of the lower level governments. Many of the urban transport policies appear to put the emphasis on congestion, but policies aimed at the implementation of an integrated transport agenda should focus more explicitly on demand reduction. Then, the policy would lead to somewhat different measures and practices. Therefore, greater clarity, regionally and centrally, is needed and it should be linked to clear targets and incentives set out by the federal government.

5. Limitations of the study and implications for further research

Initially, the study was set to focus on the implementation of sustainable urban transport policy in the Klang Valley. However, in the process of collecting data, it was realised that the task of finding the latest version and comprehensive sustainable transport data for the Klang Valley was almost impossible. In addition, although the discourse on transport sustainability is gaining momentum in Malaysia particularly in the Klang Valley, there is still much to do to create awareness among the decision makers as well as the general public on the concept of sustainable transport. Thus, the focus of this research was later changed to examine the key challenges towards implementing sustainable transport agenda.

Despite the needs for a broader domain of interviewees, particularly the inclusion of the general public in order to get a thorough understanding and more in depth appreciation of transport policy discourse, this study focused on the views of institutional and expert interviewees. In this context, time constraint was the biggest obstacle in getting a wider domain of interviewees.

Limitations of the study provide a prompt for further studies. In order to obtain a more comprehensive description of development and implementation of sustainable urban transport policy in the Klang Valley, more documentation, archival records as well as direct observation could be undertaken. The current study could be improved by bringing in other stakeholders as respondents in the interview survey such as the general public and more politicians to investigate their opinions and beliefs.

The study could be replicated since it employed a semi-structured interview. Hence, comparative study on the Klang Valley and other cities in Malaysia such as Penang and Johor Bahru that are experiencing similar transport problems can be undertaken to look into the similarities and the differences between these cities. Much wider comparative studies could also be conducted by comparing Malaysia and other Asian countries to examine the influence of culture and political system on the policy process towards sustainable transport agenda.

6. Conclusions

Results of the study indicate that there are challenges in achieving sustainable transport agenda. Currently, the major challenge is the failure in implementing an integrated urban transport policy promoting sustainable transport. There is a need to study the extent of sustainable transport initiative in
Results of the study may indicate whether the Klang Valley is still a long way from implementing sustainable transport measures or has indeed paved the way to achieving sustainability.

Undoubtedly, transport and mobility plays fundamental role in Klang Valley’s economic development. Although it is widely accepted that the transport sector has major ecological and safety effects but it promotes mobility that can be translated into economic growth. Thus, a holistic approach encompassing environmental, social and economic issues and the involvement of various stakeholders should be considered to ensure the successful promotion and implementation of sustainable transport.

The path toward sustainable transport should consider a change in the mode of travel, the spatial pattern of travel as well as the need to travel. In car-oriented cities such as those in the Klang Valley, activities tend to spread out. This forces people to travel further and further for the same level of accessibility as before. In other words, the spatial separation of activities and the distribution of land-uses increase the need to travel. Therefore, it is vital to consider a spatial layout that can help support more environmentally friendly transport choice.

A vision for the transport system of a city has to be developed. This vision has to include goals. The vision and goals must be derived from intensive discussions with all stakeholders. Policy measures must always be checked against the goals, and their cost-effectiveness in meeting the goals must be evaluated.

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