

# MALAYSIA

## SUSTAINABLE URBAN TRANSPORT COUNTRY REPORT

### 1. INTRODUCTION

Malaysia is home to over 30 million people, with about 50% Malays, 23% Chinese, 12% natives of Sabah and Sarawak (the two eastern provinces on the island of Borneo), 7% Indians and 8% non-Malaysians (typically foreign guest workers). The current population growth rate is approximately 1.8% per year, and highest among the Malays. The climate is tropical, with average temperatures of around 28°C and rainfall of 2500mm annually. Most population centres developed along the river mouths near the sea, with a few located along the rivers further inland. As the economy has shifted from a more agricultural base, to manufacturing and services, the population has migrated into ever growing cities and towns. It is estimated that over 75% of the population now lives in urban settings

Statistics on passenger car kilometres driven is available from the Malaysian National Automobile Inspection Department (Puspakom) as well as the Malaysian Institute of Road Safety (MIROS). Puspakom records the odometer mileage during periodic inspections, and MIROS collects the data from vehicles involved in accidents. Their work indicates that new passenger cars are driven about 24,000 kilometres per year. Ridership is not known, but estimated to be between 1.2 and 1.6 passenger per car. This yields around 36,000 passenger km per year per car, or with a fleet of 11.7M cars this works out to 420 billion car passenger kilometres annually for Malaysia.

Goods vehicles, predominantly diesels, are measured via the same source to travel 70,000 km on average annually. They are used to distribute goods to retail outlets, move raw materials and finished goods to processing plants and shipping centres. There is a significant amount of container traffic to and from the various ports as well as running from Thailand to Singapore through peninsular Malaysia.

Since the British colonial era, there has been a rail line from Singapore to the Thai border, as well as from Port Dickson to Kota Bharu via Kuala Lumpur. It hauls freight, mostly bulk commodities such as cement and sugar, and some passengers with rather antiquated diesel electric engines. The system has slowly expanded in the Kuala Lumpur area, but the biggest change has been the addition of electric light rail systems, and to a lesser extent a monorail system, centred on Kuala Lumpur. These light rail systems have only come on line in the last two decades. Rail passenger kilometres took a large jump in 2011-2012 with the completion of Rawang – Ipoh electrified double track rail and addition of a KL – Ipoh Electric Train System (ETS). In 2014, the operation was extended to the Thai border . It is expected that the commuter rail system will continue to expand, and take over an increasing share of the passenger vehicles travelled.

The goal of land public transport is to drive forward the ambition of Vision 2020 and 1Malaysia. These national initiatives seek to transform Malaysia into a fully developed and industrialised nation by sustaining growth of 7% annually. The 2010 census identified a regional population of 6.3 million in the Greater Kuala Lumpur/Klang Valley. There were an additional 1.7 million people living in the region compared to 2000. The largest growth has been to the south and west of Kuala Lumpur in districts such as Sepang, Petaling Jaya and Putrajaya. Recent trends have highlighted the increasing concentration of employment in the major centres which has implications for the choice of appropriate modes to serve these centres.

## Rail

The current public transport network in the region includes over 278km of rail with 115 stations. The KTM Komuter runs on rail corridors that are among the oldest in the country. In the early 1990s freight and passenger railway tracks between Port Klang, Sentul, Rawang and Seremban were upgraded and electrified and opened as the KTM Komuter system in 1995. Since then there have been extensions to Tanjung Malim, Batu Caves and from Seremban to Sungai Gadut. The current system is operated by Keretapi Tanah Melayu Berhad (KTMB). The Ampang Line (formerly STAR) was built on grade separated tracks using a combination of new alignments and the utilisation of disused freight rail lines from Pudu to Ampang. The first phase of the system opened in December 1995 and became fully operational in December 1998. The Kelana Jaya line opened in 1998 as the Putra LRT using a completely new grade separated alignment. The Kuala Lumpur monorail opened in 2003 and links areas within the centre of Kuala Lumpur that were not served by the other urban rail systems.

The main features of the rail system are:

- The current daily ridership is over 464,000 passengers per day with the Kelana Jaya and Ampang LRT services having the highest passenger loads
- The busiest stations include the main interchanges such as Masjid Jamek and Kuala Lumpur Sentral
- Typically KTM service is being used for longer distance movements including locations outside the Greater Kuala Lumpur/Klang Valley Region such as Seremban
- Of 50 KTM Komuter stations in the region, 12 have less than 250 passengers per day. This reflects the inaccessibility from the surrounding areas as well as the low frequency and slow journey times on KTM. This highlights a need to provide improvements to the KTM services
- KTM Komuter services encounter capacity constraints as they have to compete with freight movements through the city centre as well as constraints at junctions

(such as for the Batu branch) LRT and Monorail services struggle to provide sufficient capacity under current operations

- A number of stations are poorly integrated with other modes
- The travel cards introduced by Rapid Kuala Lumpur are increasing the ticket integration between bus and LRT- this system will be extended to KTM as part of the NKRA
- There are gaps in the region where the local population has poor access to good public transport links

### Existing Bus Services

The current methods and standards of operation of bus services in the Greater Kuala Lumpur/Klang Valley region result in severe service quality, reliability and delivery issues. The existing delivery of services, perceived lack of integrated or comprehensive bus planning, unpublished timetables, uncoordinated services and distinct lack of enforcement of operating rules indicates that the services are failing to meet the needs of Greater Kuala Lumpur/Klang Valley and there is currently a general lack of effective regulation and enforcement in the bus industry. These issues require to be addressed through a new regime that matches improved service delivery with bus network planning that addresses land use changes, the relationship between bus services and the other public transport modes in the hierarchy and is controlled through an improved regulatory framework.

The features of the present bus service provision are as follows:

- The existing service pattern focuses on central Kuala Lumpur and is principally concentrated on the main corridors of movement where a high frequency level of service can be found. These tend to be radial routes emanating from Kuala Lumpur where operators are likely to experience high ridership and levels of revenues. However the physical structure of the highway network combined with the way services are actually operated means that service accessibility, availability and integration is limited. The lack of coordination or regulation means that oversupply often occurs and competition between operators is often duplicative rather than adding any new facilities to the network.
- At the outer end of journeys there is very little penetration of residential areas and the analysis indicates that very large numbers of people are not within a reasonable walking distance of a bus service. The NKRA identified that 63% of the population lived within 400 metres of a bus service. In many cases the residential area road connections to more major routes are poor in terms of efficient bus service operation. Moreover the service pattern does not mirror emerging land use patterns and ability to provide for good public transport penetration of emerging areas is generally not a factor considered at the allocation and land use planning stages. This situation is exacerbated in the lower density fringe areas of the conurbation. These areas are more difficult to serve effectively with bus services thus dependency on private motor vehicles

or other forms of transport such as motorcycles is likely to be high. The large industrial areas within the region are poorly served by local bus services and are likely to be difficult to serve comprehensively owing to their layout – some employers continue to use contracted buses to move labour.

- There are a few of evidence that in zoning the location of new development the need for good public transport access is taken into account, nor is bus access and penetration taken into account in the layout of development. This approach to bus access and related facilities undermines future provision.
- Integration between modes and between bus services can be described as sporadic across the region. In the central areas, where existing rail services are provided, bus to rail integration and the connectivity it provides is achieved with relative success but this is much less evidence elsewhere.
- The daily ridership on Rapid Kuala Lumpur services is some 380,000 passengers per day.
- Bus services have little bus priority measures to protect them from congestion. The average bus speed in the morning peak ranges from 9 to 15 km/h. There are only 13 km of bus lane in the region which is very low compared to other cities.
- Poor enforcement of existing bus lane facilities.
- There are some 4,200 bus stops in the region. This is generally a low number for an urban area of this nature. Many of the stops are poor in quality with limited information although the NKRA is starting an improvement programme in the city centre.
- There appears to be nothing in the legislation to prevent the advanced planning of a bus network for the region – indeed this is one of the duties of SPAD under the new legislation. However there are implementation and regulatory issues associated with the interpretation and application of regulations, service licensing, short term technical capacity at SPAD and financial support that prevent this from taking place or prevent it from being implemented effectively. Bus service implementation is not carried out according to a strategy and this result in an uneven distribution of bus resources and some competitive duplication of services by two or more operators.

### Taxis in the Greater Kuala Lumpur/Klang Valley

The Taxi industry in Greater Kuala Lumpur/Klang Valley is split into two main sub classes; - Executive and Budget. A third category, Premier, which sat between the Budget and Executive classes is currently being phased out due to the overlap with the Executive class and no new licences are being issued. Premier cabs are focused at the Kuala Lumpur Sentral Station, Budget taxis can be found across the area and Executive taxis are focused mainly in the city to cater for affluent visitors and business travellers. The core taxi market, Budget and Executive vehicles are the focus of the Taxi Transformation Plan (TTP).

A summary of the review for the TTP shows that:

- There are over 29,000 Budget taxis licensed for use in Greater Kuala Lumpur/Klang Valley and some 1,500 Executive taxis. It is clear that the Budget sector is the main taxi market across Greater Kuala Lumpur/Klang Valley with 95% of taxi licences and Executive with the remaining 5% of the market. In addition to the Budget and Executive taxis there are 531 Airport Taxis registered in Kuala Lumpur and 2,044 registered in Selangor
- In addition there are 252 and 785 limousines registered in Kuala Lumpur and Selangor respectively with a further 1,055 and 449 Hired Cars registered in Kuala Lumpur and Selangor respectively
- Compared to other international cities the provision of taxis in the Klang Valley compared to the population is on the high side
- Both Budget and Executive taxis are permitted to be licensed up to 10 years of age. An analysis of the current age of the fleet shows that some 52% of the Budget fleet are aged between 5 and 8 years old. This indicates the fleet is aging and there is a risk that quality will further reduce over the next 2 – 3 years as the vehicles reach the end of their permitted licensing period

There are several agencies that involve with the planning, development, assessment and monitoring of sustainable and urban transport projects such as Ministry of Transport Malaysia (MOT), the Economic Planning Unit (EPU), Land Public Transport Commission (SPAD), Ministry of Finance (MOF), Ministry of Urban Wellbeing, Housing and Local Government (KPKT), Ministry of Energy, Green Technology and Water (KeTTHA), Ministry of Natural Resources and Environment (NRE), Ministry of International Trade and Industry (MITI), Malaysia Green Technology Corporation (GreenTech Malaysia), Malaysia Productivity Corporation (MPC), Technology Depository Agency (TDA), Sustainable Energy Development Authority Malaysia (SEDA).

## **2. URBAN TRANSPORT POLICIES**

There are several national level policies that involves urban transport policies and plans in Malaysia:

- a) National Transformation Program
  - National Key Result Area (NKRA)– Improving Urban Public Transport
  
- b) Land Public Transport Masterplan
  - Urban Rail Development Plan, Bus Transformation Plan, Taxi Transformation Plan, Interchange & Integration Plan, Land Use Plan, and Travel Demand Management Plan

There are also various ongoing major urban transportation projects as follows:

- a) Budget Taxi Fleet GKL/KV = Yearly target of 2,000 units
- b) BRT Sunway = completed 5.4km
- c) BRT KL-KV = Preparation of procurement process
- d) LRT Extension Project = completed on 30 June 2016
- e) Budget Taxis connected to the CTSS = Preparation of procurement process
- f) Journey Planner: Completion of Phase 1 =1<sup>st</sup> January 2017
- g) Integrated Cashless Payment System (ICPS) =1<sup>st</sup> January 2018
- h) Bus Info Panel Installation in GKL/KV =Target for 2016 is 3,000 units
- i) MRT Sungai Buloh to Kajang Line =89% progress with targeted completion July 2017
- j) KL Monorail Expansion Project =1<sup>st</sup> January 2018
- k) KTM Komuter On-Time Performance during AM Peak = achieved
- l) AM Peak Urban Public Transport Ridership -500,000=437,048 monthly average
- m) Additional parking bays at Klang Valley Rail Network -1530 bays =345 bays
- n) Urban Public Transport Customer Satisfaction Level= starts October 2016
- o) Construction of Parkway Dropzone = 1<sup>st</sup> February 2016
  - i. Kg Dato' Harun =October 2016
  - ii. Serdang = July 2017
  - iii. Batu Tiga = April 2018
- p) KTMB Ticketing System (AFC) = 97%

### **3. DATA AVAILABILITY ON URBAN TRANSPORT INDICATORS**

Statistics on registered vehicles can be obtain from Road Transport Department as the authority that provide license for every road vehicles. Statistics on passenger car kilometres driven is available from the Malaysian National Automobile Inspection Department (Puspakom) as well as the Malaysian Institute of Road Safety (MIROS).

Stake holders (i.e. KTMB, Prasarana, local council) to provide ridership data, land use and traffic data, epu to provide spendngs on urban transport

The air quality level was monitored 24 hours a day from the automatic air quality control remote station.

### **4. ISSUES AND CHALLENGES FACED BY THE URBAN TRANSPORT SYSTEMS**

- There is a need to have a single government agency that is responsible in overseeing the business of transport policy. No authority has ultimate control

when it comes to regional jurisdiction with no proper government institution that effectively coordinates the overall regional development

- Lack of coordinated policy objective with no clear direction. Policy initiative tend to be 'ad hoc' and often misguided
- The concept of sustainable transport is not fully understood by most people in the public and policy communities, even as officials from federal level or politicians.
- Resources constraints that involves both funding and manpower.

## **5. WAY FORWARD**

- To identify the development needs of transport sector from the perspective of green technology and sustainability
- To identify the strategic issues in green technology and sustainability in developing the transport sector
- To identify, coordinate and monitor projects and programmes in the transport sector at a national level from green technology and sustainability perspectives
- To identify and recommend a framework for legal, regulation and policies to support the increase usage of green transport technology in transport sector
- To identify, monitor and evaluate the target area and setting the measurement, target limit and time frame for usage of green technology and to reduce climate change impact of the transport sector
- To identify environmental friendly alternative energies to be introduced in transport sector
- To identify the mechanisms which include an incentive to minimise the climate change impact in transport sector by using green technology