TOWARDS SUSTAINABLE TRANSPORTATION SYSTEM: MALAYSIAN EXPERIENCE

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An overview of Malaysia.

TRANSPORT IN MALAYSIA.

❖ Malaysia's road network is extensive, covering 63,445 km, including 1,630 km of expressways.

❖ The main highway of the country extends over 800 km, reaching the Thai border from Singapore.

❖ The network of roads in Peninsular Malaysia is of high quality, whilst the road system in East Malaysia is not as well developed.

❖ The main modes of transport in Peninsular Malaysia include buses, trains, cars and to an extent, airplanes. Malaysia has six international airports.

❖ The official airline of Malaysia is Malaysia Airlines, providing international and domestic air service alongside two other carriers.

❖ Most of the major cities are connected by air routes. The railway system is state-run, and covers a total of 1798 km, in Peninsula Malaysia only. Popular within the cities is Light Rail Transit, which reduces the traffic load on other systems, and is considered safe, comfortable and reliable.
MALAYSIA Road Transport Statistics and CO2 emission

- Total motor vehicles 2009 was 19 million and expected to increase to 48 millions in 2020 (Bricenor et al, 2004);
- Malaysian CO$_2$ emissions are mainly caused by transportation activities (97.1%) (Department of Environment, 2010)

<table>
<thead>
<tr>
<th>Types</th>
<th>Passenger Cars</th>
<th>8940230</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorcycles</td>
<td>8506080</td>
<td></td>
</tr>
<tr>
<td>Bus</td>
<td>66581</td>
<td></td>
</tr>
<tr>
<td>Taxi</td>
<td>16579</td>
<td></td>
</tr>
<tr>
<td>Hired Cars</td>
<td>79149</td>
<td></td>
</tr>
<tr>
<td>Goods Transporter</td>
<td>936222</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>471941</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19020000</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Total Motor Vehicles by Type, Malaysia, 2009 (RTD, 2009)

![Graph showing expecting number of vehicles between the year 2000 to 2030 in Malaysia]

![Pie chart showing CO$_2$ Emission by Sources (Metric Tonnes) 2008]

Figure 3.1 Malaysia: CO$_2$ Emission by Sources (Metric Tonnes) 2008
A greener, sustainable vision for transportation in Malaysia.

An environmental friendly, sustainable, less expensive transport system, would have the following features:

• A good network of bus and train routes within our cities and towns and in between our cities. A system relying on buses is much less costly to implement as it would use the existing roads.

• Urban train systems are more than 100 times more expensive to develop.

• Decongestion of our roads by a mixture of zoning laws and economic disincentives to driving private cars

  ✓ the road tax could go up,
  ✓ the cost of petrol should be allowed to rise,
  ✓ higher charges should be imposed for parking,
  ✓ toll should be charged for entering urban centres.
“Green transportation is extremely important to Malaysia’s economy”

“The transportation sector is the second biggest emitter of carbon dioxide after the energy sector. The transportation sector is also closely linked to the fuel subsidy. Improvements in fuel efficiency will lead to reducing the economic burden of the fuel subsidy.” Ahmad Zairin Ismail, acting CEO of the Malaysian Green Technology.

A roadmap for the future: To champion the push towards the use of non-emission vehicles to replace the internal combustion engine, the Ministry of Energy, Green Technology and Water has appointed GreenTech Malaysia to coordinate the development of the Electric Vehicle Infrastructure Roadmap.
Towards a Sustainable Urban Transport System in the Klang Valley, Malaysia

**Klang Valley Integrated Transit Map**

- Aklana Line extension of 1 km with 12 new stations that pass through Cheras Line and ends at Petaling Jaya.
- Ampang Line extension of 17 km with 13 new stations passing through Segambut and Petaling Jaya and ends at Petaling Jaya.

**Malaysia’s RM50bil Klang Valley public transport plan**
- RM7bil Light rail transit extensions
- RM36bil Proposed mass rapid transit (MRT) system construction and design
- RM2bil Proposed MRT land acquisition
- RM3bil Proposed MRT rolling stock
- RM2bil Proposed MRT underground commercial space development

**Estimated AM peak (7-9 am) public transport ridership**

<table>
<thead>
<tr>
<th>Year</th>
<th>Base @ 10-12%</th>
<th>Target @ 25%</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td>-600</td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td>-600</td>
<td></td>
</tr>
</tbody>
</table>

**Contribution by mode and operator**

- Bus: 43%
- Other Rail (Monorail): 5%
- RAPID KL LRT: 26%
- Komuter: 26%
Towards a Sustainable Urban Transport System in the Klang Valley, Malaysia(2).

  - The MRT project was officially launched on 8th July 2011 with the advanced works at the Sg Buloh depot, Semantan underground portal and Cochrane underground launch shaft.
  - The physical works will require traffic diversion which on one way or another affect motorist and pedestrian along the alignment.
  - The proposed 3-line 150 km Mass Rapid Transit (MRT) system in KL comprising two northeast-southwest radial lines and one circle line looping around Kuala Lumpur city.
Kuala Lumpur, Malaysia The World Car-Free Day  22 Sept. 2013

Organised by National Cycling Federation (MNCF) and supported by Lord Mayor of Kuala Lumpur;

- Was held for 4 km length in Kuala Lumpur.
Iskandar Malaysia is a National Project to develop a vibrant new region at the southern gateway of Peninsular Malaysia; By 2030, Iskandar Malaysia’s population to double from 1.5 million today to about 3 million.
MALACCA: Being entrusted to lead the nation's move towards green technology, the State known as the Green Technology City State, would be the first in the country to introduce the electric bus for public transportation.

Aim:
To support the move by the federal government which had identified Malacca to lead the green technology initiative in the country by creating a green environment which is free of pollution.
Malaysian Policy towards sustainable transport: National Bio-fuel Policy

To be proposed to Parliament by 1st Quarter 2006.
Policy’s Strategy:
- Producing bio-diesel fuel blend of 5% processed palm oil with 95% petroleum diesel
- Encourage the utilisation of bio-fuel among the public
- Establishing an industry standard for bio-fuel quality
- Setting up a palm oil bio-diesel plants

Tentative schedule for commercial introduction by 2007 – started with Klang Valley.
DOE Initiative to reduce vehicular emission

- Alternative Fuels
- Reduction of Vehicular emission
- Regulations Enforcement
  - Car Pool & Improvement In Public Transport - More effective if there an incentive implemented
  - Adoption of European Fuel Quality Standards - EURO2 and EURO3
  - Adoption of Stringent Engine Emission Standards
# Regulation Enforcement in relation to Motor Vehicles emissions

## Laws and Regulations to Control Motor Vehicle Emission

<table>
<thead>
<tr>
<th>Year</th>
<th>Regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>Environmental Quality Regulations (Control of Lead Concentration in Motor Gasoline)</td>
</tr>
<tr>
<td>1995</td>
<td>Motor Vehicles Rules (Periodic Inspection Equipments and Inspection Standard)</td>
</tr>
<tr>
<td>1996</td>
<td>Environmental Quality Regulations (Control of Emission from Diesel Engines) and (Control of Emission From Petrol Engines)</td>
</tr>
<tr>
<td>2003</td>
<td>Environmental Quality Control of Emissions from Motorcycles Regulations</td>
</tr>
</tbody>
</table>

## Motor Vehicle Emission Control Programme

<table>
<thead>
<tr>
<th>Year</th>
<th>Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>Control of Black Smoke Emission From Diesel Vehicles - AWASI Programme</td>
</tr>
<tr>
<td>1995</td>
<td>Periodical Inspection (in line with the 1995 Motor Vehicles Rules -Periodic Inspection Equipments and Inspection Standard</td>
</tr>
</tbody>
</table>
The Challenges and moving ahead.

i. Multipolicity of agencies
ii. The absence of a lead agency
iii. The absence of priorities
iv. Coordination and Communications between local authorities and policies maker
v. Need an sustainable and integration framework and line of responsibilities
vi. Policy Implementations and
vii. Awareness on sustainable transport among users
Thank you