

Phasing Towards Sustainable Mobility in Penang

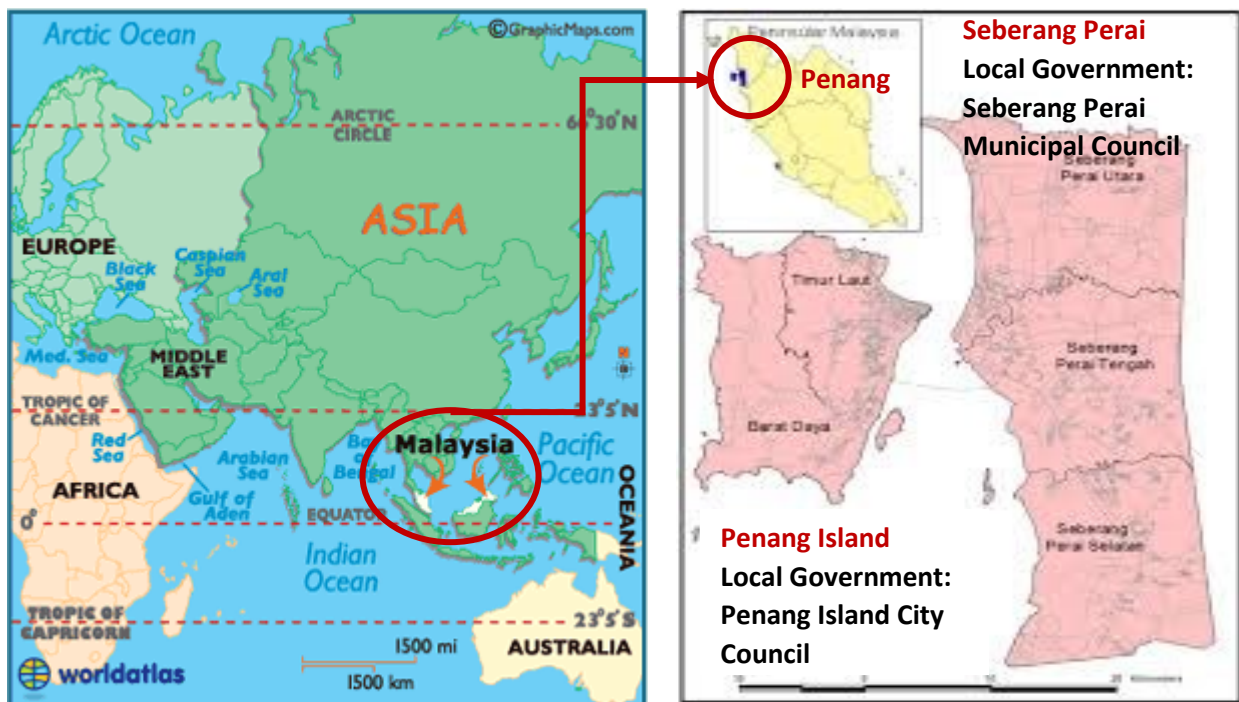
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1. Penang as the Case Study

1.1 Penang and the Penang Conurbation

Penang is the second smallest state in Malaysia with a total land area of 1,048 km² (405 sq mi) situated at the north western coastline of Peninsular Malaysia. It is bordered by Kedah to the north and the east, and by Perak to the south^[1]. Penang is geographically divided into two sections: Penang Island where the capital city George Town is located (an island of 293 km² [113 sq. mi] located in the Straits of Malacca), and Seberang Perai (formerly known as Province of Wellesley), a narrow strip of 653 km² (252 sq. mi) on the peninsula across a narrow channel (Figure 1). The state has a tropical rainforest climate and is influenced by the surrounding sea and the prevailing wind systems.



Source: www.worldatlas.com

Figure 1: Penang, Malaysia

The population of Penang is estimated at 1.767 million as of 2018, with Muslims constituting over 44% of Penang's population, followed by Buddhists at nearly 36%, and Hindus at almost 9%.^[2] The northern state has among the nation's highest population densities and is also one of the country's most urbanised states with a population density of 1,684/km² (4,360/sq. mi).^[3] The historical core of the capital city, George Town, has been inscribed as a UNESCO World Heritage Site since 2008.^[4] Penang is also well established as the *Silicon*

Valley of the East for its industries and is one of Malaysia's most vital economic powerhouses, with the highest Gross Domestic Product (GDP) per capita in the nation, and is thus considered as a high-income economy state in Malaysia.^{[5][6]} The National Physical Plan of Malaysia envisages a conurbation centred in George Town, with the metropolitan area encompassing the entire State of Penang, southern Kedah, and northern Perak. As of 2010, Greater Penang had nearly 2.5 million residents, a GDP of US\$13,596,418, making the conurbation the second biggest contributor of Malaysia's GDP after Greater Kuala Lumpur.^[7]

1.2 Governance

Penang, is one of four Malaysian states without hereditary monarchies and the head of state is the *Yang di-Pertua Negeri* (Governor) who is appointed by the King of Malaysia. The state government consists of the executive branch, a Penang State Executive Council led by the Chief Minister, and a legislative branch, the Penang State Legislative Assembly whose members are called State Assemblymen.^[8] According to the Malaysian Constitution, the state may legislate on matters pertaining to local government, Malay customs, land, agriculture, forestry, civil and water works, and state administration limiting the states' power in comparison to the Malaysian federal government.^[9] There are two local governments in Penang; Penang Island City Council and the Seberang Perai Municipal Council, with a Mayor and President respectively; as well as councillors (24 councillors for each local government) which are appointed by the state government. The local government is responsible for, among other things, regulating traffic and parking, maintaining cleanliness and drainage, managing waste disposal, issuing business licenses, and overseeing public health.^[10]

1.3 Addressing Mobility Challenges in Penang

The State Government of Penang focused on solving three major problems in Penang: 3Cs – Crime, Cleanliness and Congestion. Through continuous efforts, Penang has achieved improved public safety and is up-keeping a clean environment.^{[11][12]} However, congestion still remains a major concern exacerbated by the dynamics of economic growth and an influx of tourists – a case of the State becoming a victim of its own success.^[13] To meet the traffic congestion challenges, the Penang State Government has undertaken a series of actions including forming the Penang Transport Council in 2009 and commissioning the Penang Transport Master Plan (PTMP) from 2011 to 2013, which formed the basis for the state's transport master plan strategy and for organizing a series of workshops with various governmental agencies, departments and stakeholders. The PTMP was commissioned by the Penang State Government as an effort to resolve the pressing transport issues in Penang.^[14] The key aim of the PTMP is to adopt a holistic approach to resolving transportation issues and adopting a paradigm shift towards ensuring accessibility. Four pillars were identified to tackle this pressing problem: Public Transport Improvement, Accessibility Improvement, Highway Improvement, and Institutionalisation of Improvements.

2. Penang Towards Sustainable Mobility

The population of Penang is expected to increase from 1.70 million in 2017 to 1.98 million by 2030.^[15] And according to the PTMP document, the current weekday morning and evening peak hours indicates approximately 263,950 – 279,090 trips are made by private or public transport in Penang. In addition, about 4,030 – 5,820 goods vehicles per day travel on the roads of Penang.^[14] With the increase in both population and transport/traffic in Penang, the PTMP

anticipates the following outcomes by the year 2030 if the current transport issues are not addressed:

- The number of person trips during the weekday morning peak period will increase;
- Public transport usage will remain very low, with only approximately 2.2% of all person trips in Penang being made by public transport;
- Morning peak period travel speeds will reduce significantly and travel conditions in George Town and other built-up areas in Penang Island will worsen.

Due to the severity of the traffic problem, the state government, via state agencies and local government, have undertaken various efforts to address the challenges. Below are four ‘quick-win’ interventions undertaken by the state to phase towards sustainable mobility in Penang.

2.1 Public Transport Improvement – Free Bus Services

2.1.1 BEST FIZ/KOMTAR

Penang is the first state in Malaysia to launch and to provide free bus services to the public, an initiative to decrease traffic congestion in Penang. BEST FIZ (Bus Express Shuttle Transit Free Industrial Zone) was launched on the 1st of March, 2011. This service operates to carry passengers from a various Hubs in Seberang Perai to the Free Industrial Zone in Bayan Lepas. The entire service cost of the BEST FIZ is fully borne by the State Government. Now, there are 10 buses being used for the main routes and four buses for the feeder services. Besides this, the state government has also introduced free bus services to cater to supporting staff from the government sector travelling from Seberang Perai to KOMTAR on the island.

2.1.2 Congestion Alleviation Transport (CAT)

The free bus service known as “I Love Penang – Congestion Alleviation Transport (CAT)” was officially announced by the Chief Minister of Penang on the 14th of February, 2018 and initiated on the 1st of April, 2018. The CAT service proposed by Rapid Penang has applied the concept of “Hub n Spoke”. This concept starts with a local route which is known as a Hub that connects (through a Spoke) to the main route of the bus service. Users have to change bus at least once to arrive at their destinations. This concept was introduced to ensure there was a large coverage area of the free bus service, which encompasses areas that are of high density, as well as having daily activities within the vicinity. Its main objective is to reduce the traffic congestion rate, particularly along the main roads, and to encourage the use of public transport systems which is in line with the vision and mission of the Penang Transport Masterplan to achieve a rate of 40% trips being on public transport by 2030.

2.2 Accessibility Improvement – Last and First Mile Connectivity

2.2.1 Pedestrian Accessibility

The ‘Pedestrian is King’ campaign was launched towards the end of 2015 by the Penang Local Government as a five-year project to make Penang a pedestrian-friendly state. The main objective of the initiative is to make walking a comfortable, safe, and enjoyable experience for all by emphasizing the rights of pedestrians. As part of the campaign, pedestrian beacons and crossings were installed at strategic locations. After a year of the campaign, the local authorities would impose stricter enforcement in the form of a RM300.00 fine under the Malaysian Road Transport Act of 1987 for failure to stop at a pedestrian crossing. Apart from this campaign, there is also the ‘Kaki Lima (sidewalk) George Town’ campaign. It is an initiative by the

Penang Local Government to ensure colonnaded walkways in George Town which are accessible to pedestrians. The Malaysian Street, Drainage and Building Act of 1974 stipulates that five-foot walkways are meant for public use, however, most of these walkways are not accessible to pedestrians due to illegal blockages such as walls.

2.2.2 Bicycle Friendly Pathways

In 2010 the Penang Bicycle Route Master Plan was proposed to encourage cycling as an alternative to using motorised vehicles on Penang Island by the Penang City Council. The lane along the east coast of Penang Island was completed in 2016. The Coastal Cycling Path also includes a spiral bridge for cyclists and pedestrians in Bayan Lepas which was completed in early 2018. The plan also included establishing more designated bike parking and showering facilities at transport nodes to encourage cycling and promote seamless transitions between transportation modes. The local government of Penang has been collaborating with G Club cyclists to organize ‘Campaign for a Lane’, an annual event that calls for the provision of proper cycling lanes within the state. Support for the cause is evident as the campaign attracts over 4,000 participants yearly. The event has come a long way in raising awareness amongst motorists, most of whom are gradually warming to the idea of sharing the road with cyclists. As many are still unaware of the existence of safe cycling routes in Penang, Bike on Friday - a community of cyclists that promotes cycling to work on Fridays, and the local government of Penang are attempting to solve this problem by developing a map to assist locals in navigating cycling paths. Sidewalks along certain streets in George Town have been designated as cycling paths and are indicated by a coat of green paint and are meant to be shared between cyclists and pedestrians.

2.3 Transforming Challenges to Opportunities

Sustainable mobility is only possible with implementation of an effective transport system locally. In the case of Penang, baby steps have been taken by the state government to phase towards sustainable mobility by addressing diverse mobility challenges in the state progressively. The state government has taken bold and creative initiatives as discussed above despite the biggest hurdle: legislative limitation. The ninth schedule in the Constitution of Malaysia 1957 clearly underlines that transportation falls under the per-view of the federal government, which completely limits the jurisdiction of the state government. However, by empowering state agencies and local governments in Penang, mobility challenges were addressed by identifying solutions based on local needs and *Eigenart* (a German word meaning character) of the state. The state government introduced transformation measures by addressing constraints within the state development pathways towards a people-oriented solution. The measures introduced addresses three dimensions of a normative compass for transformation^[15] towards sustainability:

- (i) **Sustainability of natural life-support systems:** the state aims to pursue mobility pathways that addresses planetary guard rails by solving local environmental problems. It indirectly helps meeting the 1.5 degrees climate change limit and combating air pollution in the state.
- (ii) **Inclusion:** the state addressed local solutions by having participative approaches to ensure Penangites (a term used locally referring to people who live, work, and play in Penang) are made the focus and given rights of information and involvement to every mobility solution proposed.

- (iii) ***Eigenart***: the state emphasises the interaction between quality of life, social cohesion, and retaining local identity of the state. As an example, different initiatives were explored by the state to address challenges in each different locality

3. Conclusion

Addressing sustainable mobility challenges and opportunities at the local level can be a strong catalyst for Penang to phase towards achieving the Sustainable Development Goals (SDGs). Sustainable mobility initiatives introduced by the state influence and link one SDG to another, especially the goals related to health, energy, climate change, infrastructure, and cities and human settlements in the state of Penang. This is also clearly spelled out in SDG 11 target 2: “By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.”^[16] Thus, a good transportation system with a balanced mix of buses, trains, cars, bicycles, and foot paths, which people can use to get around with and introduced in the Penang Transport Master Plan, can be a stepping stone for better mobility and accessibility in Penang. Nevertheless, the initiatives introduced must be aligned with the SDGs and integrated as an essential ingredient with local planning as decisions made today will have long-lasting impacts on urban development and the climate of Penang.

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