

# penang

## MONTHLY

OCTOBER 2023  
ISSUE 10.23  
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### MANAGING THE TRANSITION TO BETTER PUBLIC TRANSPORT

FEATURE

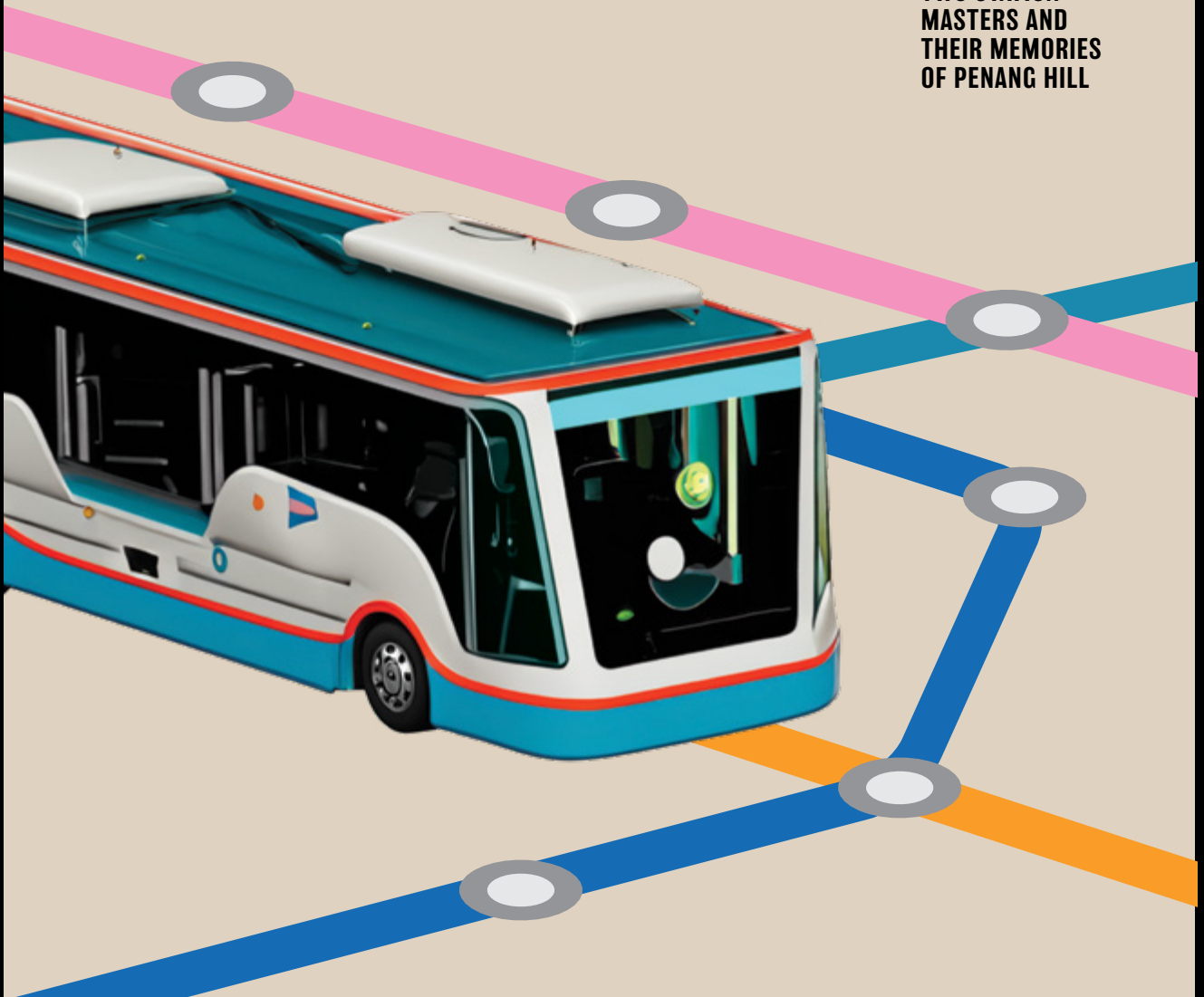
RAISING THE FLAG TO  
MAKE LEADERSHIP  
A COMMON CONCERN

PHOTO ESSAY

PENANG'S FERRIES:  
ICONS ANCHORED  
FOR GOOD

FEATURE

TWO STATION  
MASTERS AND  
THEIR MEMORIES  
OF PENANG HILL





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COVER STORY

# MANAGING THE TRANSITION TO BETTER PUBLIC TRANSPORT



PENANG  
THE  
&  
TRANSITION

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ISSN 2232-0733 10



9 772232 073168 >

PP 14554/11/2012 (031123)  
MCI (P) 116/12/2012

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MyPenang Creative collaborates with Triple I Production House to present **Spice & Curry**, presented in Tamil and Hindi with subtitles. With performances in Malayalam, Telegu and Gujarati accompanied by live music and dance, the production is an excellent introduction to Indian theatre.

<b>DATE</b>	4 November at 3pm & 8:30pm; 5 November at 3pm.
<b>VENUE</b>	iBOX Theatre (Sunny Point Complex)
<b>TICKET</b>	RM35
<b>CONTACT</b>	+6018 467 2794
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## CULTURE

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<b>DATE</b>	27 & 28 October
<b>TIME</b>	7pm
<b>VENUE</b>	Malaysian-German Society, 250B Jalan Air Itam
<b>TICKET</b>	RM40
<b>WEBSITE</b>	<a href="http://t2u.asia/e/32547">http://t2u.asia/e/32547</a>

## ART

The fourth edition of **Open Studios** is back from 7 & 8 and 14 & 15 October, offering art enthusiasts two weekends of open studios, live events, workshops, talks and the chance to explore dynamic art venues like ChinaHouse, COEX @ Kilang Besi and Hin Bus Depot. This year, catch the first-ever regional Mini Art Film Festival at Hikayat! Don't miss the opportunity to witness emerging and established artists and gain a profound insight into their art and its origins. Visit <https://openstudiospenang.com/> for the full programme listing.

## CHILDREN

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## LEARNING

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## RUN

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<b>DATE</b>	5 November
<b>TIME</b>	6am
<b>VENUE</b>	Jalan Kampung Besar, Bukit Mertajam
<b>FEE</b>	RM45 (5km); RM60 (10km)
<b>WEBSITE</b>	<a href="https://howei.com/event_details/battleofflowerfruihillcharityrun2023">https://howei.com/event_details/battleofflowerfruihillcharityrun2023</a>



## LITERATURE

Remember when we sat in class and shared horror stories? Whether to warn or entertain, these stories brought us together and were such a huge part of our childhood growing up, especially if you went to public school! Join **Readings@Tanjong: Are You Afraid of the Dark** for a night of Malaysian childhood vibes.

<b>DATE</b>	28 October
<b>TIME</b>	8pm-9.30pm
<b>VENUE</b>	Jetty35
<b>WEBSITE</b>	<a href="https://www.facebook.com/readingsattanjongpg?mibextid=LQQJ4d">https://www.facebook.com/readingsattanjongpg?mibextid=LQQJ4d</a>

## ENVIRONMENT

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<b>DATE</b>	Now until 31 October
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<b>DETAILS</b>	<a href="https://www.pgc.com.my/2020/pggreencitizen/pgcxloccitane/">https://www.pgc.com.my/2020/pggreencitizen/pgcxloccitane/</a>

# penang MONTHLY

THE PENANG MONTHLY ENDEAVORS TO BE THE VOICE OF PENANG AND AN INSPIRING READ FOR THE CURIOUS MALAYSIAN. A PUBLICATION OF PENANG INSTITUTE, IT AIMS TO:

1. Supply Penangites with information about significant issues in order to promote public participation;
2. Encourage discussion about various aspects Of Penang's fate and fortune;
3. Profile Penang personalities who have contributed, sometimes in very unassuming but critical ways, to the reputation and wellbeing of the state;
4. Put the spotlight on ordinary Penangites who otherwise go unnoticed, but who nevertheless define the culture Of the state in essential ways;
5. Highlight the importance Of Penang as a generator Of culture, education, industry and cosmopolitan values;
6. Emphasise present trends in the arts, industry, politics and economics which affect the immediate future of the state and country; and
7. Offer reliable socioeconomic data for the benefit of decision makers in government and the private sector.

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KEEP CALM AND TAKE THE NEXT BUS

By Azmi Hussin

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# URBAN MOBILITY

# AND

**MODERN ECONOMICS** and modern living are paradoxically based on sustained advances in means of mobility, on the one hand, and in the human ability to live in huge settlements, on the other.

Bringing human individuals into close proximity with each other in regular and systemic ways without conflict requires two things to happen at the same time. There must be worthy reasons for them to do so, and there must be easy means for them to congregate and then disperse whenever they wish to.

Firstly, where worthy reasons are concerned, the decisive change in human self-understanding in modern times is the advent of “economics”—the habit of considering interpersonal relations and mutual benefits in terms of transactions in one sense or another. Summarily, that may be seen as a fundamental, worthy reason for humans to bother with each other despite cultural differences and value gaps.

The rise of urban centres is often, in effect, the collective expression of the wish over time for tighter and more dynamic economic activities and benefits. As people settle close to each other, a collective identity develops over time. More or less common experiences lead to more or less common ways of discussing those experiences.

## CONTROLLED CHAOS AND TRAFFIC JAMS

Economic exchanges are aided by reliability and predictability, and so, regulations and rules come into play. Police, lawyers and judges grow in numbers, filling gigantic halls and buildings not accessible to the common man. Some gain more than others in this conglomeration of people; and so, one could announce the urban centre as being, in essence, a site of controlled chaos where people *gàn huó* (干活), i.e. make a living—bargaining and making economic choices all day long.

Cities tend to grow, and as they grow and their parts diversify in economic functions—and even in identity and culture—public transport becomes important. The diverse parts need to meet to facilitate their economic functions, and the more they meet, the more efficiently these exchanges can occur.



# THE SENSE OF COMMON PURPOSE

BY OOI KEE BENG

Therewith, we come secondly to urban human mobility and the strategic importance of public transport.

Nowhere is the aforementioned controlled chaos that is modern city life more evident on a daily basis than in the traffic bottlenecks of a city during rush hour. The time squandered and the aggravation generated in traffic jams carry economic costs, of course; immediately as in lost activities, and secondarily through their detrimental effects on the city's liveability standards.

## EASY MOBILITY AND COMMON PURPOSE

Observing the cities I have lived in over the last few decades, I could not help noticing how much their inhabitants relate to their urban environment depends on how mobile the city's transport infrastructure allows them to be.

If a city has a spiderweb kind of transport infrastructure, then the sense is that most things happen at the centre, and the outer fringes offer only approximations of what are on offer at the centre. You get a suburban feel that grows as you leave the centre, until fresher air tells you that you are in the countryside. That's the basic idea of how a city is built.

Dublin is certainly built that way. Stockholm too. The city centres of such smaller cities are served by networks of buses or underground rails, and streets are often designed to assist the pedestrian, be this child, adult or the disabled. Parks and gardens dot the city centre as well. Accessibility to public services and commercial centres requires that their street designs minimise the conflict between car and pedestrian.

Buses and rails radiate out of the centre of these cities in all directions, facilitating people mobility, transporting goods to and fro—and transmitting a needed sense of common purpose and connectedness among commuters, whose days are a mix of city and countryside living.

In the case of an island-state like Singapore, its urbanisation radiates from the south end of the island, and over time, has left behind hardly any area that one can call rural. Instead, their town planners visualise a "Garden City", and a "City in a Garden". Despite its im-

pressively developed and affordable public transport system, it remains a highly walkable city punctuated by gardens and parks. Ease of departure from the city is provided by the stupendous Changi Airport.

Hong Kong is famous for its public transport, and although its intra-city connectedness is not as easy for the pedestrian as is the case in Singapore, the idea is that the pedestrian—or the worker or consumer if you like—can get away to anywhere he or she wishes by public transport. Hong Kong's connectedness to the rest of the world is facilitated by its wonderful airport, the high-speed rail to Shenzhen and Guangzhou, and the Hong Kong-Zhuhai-Macau Bridge.

What about mega-cities like London, or Beijing, or Shanghai? Well, the good thing about old cities is that many parts are full of small streets that necessarily limit car flows. Pedestrians can still recognise that the city had evolved into being around the daily activities of people like them.

These cities do not have just one centre. Thus, their public transport system has had to be intricately planned and developed. London is, of course, also famous for its many enormous parks and gardens. Beijing's open spaces—ancient and modern—are also of world renown.

What about Penang? Given the comments occasioned by thoughts about other cities, on the status of the pedestrian in the mind of city planners, the availability of gardens and parks, public transport options, the connectedness within and out of the city, et cetera, we should consider what Penang's controlled chaos is like, and how we can reorganise it.

We should ask ourselves the following comparative long-term questions: How walkable is Penang's city centre? Are its streets safe for children, adult and the disabled? How connected are its many parts? How can its public transport be improved, even in the short term? The car being king, does that mean that the sense of common purpose among Penang's inhabitants is being weakened? Are our parks worth visiting, and are there enough of them?

Loving Penang is necessarily dependent on loving easy access to its many luxuries.



OOI KEE BENG

# PENANG HILL FUNICULAR RAILWAY: 100 YEARS OF SERVICE

BY OOI TZE XIONG



**OOI TZE XIONG** currently delves into content creation and enjoys piloting drones as a hobby. After years of sojourning in cities across Malaysia and Singapore, he eventually decided to call Penang home.

**THESE DAYS**, ascending Penang Hill takes mere minutes. All one has to do is purchase a ticket and board the air-conditioned funicular trains serving the hill—a breeze compared to yesteryears.

But in fact, building a railway up the 735m tall hill was by no means an easy feat. Ever since the island was popularly settled, Penang Hill has been a respite from the sweltering, oppressive heat in George Town. However, while British officials regularly retreated to their mansions built on the hilltop, there was no proper transport system up the hill. Until the 1890s, the only means of reaching the summit were either by hiking, using ponies or on doolies.<sup>[1]</sup>

It was only in 1897 that the first attempt at building a railway on Penang Hill was made, aided by the formation of the Penang Hills Railway Co. Ltd.<sup>[2]</sup> The first trains ran on steam generated from a water turbine; this propulsion system was then replaced by a Pelton water wheel powered by the Air Itam Dam.<sup>[3]</sup> However, no feasibility tests were ever carried out and, consequently, faulty design plagued Penang Hill's first railway from the onset.

While the original operator went under, there was continued interest on the part of British officials in the project. A study carried out in 1909 by Arnold Robert Johnson, an engineer with the Federated Malay States



Railways, concluded that only a funicular system was capable of surmounting “very steep gradients” and “great heights in a comparatively short distance”—as is the case with Penang Hill.

It was only after World War I that the Straits Settlements government commenced the development of Penang Hill, modelled after other hill stations in Malaya, such as Fraser’s Hill and Cameron Highlands. Based on Johnson’s earlier study of and his subsequent findings on funicular systems gained in Switzerland, work began on a two-section funicular railway in 1920. Opened in 1923, this funicular railway was the first of its kind in Southeast Asia, and it also served the steepest climb in the region. During its construction, 11 viaducts were built at various points to bridge the irregular terrain along the railway.

## RAIL MAKEOVERS

By 1977, however, the funicular system had started to age. The coaches were subsequently replaced by what soon became the iconic red, Swiss-made units, equipped with fans and automated sliding doors, at a cost of RM2.3mil. Each aluminium coach had a maximum capacity of 80.

But, by the turn of the millennium, train breakdowns occurred in increasing frequency, and in 2008,



both the federal and state governments decided on another revamp of the funicular railway to increase capacity and alleviate burgeoning queues. The revamp cost the federal government RM63mil and involved the installation of the present-generation blue, tram-like coaches with an increased maximum capacity of 100 per trip, as well as the realignment of the railway from two stages to a single-section system. Passengers now no longer needed to alight at the middle station as had been the case with the earlier generations of trains.

Launched in 2011, the revamped funicular led to even greater numbers of visitors to the hill. “The older generation was entirely mechanical in operation. The brakes and the coaches’ capacity were also smaller. The current funicular system utilises both digital and analogue controls, which allows real-time monitoring in case of abnormalities. The increase in capacity and speed also necessitated heavier and more complex braking systems,” explains Thangeswaran Waran, the Funicular Operations Manager for Penang Hill Corporation (PHC).

#### KEEPING TRAINS SPICK AND SPAN

By 2012, Penang Hill was registering over a million tourist arrivals annually. With such a sizeable increase of foot traffic, however, challenges mount in keeping the funicular system operational. “Of course, the

challenging terrain has always been a hurdle, where the steepest slope can be up to 27.9 degrees. But on top of that, we have to ensure that rail operations are not affected significantly. Once a defect is discovered, for example, contractors are required to perform welding works at night to prevent disruptions to daily operations,” says Thangeswaran.

The challenges facing PHC’s technical staff are unique. Regular maintenance is crucial. “We have scheduled maintenance procedures, whether it is daily, weekly, monthly, quarterly or half-yearly. Daily and weekly inspections are needed to ensure the tracks are in good shape, while heavier components such as ropes, power lines and pulleys are checked and replaced during monthly or half-yearly maintenance,” describes Thangeswaran.

Crisis management forms another critical aspect of PHC’s daily operations. “We need to quickly respond to the situation as it happens to prioritise passenger safety. Passengers must disembark from the trains before inspections and repair works can commence.”

As one of Penang’s most visited attractions, Penang Hill’s future trajectory and development is highly dependent on the maintenance and upgrading of the century-old funicular railway, an engineering heritage in itself.

#### FOOTNOTES

[1] Youtube: <https://www.youtube.com/watch?v=6plqdTm1Rgg>

[2] Penang Trams, Trolleybuses & Railways, Municipal Transport History, 1880s-1963 Ric Francis, Colin Ganley · 2006 Areca Books

[3] Keretapi Bukit Bendera, Pulau Pinang. Arkib Negara Malaysia: <http://www.arkib.gov.my/web/guest/keretapi-bukit-bendera-pulau-pinang3>

# PENANG HILL: A NATURAL RESOURCE THAT SHAPED THE SETTLEMENT



BY EUGENE  
QUAH TER-  
NENG



**EUGENE QUAH** is an independent researcher and writer who is working on a book tentatively called “Illustrated Guide to the North Coast of Penang”. He rediscovered the joys of writing after moving back to Penang from abroad.

**BESIDE THE HANDSOME** George Town Dispensary building on Beach Street is a neat white shophouse which today is occupied by an upscale artisanal retail store. On the façade is emblazoned the initials of its original owner, TTS—for Thio Tiau Siat.<sup>[1]</sup> The present building was built over an earlier structure which housed the Penang Foundry Company.

On Monday, 8 January 1883, a now-forgotten momentous event took place there. It was reported that “suspended in the middle of the large building”—likely one of the four godowns within the premises of the foundry—was a Brush arc lamp. Invented by the American electric lighting pioneer, Charles Francis Brush, the lamp was part of a complete electrical lighting system powered by his improvement over Michael Faraday’s dynamo.

The Eastern Electric Light and Power Company was the local distributor in Penang of the “Brush Electric Light”. Walter Judd acted as the electric company’s agent, while his colleague, the engineer, Thomas Scott Gardner<sup>[2]</sup> oversaw “the lighting portion of the machinery”. The dynamo was to be driven by a one-horsepower engine provided by “the proprietor of the Foundry”, John Leith Wemyss.

As Wemyss started the engine for the first time sometime after 6:30 pm, the electric current produced by the dynamo, coursing through the lamp, jumped between the small gap between the two carbon contacts, ionising the air to create an “exceedingly bright yet beautifully soft light”. When Gardner set



2



3

1 The front page of the 2 April 1881 edition of the *Scientific American* featured Brush dynamos and examples of street lighting using Brush arc lamps. In Penang, the Electric Company's demonstration on 8 January 1883 at Beach Street and later at Light Street was likely using similar equipment shown here.

2 View of the godowns and works sheds at Huttenbach Brothers' premises at No. 27 Beach Street. The nearby Penang Foundry's work sheds probably shared some similarities. Right: August Huttenbach, the well-known and -liked Penang industrialist whose ice factory at Batu Ferringhi became the first successful implementation of hydroelectric power on a commercial scale in the Straits Settlements.

3 C.W. Barnett was tasked to lay pipes to extend the Air Itam supply in the 1890s. He reported finding the Electric Company's dam built by Judd and Gardner where the turbines were installed still intact, and reused some of the piping. In the 1920s, J.D. Fettes mentioned the existence of an old power company's intake at Air Itam in his survey of Penang's water supply. This is the photo of the intake which still exists today, including the ruins of the building in the distance.

Source: City Council of George Town

the arc light to full brightness, it was sufficient to "fully illuminate the whole of the vast premises".

Producing the light equivalent to 2,000 candles, the arc light "allowed the reading of a letter at a great distance, and extended to several yards out of the workshop". "The experiment", reported the Penang Gazette, "proved to be a success beyond expectations". The demonstration continued until 9 pm Thus, No. 37 Beach Street became the first-ever building in Penang to be lit by electric lighting that night.

### WATER POWER

The Eastern Electric Light and Power Company, henceforth the Electric Company, was incorporated in London in 1881 "for the purpose of introducing Electric Light into India and other Eastern countries" and began operating in Penang in early 1882.

The 25 March edition of *The Electrician* reported that "the employment of water as a motive power in the generation of electricity is shortly to be practically demonstrated at Penang". The Penang Hill range, dubbed the Great Hill by the British, is blessed with a multitude of rivers and streams cascading down its verdant slopes. Walter Judd explained to the press that, the island "possessed of several waterfalls" which "can be rendered subservient to the interests of electric lighting".

By 26 April, the *Pinang Gazette* reported that the government had granted the Electric Company a concession to "use the Penang Waterfall to drive a Dynamo-Electric machine for the supply of Light and Power to the town". Two 50-horse power vortex

turbines to drive the Brush dynamos were also shipped to the island. "The work was pushed on with vigour" by the "enthusiastic and energetic" Judd.

However, the waterfall ultimately chosen to generate electricity was not the Great Waterfall, but another at Air Itam. Gardner had made roads to it and built a reservoir. By November 1883, Judd, "having received his turbines, carted them up to the waterfall". While later, an "alarming report was made that the mainspring of their hope was drying up", Judd and Gardner's gloom "was shortly relieved by the discovery that higher up there is another waterfall that never failed".

### LIGHTED STREET

His Highness, the Maharaja<sup>[3]</sup> Abu Bakar of Johor, remembered today as the "Father of Modern Johor", was in town on the first day of February 1883 to attend the "Race Ball" at the Town Hall organised by the Turf Club. A table on display was "handsomely decorated with race cups". Among the trophies on display would have been the Maharaja's Cup (first race) and another called the Home Cup (second race), which was contributed by August Huttenbach.

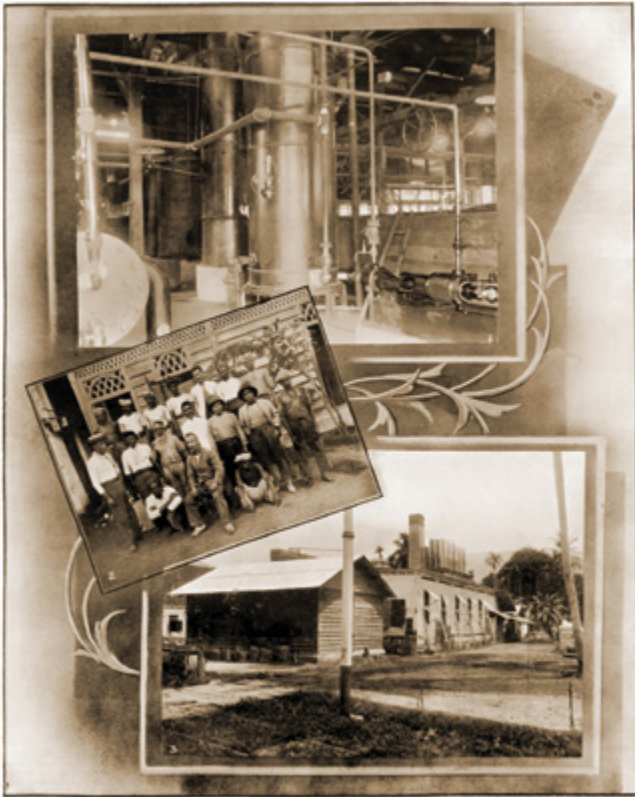
Huttenbach, a well-known industrialist and later legislative councillor, was a serial entrepreneur who had been involved in the lighting of George Town using petrol lamps. The premises of his business was at No. 27 Beach Street, a block away from the Penang Foundry. (See "Early Days of Motor Buses in Penang" in this same issue.)

### FOOTNOTES

[1] The other name of Cheong Fatt Tze, the owner of the Blue Mansion.

[2] He later pioneered the first tramway in Penang. His name was misspelled by the press as Thomas Scott Gardiner. The City Council's official history, pg. 52, notes "the steam-tram run by Mr. Gardner on Ayer Itam and Waterfall Roads".

[3] His Highness only adopted the title of Sultan on 13th February 1886. Before that, he was actually the Temenggong of Johor and the Anglo-Indian title Maharaja was used because the Malay title was unfamiliar to British ears.



TANJONG PINANG ICE COMPANY, LTD.  
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4

Earlier, on 12 January, Judd was reported to be “already putting lamp posts in town”, starting “from behind the Post Office” and “round along the Harbour Master’s office to Light Street”. That night, as the Maharaja and other guests walked past the entrance hall to the ballroom, they were greeted by a novel sight—the place was illuminated by electric light instead of the usual oil lamps. The appropriately named Light Street (after the town founder Francis Light) became the first street to be lit by electric light in the Straits Settlements.

**WATERSHED MOMENT**

Huttenbach, whether he was there that night or not to witness the historic event, would have known about the demonstration either way as news spread fast within the small Penang mercantile community. The stakes were high. Should the Electric Company be given the concession to provide electric street lighting, his business of lighting the town with petrol lamps would be in jeopardy.

Fortunately for Huttenbach, although everything went as planned for the Electric Company that night, the light of the multiple arc lamps used was too harsh and reportedly “displeasing to everybody”. “The lamps were only used for two to three nights”, recalled James Wilson Hallifax years later when he became President of the Municipality.

On 14 December 1883, the directors reported that although the Electric Company was offered a street lighting contract, they could not accept it because the Indian and Oriental Storage Company, their battery vendor, have not “completed their works for the transmission of power from the waterfall to the town”. The final blow came from India where the government there had prohibited overhead wiring. The costlier underground wiring caused profitability to nosedive, which then led to the “general collapse in prices of electric light undertakings”.

The Electric Company’s entire Air Itam hydro-electric plant was later sold off at a loss.

**ICE WORKS**

In 1895, after a long hike from Tanjong Tokong, an adventurous gentleman found himself at Batu Ferringhi where there stood ice works. Due to all his exertions, he leaned “against one of the ice covered pipes” to cool down. Surrounding him was the “rapid rush of the great turbine, the pungent smell of ammonia, the whirl of the huge wheel and the monotonous throb of the plungers keeping the water moving to prevent the ice from being cloudy”. The owner of the establishment, an ice factory, was none other than August Huttenbach.

Hamilton, the plant’s engineer, invited the tired traveller to his house on top of the hill overlooking the factory, and offered him a “long, cold, delicious whisky and soda”, presumably served with some freshly made ice. The engineer shared that his round-the-clock operation could churn out up to an astonishing 30 tons of ice daily. The machines also had been running non-stop since the factory began operation in July 1894, all driven by waterpower. Huttenbach entrusted the running of his ice business to Joseph Heim, a fellow German.

The Tanjong Pinang Ice Works, as Huttenbach’s ice business was called, had succeeded in what the Electric Company had earlier hoped to accomplish but failed—he had harnessed the kinetic energy of



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Scenes from Huttenbach's Batu Ferringhi ice works. The European man in the photo among the staff of the ice works is possibly J. Hamilton, the engineer.

Source: Arnold Wright / Public Domain

5

The water-powered ice works was located at Pasir Elok, west of the rocky outcrop (tukun) which gives Batu Ferringhi (Foreigner Rock) its name. The Hard Rock Hotel was later built over the ice works.

Source: Australia National University Archives / Federation of Malaya, Surveyor General (1963)

6

Water flowing from the Chin Farm waterfalls onto the Batu Ferringhi River was the likely source of power which drove Huttenbach's hydroelectric installation. Mariners have been refilling their ships at this stream for centuries.

Source: Author

water flowing down from the Great Hill to generate electricity, not to power street lamps, but to power machines. It was a thoroughly brilliant and elegant solution which made his ice business highly profitable. The ice factory was the first ever working hydroelectric installation in the Straits Settlements.

#### THE FIRST HILL RAILWAY

On 9 September 1897, attorney general D. Logan, J. Heim and A. Wilson wrote a letter to James Kortright Birch, the Resident Councillor of Penang, proposing an ambitious plan to build a railway up Penang Hill. The previous year, Alan Wilson, who ran an engineering firm, had also proposed to the government to obtain a very familiar-sounding concession. He wanted to start an electric company to generate electricity using waterpower derived from the Great Waterfall and the streams of Batu Ferringhi and Tanjung Bungah.

As the 19th century gave way to the 20th, a substantial swath of the Air Itam valley came under the ownership of Koh Seang Tat. Universally known as Tat by the British, he was a prominent merchant and municipal commissioner who was also the first ethnic Chinese to be made a Justice of the Peace. Two streams, both called Tat's Stream, cascaded from the slopes of Penang Hill to merge with the Air Itam River. The stream closer to Air Itam town was the "waterfall

that never failed", used by Judd years earlier to power his turbines. In the 1890s, C.W. Barnett reported the Electric Company's old intake and dam were still there when he was tasked to extend the Air Itam water supply.

Initially, the hill railway was designed for steam power, but midway through construction, Wilson changed it to utilise a Pelton wheel, a type of hydroelectric plant. This shift may have been influenced by Joseph Heim (J. Heim), the co-proposer of the project and the aforementioned manager of Huttenbach's hydroelectric ice factory. The Pelton wheel worked but due to incorrect cable gauge and suboptimal track alignment, the motors could not overcome the friction, leading to the abrupt end of Wilson's hill railway dream upon its first operation. While this attempt appeared a failure, it demonstrated the feasibility of a hill railway; it simply required overcoming remaining engineering challenges.

Looking back at the early days of electric lighting and hydroelectric experiments at Air Itam, and the successful use of water power to create ice at Batu Ferringhi, we can now see that the journey of Penang's development is inextricably linked to the Great Hill. As we celebrate the centenary of the funicular railway, let us also pay tribute to the forgotten feats of unwavering determination and innovation demonstrated by these early Penang entrepreneurs.

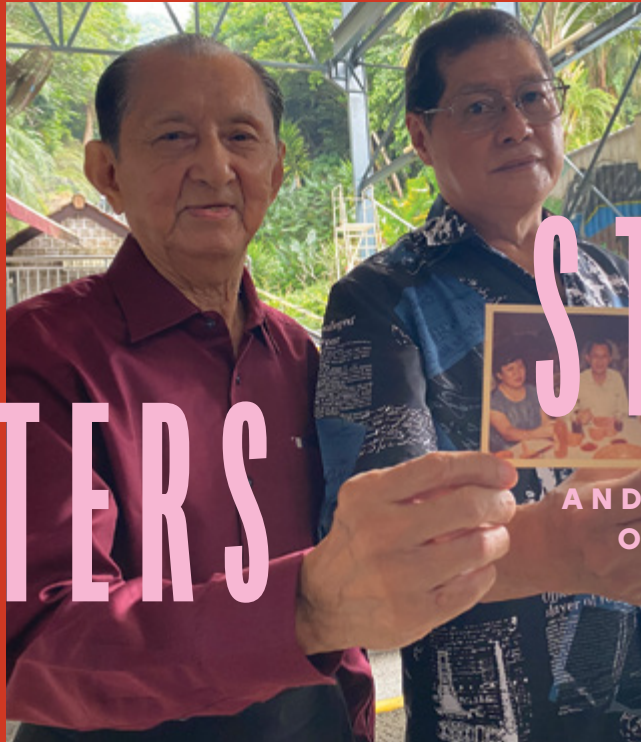


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# TWO STATION MASTERS AND THEIR MEMORIES OF PENANG HILL



BY ENZO SIM

**AS THE SAYING GOES,** “You’ve never really been to Penang, if you haven’t been to Penang Hill.” Indeed, just the ascent up the Hill on board the funicular railway alone is a unique experience that visitors look forward to.

In conjunction with the 100th anniversary of the completion of the Penang Hill funicular railway, I interviewed two former station masters who have contributed their entire career towards managing the Penang Hill funicular railway.



## CHEAH PENG SOON

Initially hired as relief station master of the Penang Hill Railways, Cheah Peng Soon, 74, started his career at Penang Hill when he was 20, and would go on to work there until he retired in 1995.

Cheah resided at the Middle Station, where the living quarters of Penang Hill employees were located.

“Despite the need to walk through steep slopes and rugged terrain to reach my living quarters behind the engine room every day, I loved my job very much,” says Cheah.

Although previous childbirths on board the train were never recorded, it is believed that numerous babies were born on board since the railway opened in 1923. Cheah’s third son was one of them.

“In 1977, my wife’s water broke a week before her due date,” Cheah says. “I quickly called an emergency train to bring us down so that we could get to the hospital to deliver the baby.”

To his surprise, halfway down the hill on the train, his son was already safely born with the help of his boss and his boss’s wife.

Cheah remembers his tenure at Penang Hill fondly. “I went beyond my job scope to improve the scenic landscape of the Hill,” Cheah tells me proudly. To install fencing at the top station, Cheah, his friends, and Penang Hill residents even chipped in using their own funds.

Like Ang, Cheah was close to the residents of Penang Hill. He says their children grew up together and would take the first train in the morning to school. “Whenever there were festive occasions, members of the Penang Hill community would also visit each other and share their home-cooked dishes.

“What I enjoyed most at Penang Hill was working with people from different racial and religious backgrounds, whose shared mission was to make Penang Hill a better place.”



## ANG SIM BOO

Ang Sim Boo, now 90, followed in the footsteps of his father, Ang Iok Hun, who was the first station master of the Penang Hill Railway. He served with the Penang Hill Railway under the management of the Penang Municipal Council from 1955 to 1973 and the Keretapi Bukit Bendera Unit under the Penang State Secretary Office from 1973 to 1988.

According to Ang, the first-generation wooden train could only transport an average of 35 passengers per coach. “Back in the days when I was serving as the station master, each coach was divided into four compartments—two compartments were reserved for first-class passengers, while the remaining two were for second-class passengers.”

“In the 1950s, a first-class ticket would cost \$1.20, while a second-class ticket would cost 80 cents,” he adds. It was not until the introduction of the second-generation funicular that the class system was abolished altogether.

The first-and second-generation funicular railway would make regular stops at each of the three main stations—lower, middle and upper—as well as five substations—Claremont Station, Moniot Station, Viaduct Station, Lower Tunnel Station and Upper Tunnel Station. This provided convenience to residents of the Hill living in the vicinity of the different stations.

The modern funicular railway only makes scheduled stops occasionally for residents and workers at the substations. One of the daily duties that Ang had to undertake as a station master was to operate the signal box, which transmitted signals to the control operator when the funicular arrived at the station.

“Station masters had to work two shifts—from 6 am to 2 pm, and from 2 pm to 10 pm—after which we

must be on standby at our quarters until our next shift,” explains Ang.

When asked about his most memorable experience as a station master, Ang says without hesitation that it was the day he welcomed Queen Elizabeth II when she visited Penang Hill as part of her whirlwind visit to Penang in 1972.

“It was wasted opportunity as my team couldn’t get a nice picture of me greeting the Queen due her tight security detail!” laments Ang. During that trip, Queen Elizabeth II visited the Uplands School which occupied the grounds of the former Crag Hotel, where she was greeted by the students.

Ang also recalls the time when he had to help a pregnant woman deliver her baby on the train. “When the baby was safely delivered, I wrapped the baby in newspaper as that was the only thing I had with me, and carried the baby while the husband helped his weakened wife to another train,” Ang recalls.

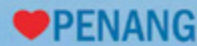
“Another time, I received a call at midnight from a Penang Hill resident who informed me that his wife had suddenly gone into labour,” says Ang. “However, when I managed to get there, the baby was already born. So we carried the mother and the baby down the hill with the umbilical cord still attached to the ambulance that was already waiting at the lower station.”

“Throughout my 33 years and eight months of service, I made many friends, some of whom have passed on from old age,” Ang says. “You form an emotional attachment; especially when you get to know the friendly residents on the Hill. I was there to watch their children grow into adults,” he continues.

Ang says that he will cherish these memories for the rest of his life.



**ENZO SIM** is a Mass Communications graduate who has an unwavering passion towards international relations, history and regional affairs of Southeast Asia. His passion has brought him to different Southeast Asian capitals to explore the diverse cultural intricacies within the region.



## PENANG HILL RAILWAY: *A Centenary Celebration* (1923-2023)

The Penang Hill Railway, engineered by Arnold Robert Johnson (1879-1966) of the Federated Malay States Railways (FMSR), opened its doors to the public on 21 October 1923. Officially inaugurated on 1 January 1924 by the Governor of Straits Settlements, Sir Laurence Nunns Guillemard, this engineering feat has since carried over 48 million passengers to the hill over the past century.

Beyond its role as a mode of transportation, the Penang Hill Railway has elevated the prestige of Penang Hill, its surroundings, and the entire state of Penang, leading to UNESCO's recognition as a biosphere reserve site in 2021 under the UNESCO Man and the Biosphere Programme. This designation not only solidified its status as a must-visit tourist destination but also highlighted its crucial role in fostering research and education of Penang Hill's rich biodiversity and heritage.

1923-1977

2011-Present

1977-2010





Getting Around in Penang

# MANAGING THE TRANSITION TO BETTER PUBLIC TRANSPORT

BY ALEXANDER FERNANDEZ



**ALEXANDER FERNANDEZ** is a budding plant enthusiast, feline fanatic, Netflix aficionado and gaming buff. He hopes to one day travel to Japan.

**A WELL-STRUCTURED** bus system offers a wide range of benefits that go beyond mere transportation. It addresses the critical issue of affordability by providing an inclusive mode of travel, particularly for those in the lower-income brackets. This inclusivity enables access to essential services, education, job opportunities, and even leisure and recreation.

The iconic red, beige and blue Rapid Penang buses navigating the roads on the island and the mainland form the backbone of Penang's public transport. That said, millennials using buses for their daily commute remains an uncommon sight.

As one who commutes to work on a daily basis, I have often contemplated whether the convenience of inheriting my mother's 14-year-old Proton Wira outweighs the benefits of taking public transport. Such a choice would entail forsaking my exercise regimen and incurring extra expenses, but it would afford me comfort and spare time otherwise spent waiting for the bus. With a car, I could make a pit stop anywhere or have extra space to store my shopping hauls and groceries.

I ultimately decided to leave this pondering to my future self, hopefully, a more financially stable self. For the time being, I'll stick with the bus.

Common complaints you would have likely heard from those who prefer driving their private vehicles over public transportation include how the buses are irregular and unreliable, how there is a shortage of buses during peak hours, and how the last-mile connectivity from one's home to the nearest bus stop is lacking. Sure, we have Link Bikes and e-scooters such as Beam, but are they affordable options for daily use? Not quite. Not to mention that they are mostly concentrated within the city centre.

Penang's roads frequently suffer from heavy congestion, resulting in longer commute times. When it is raining cats and dogs, traffic immediately goes from bad to worse, what with motorcyclists and some frequent bus riders switching to their personal cars to get to where they intend to go. When one is pressed for time, it is just not realistic to rely on a bus. Unlike Light Rail Transits (LRT) and Mass Rapid Transits (MRT), the arrival times of buses can be erratic, and their frequency can be inconsistent.

Many of the roads and streets on the island are narrow, making it difficult for large buses to manoeuvre these lanes. For various reasons, not all residents have adequate access to buses, making private vehicles necessary for many.

Would minibuses or vans aid this navigation issue? Maybe.

## LOST IN TRANSIT

**MY BUS RIDE** from Mt. Erskine to the bus stop closest to Penang Institute, where I work, typically takes about 15 minutes. While this may seem like a short duration, it often stretches beyond that. Living atop a hill adds an extra leg to my commute—it takes around 10 minutes to walk to the closest bus stop opposite the Mt. Erskine market and another 10 minutes from 1-Stop Midlands Park Centre to my office. This does not include the bus wait of about 10 to 15 minutes, making the total duration of my journey approximately 45 minutes.

The journey back home, unfortunately, is even more challenging. The most convenient option is to walk 15 minutes to the nearest bus stop along Jalan Kelawei, facing Gurney Plaza. Here, I wait for the 104 bus, which takes me to the Mt. Erskine market. Then, it is an additional 25-minute hike up the hill. Due to the infrequent schedule of the 104 buses, I often opt for the 101 bus to City Junction and then walk the rest of the way, making it almost a one-hour journey home. More time is added when the roads are congested or, even worse, if I miss my bus. My daily experience underscores the challenges of last-mile connectivity and explains why many people avoid using the bus.

There is a lot of talk about Penang's public transportation, and while plenty can be said through graphs and charts, the actual frustrations faced by a bus commuter can only be truly understood by frequent users. It becomes essential, therefore, to account for the time spent waiting for the bus, its irregular timing and the walking distances involved. At present, it is improbable for someone who owns their own vehicle to instantly transition to taking the bus. Here's my take on it—this shift not only brings a drastic change to one's daily schedule, it is a total lifestyle overhaul.

In trying to understand what forms the basis for an effective and efficient public transport system, I targeted my questions at Yap Soo Huey, a former member of the Penang State Legislative Assembly with a Master's Degree in Urban and Transport Planning, who currently contributes her expertise at the Metropolitan Atlanta Rapid Transit Authority (MARTA). Her response, based on her experience overseas, is summed up in three key principles: (1) Well-connectedness, (2) Reliability, (3) Safety.

Yap says it is insufficient to just have a public transportation network. "It needs to be reliable, which means that when people need to use the system, they can be confident of what time

the bus or train will be there and how long it will take them to get to the destination. People will only use a transportation system if they know that it can take them to their destination and back in a predictable, reliable manner. Having a goal of high frequency and minimal breakdowns is key to good reliability."

There is also a perception that public transportation in Malaysia is unsafe; hence, some refuse to use it. "Safety is important because lives are at stake. Ideally, public transportation should be a safe provision," Yap says.

Rajendran Anthony, the newly appointed Mayor of the Penang Island City Council (MBPP), reveals that the Local Government has proactively allocated funds to enhance public amenities. For instance, select bus stops have been outfitted with advanced closed-circuit television (CCTV) systems, and additional lighting has been installed to bolster passenger safety during wait times. The pedestrian walkways have also undergone extensive improvements to ensure passenger comfort, including tactile blocks to aid the visually impaired. Furthermore, robust roofing has been meticulously constructed over strategically positioned bus sheds to shield commuters from the elements.

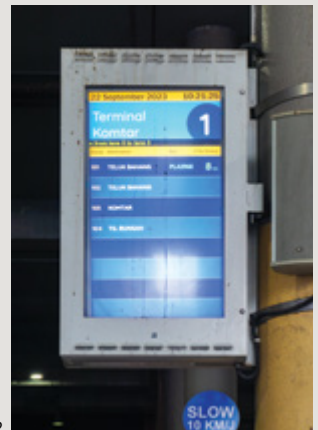
He also highlights significant advancements within the buses themselves, including CCTVs that record from four different angles being retrofitted into each bus, ramps for the disabled, as well as the implementation of real-time bus tracking. Commuters now have the convenience of accessing precise arrival times for each bus through the "Passenger Information System" which are smart displays seamlessly integrated at selected bus stops.

Alternatively, passengers have other convenient options to monitor the arrival times of intercity buses. They can scan QR codes positioned at bus stops or leverage applications like Google Maps, the Rapid Penang-dedicated PULSE or Moovit, a similar mobile application to the former two that allows users to not only access bus arrival information but also provides expert guidance on selecting optimal routes to their desired destination.

Meanwhile, the JustPay pilot application allows passengers to settle bus fares through its e-wallet system. The lingering question, however, pertains to the possible adoption of Touch N' Go as a payment method for bus fares in Penang; this is in place in the Klang Valley's public transportation system.

1 Users need to tap in and out with their Pas Mutiara for free bus rides.

2 The Passenger Information System displays the time of arrival of buses in real-time. It is however subjected to road conditions.





## HOW OTHERS DO IT

**IN A CITY** that prides itself as a UNESCO World Heritage site, it is imperative that these processes are streamlined, accessible for foreigners and expeditious for locals. The aim should be to enhance efficiency and to avoid systems that, while trying to accommodate everyone, end up causing inconvenience for the majority.

Rajendran underscores the persistent underutilisation of public transport in Penang. Presently, bus ridership in the region remains a mere shadow of its pre-Covid-19 levels. He is looking to dissuade the general populace from opting for personal vehicles, in tandem with improvements being made to the current public transportation system.

Cities like Singapore, Stockholm and London have successfully implemented congestion charges.

Congestion pricing in Stockholm kicked off as a pilot project in 2006. It met strong resistance. A fee is imposed on vehicles entering or leaving the city centre during weekdays from 6:30am to 6:30pm. This initiative was accompanied by expanded bus services and remote parking options to encourage residents from outlying areas to leave their cars behind. Over a decade later, Stockholm saw significantly improved air quality along with enhanced commercial logistics and emergency response times. The revenue generated is reinvested for ongoing system enhancements and city infrastructure improvements.<sup>[1]</sup> The government permanently relaunched the programme in August 2007 due to popular support, and it is still running today.

These advantages can, however, only be realised in the presence of a well-functioning public transport system; without it, the initiative would backfire on the government of the day. Strategies for incentivising public transport usage while discouraging excessive car use should be closely inter-linked for optimal results. Yap concurs. “Investing in many more buses with accompanying technology and staff to manage the on-time performance of buses is key. Without these, it is unrealistic to expect people to abandon their cars.”

Fewer cars on the road mean less traffic congestion, lower carbon dioxide levels and pollution, the potential for increased cycling and dedicated bus lanes, and the reclaiming of parking spaces for recreational use, among many other positive effects.

Penang’s municipal authority is actively exploring preliminary measures such as raising parking fees to alleviate the burden of excessive cars on the roads. In 2021, Penang’s population was at 1.74 million, while the number of active vehicles stood at 1,729,209 (Department of Statistics Malaysia).

MBPP is currently actively considering the introduction of dedicated bus/public transport lanes in specific areas with wider roads to facilitate a smoother journey for buses, taxis and e-hailing vehicles. But before launching the pilot project, it intends to engage with stakeholders. This initiative is expected to be implemented in the upcoming year, and in the event of a successful pilot, the possibility of implementing additional bus lanes will also be explored.

Table 1: Federal / State / Local Government jurisdiction in relation to public transportation

### FEDERAL GOVERNMENT

- Manage the public transportation service
- Determine and approve routes of public transportation as well as the location of bus/LRT stops and public transport hubs

### STATE GOVERNMENT

- Propose transport masterplans for the state
- Propose the location of bus/LRT stops and public transport hubs

### LOCAL GOVERNMENT

- Approve the design and structure/guidelines of the public transportation
- Manage the facilities related to public transportation (e.g. the building of bus stops, walkways)

## IS FREE ACCESS TO PUBLIC TRANSIT A VIABLE POLICY?



## FOOTNOTES

[1] <https://www.transvirtual.com/blog/what-is-the-hub-and-spoke-model/>

[2] <https://www.transvirtual.com/blog/what-is-the-hub-and-spoke-model/>

[3] <https://penanginstitute.org/publications/issues/sustainable-strategies-based-on-penang-infrastructure-corporations-projects/>

[4] [https://www.theguardian.com/cities/2019/mar/19/how-public-transport-actually-turns-a-profit-in-hong-kong#:~:text=This%20%E2%80%9Crail%20plus%20property%E2%80%9D%20model,bn%2\(%C2%A31.6bn\)](https://www.theguardian.com/cities/2019/mar/19/how-public-transport-actually-turns-a-profit-in-hong-kong#:~:text=This%20%E2%80%9Crail%20plus%20property%E2%80%9D%20model,bn%2(%C2%A31.6bn))

Since 2021, Penang's state government has been issuing Pas Mutiara My50, a free, unlimited, 30-day renewable bus pass across the island and mainland for Malaysians of all ages. This ongoing initiative aims to reduce people's reliance on private vehicles and aid those in the lower income bracket.

Acquiring this benefit entails a straightforward registration process and a nominal RM10 "fee"; in which RM5 is used to process the card and another RM5 for the card's purse value, which is embedded within the pass itself, compelling bus users to tap in and tap out when taking the bus. In the event that one forgets to tap out, the person will have to head over to the Rapid Penang headquarters at Lorong Kulit or any convenient bus terminal or hub to reactivate the pass. Also, before the 30 days of usage are up, these passes must be renewed (free of charge) within seven days before expiration. It is rather unfortunate that renewal of the passes cannot be done online.

In essence, securing the Pas Mutiara My50 each month translates into an entire year of cost-free bus commuting, making public transportation a budget-friendly option.

The Penang state government even began offering complimentary bus services between the Bukit Mertajam bus terminal on the mainland and KOMTAR on the island since 1 January 2023, which is particularly significant considering that an e-hailing ride along this route would typically cost RM50 to RM70, depending on traffic conditions.

On the other hand, from a policy perspective, Yap feels differently about offering free bus rides. "I think free bus passes channel away funds that can otherwise be used to pay for more bus routes, better staffing and more frequent services that are more useful for increasing public transportation usage."

An in-depth analysis of bus ridership is therefore essential to gain a nuanced understanding of whether a broad-scale initiative offering free bus rides will prove genuinely effective. Presently, Rapid Penang only has data on the demographics of Pas Mutiara users, and this represents only a fraction of its total ridership. The public release of this dataset, consequently, possesses the potential to influence decision-making processes in

ways that may not accurately reflect the overall picture.

This assessment should also factor in the imminent introduction of the LRT system, which is slated for its Phase 1 completion by 2028. Under this development, buses will play an extra and equally pivotal role as a feeder system in 17 out of 19 stations on the island through a Hub and Spoke distribution model,<sup>[2]</sup> potentially ushering in a significant shift in the demographic composition of passengers.

"The income gained from bus fares is insufficient for Rapid Penang to even fund its own operations. It is a given that public transport systems almost always operate at a loss in most countries," Rajendran explains. He adds that the federal government subsidy is pertinent for the sustainability and enhancement of our public transport system.

One example of a public transport system that has managed to turn a profit is Hong Kong's Mass Transit Railway (MTR). Hong Kong's public transport usage is over 90%, according to the Transport and Housing Bureau of Hong Kong in 2017.<sup>[3]</sup> This makes it among the most public transport-dependent cities in the world.

The MTR's innovative "rail plus property" allows the public transport company to achieve self-sufficiency through property developments above its rail network. In 2018, the MTR corporation reported a staggering net profit of HKD16.01 billion.<sup>[4]</sup> This success is vividly illustrated by Civic Square, a sprawling outdoor development situated above Kowloon Station, featuring a 118-storey skyscraper, a luxurious shopping mall, 6,300 residential units and two five-star hotels, all owned and managed by the MTR.

With the up-and-coming LRT system, Rajendran envisions a Transit-Oriented Development (TOD) strategy that seeks to optimise the utilisation of residential, commercial and recreational spaces within a station's immediate vicinity to foster greater reliance on public transportation while simultaneously encouraging sustainable urban expansion. Under this initiative, residential units near LRT stations will benefit from increased density but experience a reduction in parking allocations. The plan entails a proliferation of commercial zones and pedestrian walkways to ensure seamless accessibility and interconnectedness to the stations.

Penang's public transport system is poised for transformation and innovation. While challenges persist, such as the need for comprehensive ridership data and the impending arrival of the LRT, there is room to be optimistic. Collaborative efforts with demand-responsive transports (DRT) like Kumpool (read: KUMPOOL: A Way to Wean Us Off Our Dependence on the Car), serving to bridge transportation gaps as the first-mile-last-mile connectivity, there is hope for a more accessible and efficient future-transportation-wise.

An efficient bus system will not only offer affordable and sustainable transportation but also contribute to the community's overall wellbeing while promoting equity, safety, health and social cohesion.

## EARLY

BY  
EUGENE QUAH  
TER-NENGDAYS  
OF

IT IS OFTEN thought that the first motor buses, four Thornycrofts, were introduced in Penang in 1921 by the municipality. While Ric Francis and Colin Ganley covered the history of trolleybuses (introduced in 1923) and municipal buses comprehensively in their excellent book, *Penang Trams, Trolleybuses & Railways: Municipal Transport History, 1880s-1963*, almost nothing is known about bus services before the 1920s—that is, until now. The following is the untold story of the entrepreneurs who introduced buses to Penang a full decade before the municipality did.



# MOTOR BUSES IN PENANG

## DISASTER AT THE BEND

Left: A 1910 photo of a Straker-Squire bus belonging to the Federated Malay States Railway on a narrow winding road similar to the North Coast Road to Batu Ferringhi. The photographer could have been P.H. Henshaw, the railway's Assistant Traffic Superintendent. Huttenbach's red buses were of the same make.

Source: The Commercial Motor, 7 July 1910 (text), Richard Peskett (photo)



**EUGENE QUAH** is an independent researcher and writer who is working on a book tentatively called "Illustrated Guide to the North Coast of Penang". He rediscovered the joys of writing after moving back to Penang from abroad.

On Wednesday, 11 September 1912, at around 9:45 am, a red motor bus bearing the license plate, P304, was on its way to town from the bus station at Pasir Elok, Batu Ferringhi. It was carrying 10 passengers and a load of ice on board. The assigned driver was supposed to be K. Ando, a Japanese, but he had let his assistant, Abdullah, who was sitting next to him, take the wheel that day. The conductor was Ong Giam and one of the passengers was Police Constable Ariff of the Batu Ferringhi Police Station.

The bus had just passed Tanjong Huma, where the present Rasa Sayang Resort stands, and was making its way down the narrow winding road when PC Ariff noticed that they were "going down the hill rather fast". As they approached a sharp curve, known as Siku Tokong Kechil (The Bend of the Small Temple), at the location of today's Moonlight Bay, the policeman heard a woman cry out, "Don't go so fast!" Another passenger, a Malay woman, exclaimed in alarm, "Why go so much to the side?" She uttered a final scream of "Allah!" as the bus slid off the road and plunged 30ft down the steep embankment facing the sea. Mr. Ong managed to "jump from the top of the vehicle" before it crashed. The drivers escaped by climbing out. The bus was briefly held by a coconut tree, but then it "toppled into a stream", bottoms up.

Mr. Ando and Mr. Abdullah were unharmed while the seven other passengers who went down with the bus suffered minor injuries—no doubt their lives were saved by the coconut tree that broke their fall. Tragically, Mr. Ong was not so fortunate; the plummeting bus struck him during its final plunge, and he perished in what was the first ever bus accident in Penang.

## HUTTENBACH BROTHERS & COMPANY

A day later, on 12 September, the bus's owner, August Huttenbach "with the assistance of another European and several coolies" managed to get the overturned bus upright. The top of the bus was smashed, but the chassis was not much damaged. Two days after the accident, they were able to be drive it back for repairs "by its own motor which was intact". The unlucky bus was one of the two red buses which ran the Beach Street to Batu Ferringhi route. This bus, like its sister vehicle, was a Straker-Squire motor bus, a "35 horse-power, four-cylinder car, capable of carrying 22 passengers" with modifications to carry "two tons of ice" in a compartment.

Mr. Huttenbach was a well-known Penang-based industrialist and former legis-



A map from the 1920s showing the location of the Huttenbach's Ice Works at Pasir Elok (Fine Sands), which served as the terminus of his George Town–Batu Ferringhi bus service. The bus station would have been located at where the Hard Rock Hotel stands today.

Source: Federated Malay States. Survey Department. Public domain.



A char-à-banc which was driven into a ditch in Malaya, 1910.

Source: The Commercial Motor, 7 July 1910



Directors of the Straits Motor Bus company. Left: Allen Henry Bain Dennys, a well-known merchant. His firm, A. Dennys & Co. exists till this day at Bishop Street. Right: Lim Eow Hong, who was managing his father, Lim Leng Cheak's businesses after his death. The senior Lim was one of the Big Five Towkays of Penang. Their company introduced the first bus service to Province Wellesley on 20 May 1911.

Source: Composite image. A. Dennys—"Twentieth century impressions of British Malaya: its history, people, commerce, industries, and resources" (A. Wright & H.A. Cartwright), Lim E.H.—Public Domain

lative councillor. He had founded Huttenbach Brothers & Company, based at No. 27 Beach Street in 1885. German by birth, he became a British subject in 1889. Huttenbach introduced many new industries to Penang, including the production of ice, which he dominated.

The firm's Beach Street premises also served as a depot for the ice produced by his company, Tanjong Pinang Ice-Works at Batu Ferringhi, which was the first hydroelectric-powered factory in the Straits Settlements. It also served as a terminus (final station) for his bus service. Ice production was just one of his many businesses; Huttenbach also operated a steamship line, introduced electric lighting to various towns in Malaya and was the agent for all kinds of industrial equipment, among other things. (See this month's article on Penang Hill's natural resources).

### THE PIONEER

In late 1910, the enterprising Huttenbach came up with a scheme to introduce a bus service from Beach Street to Batu Ferringhi with stops at Bishop Street, Chowrasta Market, Pulau Tikus Market, Bagan Jermal, Tanjung Tokong and Batu Ferringhi. Ice from his Batu Ferringhi factory, at the time, shipped to town and even exported out of Penang using ice ships. The factory was by the sea, at the site of the present-day Hard Rock Hotel. At the time, Penang was served by electric tramways. However, it appears that Huttenbach was not interested in competing with the electric tramways. He saw his new bus business more as a means of cheaply transporting ice from his factory to town. The passengers of his busses would essentially be subsidising, if not completely covering, the cost of transporting ice from Batu Ferringhi to his depot at Beach Street.

On 19 October 1910, the Pinang Gazette and Straits Chronicle reported that "Messrs. Huttenbach Bros. will start a motor-bus service" within a few days. "A stop of 15 minutes will be made at each end, thus doing a round trip in 1 1/2 hours, commencing from town end [to Tanjung Tokong] at 6 am." The charge was five cents between stations. Ever the entrepreneur, Huttenbach's buses also offered to "carry packages to places on the route". The announcement also stated that the service would soon extend to Batu Ferringhi, beyond Tanjung Tokong, and that there were plans for another service from Bayan Lepas to Balik Pulau through the Ginting Pass.

A reader who owned "some landed property" along the new bus route wrote to the Pinang Gazette to express his gratitude to "Messrs. Huttenbach Bros. for the great boon they have conferred on the public of Penang". He also said that the service would encourage more people to "acquire land and build houses between the Swimming Club and the Ice Works at Batu Ferringhi".

Two weeks later, on 3 November, Huttenbach gave the children and sisters of the Convent a ride in his new bus around town and then sent them to The Homestead at Northam Road for a picnic by the sea. At the Municipal Commission meeting held on the 24th that month, Dr. Percival Vincent Locke inquired whether "a sharp corner of Bagan Jermal Road and Brush Road" was to be rounded off "in view of the motor-bus service". This was the earliest recorded reference by the government to Huttenbach's motor bus service, which was the first ever introduced in Penang.

### THE STRAITS MOTOR BUS COMPANY

Huttenbach's first attempt at running a bus service in 1910, however, lasted only a few months. It ceased operations sometime in 1911. By 8 May 1911, Locke himself had incorporated a company, the Straits Motor Bus Company, together with a few other investors, such as the appropriately named Mr. Wright-Motion, a lawyer with an office a few doors away from Huttenbach's on Beach Street, Lim Eow Hong (Towkay Lim Leng Cheak's eldest son) and Allen Henry Bain Dennys, a well-known and popular merchant.

The Federated Malay States government had been running a bus service at Tapah since 1 December 1907—the earliest known in British Malaya. "The motor bus business is booming in the Federated Malay States and, to a lesser extent, the Straits Settlements. New enterprises are being started at different centres, existing ones are being rapidly developed," a correspondent of Commercial Motor noted.

In September 1911,<sup>[1]</sup> during the first statutory meeting four months after the company was formed, Wright-Motion, as Chairman, informed his fellow directors that two buses, at \$7,000 each, had been purchased and were now used on the mainland. He said the initial "idea was to run them between Penang [George Town] and Balik Pulau". Huttenbach had thought of doing the same months earlier. "Trials trips were made," he said, but unfortunately, the "journey proved to be difficult and dangerous, especially at the Ginting Pass". The Directors decided then that "it would never do to take unreasonable risks". After careful consideration, they decided, instead, to "start one bus from Butterworth to Permatang Bindahari [Permatang Bendahari]". The second bus, which then was lying idle in the garage "pending the receipt of a license for the Government", was to be used on the same route.

### FOOTNOTES

[1] Locke has passed away by this time.

Wright-Motion informed the directors that on 20 May 1911, a Saturday, both buses started to run the route. The Straits Motor Bus Company thus became the first to provide bus services on the Penang mainland. The 16 horse-power Albion buses could carry up to 25 passengers. They were an early type of bus called a char-à-banc (pronounced sharrabang by the British), which was French for “carriage with benches”, which is exactly what it was. The Albions were nothing more than the chassis of a commercial truck with benches installed. Char-à-bancs were often open-aired affairs with just a foldable canvas roof tucked at the back for use in bad weather. Huttenbach’s buses were more advanced vehicles.

A new route, from Bukit Mertajam to Kulim, was started in the early part of 1912. Lim Eow Hong and other investors also had, by this time, incorporated another larger company—The Straits & F.M.S. Motor Service Co. Limited—which would acquire the buses, workshops and routes of the Cycle & Carriage Company in Kuala Lumpur. Cycle & Carriage supplied Straits Bus with vehicles. These companies were linked or had agreements with each other, and Lim Eow Hong was a director in all three companies.

“I would point out that the Company first opened up a service of two Buses between Butterworth and [Permatang Bendahari] at the end of May 1911. Since then, four other Buses have been added to the fleet and the 7th Bus has since arrived and been put on the run at Penang between Magazine Road and Bayan Lapas (sic),” Allen Dennys told the shareholders in July 1912. After a successful and profitable year providing Province Wellesley with its services, the company’s monopoly was shattered with the arrival of Tai Seng & Co., competing with it on its original route. The “very keen” competition forced the company to reduce its fare from 50 cents to 25 cents.



August Huttenbach’s fleet consisted of Straker-Squire motorbuses.

Source: Walsh Memorial Library, The Museum of Transport and Technology (MOTAT). Taken c. 1915 (Digitally restored and coloured)



A restored Albion char-à-banc at the Llandudno Transport Festival in 2008, similar to the ones used by the Straits Motor Bus Company.

Source: Terry Whalebone, Creative Commons

### BLUE AND RED

Also around this time, August Huttenbach was ready to give his bus scheme a second shot. The red bus involved in the Batu Ferringhi accident mentioned earlier was from this second venture. The Pinang Gazette and Straits Chronicle reported on 12 July 1912: “Messrs. Huttenbach Bros. will shortly start a regular bus service between their Ice Depot in Church Street and Batu Ferringhi.” It noted, “This motor service, which was commenced some time ago and stopped, proved a boon to people who lived in the outskirts of town and to picnic parties.”

This time, Huttenbach scaled it down to three buses. Two red ones and one blue one. The red buses would go as far as his ice factory at Pasir Elok at two-hour intervals, carrying ice and passengers. The service started from 6 am at Church Street and then proceeded “via Chowrasta Market, [Pulau] Tikus, Tanjung Tokong and [Tanjung Bunga]” to the terminus at Batu Ferringhi. “A red bus was seen doing the journey yesterday,” reported the press.

The following year, a fourth player entered the booming bus business. On 30 June 1913, it was reported that a bus belonging to Chin Seng & Company, “plying for hire from Bridge Street [Prangin] to Telok Kumbar, was involved in an accident. The empty bus, with just its driver, fell 20ft into a drain and was badly damaged, but was able to be salvaged by W.G. Oxley. By September, the company had resumed daily trips on the route.

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# THE STATE OF PENANG'S MODES OF TRANSPORT

BY YEONG PEY JUNG



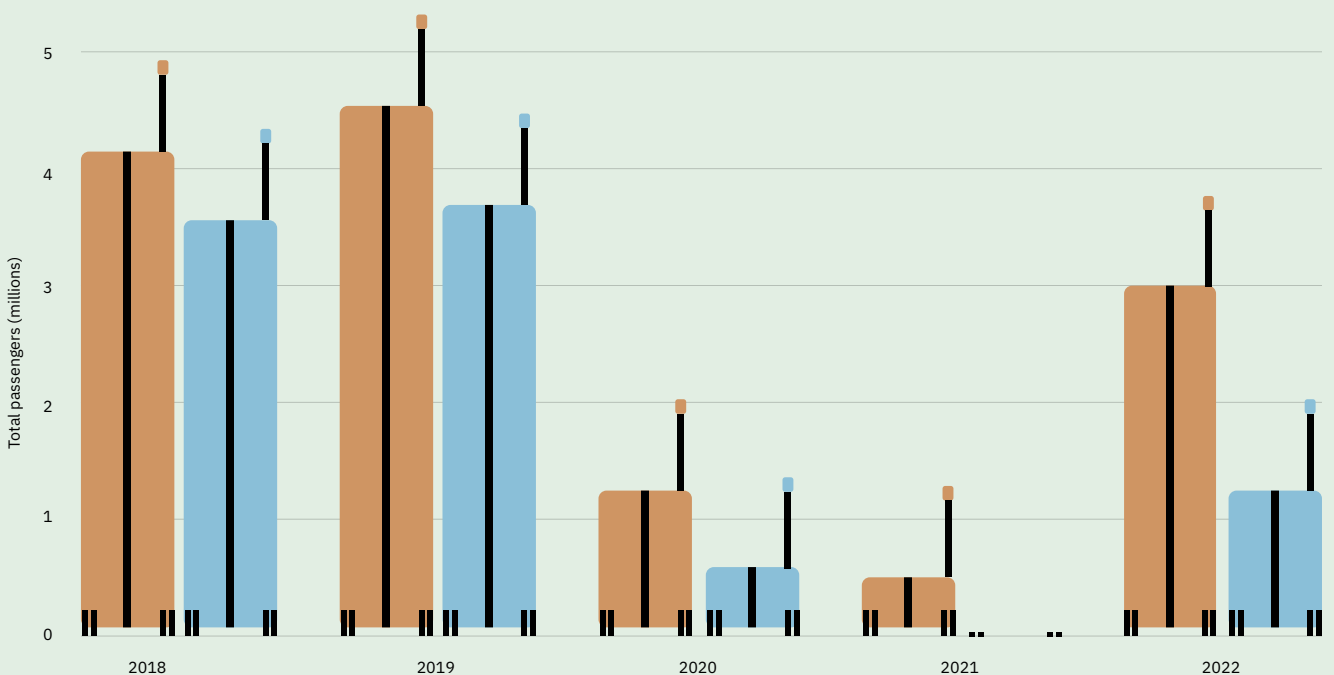
## BY AIR

Penang International Airport (PIA) consistently sees **a higher volume** of domestic passengers.

### TOTAL PASSENGER MOVEMENT AT PIA BY DOMESTIC AND INTERNATIONAL PASSENGERS, 2018-2022

● Domestic  
● International

Source: Ministry of Transport, Malaysia



# 2020

The pandemic negatively affected total passenger movement at PIA.

# 2022

2022 saw the beginning of the recovery process, although passenger movement was far from pre-pandemic levels.

## YEAR-ON-YEAR CHANGE

DOMESTIC PASSENGERS

**-73%**

INTERNATIONAL PASSENGERS

**-84.5%**

## 2022 PASSENGER VOLUME ÷ 2019 PASSENGER VOLUME

DOMESTIC PASSENGERS

**65.7%**

INTERNATIONAL PASSENGERS

**33.8%**

## BY SEA

# 2020

There was a drop in the number of passengers at Swettenham Pier.

[1] Consistent daily travelers, usually for work purposes.

### TYPES OF PASSENGERS

DAILY [1]

**-76.9%**

REGIONAL FERRY

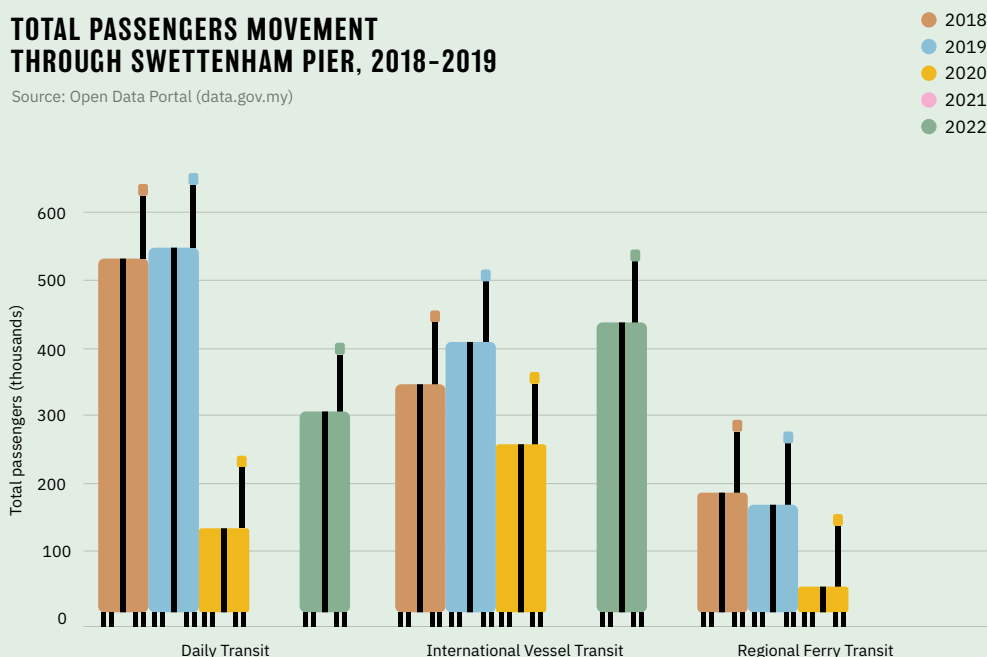
**-74.6%**

INTERNATIONAL TRANSIT

**-79.1%**

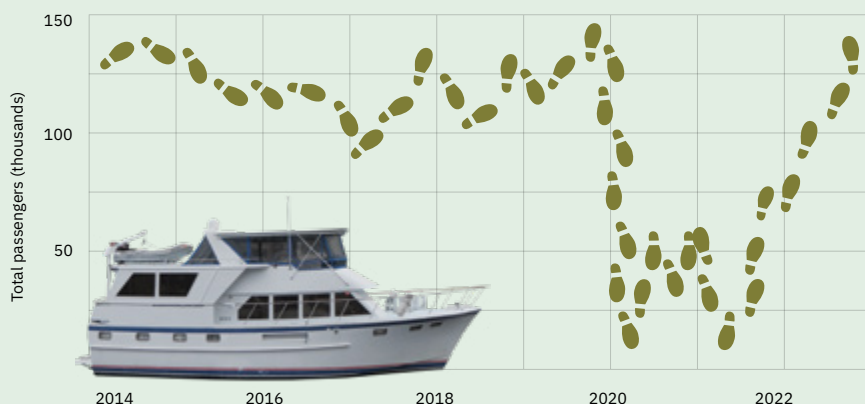
## TOTAL PASSENGERS MOVEMENT THROUGH SWETTENHAM PIER, 2018-2019

Source: Open Data Portal (data.gov.my)



## FERRY FOOT PASSENGERS 2014-2022 (JANUARY TO DECEMBER)

Source: Penang Port Sdn. Bhd.



# 2022

International cruise passengers returned. Foot traffic gradually recovered at the start of 2022 (post-pandemic), but did not reach pre-pandemic levels.

NOTE: Passenger movement in 2021 was too minuscule to be accounted in the graph above.

**7.1%**

increase in international transit passengers from 2019.

**57.7%**

of 2019's daily passengers in 2022's daily passengers.

## BY LAND

Traffic flow quality in Penang **deteriorated** with the full reopening of the economy in 2022.

**>50%**  
census stations registered a “Grade F” level of service in 2022.

**25%**  
decrease in proportion of census stations registering a “Grade A” level of service in 2022.

### SHARE OF CENSUS STATIONS BY QUALITY OF SERVICE, PENANG.

Source: Road Traffic Volume Malaysia (RTVM), Highway Planning Division, Ministry of Works.

● A ● B ● C ● D ● E ● F



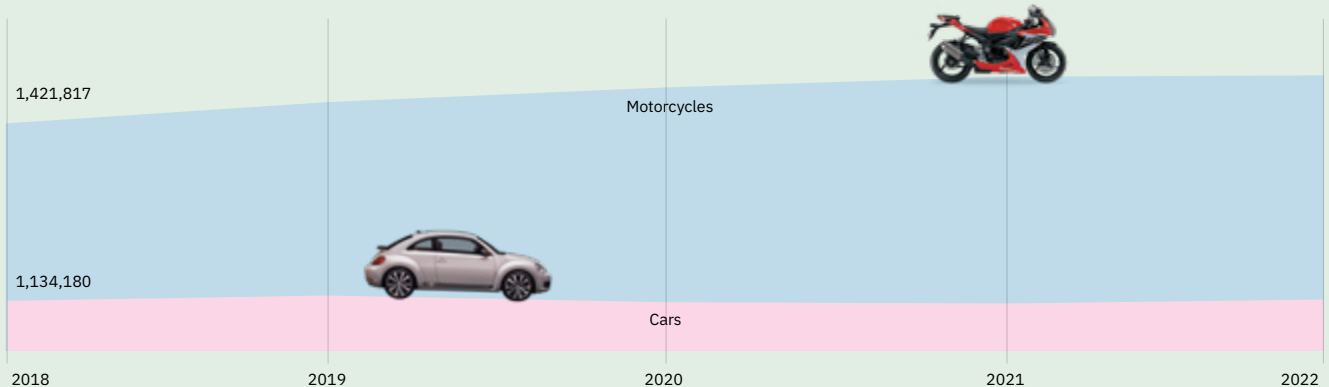
The number of registered motorcars remained **largely unchanged** over the five-year period of 2017 to 2021.

**58%**  
of the total registered private vehicles in Penang as of 2021 are motorcycles.

**~2%**  
Annual steady increase of registered motorcycles.

### NUMBER OF REGISTERED VEHICLES (CUMULATIVE), PENANG, 2017 TO 2021.

Source: Ministry of Works (via data.gov.my)



The licensing rate in Penang is **similar** to that of all other states in Malaysia, with the exception of Sabah, which has the **lowest** number of driving license holders.

**1 in 2**

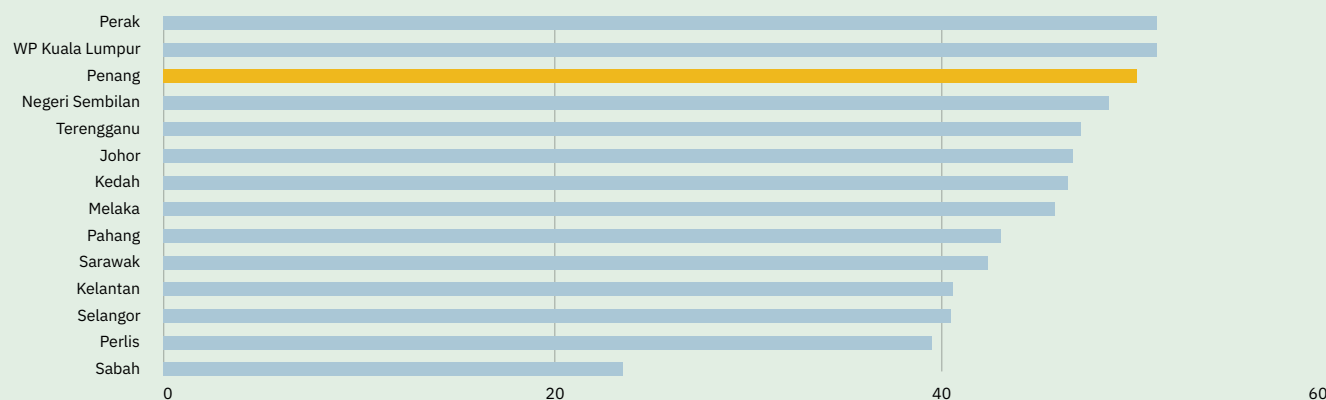
Penangites possess a valid Competent Driver's License as of 2021 and is the

**3rd**

highest in Malaysia, after Perak and Kuala Lumpur.

### NUMBER OF COMPETENT DRIVERS' LICENSE (CDL) HOLDERS PER 100 PERSONS (15+ POPULATION), 2021.

Source: Internal estimates based on Jabatan Pengangkutan Jalan (via data.gov.my) and data from Department of Statistics Malaysia.



Buses are the **primary** mode of public transportation in Penang, managed by Rapid Penang.

The introduction of bus passes in 2021 helped to recover post-pandemic bus ridership.

**> 1mil**

Monthly bus ridership in July 2022, and remained above the 1 million mark well into 2023.

However, this is still below the pre-pandemic average monthly ridership, averaging approximately 2.4 million between 2013 and 2018.

### BUS RIDERSHIP IN PENANG, RAPID PENANG, 2021 TO 2023.

Source: Rapid Penang



**YEONG PEY JUNG** is a senior analyst with the Socioeconomics and Statistics Programme at Penang Institute. She is a reading enthusiast and is surgically attached to her Kindle.

# KUMPOOL

## A WAY TO WEAN US OFF OUR DEPENDENCE ON PRIVATE TRANSPORT

BY RACHEL YEOH



**RACHEL YEOH** is a former journalist who traded her on-the-go job for a life behind the desk. For the sake of work-life balance, she participates in Penang's performing arts scene after hours.

**POINT A TO POINT B.** Most of the time, all you want to do is to get from one to the other in the quickest time possible. But considering all the modes of transportation available, a Penangite will more often than not opt to travel by private vehicle, be it a motorcycle or car.

For an island with a population of 794,313 (according to the 2020 census), a post-pandemic international arrival number of 629,476 in 2022, and efforts by the government and multinational companies (MNCs) to lure more talent into the state, we know that having everyone travelling by personal vehicle is not sustainable.

Grumblings about traffic congestion over the decades have now blossomed into full-blown cries of frustration today. The remedy appears obvious; we need a reliable public transportation system to move people to each of their point A's and point B's. Major cities around the world have implemented almost similar systems for this exact purpose, only differing in how each implemented them to fit the particular city.

Transportation system involves a hefty investment, and furthermore, one that is not monetarily profitable. What is created are economic and social opportunities for the inhabitants, and these, with a high likelihood, will bring positive multiplier effects.

In order for a city's public transport to function well, its different systems of transportation must complement each other. The most common is the Hub and Spoke model, which resembles a bicycle wheel; the "hub" serves as the central point of connection, while the "spokes" are paths that radiate outwards in all directions. Most cities have a Bus Rapid

## REFERENCE

<https://www.thesundaily.my/archive/rapid-penang-aims-improve-traffic-through-introduction-hub-and-spoke-model-MUarch526864>



Transit (BRT) or a Light Rail Transit (LRT) system that travels on a trunk route, passing through the hub. Then there are buses or vanpool systems that work the “spokes”. For first-mile-last-mile connectivity, there are usually micro-mobility or shared micro-mobility systems in place, such as the Link Bike and Anywheel (bicycles) and Beam (e-scooters). These are only available at selected areas in Penang.

In the first quarter of 2018, Rapid Penang announced the introduction of the Hub and Spoke model in Penang, which uses smaller feeder buses gathering passengers from different spots to one centralised bus stop<sup>[1]</sup>. To gauge its effectiveness and demand, the service was provided free. However, it soon stopped. The recently appointed Penang Island City Council (MBPP) Mayor, Rajendran Anthony, explained to *Penang Monthly*, that the effort was not well-received by the people: “The demand was very low along the ‘spoke’ systems, even though the main line was heavily used.”

MBPP noted that the time taken to travel with the Hub and Spoke system increased unacceptably due to the need for transfers from one bus to another. However, Rajendran conveyed that this said system would be effective once Penang had an LRT line with buses servicing the “spokes”.

## RELIEVING TRAFFIC WITH DRT

Indeed, massive transportation network systems are underway for Penang; there are four major highways, an undersea tunnel and the LRT scheme parked under the Penang Transport Master Plan (PTMP) initiative. But until all these plans see fruition, it does seem that Penang will

have to live with bumper-to-bumper crawls every rush hour (try hitting Jalan Masjid Negeri during those times).

There is hope, however. A “pain reliever” may be available, provided by Demand Responsive Transport (DRT). This flexible and adaptive shared-ride transportation system follows dynamic routes (based on GPS) to pick up passengers on demand. Compared to “traditional” types of public transport (and in Penang’s case, we only have had buses), DRT offers greater flexibility and customisation; passengers can simply request rides. DRT may prove more cost-effective for both the users and the local government:

(1) It is cheaper to ride a DRT than to book a private hire (both are on-demand services).

(2) The government will not need to invest in large, fixed-route fleets and infrastructure to service areas that have lower demand or locations that are only busy at specific hours of the day.

Kumpool, an on-demand ride-pooling service that integrates bookings made within zones, somewhat similar to the vanpooling service, started operations within the Bayan Baru area April this year. It currently covers Universiti Sains Malaysia (USM), Bayan Lepas Free Industrial Zone (FIZ), Taman Lip Sin Market, Queensbay Mall, INTI International College and Sungai Nibong Bus Terminal, among others. It requires the user to download the Kumpool mobile application, with which he can then hail a ride to one of the allocated pick-up points (there are 70 points within the five-kilometre radius that Kumpool currently operates in). Using its algorithm, it will navigate to pick up and drop off passengers within the shortest

time possible, making each route dynamic. Being sensitive to variations in demand, it minimises gaps between the supply and the demand for rides.

According to Kumpool Business Head, Goh Chun Hean, “although the concept of DRT was something new to the area, already after the first month, it had gained traction among university students, the working crowd and shopping mall goers.” They currently transport close to 300 pax daily, and the numbers are rising by the month.

“We are focused on short-distance travel within the Bayan Baru–Bayan Lepas zone. We started with two vehicles, but we have grown to four now,” he added.

Kumpool started in Petaling Jaya to serve the first-mile-last-mile to and from train stations; in Penang, the service here is flagged by local residents to be ferried to the wet market in the mornings, by the working crowd to lunch and by university students to their classes.

The service will slowly expand to other parts of Penang island. Opportunely, the dwindling economy and inflation can be expected to convert car users to begin choosing the relatively cost-effective Kumpool.

Perhaps, making Penang’s automobile society requires evolutionary steps towards car-independence. Many Penangites are becoming comfortable getting an e-hailed ride. The DRT can potentially soften the resistance to public transport, akin to training wheels. Through experimental use, diehard fans of personal vehicles may finally be coaxed to use public transportation—and hopefully, by the time this happens, the LRT would have materialised, making the transition to using public transportation more amenable and (I cross my fingers on this one) sustainable.

ICONS  
ANCHORED  
FOR GOOD

# PENANG'S FERRIES



BY  
OH  
CHIN ENG

**THE PENANG FERRIES** that started operating in 1894 were always an important mode of transportation for the locals. But they became more than just a ride. They were also Penang icons, and a tourist attraction.

They were double decker ferries. The lower deck was for vehicles while passengers stayed on the upper deck. In later years, the upper deck was modified to take both vehicles and passengers. On 31 December 2020, the entire fleet was retired, with the federal government citing high maintenance costs, lack of spare parts and low ridership as reasons to bring that period of Penang history to an end.

Here is my photo documentation of the Penang Ferries' transition since 2020, when the iconic yellow Penang ferries were replaced by catamarans before transitioning to the current state-of-the-art ferries in August this year.





1



2



3



4

1. The iconic Penang ferries in memory, berthing at the Pengkalan Raja Tun Uda ferry terminal at the island side. This photo was taken on the last day of the fleet's operation, 31 December 2020.
2. All hands on deck to ferry passengers to and fro from the mainland and island.
3. A mother and daughter bonding on the iconic Penang ferry.
4. The speedboats that were used after the iconic ferries were retired. Pictured here is the speedboat at the forefront of the old ferry.
5. Motorcyclists waiting for the Ro-Ro to depart. The Ro-Ro service was brought in to serve as the vehicle ferry, ferrying only motorbikes and bicycles. The service started on January 2021 and ended on December 2022.
6. The new ferry's interior.
7. The speedboats that were used after the iconic ferries were retired. Pictured here is the speedboat at the forefront of the old ferry.



6



5



**OH CHIN ENG**  
*ronda* here, there, everywhere in Penang as he loves exploring and documenting stories of ordinary folks. He sees joy in little things and finds beauty in everyday life. He believes that a harmonious society is not just about being tolerant, but by being understanding, respectful and accepting of differences.



7

# CRISIS IN THE SCHOOL BUS ECOSYSTEM

BY NISCHAL RANJINATH  
MUNIANDY



**WALKING ALONG** Jalan Gottlieb on a balmy Wednesday evening, I could not help but be struck by the sheer amount of vehicles on the road. Traffic was at a crawl, with cars bumper-to-bumper and motorcycles weaving through any available gap. The last bell had just rung at the Penang Chinese Girls' High School, and students were streaming out. Parents were jostling for space to wait for their children while school buses were trapped in a sea of vehicles.

This gridlock is familiar to any parent who has school-going children. Cars and school buses double and triple park along the road and adjacent streets, creating bottlenecks that only exacerbate traffic congestion. Just last year, a fist fight broke out between two parents in Gombak, Selangor after one refused to give way to the other at a junction after picking up their children from a nearby primary school.

Today, more parents are chauffeuring their children to school using their vehicles. A 2020 MIROS study that surveyed 5,426 parents from 59 schools in Selangor found that 41% of parents chose to use the car as their primary means of transporting their children, compared to 27% who used public transportation or a school bus service, and 10% whose children walked and cycled. Many parents still opt to drop their children at school, though they may live within walking distance.

## SCHOOL BUS NUMBERS DWINDLING

Before the Covid-19 pandemic, the school van or bus was the trusted mode of transportation to ferry children to and from school. But why would this no longer be the case?

According to Federation of Malaysian School Bus Operators Association president, Amali Munif Rahmat, there were roughly 16,000 registered school bus operators nationwide pre-pandemic. By January 2022, only 8,000 were still in operation. In a News Straits Times report at the start of the school year this March, State Education Department director Abdul Rashid Abdul Samad said that almost 230,000 primary and secondary school students had started the school year in 398 schools statewide. In short, there are more students and fewer school buses to transport them.

In December 2022, Kosmo reported that school bus operators will raise monthly bus fares to as high as RM300 per month per child starting January 2023. While the president of the Malaysian School Bus Association (Gabungan Persatuan Bas Sekolah Malaysia, GPBSM) explained that the fare hike was a combination of factors: an increase in operating costs and lower demand, many parents thought that the fare hike was too drastic, stating that they were taking advantage of an increase in the cost of living. On top of that, parents found that the remaining options do not suit their child's schedule. School bus services now typically only send children to school in the morning and back home in the afternoon and not later in the evening should they need to attend extracurricular activities.

Children taking the school bus will have to wake up much earlier in the morning, especially those living at the start of the route, and the same students are the last to be sent home in the afternoon. Thus, many parents find it more convenient to send their children to school on the way to work in the morning and pick them up during lunch hour or in the evening after work, should their children have extracurricular activities.

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With a drop in the number of school bus operators following the Covid-19 pandemic as many explored other lines of business to stay afloat, the remaining school bus operators increased their fares in light of worsening financial conditions, increased cost of operations and to recoup losses from the Movement Control Order (MCO). While this "order" was meant to only last two weeks, it eventually lasted for the better part of 2020 and 2021, decimating the finances of school bus operators as students stayed home and attended classes online.

Even when schools reopened for face-to-face lessons on 3 October 2021, classroom capacity was capped at 50%. Parents were reluctant to pay for an entire month's fare because their children were only attending school every other week and would rather ferry them instead. This phenomenon was particularly pronounced in urban areas where parents could work flexible hours or from home.

Beyond just monetary and convenience factors, parents are also worried about the safety and reliability of school buses. The perception that school bus vehicles are of poor quality and are ill-maintained was common even before the Covid-19 pandemic, and school buses with rotting floorboards passing inspection do little to allay those concerns. School buses are also typically more crowded, so drivers will not notice if any student fail to get on the bus at school.

From the perspective of licensed school bus operators, they are also impeded by unlicensed school bus drivers and operators that can afford to offer lower fares by skirting safety regulations as they do not have to apply for the necessary permits or send their vehicles for PUSPAKOM inspections. To win customers, they may also offer better service to parents, like picking up their children after extracurricular activities or sending them to daycare if required.

School bus operators also recently found it increasingly difficult to find and retain drivers as many are leaving the school bus industry for express bus and lorry companies in Malaysia or public bus operators in Singapore. This pushed bus operators to increase salaries in light of the minimum wage rise to RM1,500 on 1 May 2022 and pay hikes in other industries within the transportation sector.

It is also costly to conduct bi-yearly inspections with PUSPAKOM to ensure that they meet minimum safety and reliability criteria, and are roadworthy. This is set in the Road Transport Act 1987. School bus operators must service and maintain their vehicles to pass inspections and retain their permit. With increased inflation, the cost of spare parts and maintenance have also hiked due to current global supply chain issues. School bus operators must then get commercial vehicle insurance to provide comprehensive coverage in the event of damage to the vehicle or injuries caused as a result of incidents like accidents, fire and theft. Then, consider the vehicle age limit on public service vehicles like buses and taxis, currently set at 30 years for school buses.

## NAVIGATING WOES

School bus operators from the various school bus associations and consortiums have met with the Minister of Transport and the Land Public Transport Commission (APAD) over school bus fare hikes and the cost pressures that have impacted the industry.

They proposed an increased diesel subsidy to push the price down to RM1 per litre, an annual RM500 cash aid at the end of the month, and assistance for operations in light of increases in the cost of insurance and spare parts for school bus operators.

The Penang state government is providing a RM600 annual incentive payment to eligible school bus operators and drivers under the i-Sejahtera programme to address some of the cost concerns of licensed school bus operators and drivers. Since 2013 and as of June 2023, this aid program has continued, with some RM207,900 allocated for school bus operators in 2023.

Licensed school bus operators also hope that the Road Transport Department (JPJ) will enforce campaigns targeting unlicensed school bus drivers and operators, like Ops Bas Sekolah, which was carried out from 1 to 2 June 2022 by JPJ Penang. At the same time, unlicensed school bus drivers have requested that existing policies and guidelines around school bus operator registration be reviewed to make it easier for them to register and renew appropriate licenses.

The steep increase in fees can be attributed to the deregulation of school bus fares since 1 January 2015—it was done in the hope of creating a more open and competitive market, and because school bus operators have already started charging fares above the ceiling rate that had previously been set by the Commercial Vehicles Licensing Board (LPKP), the predecessor to the current APAD. The rates were at:

- RM20.61 for the first km and RM2.02 for subsequent km in rural areas
- RM27.43 for the first km and RM2.02 for subsequent km in urban areas

Fares are now set based on market rates and on negotiations between individual parents and school bus operators. School bus associations can only give guidelines on how increases in school bus fares are to be carried out. Parents from lower-income households have no choice but to either send their children to school themselves, find alternative means of transport or engage unlicensed school bus services. If these alternatives are not feasible, students may drop out of school.

## ARE SCHOOL BUSES STILL RELEVANT?

As parents grapple with the high cost of living and increased inflation, what can be done to provide affordable, safe, and reliable transportation to send their children to school? Are school buses still relevant?

Rapid Penang's Pas Mutiara My50 allows unlimited bus rides. Initially introduced at RM30 per month, the Penang state government has funded free bus rides using the pass since 1 March 2021. It began with 100,000 passes in 2021 before it expanded to 120,000 in 2022 and 150,000 in 2023, reflecting growing demand. This was done to incentivise the use of public transport, which can be used by school children to go to and from school and other activities as well.

As the Ministry of Transport commits to having at least 1,000 operational buses operational in the Klang Valley by the end of the year, a 30.5% upsurge from the current 766 buses in active service, a similar increase in the Rapid Penang bus fleet would make it possible to increase bus frequencies and routes. It can also serve schools by running additional routes along schools during school hours.

This does not make school buses irrelevant, as they can still reach neighbourhoods and housing estates with sporadic or poor public bus coverage. School bus operators would then be able to provide a more direct point-to-point connectivity for students to travel between school, after/before school care centres, after-school activities and home. In tandem with this, school bus operators could also run shorter routes to connect specific housing areas to nearby schools, reducing student travel time, crowding on school buses and addressing parents' concerns about their children's health and physical safety. School bus operators could adapt to better serve this market by using more minibuses and vans to navigate narrow streets, especially those in suburbs and housing areas.

Many parents and care centres are engaging private car drivers to ferry their children to and from school, for after/before school care, tuition and extra-curricular activities because this market is currently underserved by school bus operators. School bus operators could negotiate with these key players, offering transportation services. Other types of assistance and support school bus operators can contribute in terms of addressing issues of cost, regulations and bureaucracy is to expand beyond the scope of just providing transport between home and school. Consider catering for school field trips and diversifying to other forms of transportation like Demand Responsive Transit (DRT) via platforms like Kumpool and Trek Rides.

Beyond providing free public bus service, another possibility is a free school bus service specifically for low-income families. On the state level, one example of such a free school bus service is implemented in

Sarawak. It is currently operational in Kuching, Miri, Bintulu and Sibu. It was implemented by Yayasan Sarawak, a statutory body established in 1971 to improve the quality of education in the state. Parents can also track the school bus's location via an app and have peace of mind, knowing where their children's school bus is and where it's going. There is also MySchoolBus, a free school bus service provided by the Kuala Lumpur City Hall (DBKL) for primary and secondary school students residing in People's Housing Projects (PPR), Public Housings (PA) and DBKL Low-Cost Private Housings.

The challenges facing the school bus industry appears daunting. There is a need to balance affordability while also ensuring a dignified income for school bus operators. We should consider school buses as an essential part of our transportation system and rope them in to provide for the needs of students to prevent dropouts in low-income areas, reduce traffic congestion at school zones and provide steady employment for school bus drivers.



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# PERANAKANAN LANTERNS

BY IYLIA DE SILVA



ILLUMINATING  
THE  
GENERATIONS



1

**LANTERNS MAY SEEM** like merely aesthetic decorations or beloved playthings during the Mid-Autumn Festival; but in fact, they hold much more meaning than that. A half-Peranakan, Chuen Mun Wai, also known as Tjoan, told me that he is committed to preserving their authenticity and the profound traditions they are associated with, and ensuring that they continue to be handed down through the generations.



**IYLIA DE SILVA** is a law graduate from the University of London. Balancing work and play, she savours every moment by indulging in her passion for food, languages, music and engaging with people from diverse cultures.

#### MAKING LANTERNS

The meticulous process begins with selecting good quality, middle-aged bamboo and sun-curing it for up to six months to remove pests. For Chuen, other than the practicality of better preserving the bamboo, this approach symbolises purity. The bamboo is then hand-cut and shaved to precisely one-quarter inch thick to form the lantern's skeleton, and then secured with a thread. This step requires practised skill as a stick too thin will not be able to support the lantern, while rough edges risk damaging the fabric covering.

The skeleton is secured in place by the *chǐ lún* (齿轮), a traditional wooden wheel positioned at the top and bottom of the lantern to keep it steady on windy nights. Handcrafted from recycled wood, precise measurements of the wheel are crucial for the lantern's form. Contrary to modern plastic alternatives, they withstand heat better.

The ideal material for traditional lanterns is pure cotton fabric. To prevent excessive shadows, Chuen divides the cloth based on the number of bamboo sticks; for example, in a 24-stick lantern, he splits it into 12 sections. The process of drawing and painting on the cloth can happen before or after it is starch-glued to the lantern frame, depending on the artist's preference. Agar-agar is applied as an adhesive for fabric holes,

aiding painting, followed by a final layer of paint for a glossy finish and extra protection.

Finally, a lightbulb placed in the lantern's centre serves as a "tester" to observe its appearance when illuminated. Well-cared traditional lanterns can last 60 or even 70 years, becoming cherished heirlooms passed down for generations.

#### THE MEANING OF THE LANTERN

According to historical records of the Ming Dynasty, we learn that Admiral Zheng He introduced Chinese lanterns to Southeast Asia on his seventh voyage to the region. He sailed this way between 1405 and 1433. These lanterns were designed to protect candles from the wind.

Lanterns vary in shapes and sizes; each serving unique purposes. Round, bright, yellow lanterns, for example, are a common sight at temples or *kongsi* (clan) houses. They are hung in the middle of entrances, representing Chinese deities. Meanwhile, cylindrical lanterns, often purchased for business collections, are sold in pairs.

Lantern colours find their roots in the idiom *wǔ yán liù sè* (五颜六色), or "colourful", representing the five shades: red, yellow, white, blue and green, with the sixth colour being black, akin to shadows from sun exposure.

Historically, large cylindrical lanterns served as Peranakan home address markers,



2.



2



3

1  
*Shàng liáng dēng*  
 (上梁灯), tradition-  
 ally used during  
 the main beam  
 erection ceremony  
 in building con-  
 struction.

2  
 The bamboo  
 stripping process  
 and the machinery  
 used.

3  
 Attaching fabric to  
 the lantern frame.

4  
 Chuen's workspace.



4

displaying surnames and commercial numbers. *Tiān dēng* (天灯), meaning sky lamp, is phonetically identical to 添灯 (adding lanterns), which also sounds like *tiān dīng* (添丁) [to add offsprings], symbolising prosperity. While temple lanterns often feature dragons as motifs, home lanterns favour the qilin, a mythical creature; dragons radiate powerful energies and makes them inappropriate for lanterns in home use. The Eight Immortals, depicted with their vessels of power, are also a popular design.

In Peranakan tradition, lanterns play a significant role in weddings and coming-of-age ceremonies. Chuen includes two complimentary candles with his lanterns for marriage ceremonies. These candles, known as *tóng xīn zhú* (同心烛), are connected by a string to symbolise unity. The act of placing the candle inside the hollow part of the wooden wheel is a metaphor for marital consummation, usually demonstrated by an elderly couple to the newlyweds.

Couples struggling to conceive would also light lanterns in the name of their ancestors in exchange for blessings. Traditional lanterns are typically never closed once opened; this is to avoid damage. When open, the hexagon Peranakan lantern resembles an umbrella, symbolising the wish for more children—*kāi zhī sàn yè* (开枝散叶)—giving rise to the term “Umbrella Lantern” or *sān dēng* (伞灯).

Traditionally, after buying a lantern, the new owners would also choose an auspicious time and date to hang them up. In the past, new houses were lit with lanterns for three days before the owners move in, aligning with Feng Shui beliefs.

When used for prayers, ancestors' names are inscribed on the lantern's inner skeleton, serving as an alternative to lost genealogy records. These lanterns are believed to guide spirits home, discouraging the purchase of used ones.

Funeral lanterns, on the other hand, are a final gift for the deceased, and are simple and white in colour, with the deceased's surname painted in red or black. This aligns with the belief that names should not be written in red while the person is alive.

Chuen avoids urgent orders. Crafting these lanterns takes months, if not years, and he only accepts orders from customers who are willing to wait three to five years. Chuen highlights the importance of crafting them when in a positive state of mind, as this affects the lantern's energy.

#### PATH TO LANTERN CRAFTSMANSHIP

Chuen's journey began during his teenage years when he stumbled upon a lantern shop named Tai Keat Seong Company on Magazine Road, Penang. He was more fascinated by the lantern's base design and

how it was attached to the lantern than its intricate paintings.

Chuen's unofficial *sifu* declined students, so he would silently observe the process during each visit, gradually piecing the process together his own understanding. His earliest lantern, deviating from tradition, was crafted from unsellable black Batik fabric—a colour typically reserved for celebrations marking the reign of a new emperor.

Asked if he is open to mentoring, Chuen responds, “It's not easy. Many may have an interest in making lanterns, but the required patience can wear them out.”

Notable venues in Penang, such as The Safe Room and Seng Hong Beow Temple on Cecil Street, have placed orders for his lanterns. However, due to the influx of tourists, Chuen prefers to concentrate on his craft in Ipoh, away from the distractions of tourist attention. As one of the last traditional lantern makers in Malaysia, Chuen wants to keep this craft alive for future generations, making it a living heritage rather than a museum piece.

For those interested, visit Tjoan's Lantern Workshop on Facebook for more information on their reservation-based workshop. They offer smaller lanterns made with ice-cream sticks using the paper-binding technique, convenient for international travelers, especially, to carry back home.

# Jemilah Mahmood:

**PROFESSOR TAN SRI DR. JEMILAH MAHMOOD IS AN EMINENT PERSONALITY IN THE FIELD OF MEDICAL SCIENCE AND CRISIS MANAGEMENT. SHE IS ALSO THE FOUNDER OF MERCY MALAYSIA. DURING HER VISIT TO PENANG INSTITUTE IN MARCH TO CONDUCT THE WU LIEN-TEH SOCIETY'S 7TH ANNUAL PUBLIC LECTURE, DURING WHICH SHE WAS BESTOWED WITH THE DR. WU LIEN-TEH AWARD FOR LEADERSHIP IN PUBLIC HEALTH, *PENANG MONTHLY* WAS PRIVILEGED TO DISCUSS PLANETARY HEALTH AND SUSTAINABLE DEVELOPMENT WITH HER.**



**RACHEL YEOH** is a former journalist who traded her on-the-go job for a life behind the desk. For the sake of work-life balance, she participates in Penang's performing arts scene after hours.

# Giving Priority to the Planet's Health

BY RACHEL YEOH

**Rachel Yeoh:** You are a healthcare professional, humanitarian and planetary health activist. Your footprint in making the lives of people better is certainly obvious. Do you remember how it all started? What inspired you and continues to motivate you to trailblaze this path?

**Jemilah Mahmood:** I was influenced by witnessing the suffering of others, disparities in healthcare access, and the interconnectedness between human health and the environment. These experiences fuelled my desire to make a positive impact, advocate for equitable healthcare and address the environmental challenges affecting vulnerable communities. Believing in the right to quality healthcare and a sustainable future, I am motivated to continue trailblazing this path.

My parents were generous and kind; my primary and tertiary education at Assunta School moulded us to excel in our studies and develop a sense of responsibility for the planet and people.

**RY:** What was it during your time in MERCY Malaysia or your humanitarian activism that fed your concern for planetary health? Tell us about planetary health and your endeavours with Sunway University.

**JM:** After more than 20 years working in conflict- and disaster-affected countries, it became increasingly clear to me that much of the humanitarian work done is akin to applying little band-aids to gaping wounds or fixing broken limbs with matchsticks. At best, humanitarians are only able to treat symptoms, not the underlying root causes of disasters and crises—and this has never been truer than now as we stare down the barrel of the climate crisis gun pointed at us.

I remember, as a much younger humanitarian and obstetrician in 2000, I watched in disbelief a helicopter rescuing a mother who had just delivered a baby up on a tree with raging floodwaters sweeping below her, desperately clutching onto her child while clinging on to

the tree. You can easily Google this story—the now-22-year-old Rosita Mabuiango from Mozambique. But why did that happen? Why was Rosita's mother stuck on that tree? It was clear—Mother Nature was reacting to the damage caused to our natural environment; damage which will drive more severe weather events. More importantly, if health equity is not addressed in the face of the climate crisis, there will be more stories like Rosita's.

Experiences in disaster-affected areas like this one as well as during the Covid-19 pandemic reinforced my sense that there is an urgent need to address planetary health issues and integrate human health, ecosystem health and the health of our planet. At Sunway University, we established the Sunway Centre for Planetary Health to consolidate planetary health research, policy and programming, and advocacy. We prioritise raising awareness, fostering interdisciplinary collaborations, and implementing sustainable practices to develop innovative solutions and get future leaders to address planetary health and humanity's well-being.

**RY:** During the Dr. Wu Lien-Teh Society public lecture at the beginning of March, you reiterated the need to reset our relationship with nature. On a personal, family, community and workplace capacity, how can this be done?

**JM:** Resetting our relationship with nature is a collective effort. I consider myself a storyteller, so moving from awareness to action involves redefining the stories we tell ourselves. The stories that still persist for generations are one of endless profit, a rat race where bigger is better. The more carbon it burns, the more it is valued. We feed on the premise that endless growth and wealth is a good thing, not realising that the planet's health and, subsequently, our health is at stake. This narrative has to change.

We need to believe that a sustainable planetary health is indeed possible. We must learn to live sustainably by meeting our basic needs for a quality life whilst protecting

the environment by adopting environmentally friendly habits. Spend more time outdoors to develop a better sense of wonder and respect for the natural world. Nature truly is our greatest source of health and well-being. In some countries, medical doctors are opting for “green prescriptions” of spending more time in nature, alongside the usual medical treatments. In 2020, the UK government committed GBP4mil to a two-year green-prescription pilot as part of its post-Covid-19 recovery plan, and it was found that spending at least two hours a week in nature can greatly improve an individual’s mental health and well-being.

Families, get involved in eco-friendly activities and teach children about nature and conservation! At the community level, we should advocate for environmental education, collaborate with local organisations and raise awareness about sustainable practices. At the workplace level, promote eco-friendly policies, encourage sustainable commuting and support environmental initiatives.

**RY:** From my perspective, “going green” and being “sustainable” feels like an exclusive club that just seems out of reach for most from the B40 group. Being sustainable can be expensive. If, Tan Sri, you would like to rebut my point, could you tell me how we can approach the whole of society concerning planetary health?

**JM:** Personally, I think this is a huge misconception, but I can understand why it’s viewed this way. Too often, “sustainable living” is packaged as an exclusive concept, affordable only for the select few elites. Healthy food is often considered expensive, especially when compared to junk or fast food. We should also not confuse “going green” as needing to buy all the aesthetically “green” products and only eating overpriced meals in seemingly “green” restaurants and cafes. These can often merely be superficial ways to promote overconsumption in the name of “going green”.

In reality, a sustainable, healthy and environmentally friendly lifestyle is something that was practised by our

ancestors ages ago, even by indigenous communities at present. There is a lot that we can learn there. It means reusing, repairing and valuing what you have now. It is about the choices that you make. Why do you choose that RM15 Big Mac over the RM7 vegetarian mixed rice at your local shop?

We must acknowledge that our current consumption model and our definition of economic development have increased the risk for epidemics and pandemics like Covid-19, and thus, it is critical for us to rebuild our post-Covid-19 society within planetary health terms.

Ensuring inclusivity and accessibility in the conversation about planetary health is essential, especially for the B40 group. Societal engagement should include comprehensive education and awareness programmes, the use of affordable and accessible sustainable technologies and practices, capacity-building, and advocacy for policies that address the specific challenges faced by marginalised communities. When working with community leaders, utilise culturally sensitive approaches and involve the voices of marginalised communities in the policymaking process.

**RY:** Those in Sunway University will have to go through a planetary health subject; most would be from the younger generation. How should we address this topic to the older generation?

**JM:** Engaging the older generation in the conversation about planetary health is crucial, and several approaches can be taken to address them. These include illustrating direct impacts on health and future generations, acknowledging their wisdom and traditional knowledge, aligning the communication with their values and priorities, sharing real-life stories and practical examples, engaging respected community figures as advocates, facilitating intergenerational collaboration and dialogue, emphasising the positive impacts of sustainable actions on personal well-being, and providing continuous learning opportunities tailored to their preferences.

It is about bridging the generational gap. But we must make this a journey together. After all, which grandparent would not want to see their grandchildren live in a world that is safe and healthy?

**RY:** I was shocked when you disclosed how much food Malaysians throw out. There are a few NGOs I know that have been trying to stop food waste, especially from hotels and F&Bs. However, there seems to be a rule that runs along the lines where food, even large buffet trays of untouched food, must be thrown because they are afraid that they might be contaminated. Is this really a health issue?

**JM:** The issue of food waste in Malaysia, particularly from hotels and F&B establishments, is a significant concern. While the decision to discard leftover food from buffets may be influenced by concerns about food safety and hygiene, it is crucial to find a balance between food safety and reducing waste.

Food establishments have a responsibility to prioritise customer safety and comply with food safety regulations. Buffet-style setups can present a higher risk of contamination, and establishments may have concerns about legal liabilities if the food is donated or repurposed. However, initiatives like collaborations with NGOs, comprehensive staff training, partnerships with food banks, and efficient planning and portion control can help address food waste while ensuring food safety.

Dialogue and collaboration among stakeholders are essential to develop practical solutions that minimise waste and maintain food safety standards. Organisations like The Lost Food Project rescue food from landfills through partnerships with supermarkets, wholesale markets and communities. It helps reduce greenhouse gas emissions and addresses food and nutrition security at community levels.

**RY:** Lastly, how can the Ministry of Health (MOH) work more effectively with other ministries towards planetary health?

**JM:** Establish inter-ministerial task forces or committees focused on addressing planetary health issues. These task



forces must bring together leadership and representatives from the MOH with other ministries. That way, the budgetary planning, transportation, housing and all other areas of national development can run with a set, clear direction on what is the best development and growth model toward planetary health. Only then can they develop integrated policies, strategies and action plans that prioritise human health and the environment.

Also, facilitate data sharing and research collaboration between the MOH and other ministries, and better still, foster international cooperation and partnerships to address planetary health challenges. By strengthening collaboration and coordination, MOH can develop holistic strategies that address the interconnections between human health and the environment.

I believe Malaysia is heading in the right direction with the current development of the national planetary health action plan. However, the plan, when ready, needs to be implemented and constantly monitored.

**RY:** Thank you, Tan Sri for sharing your thoughts and ideas with us.

RAISING  
THE

BY  
OOI KEE BENG

# FLAG

TO MAKE  
LEADERSHIP A COMMON  
CONCERN

**PENANG INSTITUTE** is in the process of launching its Forum for Leadership And Governance (FLAG) Project. The venue for its series of initiatives will be the newly renovated South Wing building on its grounds at 10-12 Brown Road.



**DATO' DR. OOI KEE BENG** is the Executive Director of Penang Institute. His recent books include *The Eurasian Core and Its Edges: Dialogues with Wang Gungwu on the History of the World (IS-EAS 2016)*. Homepage: [wikibeng.com](http://wikibeng.com)

#### WHY ARE WE DOING THIS?

Penang Institute's main objectives since its founding as SERI in 1997 have been (1) to generate cutting-edge information on the socio-economic and environmental conditions affecting the State of Penang, (2) to supply the Penang State Government with policy suggestions based on the Institute's growing understanding of the challenges facing the State and the Country, and (3) to enrich the standard of public discourses in Malaysia.

In its deep and long-term collaborations with government agencies and civil society organisations, with academicians and businesses, and with international organisations and research institutes across the region, the Institute has identified an urgent need for a platform in Penang for leadership development, where leading personalities and institutions can be brought together to identify problems and devise solutions that can convey benefits across sectors.

Bringing synergy to the public policy ecosystem in Penang is one of the end goals of this project. Using this platform, we intend to participate more directly with like-minded institutions across the region.

## PROGRESSIVE AND ADAPTIVE LEADERSHIP

Nothing is more conserving of systems than leadership styles gone stale. And by leadership, we do not mean only the highest level but also the lower levels as well.

Times change, and so should leadership styles and ideologies, not only leaders.

In developing countries which, in recent decades, went from being a pre-modern economy or colonial polity to being nominally independent countries, the assumption that their leaders will somehow automatically discard feudal ideas of power and economics, and avoid acquiescent habits and colonial knowledge, is clearly wrong.

To highlight this neglected element in national independence and nation building, and to reiterate the end goals of Merdeka, which, we believe, centrally include the cultivation of confident and caring citizens who are knowledgeable about society and inquisitive about the world, The FLAG programme will connect with like-minded projects in the region and inspire discussions on Leadership as a Science and an Art, as an attitude welcoming of change and guided by articulated and progressive goals.

The case in Malaysia, over the last 60 to 70 years, has largely been about maintaining a sense of victimhood in the population. Feeling short-changed by history, by other communities, by nature or by politics, the disgruntled citizenry becomes fair game for demagogues. I exaggerate, but not much.

To work against that sad dynamic, and to make leadership a more common undertaking, the following are what we hope will constitute The FLAG:

## 1. MASTERCLASSES

Providing a platform for experienced leaders from various fields to share their knowledge and skills, and for talented and ambitious young people to learn from them allows Penang Institute to ease the serious lack of concrete leadership training in Malaysian society.

Such masterclasses will provide networking possibilities for participants, and be a source of substantive revenue for Penang Institute. They will also heighten the Institute's reputation as a centre for intellectual exchange and proactive policymaking.



## 2. SYMPOSIUMS

Penang Institute has been building an international network of collaborators over the last decades. It has ties with institutions in Singapore, Indonesia, the Philippines, Hong Kong, Taiwan and China. Further afield, the Institute continues to collaborate with think tanks in Germany, Australia, the US and the Scandinavian countries. The United Nations and European Union bodies are also part of our network of collaborators. The Institute's ties with embassies and international organisations based in Malaysia are also strong, as is evidenced in their regular visits to the Institute for discussions on political and economic developments in the country, and on other matters.

Penang's exceptionalism lies in the fact that its international role, be this in economics, governance style or art, remains strong. In many ways, it continues to inspire through its reputation as a cultural hub, as a manufacturing centre, as an example for good governance and peaceful multiculturalism, and through the adaptiveness and innovativeness of its people.

Penang Institute will therefore hold international elite gatherings to discuss not only Penang's place in the world, but also the challenges faced by the world at large, and the discourses that are unfolding globally, most of which would naturally have deep relevance for Penang, given its cosmopolitan past, present and future.

## 3. ROUNDTABLES

Thought leaders from diverse segments of society will be gathered in small groups to discuss specific subjects with a bearing on policymaking in Penang. As a whole, these aim:

- (1) to reverse the work-in-silo culture that has overtaken much of Malaysian professional life;
- (2) to expand a sense of inclusiveness, common purpose and understanding among key stakeholders;
- (3) to encourage sustainable discussion networks built on problem solving and problem identification, involving players from the public sector, the private sector, academe, civil society and the international community, and;
- (4) to gain cutting-edge knowledge on latest developments and the issues troubling the various governance, corporate and socio-cultural sectors in Penang for the purpose of adding breadth and depth to policymaking and public discourses.

Most significant in this context is the Policy Development Forum (PDF) series that involves EXCO members and state agencies, the public service and the private sector, and NGOs and scholars, to discuss in detail policy challenges within each portfolio of the state government.

## 4. PUBLICATIONS

Discussions taking place and talks given at The FLAG will provide material and inspiration for the Institute's publications, such as ISSUES policy briefs and *Penang Monthly*. The South Wing also houses a non-loan leadership library for the use of its researchers, and an AV room for podcast recordings.

The flagship publication for The FLAG is *South Wing Papers*. This is a by-invitation-only platform for 1,500-word articles on the various aspects of Leadership and Governance.

A page under the penanginstitute.org website will be dedicated to The FLAG Project, announcing its activities and making available the publications inspired by it. The URL is <http://theflag.penanginstitute.org> and will be accessible after its launch on 17th October 2023.

# CULTIVATING A FUTURE FOR

# SKATEBOARDING



# IN PENANG

TEXT BY LIANI MK  
PHOTOS BY ARIEFF ZAFIR



**LIANI MK** is a journalist, writer and artist who focuses on migration, indigenous rights and culture. In addition to her creative pursuits, she trains in capoeira, an Afro-Brazilian martial arts.

**HARD SLAMS REVERBERATE** from the morning all through the night at Youth Park—echoes of wheels meeting asphalt and ramps. While I nurse my spine and sense my muscles tense as I watch the melee of skateboarders fearlessly flip and roll, I absorb the glee etched on their faces. This must be what freedom and youth looks like.

Eyes glowing with excitement, the skateboarders discuss the sport they love, including my photographer-partner, Arieff Zafir. Arieff is a licensed skateboarding instructor at Penang's After School Skate Session.

"Skateboarding is about self-expression and pushing the boundaries," Arieff's voice trails as he whizzes past me on his board, losing himself in his element while snapping shots of his fellow skaters. The enthusiasm within the community is infectious and I find myself watching in awe as children and adults work on their latest trick—from basic ollies to pop shove-its.

Coined initially as "sidewalk surfing", skateboarding traces its roots to surfing in 1950s California. The first manufactured boards

were made for surfers during their downtime when the ocean waves were flat. In its early stages, skateboards were rudimentary in design, with roller skates affixed to plain square wooden boards.

The designs are endlessly more sophisticated now—characterised by flat seven-plywood decks, with attached wheels and trucks to give stability and assist turning motions. They range from cute family-friendly doodles to macabre illustrations to suit one's fancy.

Often regarded as rebellious and disruptive, skateboarding has moved from its sole image as a countercultural street pastime to a mainstream sport. Cult classics like Thrashin', and professional athletes like Tony Hawk have popularised and elevated its status as a respectable extreme sport. This change is reflected through the inclusion of skateboarding at global sports competitions such as the 2020 Summer Olympics in Tokyo. Notably, major skateboarding brands are emerging, such as Vans—a favourite for many skateboarders.

### SUPPORTING LOCAL INITIATIVES

On local grounds, skateboarding is fast shifting as well, marked by new parks and shops tailored to enthusiasts. While large retail giants like Decathlon and Sports Direct now offer skateboards designed for beginners, it is Penang skateboarding establishments like SkateHaus and Papan7Lapis that have garnered a distinct respect within the skateboarding community due to their ownership and dedication; they are operated by and for skateboarders.

SkateHaus co-founder, Yong Ryotaro, 25, embraces the growing interest in Penang and relishes the role his shop has played in bringing together skateboarders from other parts of Penang and the world. “Skateboarders from all around the world contact us. We end up meeting, *makan*, and then we skate the local street spots and become friends,” says Ryo, who has been running his shop for two years now. On average, he sells 20 to 30 boards a month.

Ryo argues that local skate shops offer more than just boards—the skateboarders who operate them also provide invaluable advice and expertise on gears and board selection.

“It’s the after-sale service. Skateboarding shops have the knowledge and can explain to you the difference between wheel sizes and board sizes. The ones from generic sports shops are more about designs and pricing—like where I got my first board. The truck is not as smooth and it’s quite dangerous as it doesn’t turn even when you want it to. It’s a totally different feeling.”

“Back then, I skated mainly for myself,” says Ryo, who has been a skateboarder for about a decade. “But now, with the skate shop, I am starting to see the bigger picture, and how we want to grow as a whole. We want to nurture our community to see members grow and eventually win contests. We want to see the next generation build their own stage.”

Newer establishments now offer skateboards. Papan7Lapis co-founder, Mohd Joshua, 30, sees this as a positive development that fosters healthy competition, all with the shared goal of promoting skateboarding culture in Penang.

“The more shops selling skateboards, the more people will learn about what skateboarding is,” he adds, while showing me his shop’s display of safety pads, boards, trucks and wheels that they help assemble for customers.

“As long as skateboarding wins, that is all that matters.”

### HITTING NEW GROUNDS

The emergence of these new skateboarding shops aligns with the growing interest in the sport—underscored by the late-night scenes that unfold on some days at Youth Park. Its skate park, the only existing one on the island with ledges, spines, high ramps and halfpipes to perform vert movements—a type of aerial skateboarding trick—is often teeming with skateboarders, surfskaters and BMX riders alike.

While an enduring fixture for skateboards, the park is not without its challenges—its narrow ledges and towering banks that exceed up to 12ft in height make it challenging for beginners. Maintenance, as resounded by several skateboarders I spoke to, are also a cause for concern; peeling paints and chipped off surfaces can be dangerous if left unchecked. Meanwhile, skateboarders make do; some bring their own ramps and rails to improve the training ground for others.

However, a promising change is coming with the long-awaited Gurney Bay, a RM176mil sprawling recreational waterfront park of 131 acres of reclaimed land alongside Gurney Drive. Developed by Tanjung Pinang Development (TDP), the project promises to include a skate park.

While skateboarders have been waiting for new skate parks on the island for a long time, there is caution regarding the safety and suitability of the park for skateboarders.

Hesitant about the new skate park and its safe grounds, skateboarders are opting to wait and try it out for themselves.

“Skate parks should be built by experienced skateboarders who understand the kinds of floorings and obstacles needed for skateboarders,” says Ryo, who is equally intrigued by the new space.

“We have a community, and we hope for more support from our local council to organise more meaningful events and provide spaces to skate safely, and encourage a healthy lifestyle for people in Penang,” he adds.

“It took almost 20 years to build our second skate park, so you kind of know where skateboarding stands in Penang,” adds Joshua, who says that there is a lot of expectations and high hopes from skateboarders for the new park. He hopes that the parks, both new and old, will be maintained, especially when it comes to the flooring quality.

“Skateboarding started from the streets, but Penang streets aren’t that conducive, even if you wanted to skate against the curbs. So we’re really looking forward to safer spaces dedicated to skateboarding,” says Joshua.

### NURTURING THE NEXT GENERATION

Despite the challenges, skateboarders in Penang remain committed to their sport and the growth of their community.

“More people will be encouraged to start skateboarding—like how I was when I first watched people jump around with their boards,” says Joshua, who also teaches skateboarding to beginners.

His optimism extends to inspiring more individuals to embrace skateboarding. “I hope they build more skate parks in Penang, if that will help people learn better.”

Professional skateboarder, Koya Miyasaka, 24, who has skated at Youth Park for nearly two decades, shares this vision.

“We want to support as many skaters as we can,” says Koya, who also teaches at the park. Having experienced this kind of support, Koya has become a professional skateboarder and is sponsored by reputable skateboarding brands such as Vans Malaysia. Koya was one of Malaysia’s hopefuls for the Asian Games and has travelled the world to compete and skate.

“If I see potential in a skater, I’ll just try to support them, because when I was growing up, skating people really supported me. I want to give back somehow,” says Koya. “So it’s also nice to see home-grown skate shops and parks support other skaters.”

As skateboarders generously pour out their energy to explain about wheels and boards with non-skaters like myself, it is clear that there is a deep urge to support each other’s successes and the generations ahead with new projects, events and spaces.

For skateboarders in Penang, there appears to be a simple, common hope: As long as skateboarding wins, that is truly all that matters.



YONG RYOTARO

MOHD JOSHUA

# PENANG'S SEMICONDUCTOR INDUSTRY CONTINUES EXCELLING

BY ELIZABETH SU



**ELIZABETH SU** is a Harvard Mason Fellow (Class of '97). She is very curious about people and the world around her, and believes that asking questions is a great way to learn. Elizabeth teaches, writes and loves storytelling.

## EXCELLENCE. DIGITISATION. RESILIENCE.

These three words highlight distinctive features of the semiconductor industry in Penang which continue to power innovation, drive growth and ensure sustainability in what is already a hugely dynamic sector.

## EXCELLENCE

In 2023, two global companies—Bosch and Enovix, announced their multi-million dollar investments in the Penang semiconductor industry.

In a letter to shareholders in April 2023, Enovix Corporation, a US-based advanced silicon battery company, disclosed that the company now has “a Fab 2 building and over 25 employees in Penang, Malaysia” and were in the process of closing local funding for their first Gen 2 Autoline for Fab 2, located in an existing YBS building at the Penang Science Park.<sup>[1]</sup> According to Ajay Marathe, COO of Enovix, “Malaysia, and especially the Penang region, is rich with semiconductor-trained engineers who have a manufacturing-excellence mindset.”<sup>[2]</sup>

Bosch, a leading global supplier of technology and services, also revealed that it had opened a new test centre for chips and sensors in Penang, at a cost of



ANDREW SHENG

some EUR65 mil, with plans to invest a further EUR285 mil at the site by the middle of the next decade.<sup>[3]</sup>

These mega-investments are a testament to Penang’s “high level of semiconductor knowledge and

## FOOTNOTES

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[2] <https://investpenang.gov.my/enovix-joins-forces-with-ybs-international-berhad-to-unveil-its-next-generation-battery-manufacturing-facility-in-penang-science-park/> - "Enovix Joins Forces with YBS International Berhad to Unveil its Next-Generation Battery Manufacturing Facility in Penang Science Park", 1 August 2023

[3] <https://www.bosch-presse.de/pressportal/de/en/bosch-opens-new-semiconductor-test-center-for-chips-and-sensors-in-malaysia-256640.html> - "350-million-euro investment by the middle of the next decade to strengthen global semiconductor supply chain", 1 August 2023

[4] <https://www.bosch.com.my/news-and-stories/bosch-opens-new-semiconductor-backend-site-for-chips-in-penang/> - "Bosch opens new semiconductor backend site for chips in Penang", 1 August 2023

[5] [https://www.kln.gov.my/web/esp\\_madrid/news-from-mission/-blogs/malaysian-investment-development-authority-mida-MIDA, 24 January 2023](https://www.kln.gov.my/web/esp_madrid/news-from-mission/-blogs/malaysian-investment-development-authority-mida-MIDA, 24 January 2023)

[6] Founded in December 2018, GIOAS is an independent, nonprofit institute which is part of the Wawasan Open University, George Town, Penang.

[7] <https://cm.penang.gov.my/index.php/ms/all-stories/362516-penang-future-forward-summit-2023-future-proof-penang-for-the-new-global-economy> - 14 March 2023 Published April 9 1999.

[8] <https://www.precedenceresearch.com/consumer-electronics-market> - Consumer Electronics Market ... Forecast 2022 - 2030

[9] <https://www.thesundaily.my/local/malaysia-to-strengthen-semiconductor-ecosystem-eyes-15-market-share-by-2030-BB11011606> - 23 May 2023

[10] <https://www.reogma.com/industry-reports/semiconductor-industry-in-malaysia/> - Semiconductor industry in Malaysia, 2021

skilled workforce," according to Klaus Maeder, member of the Bosch Mobility Sector Board Responsible for Operations. Bosch relies heavily on semiconductors in all its business areas, and Maeder believes that the Penang backend site is a key component in their growth strategy, especially in the mobility sector. "The proximity to business partners and customers is another advantage, as it will shorten delivery times and distances for the chips."<sup>[4]</sup>

Semiconductors, sometimes called the "brains" of electronics, are the mainstay of Penang's Electrical & Electronics (E&E) sector. Malaysia's E&E sector is expected to contribute RM120 bn to the country's Gross Domestic Product (GDP) and generate RM495 bn in export earnings by 2025.<sup>[5]</sup>

According to Andrew Sheng, Chairman of the George Town Institute of Open and Advanced Studies (GIOAS)<sup>[6]</sup>, "Penang accounts for 13% of global chip testing and packaging, and produces more than 40% of the total E&E exports of Malaysia. Penang has the highest share of manufacturing contribution to GDP, equal to services." He adds that Penang's GDP was 6.8%<sup>[7]</sup>, double that of Malaysia (3.1%) in 2021.

He muses that the eight foreign chip assembly operations in 1973, attracted by Lim Chong Eu, have spawned an ecosystem of over 3,000 local technology companies and 350 MNCs. "The global consumer electronics market size was valued at USD724.48 bn in 2021 and is forecasted to reach USD1.13 tn by 2030."<sup>[8]</sup> This indicates a strong signal for increased chip production.

"A preliminary 2023 study of the influx of foreign direct investment (FDI) in 2021 due to US-China tensions showed that local tech manufacturers have higher value-added (40%) relative to even MNCs," he adds.

During the SEMICON SEA 2023, held in Penang from 23 to 25 May 2023, the Malaysian government announced their plan to further strengthen Malaysia's semiconductor ecosystem in the hope of achieving a 15% market share in the semiconductor assembly, test and packaging activities by 2030. It is currently at 13%.<sup>[9]</sup>

This comes as no surprise as the semiconductor industry is a global player in the world economy. According to Accenture, "each segment of the semiconductor value chain has, on average, 25 countries involved in the direct supply chain and 23 countries involved in supporting market functions."<sup>[10]</sup>

Andrew Sheng believes there is potential to develop the 3T: Technology, Tourism and Talent (education) as an opportunity for Penang Future Forward. He cites InvestPenang's belief that prospects lie in Outsourced Semiconductor Assembly and Test (OSAT), with a focus on fabless equipment and medical devices, but asks what comparative advantages there are for tech companies in Penang.

## DIGITALISATION

Cutting-edge technologies like automation, artificial intelligence and the Internet-of-Things (IoT) are part of digitalisation that enhances efficiency, reduces production costs and accelerates time-to-market for semiconductor products. Ng Kwang Ming, CEO of Digital Penang, has another perspective to offer for the industry to propel further.

"The semiconductor industry is usually up-to-date in digitisation and optimisation, and actually leading in terms of manufacturing technologies. Main contractors naturally expect their suppliers to keep up-to-date on upcoming data integration standards and new global business compliance (like ESG)".

"At the end of the day, supporting supply chain players in the semiconductor industry have to be on the lookout for opportunities from adjacent industries as well."

These adjacent technologies include medical technologies (lab-on-chip and non-invasive health monitors and energy storage) for renewables or electric vehicles (EVs). Both of these involve semiconductors and integrated circuits, though their focal point is different. "The industry has to look beyond their current market segments and see other opportunities." When that happens, Penang is set to remain at the forefront of technological advancement whilst maintaining competitiveness in an increasingly complex global landscape.

## RESILIENCE

Ng believes that "the semiconductor industry is quite resilient to a certain degree. Even with next-generation quantum computing, we will still need the semiconductor industry. It's not going to go away overnight."

He believes that semiconductor companies need to have their own roadmaps or growth plans in terms of how they want to evolve. "These include de-risking, identifying market risks and responses: Do I need to diversify upstream to add value to my services? Should I go on to develop other products?"

Ultimately, what sustains the semiconductor industry in Penang through good and bad times are the quality of its engineering expertise and leadership, its engagement with digitalisation, supported by government initiatives, and its agile approach in adopting new processes and technologies in the global market.



NG KWANG MING

**THE ARTS STREAM** or the Science Stream? That was the fork in the road for many entering Form 4 under the national school curriculum before the year 2020. Even now, packages offered include three options—STEM (Science, Technology, Engineering and Mathematics), Humanities and Arts, and Languages.

Parents and teachers try their hardest to help 15-year-olds choose their paths wisely because the rest of their lives may be determined by this decision. There may be “no turning back”, as taking anything outside the sciences would mean closing the door to career options in the medical and engineering fields and more.

How many 15-year-olds are sure about what they want to pursue in life at that age, really?

Rather than boxing our students into seemingly distinct career paths, what if we offered them a balanced approach where they can experience and cultivate an interest in subjects across these streams?

This can be done through a curriculum that places equal importance on the sciences and the arts. Instead of having packages emphasising STEM learning, schools can consider introducing the “A” for Arts into the acronym, turning it to STEAM: Science, Technology, Engineering, Arts and Mathematics.



#### THE ROLE OF STEAM

Picture this: A vibrant classroom and a group of students huddle around their small 3D model of a house that is environmentally sustainable and suitable for the Malaysian climate. They’ve made sketches of the house and built it with various materials; its furniture, solar panels and a rainwater collection system. At a later stage, they will present their project and explain how it will help the environment.

This scene captures the essence of STEAM education. It is rooted in the notion that no subject or discipline exists in a silo. Instead, everything we learn and the problems we solve requires the application of different skills. For example, when the students were building their house model, they needed to consider its measurements (Mathematics), interior design (Art), and its impact on the environment (Science).

Doesn’t that sound more exciting and realistic? Don’t most jobs today require a fusion of disciplines and skills?

When schools run with STEAM as a guidepost, opportunities for soft skills development are on offer. For one thing, the inclusion of arts encourages students to think creatively and approach problems with innovative solutions. Thinking outside the box cannot be taught, only encouraged and developed. Hence, that propensity is invaluable in any field. STEAM education also promotes critical thinking as students learn to evaluate information and consider multiple perspectives when making decisions. It is here that the students can be exposed to real-world applications, and see how scientific principles, technology, engineering design and artistic creativity and articulation converge to solve complex problems.



TRANSFORMING EDUCATION AT TENBY INTERNATIONAL SCHOOL PENANG

Tenby International School Penang is a strong advocate of STEAM. As a STEAM specialist school, its teachers are equipped to integrate new technologies and various components of STEAM in their lessons, whether English, Science, Mathematics, History or other subjects. As a result, their students can experience eureka moments during classes.

Ravishanker, a Year 11 student, says he now approaches his subjects with flexible thinking, especially during lessons in the Science Lab and Art Studio. “It shows you different angles and ways to see certain projects and activities. That is really empowering, especially when the teachers are helping you through that process.”

Through this type of learning, students are nurtured to take risks and explore the unknown, building the mindset to grow and the resilience to persevere. Once they

graduate, they will have already explored the skills to succeed and thrive in the rapidly changing world, be it to become an engineer, a doctor, a musician, a designer, a talk show host, a chef or an entrepreneur.

“We want our students to be prepared for the future. We work closely with universities such as Universiti Sains Malaysia, the six organisations under Penang STEM which includes Penang Science Cluster, and local industry leaders so that our students get a clear idea of what career pathways they can take,” says Sathisha Goonasakaran, STEAM Coordinator at Tenby International School Penang.

By November 2023, the school’s STEAM Engine, a modern, purpose-built campus with a complete range of academic resources, will be ready for use. A learning space that houses state-of-the-art facilities like a Makerspace, Recording Studio,

Art Studio, Robotics and Coding Zone, and even a Food Tech Kitchen, this “engine” is where future changemakers create, innovate and grow at the pace of change.

The school’s STEAM education advocacy aligns with the Penang2030 initiative as it goes beyond serving only its students. On weekends, the STEAM Engine will be a community space for marginalised communities with no access to technology to learn and develop new skills.

“We believe that our STEAM Engine demonstrates ‘education unboxed’ and therefore we are keen to partner with the government, non-government organisations and those in the industry to develop community outreach initiatives. This will support more young people to advance the skills needed to succeed in an ever-changing world,” Jeanne Denyer, Campus Principal of Tenby Penang, explains.



POWERED LEARNING

Nurturing Creative Analysts for the Digital Future

BY SAMANTHA KHOO



SHAPING FUTURE LEADERS

The socio-economic landscape today allows us to value creativity as much as we do scientific knowledge. For success in the future, creativity is not optional—it is absolutely crucial.

The coming generations will have to be well-rounded—to use both the left and right halves of their brains; to be obsessed

with details and be prone to analytical thinking. Their whimsical side must be allowed to flourish—and they will have to be excellent communicators.

Designers, writers and, yes, even online content creators, will be needed as much as we have needed scientists, mathematicians and engineers.



A personal blogger since her teenage years, **SAMANTHA KHOO** has always enjoyed stringing words together. Her dream is to live off-grid in a cottage with all the coffee, ink and paper she can have.

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# STUNNING PAINTINGS

OF

# BIRDS OF MALAYSIA

BY CHOO BENG TEONG



1

**ORNITHOLOGY IS THE** study of birds—and Choo Beng Teong has devoted his career to it by creating anatomically precise paintings, most of which have been showcased locally and abroad. Regarded as one of the finest wildlife painters today, his selected works were featured in Christie's South Kensington Wildlife Art Auction in London in 1997 and 1998.

The Penang-born artist sees his work as a vehicle to raise awareness for environmental and conservation causes. He recognises that conservation efforts need not always be extravagant before they can engage the community effectively; all he needs is a paintbrush and canvas to communicate the importance of preserving our shared environment.

Here are a select few of his works featuring several of his hyper-realistic paintings from his first book, *The Art of Choo Beng Teong: Birds in Malaysia in Watercolour*.



3



2



5



4

### 1 RED-HEADED TROGON

*Harpactes erythrocephalus*  
(male)

The brightly-coloured Red-headed Trogon is the largest of our trogons. It can be found only in montane forests in West Malaysia and is fairly common.

### 2 BLACK-NAPPED ORIOLE

*Oriolus chinensis*

The Black-napped Oriole of West Malaysia is one of the most common suburban birds. They can be spotted all over; from towns to villages, orchards and plantations. In East Malaysia, however, it is considered a rare resident.

### 3 ASIAN FAIRY-BLUEBIRD

*Irena puella*  
(male-left, female-right)

The Asian Fairy-bluebird is usually found in lowland and hill primary and tall secondary forests. They can also be found in orchards.

### 4 SILVER-EARED MESIA

*Leiothrix argenteauris*

The Silver-eared Mesia is a colourful babbler and usually occurs in small, noisy flocks, gleaning insects as they move along. They are commonly spotted at hill forest resorts in West Malaysia.

### 5 CHANGEABLE HAWK-EAGLE

*Nisaetus cirrhatus*

The Changeable Hawk-Eagle is a fearsome predator of small to medium-sized mammals, birds and reptiles. They often appear in two colour morphs—dark or black and pale or white.

### 6 WHITE-THROATED KINGFISHER

*Halcyon smyrnensis*

The White-throated Kingfisher is very common and widely spread throughout West Malaysia. It takes a variety of prey ranging from lizards, frogs, small rodents to insects, and less so, fishes.





**7 STORK-BILLED KINGFISHER**

*Pelargopsis capensis*

The Stork-billed Kingfisher is a most fearsome kingfisher as exemplified by its large size and prominent scarlet bill. They usually take fish and can be found at all wetland habitats.

**8 LARGE NILTAVA**

*Niltava grandis*

One of our larger resident flycatchers, the sexually dimorphic Large Niltava is fairly common in the montane forests of the Titiwangsa Range, West Malaysia.

**9 STREAKED SPIDERHUNTER**

*Arachnothera magna*

The Streaked Spiderhunter is the only montane forest spiderhunter of West Malaysia and commonly spotted at hill stations.



# HERE'S WHERE YOU CAN FIND PENANG MONTHLY

## PICK-UP SPOTS PENANG

### 1 George Town

Areca Books  
Black Kettle  
BookXcess Gurney Paragon  
ChinaHouse  
Gerakbudaya Bookshop  
@ Hikayat  
Gurney Plaza  
(*Information Counter*)  
Hin Bus Depot Art Centre  
Huey & Wah Cafe  
Le Petit Four Patisserie  
More by Arang Coffee  
Penang House of Music  
Penang Institute  
Penang Island Municipal Council  
Pusat Harmoni  
(*Harmonico*)—Reception  
Ren I Tang Heritage Inn  
Tourist Information Centre  
32 Mansion

### 2 Bayan Lepas

Penang Skills  
Development Centre  
Spices by Yin's  
Urban Republic

### 3 Tanjung Bungah

Gusto Cafe  
Straits Mini Mart  
Yin's WholeFood Manufactory  
(Lembah Permai)

### 4 Tanjung Tokong

Blue Reef Straits Quay

### 5 Air Itam

Coffee Elements  
Penang Hill—Lower Station  
Tolk Cafe

### 6 Gelugor

E-Gate (Security Desk located  
at the building's middle span)  
Universiti Sains Malaysia,  
Hamzah Sendut Library 1  
(Main Entrance Foyer)

### 9 Batu Kawan

IKEA Batu Kawan

### 10 Bukit Mertajam

Seberang Perai Municipal Council

### 11 Juru

AUTO CITY Management Office

## READING SPOTS PENANG

### 1 George Town

Bricklin Cafe Bar  
Kim Haus  
Komichi Tea House  
Mugshot Cafe  
Narrow Marrow  
Pik Nik  
Wheeler Cafe

### 3 Tanjung Bungah

The Hillside Cafe Bar  
& Restaurant

### 4 Tanjung Tokong

Leo Books

### 7 Balik Pulau

Botanica Mansion

### 8 Butterworth

Artichoke Cafe

### 9 Batu Kawan

Peninsula College

## PICK-UP SPOTS KL/SELANGOR

### ○ Kuala Lumpur

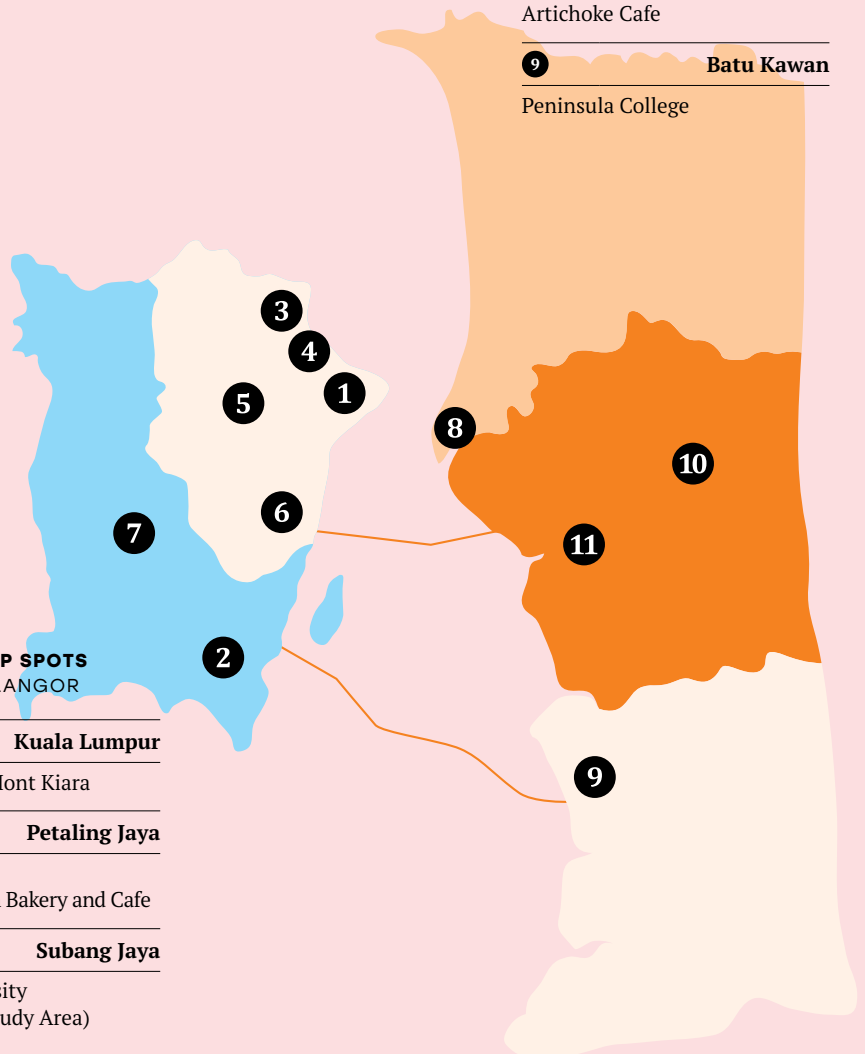
Hubba Hubba Mont Kiara

### ○ Petaling Jaya

Temu House  
Yin's Sourdough Bakery and Cafe

### ○ Subang Jaya

Sunway University  
(Students Study Area)



With the tagline “Making Ideas Work”, Penang Institute encourages bold and innovative thinking not only in academic disciplines but also through the support it gives to literature and culture by way of events such as book launches, public literature seminars; through its public policy briefs, ISSUES, Monographs; through interviews with notable personalities on current state of affairs and trends, Penang Institute Chats; and through its renown magazine Penang Monthly. In times of crisis, Penang Institute will contribute to the management of such crises by publishing informed papers on the local situation and on how this relates to events and initiatives undertaken in other parts of the world.

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# MAKING IDEAS WORK