THE PENANG Transport Master Plan proposed by SRS will change the face of the heritage city of Penang forever.

The plan by SRS is not a transport plan per se, but is a development plan to reclaim 3 new islands, build an undersea tunnel, a sky cab, LRTs and monorails, dual 3-lane highways and viaducts, and dual 3-lane tunnels cutting through the hills of Penang among others.

The SRS Consortium is a joint venture between Gamuda Bhd, Loh Phoy Yen Holdings Sdn Bhd, and Ideal Property Development Sdn Bhd.

They will benefit while the people of Penang will suffer.

On the whole, the PTMP is a highly ineffective short-term solution, lacks transparency, is wildly overpriced and significantly deteriorates the environment.

The Pan Island Link 1 (PIL1) is part of the Penang Transport Master Plan. Its EIA is open for comments. OPPOSE the PIL1 Environment Impact Assessment to stop the project NOW! Post your comments before 7 September 2018.
The Penang Transport Master Plan Costs RM46 Billion

**Graphic by Penang Forum**

**RIGHT:** Residents protest against PIL1 at Taman Jajar in Sg Ara.

A proposed dual 3-lane viaduct that will go over the full length of Taman Jajar in Sg Ara.

The popular and picturesque Taman Jajar will be scarred and polluted by the PIL1 project.
**A Summary of the Penang Transport Master Plan (PTMP) Controversy**

By Roger Teoh*

On the whole, the PTMP is a highly ineffective short-term solution, lacks transparency, is wildly overpriced and significantly deteriorates the environment.

To our surprise, the Penang Government had refused to upload these documents online for public scrutiny.

The fact that the SRS Transport Master Plan is not online available for public scrutiny creates a breeding ground for misinformation and confusion on the subject. A former Penang ADUN from the DAP had even spoken out on this matter [here](https://www.facebook.com/penangfocus/photos/a.113031233261850.78301.112813577886750/113066733261856/?type=1&theater). Failure to achieve the forecasted ridership could lead to at least RM1.2 billion in loss ticket revenues over 10 years, threatening the financial viability of the LRT project and the state's financial health.

Why is SRS Consortium allowed to carry out their own feasibility studies and traffic ridership forecasts for the Penang State Government with a potential conflict of interest arising?

Until today, the Penang government and SRS Consortium have both remained completely silent regarding this matter.

According to the UK Government's Green Book on Appraisal and Evaluation, it is mandatory for an alternative proposal to be considered for every project. However, alternative PTMP proposals [here](https://www.bettertransport.org.my/) were rejected outright by the Penang Government without conducting an comparative study or quantitative evidence.

On top of that, we have also witnessed continued attempts by the Penang State Government to engage in rhetoric and to suppress productive debate by labelling concerned parties as "spreading fake news" [here](http://www.freemalaysiatoday.com/categories/opinions/20170712/three-requests-misrepresentation-of-highway-by-ngos/).

**Need to ReLook at the Penang Transport Master Plan**

**Part 1** of a series of articles on the Penang Transport Master Plan

by Dr Lim Mah Hui and Dr Ahmad Hilmy

Dr. Lim Mah Hui is a former professor, international banker and Penang Island City Councillor

Dr. Ahmad Hilmy is Associate Professor, USM. (Technology cluster-transport system)

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On 16 May 2018, the Vice President of the Chartered Institute of Logistics and Transport (CILT-M), Rosli Khan, called for a review of the Penang Transport Master Plan (PTMP) and restricting the RM46 billion Penang Transport Master Plan (PTMP) to only the DAP-led Penang State Government is attempting to push through? Why is the PTMP generating so much controversy and media attention lately?

And how does the PTMP relate to you even if you are not a Penangite? I understand that this post is a bit lengthy, but I hope that you will be able to bear with me while I provide a summary on the topic and raise some key concerns on why the PTMP should be highlighted to the general public.

In January 2009, the Penang Transport Council (PTC), made up of about a dozen professionals from civil society, was established to engage a transport consultant to produce a comprehensive transport master plan for Penang. Halcrow, a transport consultant from the UK was appointed to deliver a Recommended Transport Master Plan Strategy ("Halcrow Plan") featuring an extensive network of tram and BRT, which was estimated to cost below RM10 billion.

When the plan was finally finalised, Halcrow was pressured to include an undersea tunnel and 3 major highways on the island end which projected total cost of RM27 billion. In May 2013, the Halcrow Plan was officially endorsed by the Penang government. Lacking technical resources, the Penang government decided to appoint a project delivery partner (PDP) to implement the Halcrow Plan.

This was done through a Request for Proposal. The winning bid was submitted by SRS Consortium, a joint venture between Gamuda Bhd, Loh Phyen Holdings Sdn Bhd, and Ideal Property Development Sdn Bhd.

The SRS proposal ignored all the institutional, short and medium-term measures recommended in the Halcrow plan and introduced new elements such as LRT, monorails and highway. Initially pitched at RM27 billion, the SRS plan quickly ballooned to RM46 billion.

Given the mammoth RM46 billion price tag, Malaysians should expect more transparency on the PTMP. However, to our surprise, the Penang Government had refused to upload these documents online for public scrutiny.

The fact that the SRS Transport Master Plan is not online available for public scrutiny creates a breeding ground for misinformation and confusion on the subject. A former Penang ADUN from the DAP had even spoken out on this matter (https://www.facebook.com/penangfocus/photos/a.113031233261850.78301.112813577886750/113066733261856/?type=1&theater). Failure to achieve the forecasted ridership could lead to at least RM1.2 billion in loss ticket revenues over 10 years, threatening the financial viability of the LRT project and the state's financial health.

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NGOs and opponents of the PTMP were vilified and treated as enemies of the state. Essentially, what we are witnessing is a continuation of malpractices that are different from those of the previous Barisan Nasional administration.

On the whole, the PTMP is a highly ineffective short-term solution, lacks transparency, is wildly overpriced and significantly deteriorates the environment.

**THE PENANG Transport Master Plan (PTMP) should be highlighted to the public for two reasons.**

First, it is the largest project the State plans to undertake, estimated at RM46 billion. Hence it must be closely scrutinised. Does Penang need such mega projects? Is it the best use of public funds? Is it financially sound?

Second, the former and present chief ministers of Penang have made this a top priority and touted it as a plan to deliver Penang people from the woes of traffic congestion. Will solving Penang’s traffic congestion? Are there better alternatives?

This is also first in a series of 6 articles on why the SRS -PTMP should be relooked and reviewed.

The present proposed PTMP is too car-centric and focused on mega infrastructural projects, especially building highways and a tunnel, that are unlikely to solve the mobility and transport problems in Penang. Even some public transport projects like the proposed LRT from George Town to the airport are questionable in terms of their overall viability. The state should consider other more sustainable forms of transportation that are less costly and more environmentally friendly.

This FIRST article will provide a brief history of the PTMP.

The SECOND will analyse how the SRS PTMP deviates from the socially adopted Halcrow PTMP. The THIRD will question whether the Request for Proposal process used by the State is an open tender system. The FOURTH article will ask whether the tunnel is necessary or able to solve Penang’s traffic woes. The FIFTH examines to provision of planning, design and management services for infrastructure development, was appointed to deliver a RM3.2 million study (in partnership with AJC and Singapore cruise consortiums) to provide a transport plan to cover a period of 20 years (2023-2043).

A major objective of the Plan is to move public modal share of transport from a low 5% to 40% by 2030. Halcrow began its study in July 2011 and completed it at year end 2012. In the 18 months period, it undertook an extensive series of surveys on travel patterns and held series of meetings with workshops with representatives from government bodies as well as members of public to get their input and feedback. One of the most important findings was that only 7% of journeys are made across the channel between Penang island and mainland during peak morning hours. Results of public consultation by Halcrow also showed overwhelming support for the new State's existing transport systems and to adopt a balanced approach, i.e. a combination of improving public transport, building some new highways and introducing policy-based measures to reduce growth in private vehicle usage, to solving the State’s transportation problems.

Prior to its final acceptance by the State, the consultants were pressured to include the tunnel and 3 highway projects into the report despite the earlier mentioned findings and the consultants’ view that the time delay may not be needed until 2030.

The Halcrow report was completed in December 2012 and officially adopted by the Penang State Government in March 2013 as the blueprint of the Penang Transport Council (PTC) for the state’s future transport efforts (referred to from here on as the Halcrow PTMP (2013-2030)) at an estimated cost of RM27 billion.

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*Roger Teoh is a PhD post-graduate student at the Centre for Transport Studies, Imperial College London. The opinion of the author is expressed from a neutral standpoint and he is not a member or affiliate of any political party or NGOs in Malaysia.*
Part 2
of a series of articles on the Penang Transport Master Plan
by Dr Lim Mah Hui and Dr Ahmad Hilmy

The Halcrow PTMP was adopted by the Penang State Government in March 2013. Lacking in technical and financial capabilities, the Penang Government decided to implement the plan using the project-delivery-partner (PDP) method. The role of a PDP is to manage the implementation of the master plan and to guarantee its timely and acceptable completion for a fee (in this case 6% of the total project).

The State also decided to use a Request for Proposal (RFP), rather than an open-tender system, to select a PDP to implement the Halcrow PTMP. In August 2014, a tender was called for bidders. A total of 6 bids were received on the closing date in February 2015. In August 2015 the State awarded the project to the SRS consortium made up of Gamuda and 2 property developers (Ideal Properties and Loh Yein Team).

An RFP is not an open-tender bidding. In an open tender, a client that calls for a tender defines the project with detailed specifications. All parties submit tenders conforming to the original design so that the cheapest tender can be selected, whereas the tenderers submit different proposals to the client in an RFP. No two proposals submitted under an RFP are similar, and therefore they cannot be compared. The procurement and negotiation process thus becomes more protracted and expensive.

The SRS proposal deviated substantially from the Halcrow PTMP. The initial Halcrow Plan aims to adopt a holistic approach to solving Penang’s mobility and transport problem, adopting a paradigm shift towards moving people not cars. It aims to improve the street environment by making roads safer and more user friendly for all especially pedestrians, cyclists and the physically disadvantaged.

A main objective is to increase public modal share of transport from 5% to 40% in 20 (2011 to 2030).

To achieve the 40% public transport modal share target, a series of short, medium and long-term steps were proposed by Halcrow.

These consist of 4 strategies: (i) make better use of the State’s existing roads and transport networks (ii) strengthening institutional capabilities (iii) longer term proposals to provide additional highway and public transport infrastructure (iv) concurrently institute traffic management policies aimed at reducing further growth of private vehicle activity.

Strategies (i) and (ii) call for:

- improving regulation and enforcement of illegal waiting, parking, loading and hawker activities
- better management of on-street parking control regime
- reorganising existing bus networks into a series of core and secondary bus routes plus feeder bus routes to serve residential and industrial communities
- changing the way development applications are approved away from Traffic Impact Assessment which has failed to a system based on transport related development compensations and transport accessibility audits.

In terms of public transport, the Halcrow Plan talks of upgrading existing bus services to bus rapid transit (BRT) services or tram services. Nowadays the Halcrow Plan recommends monorails and LRT as they were probably not very expensive and inappropriate.

In order for public transport to take off, the Halcrow Plan emphasised the need to significantly improve pedestrians’ accessibility in terms of shaded walkways integrated with bus stops and buildings. Clearing of five foot walkways is a priority so that pedestrians can walk comfortably and safely. Not much expenses are necessary to achieve this.

The Halcrow Plan also recommended improving the ferry services and introducing other water transport services to link George Town to the northern and southern shores of Penang.

The Penang State Government allocated RM395 million just to the feasibility and detail design studies for the tunnel and 3 highways in Penang island. To date over RM200 million has been paid for these studies and the amount of work done does not appear to match the amount drawn down. MACC is investigating this matter.

The SRS proposal ignored all the institutional and short and medium measures of the Halcrow Plan and only focused on adding more mega infrastructures and highways.

For the public transport system, SRS ditched Halcrow’s recommended BRT and tram for monorail and LRT. Monorail is an outdated technology and hardly used anywhere in the world as a mode of mass public transportation. Sydney and Moscow have torn down their monorails.

Even the former chief minister, Lim Guan Eng, stated on 17 March 2013 that “BN’s monorail is inappropriate for a world heritage city like Penang, as its elevated structures and rolling lines are a contradiction to the heritage.”

The same can be said for the proposed LRTs.

In all these mega projects, the cost of the SRS proposal ballooned (from RM27 billion under the Halcrow Plan) to an astounding RM46 billion, an increase of 70%. What happened to the funding allocated for institutional reforms, pedestrian and cycling infrastructures, water transport and feeder buses that constitute the necessary elements for a holistic and balanced transportation system?

Something has gone terribly wrong.

Request for Proposal (RFP) is Not Open Tender

Part 3
of a series of articles on the Penang Transport Master Plan
by Dr Lim Mah Hui and Dr Ahmad Hilmy

The Federal Government is reviewing all mega projects with dubious economic benefits and sky high inflated costs. The Prime Minister Dr Mahathir as well as the Minister of Finance Lim Guan Eng have reiterated that the selection of projects not based on rigorous competitive tender system is subjected to abuse and corruption and hence must be reviewed.

Our question is whether the request for proposal (RFP) method used by the Penang State Government to award mega infrastructure projects such as the tunnel and 3 paired highways to Zenith-Ewein, and the implementation of the Penang Transport Master Plan to the SRS Consortium counts as open tender.

According to Gamuda founder, Koon Yew Yin, the best way to evaluate open tenders is for government to follow the guidelines established by the World Bank.

“Firstly, the Government must engage a reputable engineering and consultancy firm which has experience with similar projects to put up a proposal and to open the project bidding to all contractors to tender. Second, all the contractors must be prequalified based on both their technical and financial ability. Then they must submit tenders conforming to the original design so that the cheapest tender can be selected. If all the contractors are prequalified, the Government tender board has only to look at the tendered price. The deciding factor could be a transparent and uncomplicated process. Whereas in an RFP, the tenderers submit different proposals to the client. The award is given to the tenderer with the lowest price, other specifications being equal. This means that the procurement process thus becomes more prone to rigging or abuse. RFPs are therefore not open tenders and will not give taxpayers value for their money. The criteria for bidding under the RFP is not transparent and not consistent.

In infrastructure projects, RFP should only be used when the Government would like to invite creative solutions to a problem. However, creative financial solutions should be avoided as it brings other problems with it.

We therefore call for a review of all large projects that have not yet been tendered. Even for large projects that have been awarded by open tenders, the MACC should be brought in to review them, in order to prevent collusion and bid-rigging.

In the case of the award of the Penang Master Transport Master Plan by the Penang State Government to the SRS Consortium through RFP, the final proposal by SRS deviated significantly from the original concepts adopted Halcrow masterplan.

The cost of the entire project ballooned from RM27 billion to RM46 billion. We call for more consistency from the new Pakatan Harapan state and federal governments.

All non-open tender projects should be reviewed, not only Barisan Nasional that has come under scrutiny.

An independent review should therefore be made of this award.
Is There Light at the End of the Tunnel?

The chief minister YAB Chow Kon Yeow has again brought up the tunnel and other mega infrastructure projects. Does the Penang State government have a proper long-term plan? Or is it putting the Penang state at financial risk?

Table 1 shows that it is 3 times more expensive to construct an LRT (RM220 m/km) compared to a tramline (RM80 m/km), or 4.5 times more expensive compared to an elevated BRT system (RM50 m/km).

Based on 8 million trips costing an average of RM3.50 per trip, the projected deficit for operating the LRT is RM142 million per year vs a projected surplus of RM6 million for tram. (See Table 1)

The KL-Klang valley LRT experience is instructive. Within the first 2 years of its operation, the projects racked up massive losses due to inflated financial projections; the Federal Government had to pump in RM5 billion or more to bail out the operators.

In conclusion, we call on the State Government to exercise fiscal prudence, do the proper studies and comparison with other cheaper and more sustainable public transport systems before deciding to bulldoze through these mega projects.

THE SRS-PENANG TRANSPORT MASTER PLAN

The Proposed LRT and Pan Island Link (PIL) Must be Reviewed

Has the State done a financial analysis on the expected annual deficit of operating the LRT, and is it putting the Penang state at financial risk?

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In conclusion, we call on the State Government to exercise fiscal prudence, do the proper studies and comparison with other cheaper and more sustainable public transport systems before deciding to bulldoze through these mega projects.
Independent Review of the SRS Proposed Penang Transport Master Plan Needed

Part 6

Of a series of articles on the Penang Transport Master Plan

by Dr Lim Mah Hui and Dr Ahmad Hilmy

The Previous PORR and the Present PIL1

WHY THE COMPLETE CHANGE OF VIEWS?

YAB Chow Kon Yeow ended calling for a review of the PORR project and not to “bulldoze through the PORR project despite fierce opposition from the people that the project is unnecessary and being carried out under a shroud of secrecy...”

— speech on 29 May 2002 in www.dap-malaysia.org

He continued, “For medium and long-term improvements, the Halcrow report recommended that a sensible option is promoting continued and sustained growth for Penang with better access to the city as in the case of Singapore, rather than the city adapting to the car in the case of Bangkok,” he added.

The question I ask, as a Penangite who voted for DAP, is why the present DAP leadership is going against its own stand?

A poster is making the rounds to justify the DAP’s support for PIL 1. It says, PIL 1 is toll-free and open tender would be practised, it would relieve traffic for more than 20 years, and complement other forms of public transport in Penang. On the other hand PORR does not do all the above.

My questions are:

1. Did the present Halcrow report of the Penang State Government claim PIL 1 will relieve traffic for more than 20 years? In the Halcrow report, the PIL 1 project was not even mentioned. So who made this unsubstantiated claim? PIL 1 was also rejected.

2. Has the Penang State Government practised genuine open tender or only request for proposal (RFP)? It has already been pointed out by Professor Ahmad Hilmy of USM and Dr Lim Mah Hui of DAP that open tender is NOT a medium-term solution. It is open bidding for different proposals and susceptible to corruption.

3. Does the PIL 1 really complement other public transport? In Phase 1 of the SRS Penang Transport Master Plan, RM17 billion will be spent to build PIL 1 and an LRT. No other funds are allocated to implement other components of public transport. And it is unlikely other funds are available. So how can PIL 1 complement other public transport components?

Finally, the Penang State Government should not boast that PIL 1 is going to relieve traffic for more than 20 years. It is a financially and ecologically irresponsible policy and undermines its own stated objective to increase the modal share of transport. Is the Penang State Government also going to make the existing two bridges and ferry toll free too?
Penang Groups Raise Concern over Tunnel Cutting Through Hills

By Opalyn Mok, 
malaymail.com 
23 July 2018

Civil society groups in Penang are beginning to express misgivings over the proposed 19.5 km Pan Island Link 1 (PIL 1), 2 weeks after the Environmental Impact Assessment (EIA) Second Schedule Report was put on public display.

The groups want the Penang Transport Master Plan (PTMP), of which the PIL 1 is a component, to be reviewed due to the possible environmental damage and high costs.

The Penang Consumers Association (CAP) reiterated its call for a comprehensive review of the entire PTMP.

“The recent release of the environmental Impact assessment for the PIL shows that many public amenities, including the Youth Park, schools, temples, and sensitive areas such as Penang Hill and other hills will be seriously affected,” CAP president SM Mohd Idris said in a statement today.

He claimed local communities were now realising that the PTMP would be significantly detrimental to their way of life as well as their surroundings.

The State government should consequently shelve the PTMP until it undertakes a comprehensive review of the project and its implications, he added.

He also expressed his shock at the State government’s proposal to apply for a RM1 billion soft loan from the federal government to start work on PIL 1 and LRT projects under the PTMP.

“If this loan goes through, it may put at risk the financial situation of the state of Penang,” he said.

Aliran member Anil neto, in his blog, warned that “thousands of tonnes of explosives (emulite) will be used to blast through the slopes of Penang Hill to build these tunnels which are part of the exorbitant RM8 billion 6-lane highway, courtesy of SRS Consortium’s mega transport shopping spree.”

He was referring to PIL 1 that will have a 10 km stretch of tunnel that cuts through hills in Penang to connect Gurney Drive to the Second Penang Bridge.

“Tunnels along the hilly central spine of Penang Island will be constructed using the ‘drill and blast’ method.” Anil, who is also active in Penang Forum, claimed in his blog.

He demanded that the State Government reveal how much explosives will be used for the 6-lane highway.

Another Penang Forum member, Lim Mah Hui, together with Universiti Sains Malaysia (USM) associate professor in technology cluster-transport system Ahmad Hilmy, issued the first of a 6-part series of articles to highlight why the PTMP should be reviewed.

“The present proposed PTMP is too car-centric and focused on mega infrastructure projects, especially building highways and a tunnel, that are unlikely to solve the mobility and transport problems in Penang,” they said in their first statement.

They said even some of the public transport projects like the proposed LRT from George Town to the airport are questionable in terms of financial sustainability.

“The state should consider other more sustainable forms of transportation that are less costly and more environmentally friendly,” they said.

The proposed PIL 1, estimated to cost RM7.5 billion, will be implemented under the first phase the massive RM46 billion PTMP.

The public may view the EIA at 8 locations in Penang, at the DOE office in Putrajaya and the national library in Kuala Lumpur.

The EIA report is also accessible online via the doe.gov.my, penang.gov.my, pg-masterplan.penang.gov.my and wirandamsdnbhd.com websites.

The public may also submit feedback and comments to the Department of Environment before 7 September.
Comment by Roger Tech

Recently, we have observed a renewed interest from the public regarding the debate on the SRS Consortium-proposed Penang Transport Master Plan (PTMP).

Various concerned NGOs, academicians, consultants, park users, residents and parents-teachers associations have all spoken up en masse to highlight the lack of transparency and ineffectiveness of the SRS Transport Master Plan.

My Points:

SRS Consortium forecasts an annual ridership of 42 million for the Penang LRT, a number that is significantly higher than most MRT lines in London, Singapore and Kuala Lumpur on a per capita basis.

"Ridiculous Ridership Forecasts for the Penang LRT"

The annual ridership for the Bayan Lepas–George Town LRT that is forecast by SRS is 42 million passenger journeys within its first year of operations. Such ridership figures are partially based on a population projection which is not supported by data from the Department of Statistics.

To give the public a better perspective of how ridiculously high this LRT ridership forecast is, a comparative study on the actual ridership for other mass transit lines in different cities around the world are presented (figure above).

The metric of "annual passenger journey per person" used in this comparative study is calculated by dividing the annual passenger journey with the city population for a fairer comparison of cities with different population sizes.

For the case of Penang, SRS Consortium projects that 42 million Penangites will use the Bayan Lepas–George Town LRT in just the first year after the LRT is operational. By dividing this number with the population of Penang Island (approximately 800,000), this translates to around 52.5 annual passenger journeys per person. In other words, this implies that on average, every person in Penang Island is expected to make 52 trips using the LRT in a given year.

This analysis shows that the annual ridership forecast for the Penang LRT (52.5 annual passenger journeys per person) is only around 10% lower than the Singapore East-West Line (58.3 annual passenger journeys per person), and 30% higher than the London Docklands Light Railway (37.0 annual passenger journeys per person). Remember, this annual ridership numbers for the Penang LRT is forecast to be achieved within its first year of operations, while the Singapore East-West Line and the London Docklands Light Railway (DLR) have been operating for 31 years.

Looking at our capital city Kuala Lumpur, actual data collected from the new Sungai Buloh–Kajang (SBK) MRT line showed that it only managed to achieve an annual ridership of 22.5 million (or 11.1 annual passenger journeys per person) during its first year of operations in 2017, 48% lower than the annual ridership forecast for the Penang LRT in absolute terms, despite Kuala Lumpur having a bigger population relative to Penang Island.

Therefore, based on this analysis, we have a high degree of confidence to conclude that the projected ridership numbers for the Penang LRT are highly unrealistic and will likely be missed by a significant margin.

And if the Forecasted Ridership Falls?

Using Kuala Lumpur’s new SBK MRT line as a benchmark, we estimate that the annual ridership for the Penang LRT should be adjusted down to 10 million (12.5 annual passenger journeys per person), and not 42 million (52.5 annual passenger journeys per person) as claimed by SRS Consortium. The scaling down of the annual ridership projection from 42 million to 10 million will no doubt bear negative consequences that will affect the financial viability of the LRT project.

Without sufficient ticket revenue, the heavy operation and maintenance costs of the LRT will result in unsustainable deficits. If the ticket fare for the LRT is assumed to be RM3.50 per trip, the losses in ticket revenue alone could amount to at least RM1.2 billion over a 10-year period. Even with a scaled down annual ridership of 10 million for the Penang LRT, this could still be an overestimate.

When this financial scandal eventually happens, it is the Penang government that will be forced to bail out the LRT project out of this mess, not SRS Consortium. We can only speculate that this heavily inflated ridership forecast is done for the sole purpose of boosting up the Benefit Cost Ratio (BCR), a way to justify the high price tag of the LRT project (RM8.4 billion).

Do NGOs Really Oppose All State Developments?

In a desperate attempt to rally public support, the Penang government has always relied on tarnishing the credibility of NGOs and opponents of the SRS Transport Masterplan by falsely accusing them of "spreading fake news" and being "against all state developments.

Without sufficient ticket revenue, the heavy operation and maintenance costs of the LRT will result in unsustainable deficits. If the ticket fare for the LRT is assumed to be RM3.50 per trip, the losses in ticket revenue alone could amount to at least RM1.2 billion over a 10-year period. Even with a scaled down annual ridership of 10 million for the Penang LRT, this could still be an overestimate.

Why is the Penang government insisting on bulldozing through the SRS-recommended LRT and monorail as the preferred public transport systems, as opposed to trams and BRTs that are shown in the Halcrow Report to be cheaper to build, operate and maintain?

Why is there a double standard where the Environmental Impact Assessment (EIA) is uploaded online for public scrutiny, but not the SRS RFP documents? Is the Penang government trying to cover up these ridiculous LRT ridership forecasts and the lack of justification in selecting the most expensive public transport option from public scrutiny?

At the time of writing this, the Halcrow Report has since been silently removed from the Penang state government’s website. It is time for the Penang government to live up to its Competency, Accountability and Transparency (CAT) slogan and stop this mess from brewing into a financial scandal.

ROGER TECH is a PhD postgraduate studying at the Centre for Transport Studies, Imperial College London. The opinion of the author is expressed from a neutral standpoint and he is not a member or affiliate of any political party or NGOs in Malaysia.
Will it Bankrupt Penang?

On the basis of 3 financial scenarios (based only on farebox revenue) with different ridership projections — 12.5 million (based on KL’s experience), 25 million (based on PPHPD figures) and the SRS projection of 42.3 million (116,000 per day) it is projected that the Bayan Leps LRT will be operating at a loss of between RM23 million and RM126 million every year! Putting these deficits into perspective, Penang state’s budgeted revenue in 2016 is RM700 million.

Putting these deficits into perspective, Penang state’s budgeted revenue in 2016 is RM700 million. Assuming the revenue doubles by 2023, RM126 million deficit in one LRT line is about 10% of the State budget. What about the financial costs of all the other LRT, monorail, tram, BRT and highways?

Why is the State not presented with the financial projections and options of the different alternative modes of public transport — LRT, monorail, tram and BRT?

Why is SRS proposing and the State agreeing to an LRT system that not only is more expensive to build but costs 2-3 times more to operate and maintain?

Is the State able to afford to such high deficits from these projects? Will they impair the financial stability of the State?

What is the State unable to finance the deficit and no financial help is available from the federal government? Will the project be stopped? Who will bail out the projects?

Penang could end up like Putrajaya or Jakarta if it is not careful.

Putrajaya Experience

The Putrajaya Monorail is an incomplete monorail system. Putrajaya was originally set to have a modern train system, and construction of tunnels was ongoing, when plans were changed, and a SCOMI monorail plan was selected with 2 lines; Line 1, a 12 km monorail route with 17 stations and Line 2, a 6 km monorail route with 6 stations. These structures have been abandoned for 12 years, construction was halted in 2004. It is now re-visiting plans for a modern tram. More recently, SPAD has commissioned a study to develop modern tramways in KL and Putrajaya.

Jakarta Experience

Penang should learn from not repeat, Jakarta’s ‘Big Bang’ experience. It launched too many mega transport projects at one time — building highways, monorail, and waterways at the same time, only to see some of them running into difficulties, delayed or abandoned. Jakarta started its monorail construction in 2004, ran into trouble, aborted it in 2008, resumed it in 2013 and finally abandoned it in 2015 despite some groundwork already laid. Urban planners have advised that Jakarta should focus on one public project at a time.

CAP Against RM1 Bil Loan for Penang Transport Plan

CAP is shocked that the Penang State Government is seeking a RM1 billion loan from the Federal Government to jump start the Penang Transport Master Plan (PTMP) to facilitate the Penang Island Link (PIL) and Light Rail Transit (LRT) projects.

Earlier, the Penang Chief Minister Chow Kon Yeow and his predecessor who is presently the Finance Minister, had assured the public that the project would not involve any public funds from the Penang government.

Now a different story is being told and if this loan goes through, it may put at risk the financial position of Penang. There are large economic and environmental risks associated with the PTMP and it is doubtful that some key projects linked to the plan can generate revenue to pay for themselves.

We have been told by the Federal government that Malaysia cannot afford to have new mega-projects because of the trillion-ringgit national debt.

Why should an exception be made for the PTMP? The estimated cost of the project is over RM40 billion.

But these funds are needed for essential expenses including the rehabilitation of hundreds of hillslopes and hill areas affected by landslides and neglect and to prevent the state of our rivers and the creation of green spaces and permeable surfaces to absorb rain water.

Funds are also needed for rehabilitation and conservation of coastal areas such as beaches and mangrove forests, flood mitigation projects, and improving the living conditions of vulnerable and poor communities.

These are all vital areas for financing if Penang is to recover from the damages caused by recent storms, high winds, heavy rainfall and floods and to prevent or minimise future such problems.

The Penang government should be requesting the Federal Government to urgently finance a comprehensive strategic plan and plan to avoid future floods and other environmental disasters.

The PTMP, especially with the cutting of hills and the massive land reclamation from the sea would add on to these environmental problems rather than solving them. CAP reiterates its call for a comprehensive review of the entire PTMP.

On 15 July 2021. Have detailed studies on KL’s experience on the vast gap between actual and projected ridership is instructive. The actual average ridership for the 3 lines is just 18% of their projected number.

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The Ampang LRT project achieved 86,000 daily riders in its first year but after 18 years, projected ridership of 225,000!

The KL monorail project achieved 86,000 daily riders in 2002, achieved 75,000 by 2015, 13 years after and it is still achieving original ridership projection!

In KL both LRT companies ran into financial difficulties and could not service their debt.

The federal government had to issue RM4.5 billion in bonds for the debts of these two companies while the KL Monorail was provided with a RM300 million soft loan.

In November 2001, the Ministry of Finance purchased the outstanding debts of the two LRT companies totalling RM5.5 billion via another bond issue.

Kuala Lumpur has the Federal Government as sugar daddy. But Penang state will have no such luck. Each and every Penangite will have to bear this financial burden!

We are told the stand-alone LRT line from Komtar to the airport will carry 116,000 a day in its first year of operation!

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This article on the Penang Transport Master Plan (PTMP) is in response to various arguments by different proponents of the PTMP.

In this article, the 2 statements highlighted in bold are extracts from a representative of the Penang State Government and SRS Consortium.

These statements will be critically analysed using both quantitative and qualitative evidence, and I will leave it to Penangites to come up with their own informed opinion on the topic.

Penangites deserve the right to be accurately informed on the topic.

The table above compares some key transport statistics for the 3 cities of Zurich, Singapore and Stockholm.

The people of Malaysia have both remained committed to the SRS Transport Master Plan and the Penang government to walk the talk and live up to their principles of competency, accountability and transparancy.

SRS Consortium has frequently used Singapore’s cross-border LRT line to justify the case for even more highways to be constructed in Penang.

While the Penang government frequently chides concerned NGOs for ‘spreading fake news’, such an excuse can no longer be used for the artist impression for the PIL 1 expressway as it is obtained directly from the official Facebook page of Penang Chief Minister Chow Kon Yeow.

According to a former Penang assemblyman, although SRS Consortium continuously claimed that the PIL 1 expressway is expected to have dedicated bus lanes, this was not shown in the artist impression of the PIL 1, nor is it officially recorded in the detailed SRS-proposed Transport Master Plan RFP documents.

The fact that the SRS Transport Master Plan is not available online for public scrutiny also creates a breeding ground for misinformation and confusion on the subject.

If SRS Consortium claims that its proposed transport master plan is more superior and complete than the original Halcrow plan, why is the Penang State Government so afraid to upload the detailed SRS Transport Master Plan online for public scrutiny?
Traffic Evaporation in Europe

by Margot WALLSTRÖM
Member of the European Commission responsible for Environment

Article is reproduced from the foreword of from Reclaiming Streets for People: Chaos or Quality of Life?, published by the European Commission Directorate-General for Environment

The quality of the environment in urban areas is of vital importance.

It is one of the main factors that determine whether a city is a healthy place to live, whether we enjoy living there, and whether we want our children to grow up there.

One of the key issues affecting the quality of the environment and the quality of life in our towns and cities is road traffic.

Heavy motor traffic means poor air quality, unacceptable levels of noise and a weakened sense of neighbourhood and local community.

Traffic also gives rise to high costs for the economy through delays caused by congestion.

Every year more than 3 million cars are added to the car fleet in Europe.

Total road traffic kilometres in urban areas will grow by 40% between 1995 and 2030.

Local authorities and citizens need to decide how to respond to these pressures and decide what sort of place they want their town or city to be in the future.

One option is to try to eliminate congestion by building more roads, but the costs — financial, social and environmental — can be high and the relief short-lived.

More and more cities are opting for a different approach where they work together with their citizens to ensure that they have access to the goods and services they need without having to depend on road traffic.

There are many traffic management techniques and approaches and any given city will probably need to develop a package of measures to manage traffic effectively.

This new handbook sets out some case studies where road space has been reallocated for other uses.

New, attractive and popular public areas can be created on sites that were once blocked by regular traffic jams.

If these are properly planned, they need not result in road traffic chaos, contrary to what might be expected.

I hope that cities and their citizens will consider this approach as part of the solution to the growing levels of road traffic.

This complements our earlier publications, Cycling: the way ahead for towns and cities and Kids on the move, which give examples of other case studies.

I am convinced that traffic management is the key to making our cities more attractive places to live in and to improving the quality of our urban environment.

What is Traffic Evaporation?

● as a result the urban environment becomes more liveable in many respects.

The concept of traffic evaporation has been practised in many European cities.

Many of these cities have gone ahead with road space reallocation schemes despite predictions that traffic chaos would result. However, in each case any initial problems of traffic congestion were short-lived, and after a “settling-in” period a proportion of the traffic was found to have “evaporated”.

In the attractive car-free spaces created in these cities, pedestrians and cyclists now enjoy a cleaner, quieter and safer environment. These cases illustrate the potential for more effective uses of urban road space, as “exchange space” rather than just “movement space”, recognising the social importance of streets and squares.

Favouring more sustainable transport modes is an approach which promotes social inclusion and accessibility for the nearly 30% of European households which have no access to a private car.

Such strategies are also more equitable, for they reduce those negative impacts of urban traffic and congestion which are experienced by everyone, regardless of whether they are able to enjoy the benefits of car use.

— Source: Reclaiming Streets for People: Chaos or Quality of Life?
Malaysia’s Penang Island has undergone massive development since the 1960s, a process that continues today with plans for transit and land-reclamation megaprojects. The island is increasingly facing floods and landslides, problems environmentalists link to paving land and building on steep slopes.

George Town, Malaysia — Mud-dy carpets and soaked furniture lay in moldering piles on the streets of this state capital. It was Sunday morning, 29 October 2017.

8 days earlier, torrents of water had poured off the steep slopes of the island’s central mountain range. Flash floods ripped through neighborhoods. A landslide killed 11 workers at a construction site for a high-rise apartment tower, burying them in mud. It was Penang’s second catastrophic deluge in 5 weeks.

Kam Suan Pheng, an island resident and one of Malaysia’s most prominent soil scientists, pressed a microphone in front of 200 people hastily gathered for an urgent forum on public safety. Calmly, as he’s done several times before, Kam explained that the contest between Mother Earth’s increasingly fierce meteorological outbursts and the islanders’ affection for building on steep slopes and replacing water- absorbing forest and farmland with roads and buildings would inevitably lead to more tragedies.

“When places get urbanised, the sponge gets smaller. So when there’s development, the excess rainwater gets less absorbed into the ground and instead as flash floods,” Kam said. “The flood situation is bound to get worse if climate change brings more rain and more intense rainfall.”

5 days later it got worse. Much worse.

On 4 November, and for the next 2 days, Penang was inundated by the heaviest rainfall ever recorded on the island. Water flooded streets 3.6 meters (12 feet) deep. 7 people died. The long-running civic discussion that weighed new construction against the risks of increasingly fierce ecological impediments grew more urgent.

George Town last year joined an increasing number of the world’s great coastal cities — Houston, New Orleans, New York, Cape Town, Chennai, Jakarta, Melbourne, São Paulo — where the consequences are especially vivid.

Penang’s state government and Chow Kon Yeow, its chief minister, recognise the dilemma. 3 weeks after being named in May to lead the island, Chow told 2 reporters from The Star newspaper that “[e]conomic growth with environmental sustainability would be an ideal situation rather than sacrificing the environment for the sake of development.”

Chow is the lead proponent for building one of the largest and most expensive transportation projects ever undertaken by a Malaysian city: a $11.4 billion scheme that includes an underwater tunnel linking to Peninsular Malaysia, 3 highways, a light rail line, a monorail, and a 4.8-kilometer (3-mile) gondola from the island to the rest of Penang state on the Malay peninsula.

But Chow also favours more growth. He is the lead proponent for building one of the largest and most expensive transportation projects ever undertaken by a Malaysian city: a $11.4 billion scheme that includes an underwater tunnel linking to Peninsular Malaysia, 3 highways, a light rail line, a monorail, and a 4.8-kilometer (3-mile) gondola from the island to the rest of Penang state on the Malay peninsula.

For a time the national government stood with the fishermen. Wan Junaidi Tuanku Jaafar, the former minister of natural resources and environment and a member of Barisan Nasional (BN), the ruling coalition, refused to allow the project. “The 1,800-hectare project is too massive and can change the shoreline in the area,” he told reporters. “It will not only affect the environment but also the forest such as mangroves. Wildlife and marine life, their breeding habitats will be destroyed.”

The state, and Penang Island, however, have been governed since 2008 by leaders of the Pakatan Harapan coalition, which supported the transport and reclamation mega projects. In May 2018, Pakatan Harapan ousted the BN in parliamentary elections. Former prime minister Mahathir Mohamad, the leader of Pakatan Harapan, assumed power once again. Island leaders anticipate that their mega transport and reclamation projects will be approved.

It’s taken decades to reach that point. Before 1969, when state authorities turned to Robert Nathan and Associates, a US consultancy, to draw up a master plan for economic development, Penang Island was a 293-square-kilometer (113-square-mile) haven of steep mountain forests, ample rice paddies, and fishing villages reachable only by boat.

For most residents, though, Penang Island was no tropical paradise. Nearly one out of 5 working adults was jobless, and poverty was endemic in George Town, its colonial capital, according to national records.

Nathan proposed a path to prosperity: recruiting electronics manufacturers to settle on the island and export their products globally. His plan emphasised the island’s location on the Straits of Malacca, a trading route popular since the 16th century that tied George Town to Singapore.

Chow, a 3 artificial islands for manufacturing, retail, offices, and housing for 300,000, was awarded rights to build the 3 artificial islands for manufacturing, retail, offices, and housing for 300,000.

The federal government’s decision to proceed was made much of his boyhood in the Kuala Lumpur office.

Gurmit Singh, founder and chairman of the Centre for Environment, Technology and Development, Malaysia (CETDEM), and dean of the nation’s conservation activists, called Penang state government’s campaign for more growth and mega infrastructure development “a folly”.

“It exceeds the carrying capacity of the island. It should never be approved,” he said in an interview in his Kuala Lumpur office.

Singh, who is in his 70s and still active, was raised on Penang Island. He is an eyewitness to the construction that made much of his boyhood geography unrecognisable. “Everything built there now is unsustainable,” he said.

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Traffic congestion in George Town is a result of shoreline and hillside development and social responses that anticipate the powerful ecological impacts of development. Malaysia, most of the visitors head to George Town, which attracts over 6 million visitors annually, roughly half from outside Malaysia. The island's urbanised area totalled 29.5 square kilometers (11.4 square miles), almost all of it in and immediately surrounding George Town. In 2015, the urban area had spread across 112 square kilometers (43 square miles) and replaced the mangroves, rubber plantations, rice paddies and fishing villages along the island's northern and eastern coasts. There are now 220,000 homes on the island, with more than 10,000 new units added annually, according to National Property Information Center. George Town's colonial center, which dates to its founding in 1786, was designated a UNESCO World Heritage site in 2008, like Venice and Angkor Wat.

The distinction helped George Town evolve into a seaside tourist mecca. The state of Penang, which includes 751 square kilometers (290 square miles) on the Malay peninsula, attracts over 6 million visitors annually, roughly half from outside Malaysia. Most of the visitors head to the island, according to Tourism Malaysia. Nathani's plan, though, did not anticipate the powerful ecological and social responses that runway shoreline and hillside development would wreak in the 21st century. Traffic congestion in George Town is the worst of any Malaysian city. Air pollution is increasing. Flooding is endemic. Nor in the years since have Penang's civic authorities adequately heeded mounting evidence of impending catastrophes, despite a series of government-sponsored reports calling for economic and environmental sustainability.

Things came to a head last year. Flooding caused thousands of people to be evacuated from their homes. Water tore at hillsides, opening the forest to big muddy wounds, the colour of dried blood. Never had Penang Island sustained such damage from storms that have become more frequent, according to meteorological records. Rain in November that measured over 400 millimeters (13 inches) in a day. The damage and deaths added fresh urgency and new recruits to Penang Island's longest-running civic argument: Had the island's growth become a hazard to life? George Town is far from alone in considering the answer. The 20th century-inspired patterns of ramshackle residential, industrial and infrastructure development have run headlong into the ferocious meteorological conditions of the 21st century.

Coastal cities, where 60% of the world's people live, are being challenged like never before by battering storms and deadly droughts. For instance, during a 2-year period that ended in 2016, Chennai, India, along the Bay of Bengal, was brutalized by a typhoon and floods that killed over 400 people, and by a drought that prompted deadly protests over water scarcity. Houston drowned in a storm. Cape Town is in the midst of a 2-year drought emergency.

George Town last year joined the expanding list of cities forced by Nature to a profound reckoning. Between 2013 and mid-October 2017, according to state records, Penang recorded 119 flash floods. The annual incidence is increasing: 22 in 2013; 30 in 2016. Residents talk about a change in weather patterns for an island that once was distinguishable by a mild and gentle climate but is now experiencing much more powerful storms with cyclone-force winds and deadly rain.

Billions of dollars in new investment are at stake. Apartment towers in the path of mudslides and flash flooding rose on the north shore near George Town. Fresh timber clearing continues apace on the steep slopes of the island's central mountain range, despite regulations that prohibit such activity. Demographers project that the island population could reach nearly 1 million by mid-century. That is, if the monstrous storms don't drive people and businesses away — a trend that has put Chennai's new high-tech corridor at risk.

The urgency of the debate has pushed new advocates to join Kam Suan Pheng at the forefront of Penang Island's environmental activism. One of them is Andrew Ng Yew Han, a 34-year-old teacher and documentary filmmaker whose "The Hills and the Sea" describes how big seabed reclamation projects on the island's north end have significantly diminished fish stocks and hurt fishing villages. High-rise towers are swiftly pushing a centuries-old way of life out of existence. The same could happen to the more than 2,000 licensed fishermen and women contending with the much bigger reclamation proposals on the south coast.

"How are they going to survive?" Han said in an interview. "This generation of fishermen will be wiped out. None of their kids want to be fishermen. Penang is holding a world fishermen conference in 2019. The city had the gall to use a picture of local fishermen as the poster. No one who's coming here knows, 'Hey you are reclaiming land and destroying livelihood of an entire fishing village.'"

"We all want Penang to be progressive. To grow. To become a great city," he adds on one of his videos. "But at whose expense? That's the question.

That's the story I'm covering.

Another young advocate for sustainable growth is Rexy Prakash Chacko, a 26-year-old engineer documenting illegal forest clearing. Chacko is an active participant in the Penang Forum, the citizens' group that held the big meeting on flooding last October. Nearly 2 years ago, he helped launch Penang Hills Watch, an online site that uses satellite imagery and photographs from residents to identify and map big cuts in the Penang hills — cuts that are illegal according to seldom-enforced state and federal laws.

Kam Suan Pheng and other scientists link the hill clearing to the proliferation of flash flooding and extensive landslides that occur on the island now, even with moderate rainfall.

In 1960, Malaysia anticipated a future problem with erosion when it passed the Land Conservation Act that designated much of Penang Island's mountain forests off-limits to development. In 2007, Penang state prohibited development on slopes above an elevation of 76 meters (250 feet), and any slope with an incline greater than 25 degrees, or 47%.

Images on Penang Hills Watch make it plainly apparent that both measures are routinely ignored. In 2015, the state confirmed as much when it published a list of 259 blocks of high-rise housing, what the state called 'special projects,' that had been built on hillsides above 76 meters or on slopes steeper than 25 degrees. The "special projects" encompassed 10,000 residences and buildings as tall as 45 stories.

"There is a lot of water coming down the hills now," Chacko said in an interview. "It's a lack of sight. Planning has to take into account what happens when climate change is a reality. It's happening now. And in the last 2 years the rain is getting worse.

"You can imagine. People are concerned about this. There was so much lost from the water and the mud last year."

Ignoring rules restricting development has consequences, as Kam Suan Pheng has pointed out since getting involved in the civic discussion about growth in 2013. After the October 2017 landslide, she noted that local officials insisted the apartment building where the 11 deaths occurred was under construction on flat ground. But, she told Mongabay, an investigation by the State Commission of Inquiry (SCI) found that the apartment construction site abutted a 60-degree slope made of granite, which is notoriously unstable when it becomes rain-saturated.

The authorities continued to insist that development above protected hill land is prohibited. Kam Suan Pheng was prompted to study data to show that more stringent enforce-ment on hill slope development has been undertaken. Hopefully the findings of the SCI will serve as lessons for more stringent monitoring and enforcement of similar development proposals, she said. "The 11 lives have not been sacrificed in vain."
Traffic Evaporation SUCCESSES

The Strøget in Copenhagen

Established in 1962, and with a total length of 3.2 kilometres, the Strøget is the world’s oldest and longest pedestrianized street.

In 1954, car ownership and use have increased over the past 30 years the reaction to the pressure created by additional traffic demand has often been to increase the level of supply, in other words provide additional road space. This traditional approach of providing supply to meet demand is no longer always appropriate.

There is a growing body of evidence indicating that the benefits of creating additional road capacity are not as significant as was previously believed. In extreme cases the provision of new road links may in fact increase congestion problems.

This occurs through a process that is known as traffic “induction”. In 1994, the UK Government-commissioned Sactra report provided evidence on the impact of new road building on traffic levels in the area of the scheme.

The report revealed that when new road capacity is provided, overall traffic levels in the vicinity of the scheme may actually increase. The evidence does not offer a reliable measure of predicting the extent of this traffic increase but case studies suggest it is typically around 10% in the short term, and 20% in the longer term.

In some cities where there is enough space it may be possible to promote non-car modes of transport (e.g. pedestrianising some streets or restricting them to buses, bicycles and taxis only), without affecting the amount of road space available to cars.

However, the principal challenge for most European cities is to find ways of using the existing road capacity more efficiently. There is a growing recognition that this may require giving greater priority to more sustainable forms of transport — public transport, pedestrians and cyclists.

Some pioneering cities, for example Copenhagen in Denmark, have adopted such a policy for many years with great success.

The greatest challenge is presented in cities or areas of cities where road conditions are already congested, in particular during peak times. In these cases the only way to provide more space for more sustainable modes of transport is to take road space from private cars, either on a permanent 24-hour or on a temporary “shift” basis.

Taking capacity away from the dominant road user (i.e. the private car) is a brave decision for an authority to take. Logic suggests that if a network is already congested, the removal of capacity can only exacerbate the situation.

In the face of such reaction, planning authorities and politicians may lose courage and abandon proposals to reallocate road space. In such circumstances new ideas, such as the concept of “traffic evaporation” (which challenges the assumption that traffic congestion will necessarily worsen if road capacity is reduced), can lend valuable support as to the technical feasibility of creative traffic management solutions.

Source: Reclaiming Streets for People: Chaos or Quality of Life?

COPENHAGEN: City with a Vision

Until 1962, all streets in the medieval city centre were filled with cars and all the squares were used as car parks. As car traffic increased, conditions for pedestrians were rapidly deteriorating.

On 17 November 1962, Copenhagen’s main street, Strøget was pedestrianised. This version was hotly debated at the time. People argued that a pedestrian street in Denmark would never work.

However although scepticism was high, the new car-free environment proved extremely popular with local residents from the first day.

This marked the beginning of a gradual transformation that has continued ever since. Today Copenhagen has a vibrant city centre that attracts visitors throughout the year.

Today the city of Copenhagen has over 96,000 m2 (of which 33% is street and 67% city squares) of car-free space.

While pedestrian traffic levels have remained largely unchanged over past decades, activities connected with stopping and staying are almost 4 times greater than in 1968.

During the summer months many of the pedestrian streets are full to capacity with people enjoying the many outdoor social and cultural activities.

In the winter months attractions include festivals, and outdoor ice skating. As the streets and squares in the city centre have been pedestrianised and improved, the area has become more attractive yet also less accessible for the motorist.

The city authority has adopted an integrated traffic management strategy for the city centre:

• limiting the number of parking spaces (charges for on-street parking are relatively high);
• reducing the number of lanes on several main routes into the city and using the space for bus and cycle lanes instead;
• restricting through traffic;
• while developing the suburban train, bus and bicycle networks.

In the city centre, 80% of all journeys are made on foot, and 14% by bicycle.

Car traffic in the city core has been reduced and congestion is not a problem.

The key to the success of these inner city transformations was undoubtedly the gradual way these rather drastic changes were made. This incremental approach has given residents time to adapt, to change from driving and parking their cars to walking, using bicycles and public transport.

—Source: Reclaiming Streets for People: Chaos or Quality of Life?
PTMP: A Critical Review of the Penang Transport Master Plan

By Roger Teoh

PTMP, a sprawling 160-page document, is a Poorly Assessed Project with Major Flaws

Heath effects of pollution from vehicles

The transport sector is a major contributor to greenhouse gas emissions and air pollution in urban cities. A wide body of academic research has unanimously shown an elevated concentration of pollutants such as nitrogen dioxide (NO2), particulate matter (PM), carbon monoxide (CO) and sulphur dioxide (SO2) near major highways and congested city roads. Most of these pollutants are released from vehicle exhaust (due to incomplete combustion) and from brake and tyre wear.

Despite ongoing improvements in engine technology, the adverse environmental and health impacts of pollutants from vehicles remain significant. For example, particles emitted in the exhaust of a vehicle get increasingly smaller in size as the engine combustion efficiency improves.

Although not visible to the naked eye, these ultrafine particles are more likely to penetrate deeper into the lungs and subsequently enter the blood circulation system and internal organs.

Recent health studies have shown that exposure to vehicle-emitted pollutants greatly increases the risk of heart and lung diseases, contributing to early death.

The PTMP in its present form places heavy emphasis on vehicular traffic and excessive highway construction. Without a doubt, this will increase the number of cars on the road and worsen Penang’s air quality.

While the recent EIA report suggested that air quality and human health impacts from the construction and operation of the 6-lane Penang highway are insignificant, this could be an overestimation, as will be highlighted in this article.

Doubtful Air Quality Measurement Results

While background concentrations of PM10, PM2.5, NO2 and CO were measured and published in the EIA of the Penang Tunnel Project, the report does not indicate that some of the reported results are incorrect and unrealistic.

For example, 10 of the 12 air quality monitoring stations recorded negligible nitrogen dioxide (NO2) concentrations of less than 1 µg/m3 (microgrammes per cubic metre). Such values do not make logical sense.

To give the public a better understanding and perspective of a realistic range of NO2 values in a city, we use the following chart: average NO2 concentrations in London as a case study. Data from the London Air Quality Network clearly indicated that Central London (with heavy road traffic) and major roads leading to the city typically has higher than 40 µg/m3 of background nitrogen oxide.

Remember, only 39% of Londoners use cars as compared to 96.8% of Penangites. In fact, London has also implemented the world’s largest low emissions zone since 2008, where certain vehicles that fail to meet the emission controls criteria are restricted from entering the city.

The Penang Tunnel Project (with lower traffic) still manages to record an annual average NO2 concentration that is more than 15 µg/m3, how is it possible the Penang is able to achieve a concentration level of lower than 1 µg/m3, which is 93% lower than outer London?

Looking closer to home, even the hourly averaged background NO2 concentrations in the Kuala Lumpur metropolitan area ranged between 18 µg/m3 and 94 µg/m3. Hence, given the London and KL examples, the reported background NO2 concentrations in the EIA for the Penang Island Link highway certainly cannot be right.

What’s more, the EIA also reported background PM10 concentrations ranging from 10 µg/m3 to 65 µg/m3. However, any PM10 value above 50 µg/m3 cannot be classified as ‘good’, as claimed in the executive summary of the EIA.

Such values exceed the recommended limits by the World Health Organisation (WHO) and the EU Directive on Air Quality (2008/50/EU), which sets that the safe levels of PM10 concentrations (24-hour mean) should not exceed 50 µg/m3.

Although current background PM10 levels in Penang are technically in compliance with the current MAQAs, these air quality guidelines will get more stringent over time. Therefore, these assumptions and tightening of air quality regulations in Malaysia will also be considered if the PTMP is really a ‘long-term solution’ as claimed by SRS Consortium. We cannot assume that background NO2 and PM levels of the proposed highway will continue to comply with future Malaysian air quality standards.

Questionable Assumptions

More vehicles on the road will increase the background levels of NO2 and PM when the new highway is operational. While we acknowledge that simulation work has been carried out in the EIA to estimate the increase in pollution from highway construction, the methodology of the air quality assessment makes several questionable assumptions.

For example, model inputs were oversimplified where background levels of NO2, PM2.5 and CO are assumed to be zero. Given that background pollutants along the proposed highway route were measured as discussed earlier, why are these not included into the air quality model?

To make matters worse, the air quality assessment only includes modelling for traffic flowing smoothly (i.e. without congestion) around highway interchange areas. In reality, vehicles are likely to experience congestion as they feed into local urban roads. The pollutants emitted along a congested road are usually higher than when traffic is flowing smoothly.

Based on these two factors, the projected air quality results could be underestimated and may even exceed the MAQAs. If background pollution levels and congestion are included in the air quality model, the estimated pollution levels could very likely be higher than reported in the EIA.

Prioritise More Sustainable Transport Modes

Governments in the developed world are now focusing more on improving air quality in cities. In fact, most European cities are emphasising on sustainable transport modes and pedes-

trian movement rather than building more highways. This is despite the overwhelming scientific evidence pointing out that building more roads not only fails to resolve traffic congestion, but also worsens air quality and human health.

It is also appalling to learn that alternative mass transit options along a route similar to the proposed highway were not even considered in the EIA. What is with the rush to approve Penang’s biggest road infrastructure project to date when alternative options are not even considered?

Resources

betteacheaper.my provides a critique of the PTMP and offers a comprehensive alternative transport plan for Penang

A Comprehensive 6-Part Series on the PTMP by Dr Lim Mah Hui & Professor Ahmad Hilmad

PART 4 – Why Build a List through the Penang Tunnel Project?


PART 5 – Why Penang’s Expensive LRT Plan Must Be Scrapped

http://www.freemalaysiastory.com/category/opinion/2018/07/05/the-srs-transport-master-plan-header-for-financial-trouble/


