



# Penang's Worsening Traffic and Related Problems



**"Penang Forum"**  
**18 Dec 2011**

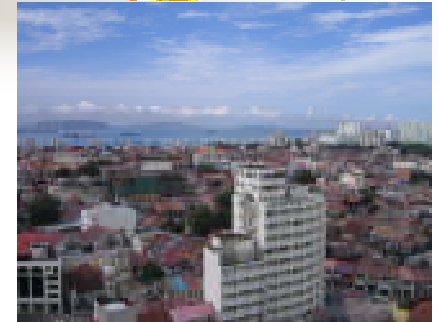


**Low Swee Heong**

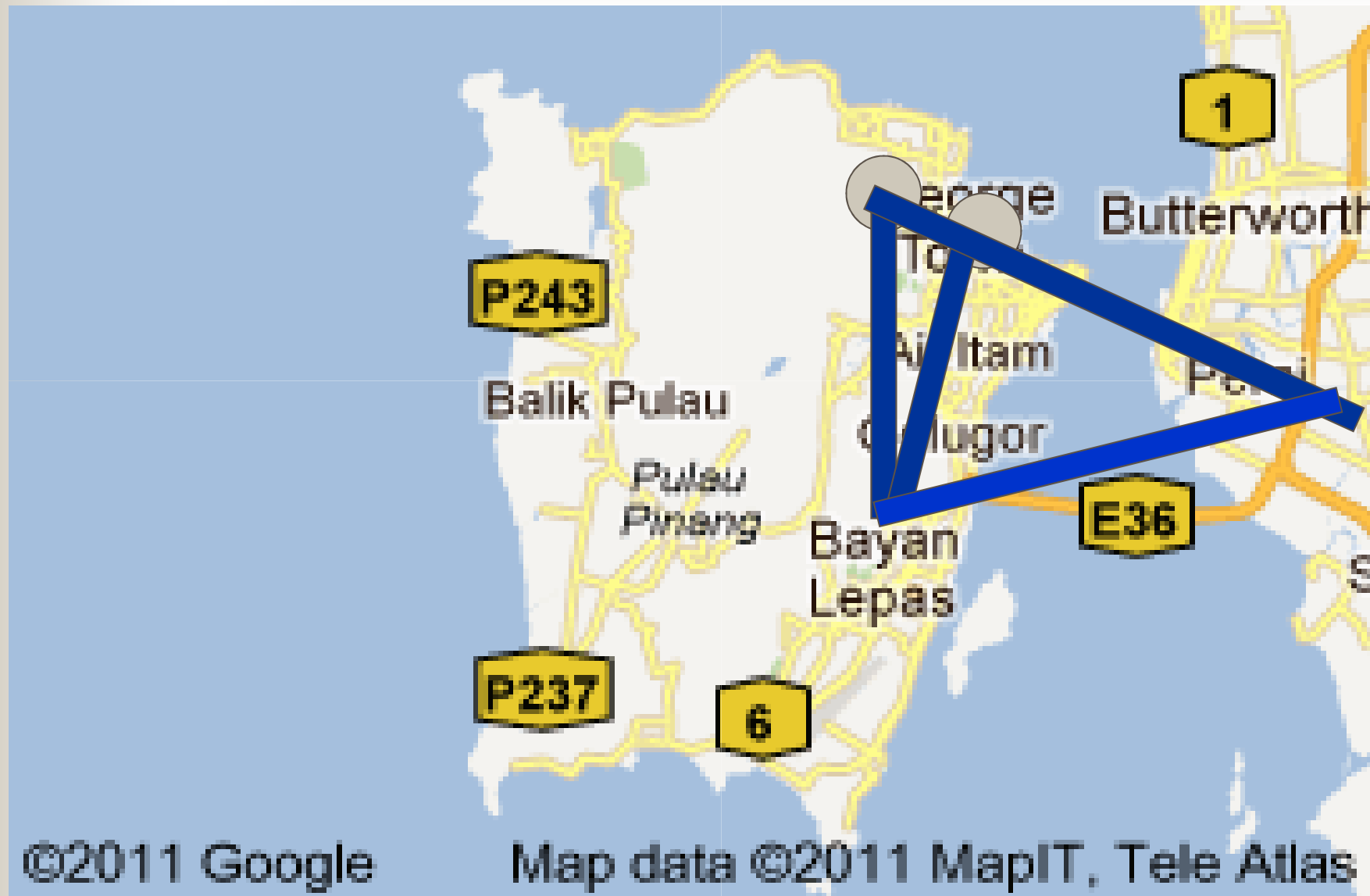
# Urban Transport Problem In Penang

**These are well documented and is a daily experience for most Penang people:**

- **Traffic Congestion especially during peak hours**
- **Poor quality Public Transport**
- **Inadequate public transport infrastructure**
- **Weak enforcement of traffic regulation**
- **Increasing traffic congestion in the South East and North Coast of Penang Island (FTZ, Bayan Bay, Tg Tokong, Tg Bunga)**



# Travel Demand Pattern – 2006 Count



# **Travel Demand Pattern – 2006 Count**

## **Travel Demand Pattern From Penang Bridge**

### **■ Destination**

■ Bayan Lepas and South	27%
■ Balik Pulau	3%
■ Air Itam, Tg Tokong and West	22%
■ City	48%

## **Travel Demand Pattern to the City**

### **■ Destination**

■ Tg Bunga Gurney area	31%
■ Air Itam Green Lane	22%
■ From South(Bayan Lepas/Jelutong	42%
■ Ferry Crossing	5%

# Traffic Demands Across Corridors Morning Peak

- Outer Corridor
  - 15, 845 pcu/h

Tg Bungah 3%	Balik Pulau 14%	Bayan Lepas 61%	Penng Bridge 22%	Total 100%
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- Middle Corridor
  - 11, 823 pch/h

Tg Tokong /Gurney 20%	Air Itam/ Gn Lane 35%	Jelutong Gelugor 45%	--	Total 100%
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- Inner Corridor
  - 12, 484 pcu/hr

Gurney/ Jln Burmah 25%	Datuk Keramat/ Macalister 35%	Jelutong 35%	Ferry 5%	Total 100%
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# Carrying Capacity of Roads in Penang

- To date, no study on carrying capacity of roads in Penang

- Consider this:



	Motor Vehicles	Population	Vehicle/ Person
2005	1,551,650	1,468,800	1.06
2009	1, 750,000**	1,578,000	1.11
2010 (JPJstat) Jan ~ Sep Highest Mar	85, 701 10, 743	>300 vehicles registered /day	



- If one lines up these 1.7 m vehicles end to end on the estimated 3, 000 km of roads in Penang some vehicles will be pushed into the sea.

\*\* estimated. Penang vehicle registration rate increases 9.5% pa vs 7.2 % national average

# Typical Friday Traffic



Looking towards  
Penang Bridge

Looking towards  
Bayan Baru FIZ



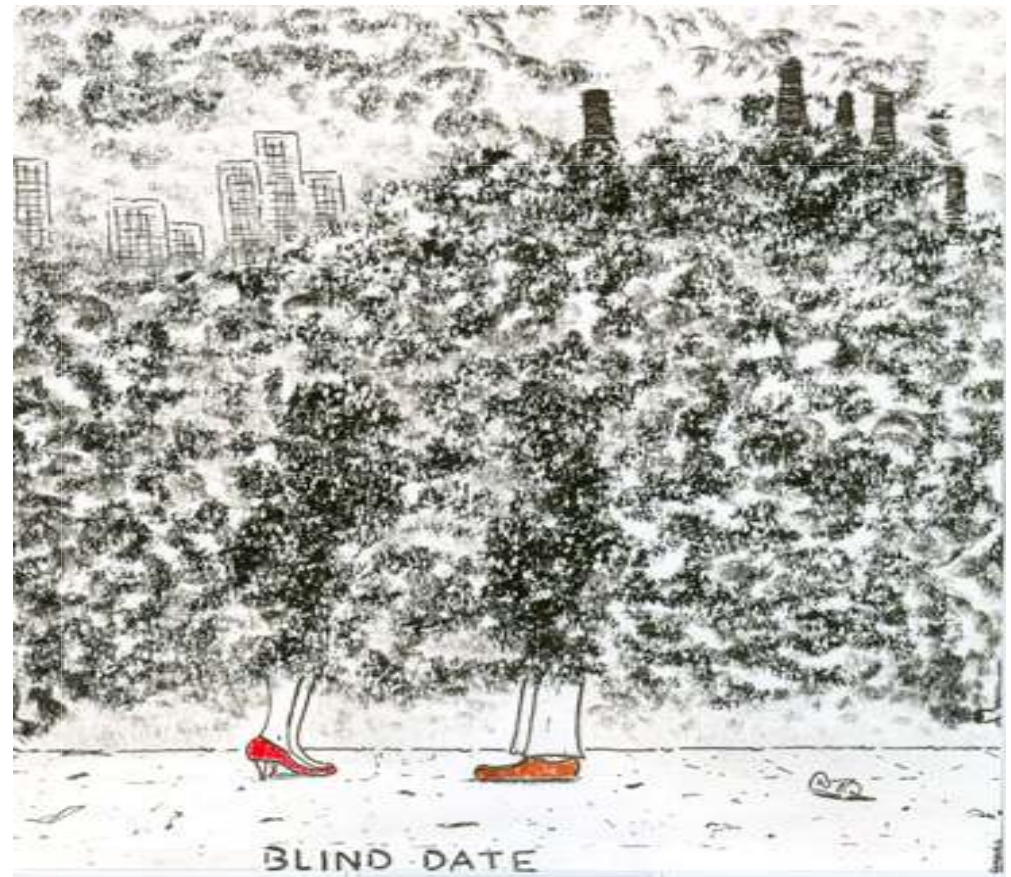


# Other Traffic Induced Problems

- **Air Quality**
- **Noise Pollution**
- **Economic Impact**
- **Impact on Environment and Emergencies**



Blind date,  
Stefano Gamboni,  
Italy





# API

- Malaysia reports API or Air Pollution Index. Four of the index's pollutant components (i.e., carbon monoxide, ozone, nitrogen dioxide and sulfur dioxide) are reported in ppmv but PM10 particulate matter is reported in  $\mu\text{g}/\text{m}^3$ .
- The scale below shows the Health classifications used by the Malaysian government. 0-50 Good
  - 51-100 Moderate
  - 101-200 Unhealthy
  - 201-300 Very unhealthy
  - 301- Hazardous

# BTEX

## BTEX Level Measured at Komtar and Penang Bridge (Study by Clean Air Research Group, USM 2008)

Air Pollutant	OSHA Safe Level	Penang Level
Benzene	0.5 ppm	7.5 ppm
Toluene	200 ppm	6.1 ppm
Ethylbenzene	100 ppm	12.3 ppm
Xylene	100 ppm	3.9 ppm

**“Londoners lose about 34, 000 years of life from transport related pollution and this high figure is related to the average traffic speed in Central London of 16 km/h due to congestion. In addition soot from diesel pollution also leads to 27000 non-fatal heart attacks and more than 400, 000 emergency room visits in the US annually” ... *quoted from SERI Economic Monthly, Nov 2005***



# Noise Pollution

- DOE Average Road Traffic Noise for Penang is 73.6 dBA  
(See DOE Malaysia Environment Quality Report 2008)
- This is much higher than the WHO recommended level of 55 dBA
- Parts of the north coast along the main road have reported higher noise levels
- Air Pollution Sensitivity Depreciation Index and Noise Sensitivity Depreciation Index (NSDI) are now used in some European countries for property valuation  
.. Expressed as Euro/person/dB/year or Euro/annoyed person/year  
( See "Impact of Noise and Air Pollution on Property Prices, Giedre Staskeviciute, Artulas Kaklauskas 2007)



# Economic Impact

- Penang 2009 GDP – approx. RM21b
- A year has 299, 520 working minutes
- Loss per minute if caught in traffic jam  
= RM 21, 000, 000, 000/299, 520  
= RM 70, 112/min

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"It's still in the testing stages, but our new flying car project looks promising."

**One likely consequence on north coast over-development due to traffic congestion**



# Medical and other emergencies

- **Medical emergencies**
  - No facilities and with traffic jams and collapsed roads, consequence may be a matter of life and death
- **Fires**
- **Natural disasters**
  - Floods
  - Landslides
  - Earth tremors
  - Tsunamis (?)

Tsunami Wave Malaysia Penang 26.12.04



Traffic jam caused by boats being swept on the road along Tanjong Tokong Reclaimed.

# 大北馬

14 DEC 2011

親如近鄰

Northern Edition

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交管專家：各方案互相衝突

## 檳交通5年後超塞

每日金句

難是一種善，其所以引起快樂正因為它是善。——亞里士多德

哈欣：“州政府在面對  
策略衝突。”

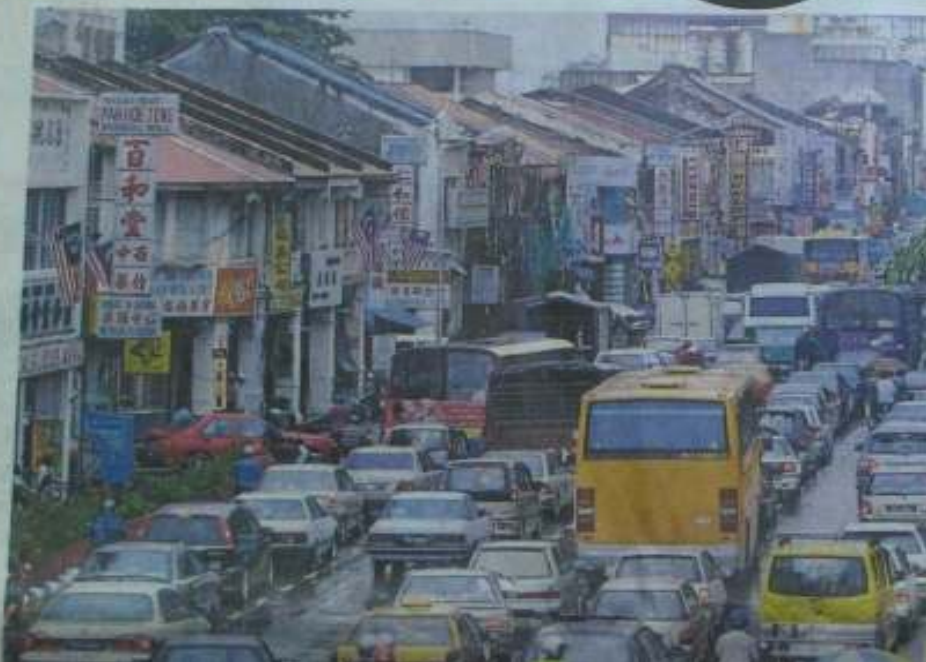
(檳城) 馬來西亞  
理科大学  
交通管理專  
家哈欣副教

預測，檳島交通問題在5年後將  
入“極嚴重”狀況。

他认为不是沒解藥，只是  
方案會相沖，與檳島交通一樣  
阻塞”。

哈欣舉例，公共  
巴士要准時，  
公眾才會使用。要巴士准  
時，需確保巴士行駛順  
暢。

“這會導致執法局需  
取締違法停放在路旁的車  
輛，或在相關道路兩旁不  
提供停車位。不過，這可  
能會影響人民對執政黨  
的支持率，而政府又是解決  
交通問題的推手。”



不應考量  
檳島進行一些發展前

和單軌火車  
建築物却將

政府却批准了那样的  
發展圖則，建築物竣工，  
車量增加了，導致交通變  
得繁忙。

哈欣是交通評估  
(TIA) 專家。他說一項  
設計發展圖則，

哈欣

說，檳島發  
展計劃在  
進行前，把  
檳島外環公  
路(PORR)  
和單軌火車  
計劃考量在  
內，這不正  
確。

“因  
為至目前為  
止，根本沒  
有外環公路

難準確預料抵達時間  
檳島交通1年前已“惡化”

哈欣感受到檳島的交通問題在一年前開  
始變得明顯嚴重。

他說，若開車外出，他很難準確預料抵達  
目的地的時間。即使不在上下班時段出門，只  
要遇上路上稍巧發生小交通意外，或下雨，交  
通就會嚴重阻塞。

英殖民時代的狹窄道路設計，單向道路  
規劃已不足应付目前的車流量。雖然道路被擴  
建，但跟不上迅速增加的車流，令治市已達到  
“飽和點”。最先面對沖擊。哈欣認為治市  
有必要使用電動火車系統，同時只允許公共巴  
士通行，公眾則步行或騎單車。

17/12/2011 08:04

反對檳建輕快鐵

哈欣反對檳州建設輕快鐵(LRT)，  
認為檳城人口不足200萬人。輕快鐵  
適合用於人口少過200萬人的社區。單軌火車  
不適合檳城建築物密集的環境。

GRIDLOCK!!

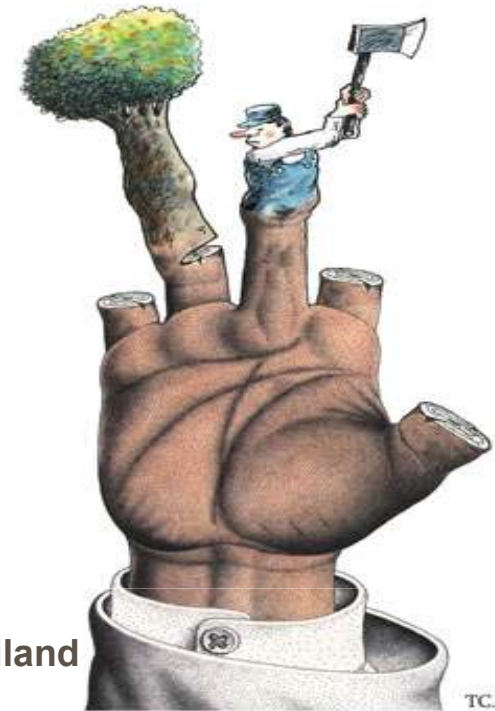




# Conclusion

- Quality of living will be severely affected due to unregulated excessive physical development

The Hand, by Tawan Chuntraskawvong, Thailand



- Need for civil society to raise objection to checked against excessive development





**THANK YOU**

# OBJECTIVES OF PENANG TRANSPORT MASTERPLAN

- A holistic approach with a Paradigm Shift –  
“ MOVING PEOPLE NOT CARS ”
- Making roads safe for pedestrians including the elderly and disabled community
- Plan with accessibility in mind
- Shifting from private vehicles to public transport mode
- Plan for the whole of **Penang – Island and Seberang**
- Integrate multi-modal transport system including land, Sea and Air
- Improving inter-city travel linkage and convenience
- Focus on public bus rapid transit system
- Integrate transport master plan with the national physical plan, structural and draft local plan
- Plan must involve **public participation**
- Plan from now to 2030



# The Way Forward

- **Integrated Transport Infrastructure Master Plan –**
  - Long term plan to 2030 to be jointly commissioned by the State Government and Penang Transport Council
- **Improvement to Public Transport Service**
  - Stage Bus Service
  - Mini Bus
  - Taxi – running without meter cannot be tolerated any further
  - Set a 1 year target to complete the improvement plan
  - Responsibility of CVLB, RTD and SNPB
- **Public Transport Infrastructure**
  - Accessibility to all especially aged and OKA
  - Bus stops
  - Public Transport hub and spoke
  - Construction of a new Weld Quay Interchange
  - Penang State Government and MPPP should complete this over 1 ~ 2 years
- **Enforcement of Traffic Regulations**  
SPAD, RTD, MPP and PDRM

**Primary objective of transport planning in Penang must be to restrain travel by private vehicles and promote transit by public transport modes.**

**(From G NAIDU: Penang Integrated Urban Transport Study, Apr 08)**



*Parry People Mover (PPM)  
Hybrid Tram System*