



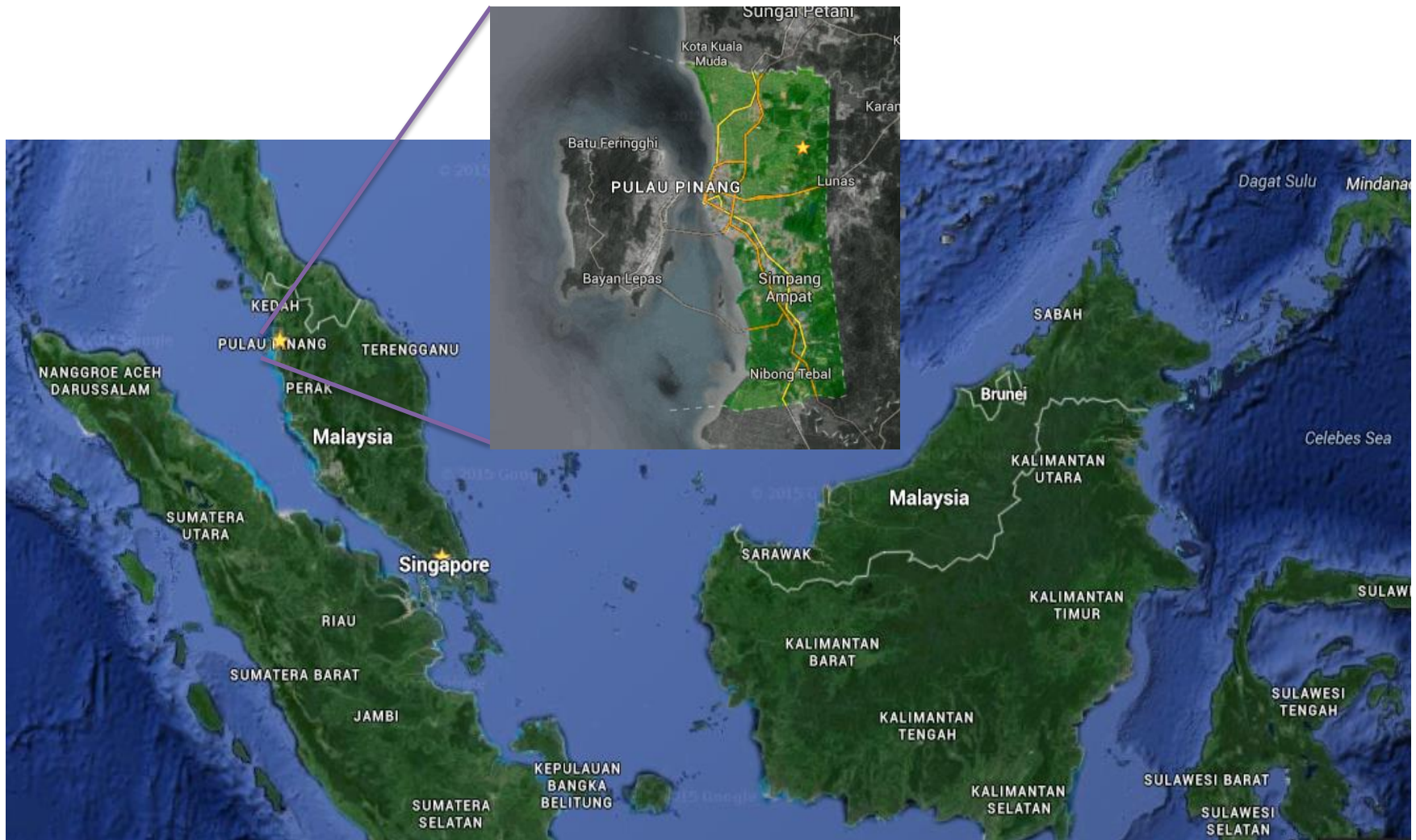
SUSTAINABLE URBAN TRANSPORTATION

Shafida Azyanti Mohd Shafie, Assistant Director of Engineering

Municipal Council Of Seberang Perai (MPSP), Penang, Malaysia



INTRODUCTION: MALAYSIA



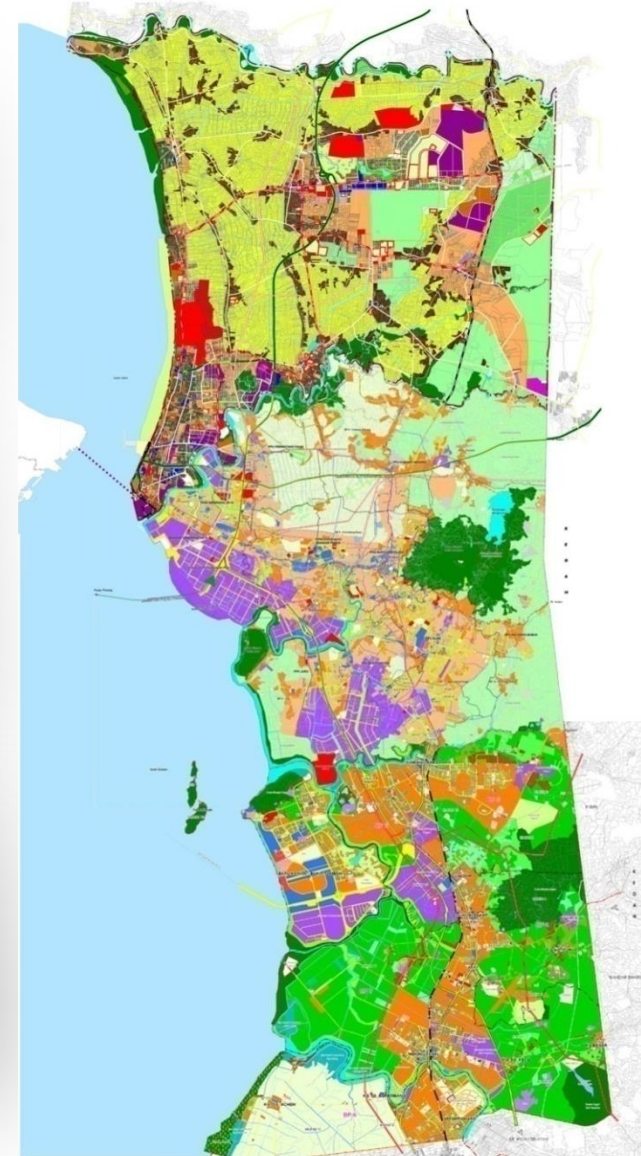
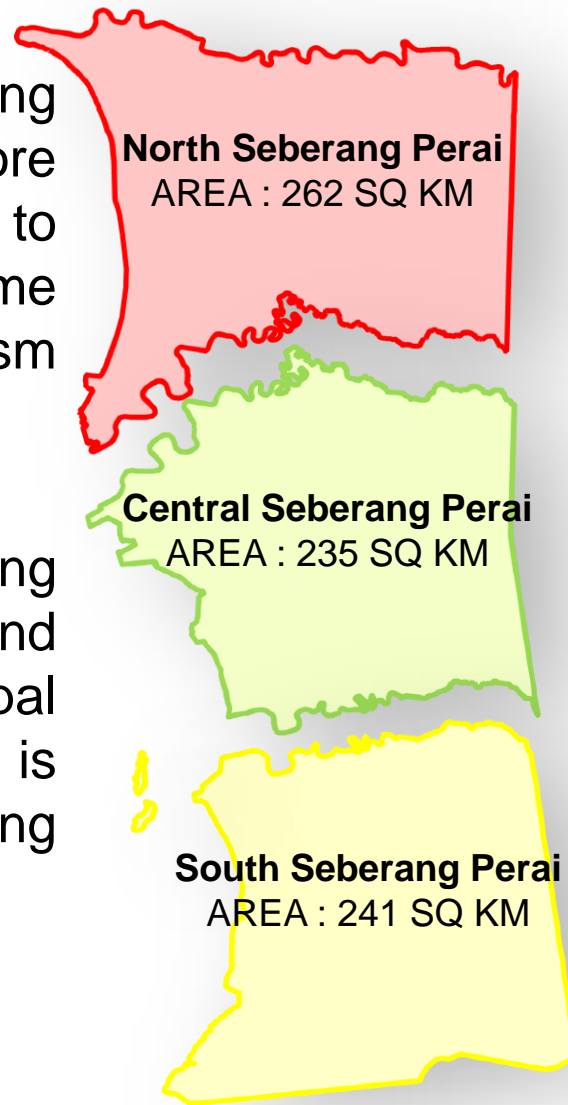
INTRODUCTION: SEBERANG PERAI

MPSP's Vision: Seberang Prai which is cleaner, more beautiful and comfortable to live in, working to become investment and tourism draw towards 2018

MPSP's Mission: Providing safer, cleaner, greener and healthier municipal management that is responsive to the Seberang Perai Community

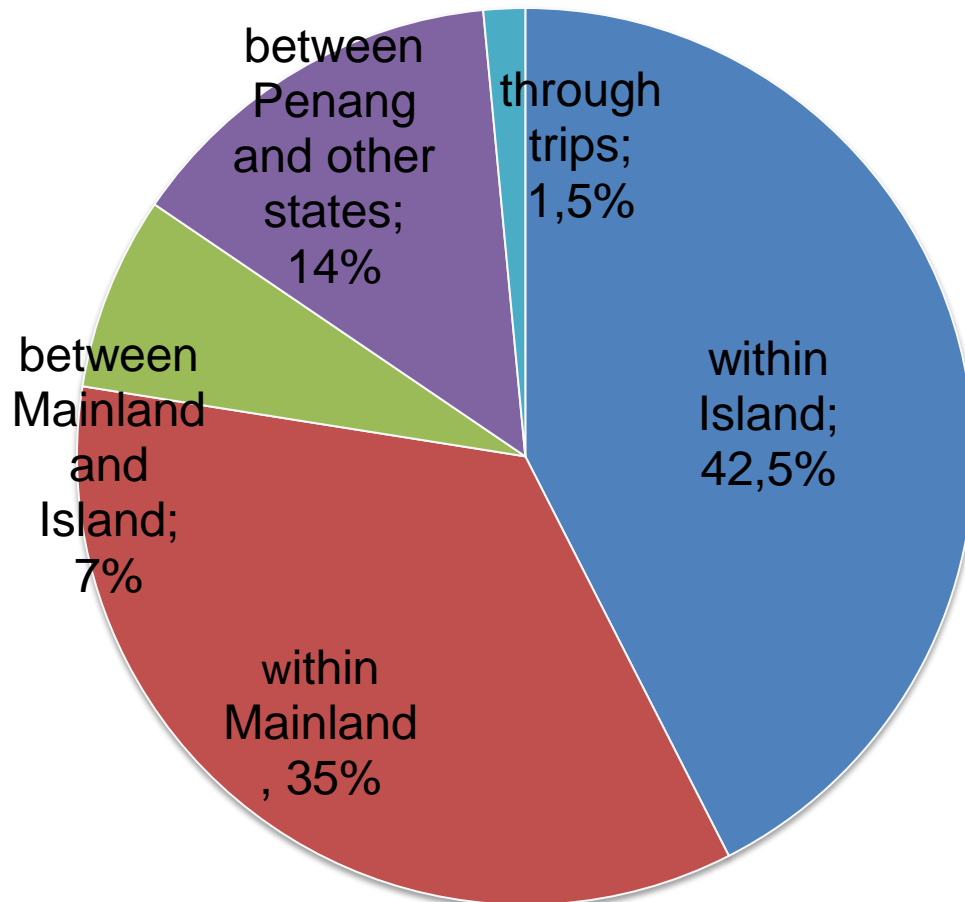
Population: 900,000

Area : 738sq km

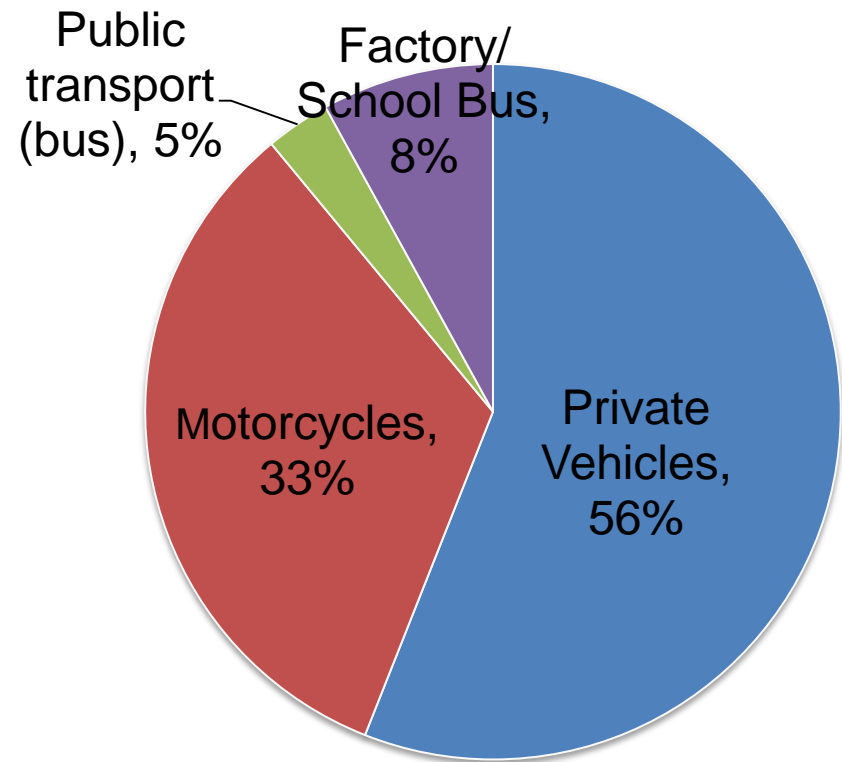


CURRENT TRAVEL DEMAND

AM peak some 250,000 trips are made in Penang.



56% by car. Follow by 33% by motorcycle.



CURRENT TRAVEL DEMAND

Population Growth Forecast

Year	2010	2020	2030
Population	839,000	1,119,000	1,460,600

TRIPS ARE GETTING MORE DIVERSE AS POPULATION ARISES AND PEOPLE TRAVEL MORE

Result in travel demand increasing by:

- 25% or more by 2020
- 50% or more by 2030

By 2030, without significant changes:

- Roads will get more congested
- Traffic will travel at reduced speed
- PT mode share will stay low

HOW WE MEET THE CHALLENGE OF KEEPING 1.46 MILLION PEOPLE MOVING WILL DETERMINE OUR SUCCESS AS A STATE

CURRENT CHALLENGES

HIGHWAY

1. Make better use of existing road network
 - to address illegal parking and hawker activity, traffic signal control and the needs of pedestrians
2. Reduce congestion at various key points
 - NSE/ Butterworth-Kulim Expressway junction
 - Autocity/ NSE intersection

BUS

1. Services mostly radial and concentrated on main roads
2. Limited penetration in residential and industrial areas
3. Low bus service frequencies in rural areas
4. Lack of connectivity between Mainland and Island

TAXI

1. Taxies don't operate on meters - fares have to be negotiated
2. Taxis don't cruise for hire – passengers are targeted at fixed locations

CURRENT CHALLENGES

FERRY

1. Service is in a state of decline
2. Ferries are old and need replacement
3. Service operates at a loss
4. Under current regime things are unlikely to improve

PEDESTRIAN

1. Footways are narrow or non existent. Where provided, they are often blocked by illegal parking or other activities
2. This makes walking difficult and greatly reduces the attractiveness of using public transport

INSTITUTION

1. Illegal parking, hawker and road safety issues are not satisfactorily addressed
2. Land use planning process is not fully aligned with transport planning process
3. The State has limited powers and funds to make PT work - PT regulation, operations and licensing are all controlled at central government level.
Therefore to make any significant change it needs the cooperation of other public bodies or the private sector

VISSION & OBJECTIVES

VISSION

To implement a well developed, sustainable, comprehensive urban transport masterplan for Seberang Perai

Integrated Road Network



Moving vehicles & Goods

Integrated Public Transport Systems



Moving People

Land Use vs Transport Transit Oriented Dev



Planning Integration

Safety - first



**Road Safety Target
50/20**



People-friendly



**Universal Design
Accessibility**



Manufacturing Tourism



**Economic vibrancy
& Liveability**

MOVING PEOPLE

MAKE WALKING AND CYCLING

- Safe and user friendly for all
- Convenient and comfortable
- Delightful

SUSTAINABLE TRANSPORTATION

MAKE PUBLIC TRANSPORT

- Safe and reliable
- Fast and frequent
- Accessible and affordable to all
- Convenient and comfortable

EFFICIENT ROAD NETWORK

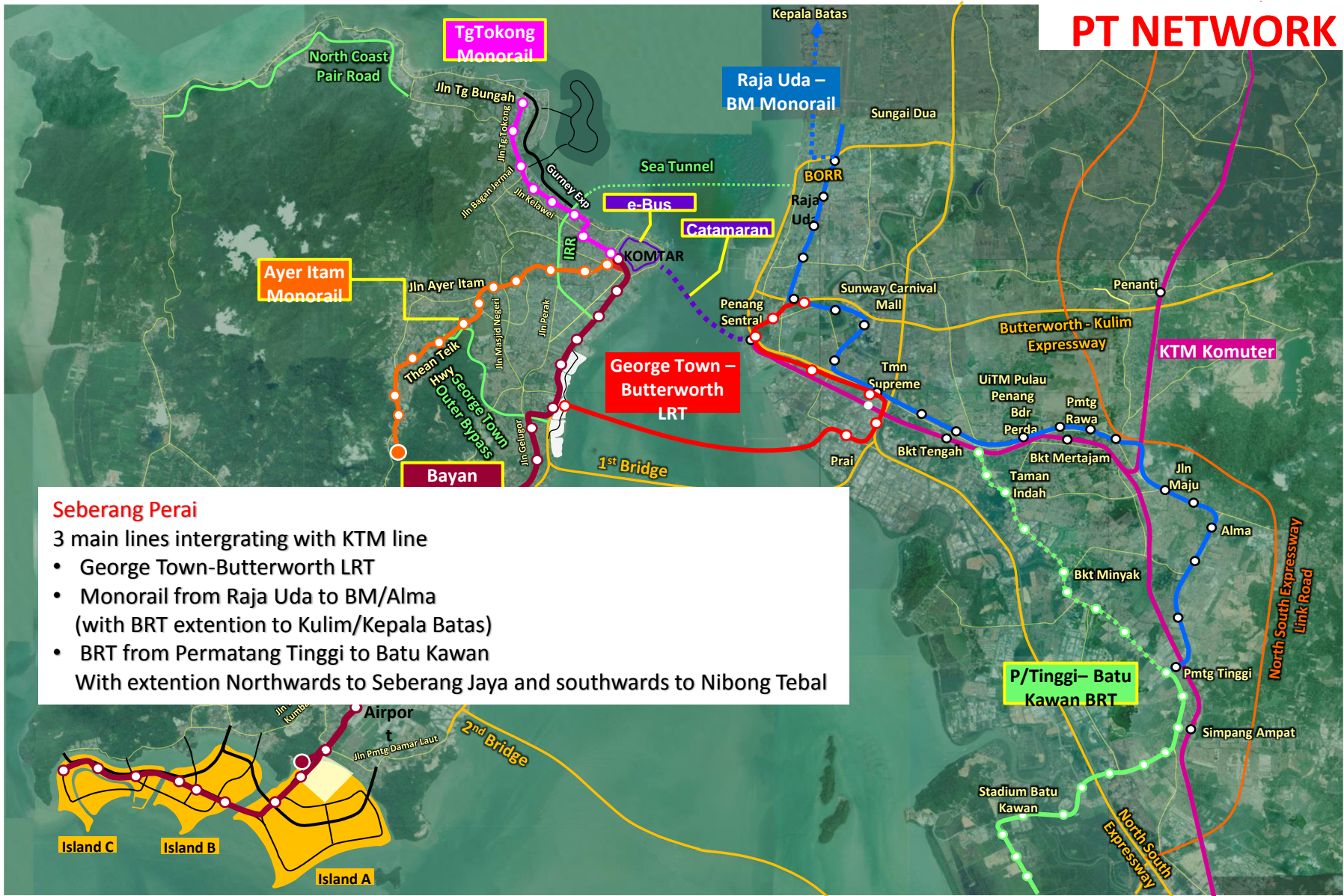
MAKE ROADS AND STREETS

- Safe for all users
- Meet the needs of residents, businesses and goods movement
- Support economic and social objectives of the state

WALKING AND CYCLING

- Increase the provision of pedestrian footways
- Improve cyclist safety and convenience
- Traffic signal controlled pedestrian crossing facilities
- Way-finding information for pedestrians and cyclists
- Universally designed (step free, user friendly features) urban roads and public transport system – accessible to all
- Improve first and last mile to a public transport system
- Land use support shorter trips and sustainable travel
- High density development near transit stations
- Support good streetscape to improve pedestrian experience

PT NETWORK



	Proposed Network	Length (km)	No of Stn
1	George Town - Butterworth LRT	18.4	8
2	Raja Uda – BM Monorail	28.4	21
	Extension northwards to Kepala Batas	13.0	10
3	Pmtg Tinggi – Bt Kawan BRT	13.8	15
	Extension northwards to Bkt Tengah / Seberang Jaya	15	16
	Extension southwards to Nibong Tebal	10.7	6
	TOTAL	86.3	76





BKE – Proposed Directional Ramp

- Provide a third-tier flyover from the southern arm of NSE to the eastern exit arm of BKE - reduce traffic volumes entering the roundabout by some 20%.

Before



After



- Provide an optimized signal cycle time of 120 seconds (**Reduced** from **4 minutes 40 seconds**) - operation of the signalized roundabout will be improved with shorter optimized cycle times ➡

JURU IC – Proposed DDI (contra flow)

- Contra flow, lane widening and reduced from 4 to 2-phases

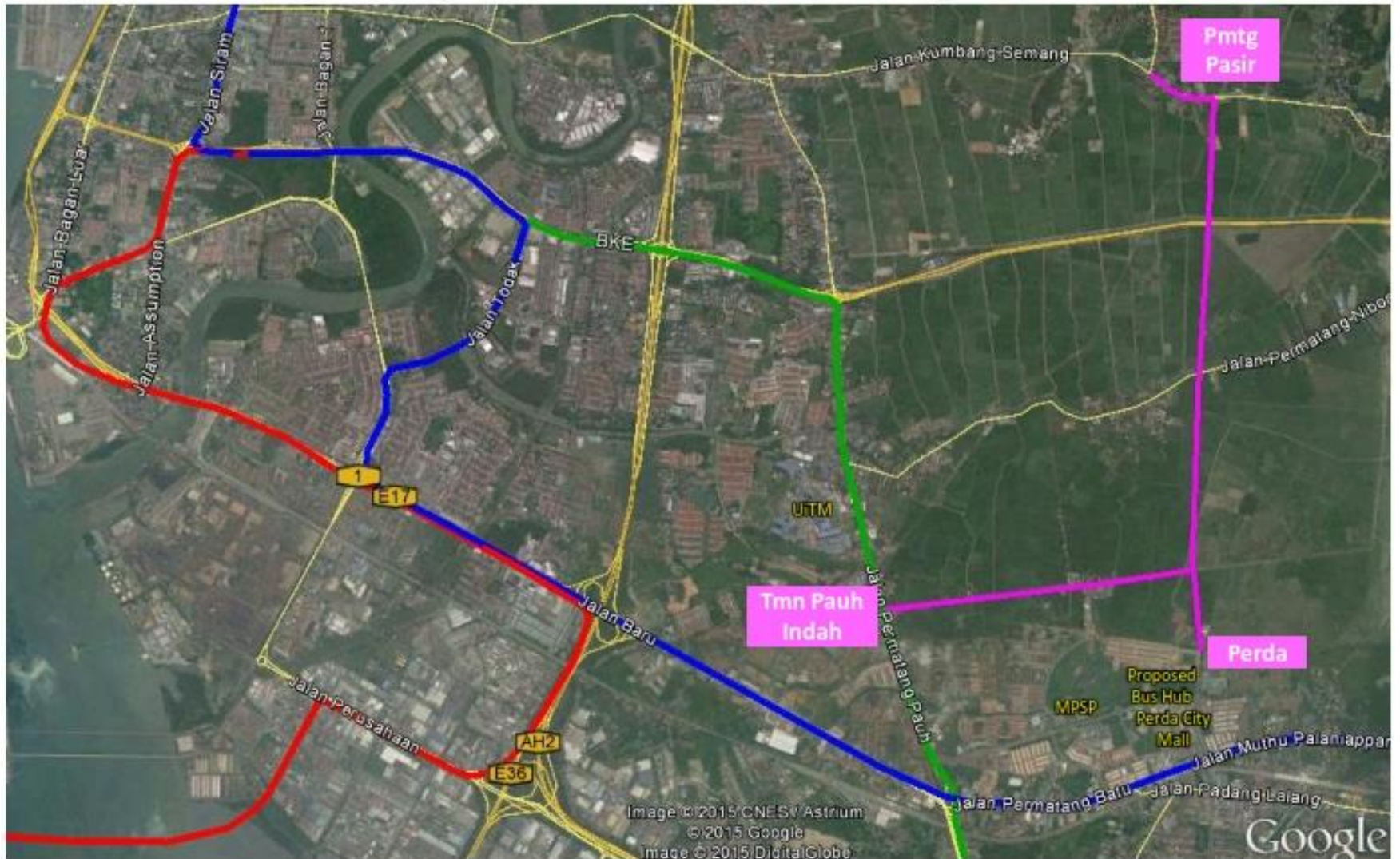
Before



After



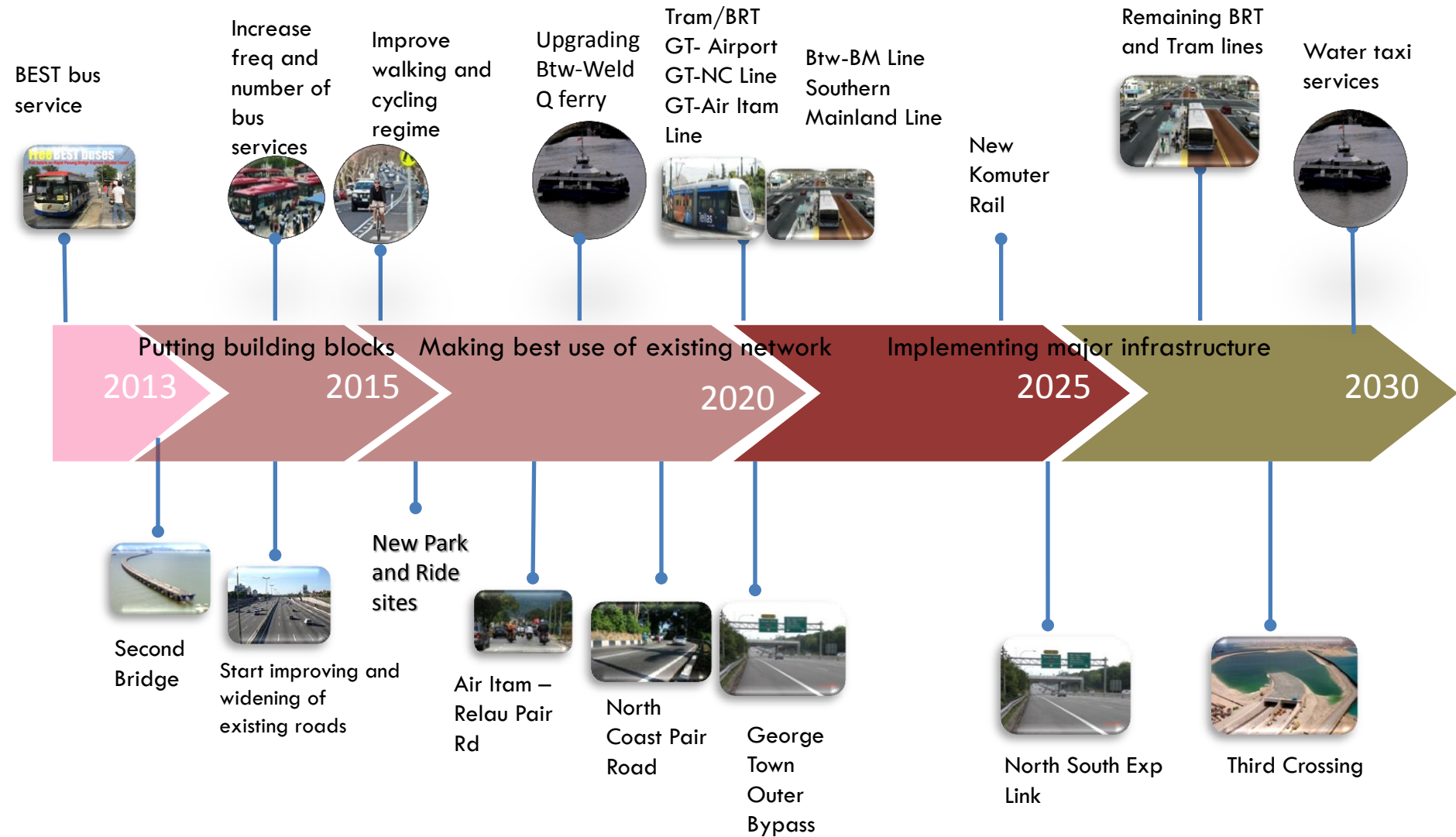
Proposed Road Network in RT SP Tengah



Proposed Road Network in RT SP Tengah



THE JOURNEY



OVERALL STRATEGY COSTS (Island + Mainland)

Components	Estimates (RM mil)
Highway Infrastructure	16,400
Public Transport	9,700
Institutional Plan	900
TOTAL	27,000

BY 2030

- Population will increase 57% from 1.56 mil (2010) to 2.45 mil (2030)
- Resulting travel demand increases 50% by 2030

THE RECOMMENDED TRANSPORT MASTER PLAN SEEKS TO ENSURE:

- Residents travelling by public transport will be significantly better than they are today
- Residents travelling by private vehicle will not suffer from significantly reduced traffic speed
- Business to benefit from good transport links
- Generate 64% of economic growth in the future Penang
- Creating 460,000 jobs from new investment

SOURCE OF FINANCE

- Reclaimed land is owned by government. Reclaimed land will be open for bids to finance the TMP component

[illegible]

Transport network to link

Seven transit lines proposed under RM27bil master plan

By LOGANWAT THEVADASS
lloganw@star.com.my

GEORGE TOWN: The RM27-billion Penang Transport Master Plan (PTMP) is a holistic public transport system which will connect the entire network that will cross the causeway.

The Consortium transport planner Ong Peng Hong said the consortium had proposed four transit lines from the island and three from

Tinggi to Batu Kawan which will also serve the Batu Kawan industrial area.

"The first line will be given to the LRT line of Bayan Lepas-George Town as they have the heaviest traffic," he said, adding that a comprehensive feeder bus would be engaged to complement the other demand.

Chief Minister Lim Guan Eng stressed that PTMP covered the entire state and was not island-centric.

A map shows the proposed routes across the island.

SPAD's nod

GEORGE TOWN: A proposal to create six rail and bus routes will be referred to the Land Public Transport Commission (SPAD) for approval, the state government said yesterday.

State Local Government Committee chairman Chon Kwong Yew said the routes, part of the RM27 billion Penang Transport Master Plan (PTMP), had been approved by the state executive council.

The RTJSEI delivery partner has

Seven transit lines proposed under RM27b master plan

By LOGESHWAR THEVADASS
logeshwar@com.com.my

GEORGE TOWN: The RM27-billion Klang Transport Master Plan (KTMP) will include public transport (PTMPS) as well as a light rail system that will connect the entire state.

The PTMPS Consortium Transport planning has been awarded by the contractor Ooi Peng Hong and his team. The plan had proposed four transit lines from the island and three lines to

Tinggi to Batu Kawan which will also serve the Bata Kawan industrial area.

The plan will be given to the LRT team of Bayan Lepas Light Rail Transit (BLRT) which has the heaviest traffic but that needs a smaller scale project that can be added to the comprehensive plan. Under this would be introduced to complete the overall public transport.

Chief Minister Lim Guan Eng stressed that the plan was not island-centric and was not island-con-

GEORGE TOWN: A proposal to create six rail and bus routes will be referred to the Land Public Transport Commission (SPAP) for approval, the state government said yesterday.

State Local Government Committee chairman Choo Kien Yoon said the routes, part of the RM27 billion Penang Transport Master Plan (PTMP), had been approved by the cabinet.

The project delivery partner has

The six rail and bus projects are the Komtar-Bayan Lepas light transit (LRT); George Town-Malacca; Ayer Itam - Malacca; Tanjung Tokong-Monjari; Raja Uda-Bukit Mertajam monorail and the Permatang Tinggi-Batu Kawan rapid transit.

The PTMP – the biggest in Penang's history – will start next month.

[illegible]

LRT across the sea to mainland, ending at Penang Sentral transport hub

The image is a composite. On the left is a schematic map of the proposed George Town - Butterworth LRT line. The line is shown in purple, starting from Komtar in the north, passing through Gelugor, and ending at the Prai Industrial Estate. A label 'Proposed George Town - Butterworth LRT' is placed along the line. The map also shows the Penang Bridge and the source 'SRS Consortium'. On the right is a photograph of a man with glasses, wearing a light blue shirt and dark trousers, pointing with his right hand at a large, detailed map of the same area. The map shows the coastline, the channel, and the proposed LRT and highway alignments. The man is standing next to the map, which is laid out on a table.

By ARNOLD LON

state

Nov 21/16

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Komtar-Bayun Lepas LRT line

The line on the mainland will take the trains through the Prai factory area, along the Jalan Baru dual carriageway beginning with Taman Supreme and ending at Penang Sentral, where the ferry terminal and KTM train station are located.

"The link will be a lot narrower than Penang Bridge."

"But we will follow the bridge's

while a 6.5km undersea tunnel had been proposed to connect Gurney Drive to Bagat Ajam.

Szeto said the plans for these state-approved transport links would now be submitted to the

the George Town-Butterworth LRT, which is the name given to the fourth line, would proba

Connecting the dots: Szeto explaining the LRT and highway alignments across the channel during the press conference. On the left is a closeup of the proposed fourth link, after the two Penang Bridges and the planned undersea tunnel.

brought on new rail and bus routes

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State Local Government Committee chairman Chow Kon Yeow said the routes - part of the RM27 billion Penang Transport Master Plan (PTMP), had been approved by the state executive council.

"The project delivery partner has been given permission to refer this to SPAD, which is the authority on rail and bus services in the country."

"The partner will listen to SPAD's advice," he said yesterday.

The six rail and bus projects are the Kontar-Bayan LRTs light-rail transit (LRT); George Town-Butterworth LRT; Ayer Itam monorail; Tanjung Bungah monorail; Raja Uda Bako Monorail; and Permatang Tinggi-Raja Kawan bus rapid transit.

The PTMP - the biggest in Penang's history - will be carried out until 2030.

Tanjung Bako has allocated RM16 billion for the highway construction, including RM4.5 billion for the 20km pan-island expressway linking Bayan Lepas and

Tanjung Bungah, and RM9 billion for public transport, like LRT and train lines, buses and water taxis.

SRS Consortium, which is 80 per cent owned by Gamuda Bhd and 20 per cent each by Penang-based Koh Phoy Yen Holdings Sdn Bhd and Ideal Property Development Sdn Bhd, is the project delivery partner for PTMP.

The consortium will call for tenders for the projects once it has obtained the approval.

It was reported that the LRT project, estimated to cost RM5.3 billion,

will include the construction of a 17.5km elevated stretch of track linking Kontar here to the Penang International Airport in Bayan Lepas.

Chow also announced the approval of the 1.5km light rail (LRT) highway by the state executive council.

The elevated highway will connect the existing Hutan Rekreasi station at Mu'adzam Shah Bridge in Batu Maung to Persiaran Gurney here.

He said the approval did not mean the project delivery partner that could begin work, but only to carry out a Detailed Environmental Impact Assessment (DEIA) study.

"The DEIA will take two years,

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NST 17/12/15

> Project contractors to seek approval from SPAD and other federal regulators

BY EDMUND LEE
newdesk@thesundaily.com

GEORGE TOWN: The state government has green-lighted the alignment for the mass-rapid transit system and highway schemes under the RM37 billion Penang Transport

Master Plan (PTMP) project. The railway scheme, meanwhile, covers both the island and mainland with one light rail transit (LRT) and two monorail lines on the island, a LRT line across the Penang Channel, and a bus transit system (BTS).

State Local Government, Traffic Management and Flood Mitigation Committee chairman Chow Kueo said the next step is for SRS Consortium and the PTMP project delivery partner (PDP) to get approval from the Land Public

Transport Commission (SPAD) and other federal regulatory agencies.

He said the priority is for the rail line to link Komtar, the state's administrative centre, to the Penang International Airport, which fell under Phase One of the massive initiative.

"SRS will consult SPAD for guidance and advice concerning the proposal for a rail system in Penang," he said at a press conference yesterday.

Chow also noted the priority project for the highway schemes is

the Pan Island Link, which will connect Gurney Drive and Bayan Lepas.

Moving forward, he said it is for SRS to conduct the Detailed Environment Impact Assessment (DEIA).

"Studies and approvals will be conducted in stages as a lot of engagement is needed to implement the PTMP," he added.

SRS project director, Yezzo Wong, meanwhile, said the consortium will engage the public and inform them of the alignments

of the projects.

He said the consortium was working on a preliminary design for Phase One of the submission to SPA take about six months.

He said the DEIA for the Pan Island Link will take about six months to complete prior to submission to the Department of Environment (DOE) for approval.

The project is also allowing for the reclaiming of 930ha plot and a 445ha coast in Permatang Data

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THANK YOU

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