AN OVERVIEW OF MAJOR TRANSPORT INFRASTRUCTURE DEVELOPMENT IN MALAYSIA

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EXComm IEM

INTRODUCTION

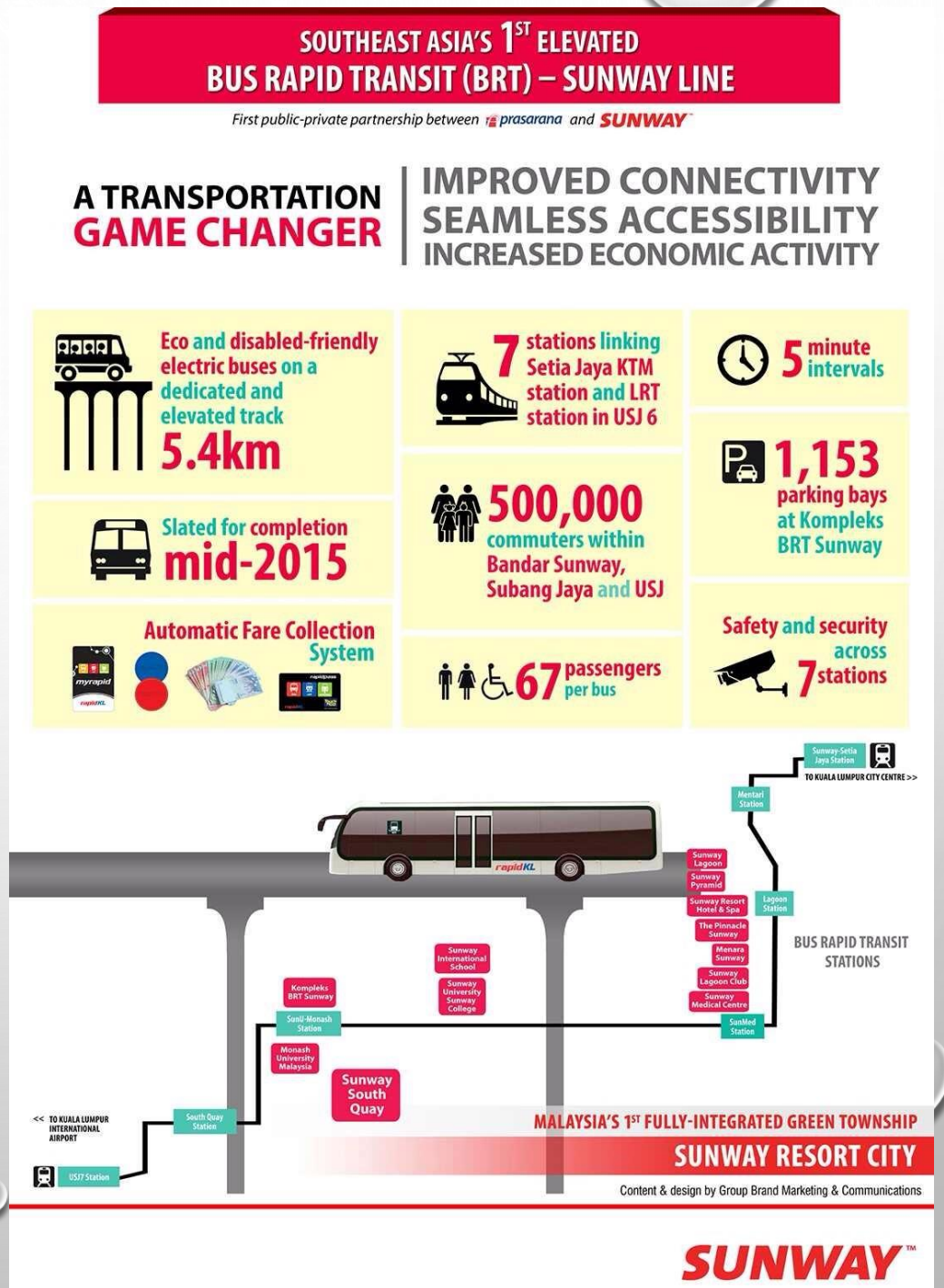
- Malaysia is still a developing country in which transport development could boost national economy.
- Transport issues in urban areas:
  - Traffic congestion: long queue and delay
  - Urban sprawl
  - Noise and pollution
  - Low ridership of public transport
- Transport issues in sub-urban/ rural areas:
  - Accessibility
  - Network connectivity

OBJECTIVES OF TRANSPORT INFRASTRUCTURE DEVELOPMENT

- Public Transport Infrastructure
  - To improve mobility, as a means to combat traffic congestion especially in urban area such as Klang Valley
  - To provide alternative mode of transport
  - To provide multi-modal transport
- Highway Construction
  - To improve accessibility and connectivity especially in East Coast and East of Malaysia

A. PUBLIC TRANSPORT INFRASTRUCTURE DEVELOPMENT

1. SUNWAY BRT LINE



2. MRT SBK LINE

- 51 km connecting Sungai Buloh to Kajang, 31 stations in total
- 9.5 km underground at CBD, 7 stations
- Total capacity: 1,200 passengers
- Cost: RM 23 billion

Description	Total	
	Initial	Final
Length (km)	51.0 (41.5 Elev + 9.5 UG)	51.0 (41.5 Elev + 9.5 UG)
Station (nos)	35 (27 Elev+ 8 UG)	31 (24 Elev+ 7 UG)
Provisional Station (nos)	0	3 Elev
Park & Ride	13	16

3. MRT SSP LINE

The Sungai Buloh - Serdang - Putrajaya (SSP) Line

Elevated length – **38.7**km
Underground length – **13.5**km
Total length – **52.2**km

Elevated stations – **26**
Underground stations – **11**
Total number of stations – **37**

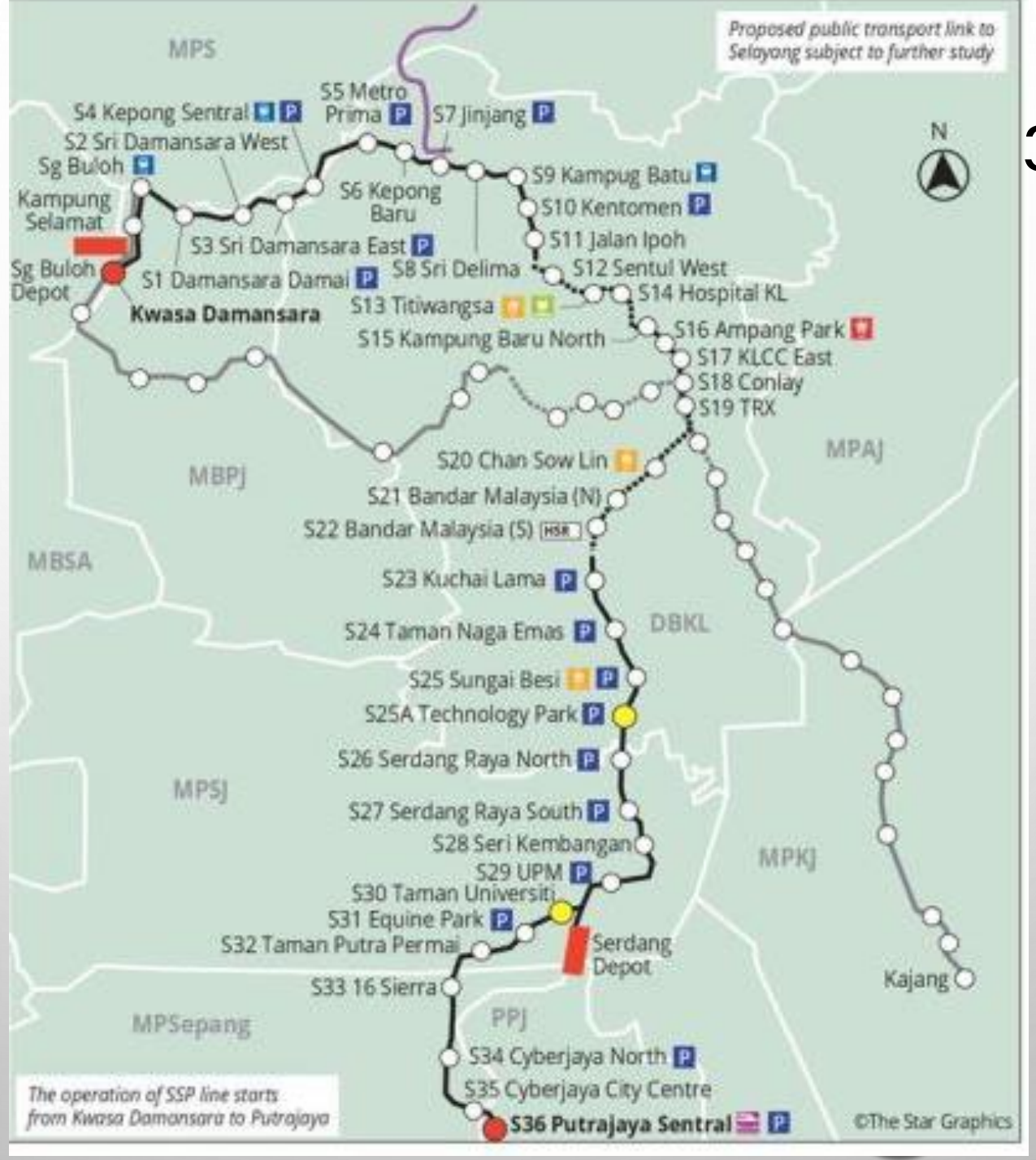
Park & Ride – **9,200** parking spaces

Expected passenger volume in 2022 – **533,000** passengers per day

Interchange stations – **11** (interchange to KTM, LRT, Monorail, ERL, HSR)

Journey time – **85** minutes from Kwasa Damansara to Putrajaya Sentral

Phase 1 Completion – **July 2021**



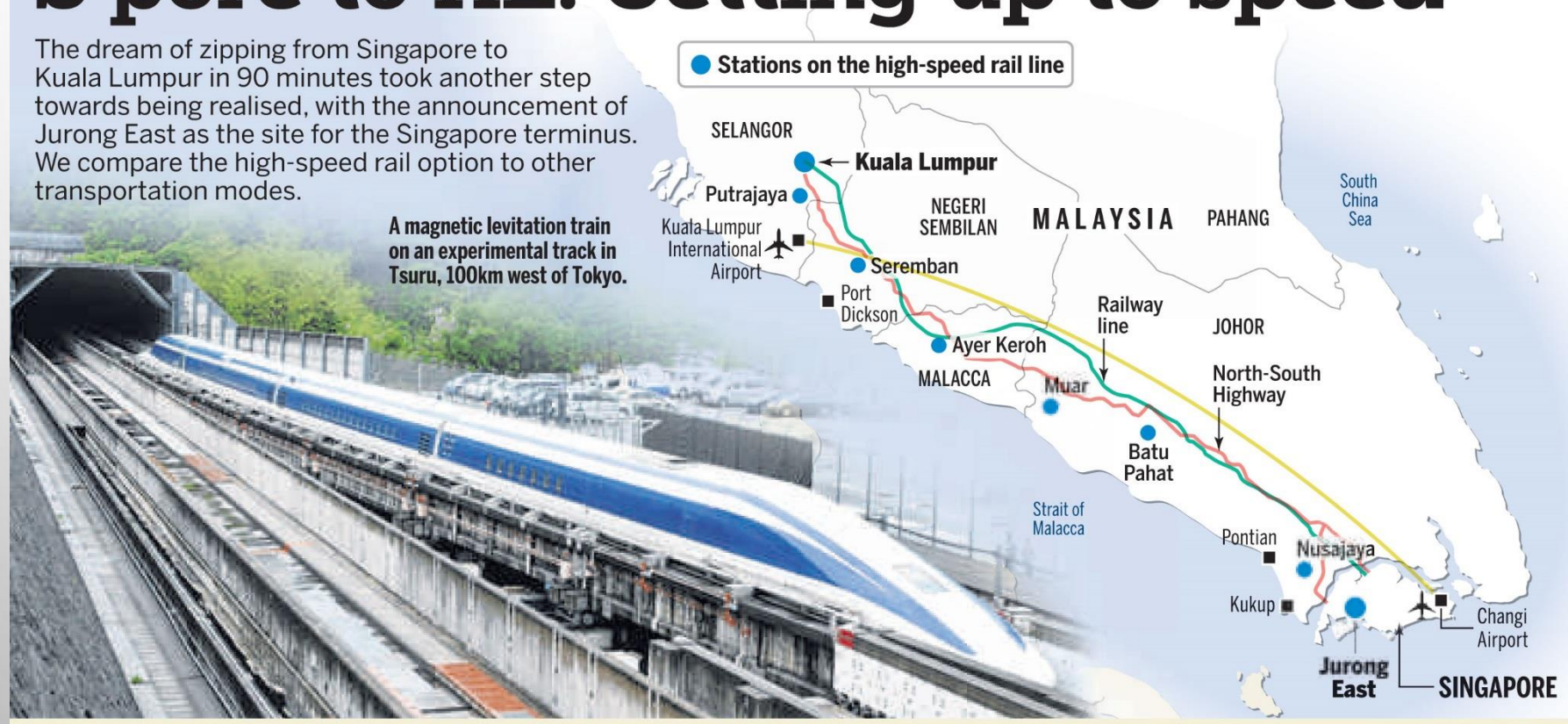
4. LRT 3 LINE


LRT 3
TRANSIT ALIRAN RINGAN 3 (LRT3)
BANDAR UTAMA-KLANG
Anggaran nilai projek
RM9 bilion
Laluan sepanjang
37km
(2km bawah tanah)
26
Stesen hentian (1 merupakan stesen bawah tanah)
Dijangka siap
Ogos 2020
One Utama
Damansara Utama
Tropicana
Lien Ho
Dataran Prima
Persada PLUS
Stesen 3
Temasya
Stadium
Seksyen 14
UiTM
i-City
SIRIM
Persiaran Hishamuddin
Glenmarie
Bukit Raja
Kawasan 17
Pasar Besar Klang
Jalan Meru
Klang
Taman Selatan
Tesco Bukit Tinggi
AEON Bukit Tinggi
Sri Andalas
Bandar Botanik
Johan Setia

4. HIGH SPEED RAIL

S'pore to KL: Getting up to speed

The dream of zipping from Singapore to Kuala Lumpur in 90 minutes took another step towards being realised, with the announcement of Jurong East as the site for the Singapore terminus. We compare the high-speed rail option to other transportation modes.



A magnetic levitation train on an experimental track in Tsuru, 100km west of Tokyo.

Speed	Frequency	Operator
BY HIGH-SPEED RAIL **90 mins**	To be decided	To be decided
BY TRAIN Woodlands station to KL Sentral station: **Six hours 40 mins**	Three trips daily	KTM
BY AIR Changi Airport to Kuala Lumpur International Airport: **One hour**	Dozens of flights per day	More than a dozen airlines
BY CAR From Singapore to KL (via the Causeway or Second Link): **Four hours** (About 300km)	Around 45,000 Singapore vehicles enter Malaysia daily	
BY COACH Singapore to KL (via the Causeway or Second Link): **Five hours**	Dozens of trips per day	More than a dozen bus operators

COST OF HIGH-SPEED RAIL

- Estimated: RM40 billion (S$14.8 billion). However, one railway expert said it could range from £15 million to £40 million (S$30 million to S$80 million) per km, depending on the complexity of construction. Going by a distance of 340km, this could mean a range of $10.2 billion to $27.2 billion.

COMPLETION DATE

- Possibly 2025 to 2030.
- While initially targeted for 2020, experts said some time between 2025 and 2030 would be more realistic.
- Malaysian Prime Minister Najib Razak said the construction would take approximately five years, while the design and tender phases would take one year each.

TECHNOLOGY

- Two to three times faster than normal railways, with speeds above 250kmh.
- Besides specialised tracks and rolling stocks, some systems also use magnetic levitation, which employs a powerful magnetic field to suspend trains above the rails.
- Advanced signalling system to monitor train locations and prevent collisions.

KL-S'pore in just 90 minutes

A high-speed rail link is to be built between Kuala Lumpur and Singapore that will cut travel time to just 90 minutes. Prime Minister Datuk Seri Najib Tun Razak and his counterpart Lee Hsien Loong said the connection, expected to be completed in 2020, would be a game changer, transforming the way Malaysia and the island republic do business and interact with each other.

» See reports on Pages 6 and 7

THE GREAT TRAIN PROJECTS

1. High-Speed Rail Link

- From **Kuala Lumpur** to **Singapore**
- Estimated date of completion **By 2020**

2. Rapid Transit System Link

- From **Singapore** to **Johor Baru**
- Estimated date of completion **2018**
- Travelling time: Less than **30 minutes**

Note: The minimum speed of high-speed train is 250kph

High speed rail will provide non-stop services to major regional centres and intercity services

Direct non-stop service

Intercity service

Potential Intercity stops

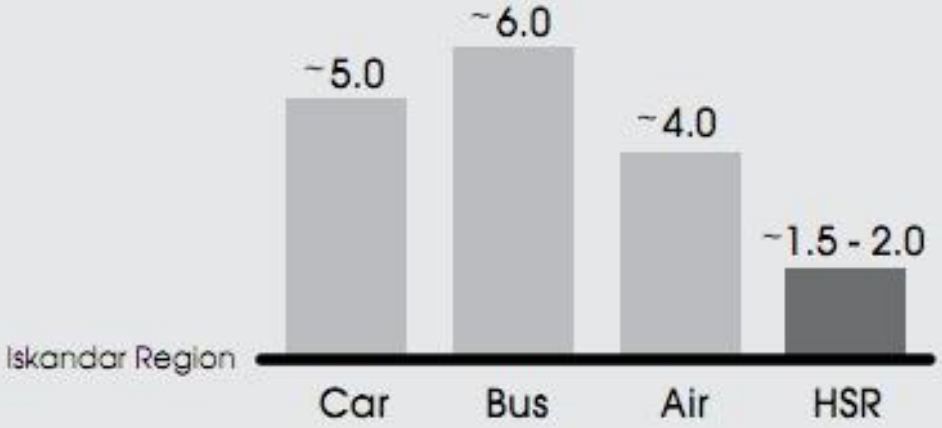
Phase I stops

Phase II stops

Average speeds of 350 to 450 kmph

Creating seamless and faster journeys

Door-to-door journey time in hours



BT Infographics

KL-S'pore High Speed Rail

Billed as a game changer, the HSR will reduce the 350km land journey from Singapore to KL to just 90 minutes. BT takes a closer look at this massive joint project that will become a reality by around 2026.

Feb 2013
PM Lee Hsien Loong and PM Najib Razak announce project after their leaders' retreat in Singapore

Dec 2013
Singapore and Malaysia form HSR work group

Apr 2014
Land Transport Authority calls tender to study engineering feasibility

May 2015
Jurong East chosen as site for Singapore's terminal station

Oct 2015
Joint Request for Information exercise called, 14 companies invited to present ideas

July 2016
Singapore and Malaysia sign non-binding Memorandum of Understanding on HSR

Aug 2016
Call for tender for Joint Development Partner; LTA to call tender for advance engineering studies

End 2016
Singapore and Malaysia to sign legally binding bilateral agreement

Late 2017
Tender for private company to provide and maintain HSR assets

2018-25*
Advance works and construction

2023*
Tender for international and domestic operators

2026*
HSR begins service

*Estimate

Express train can reach top speed of over 300km/h

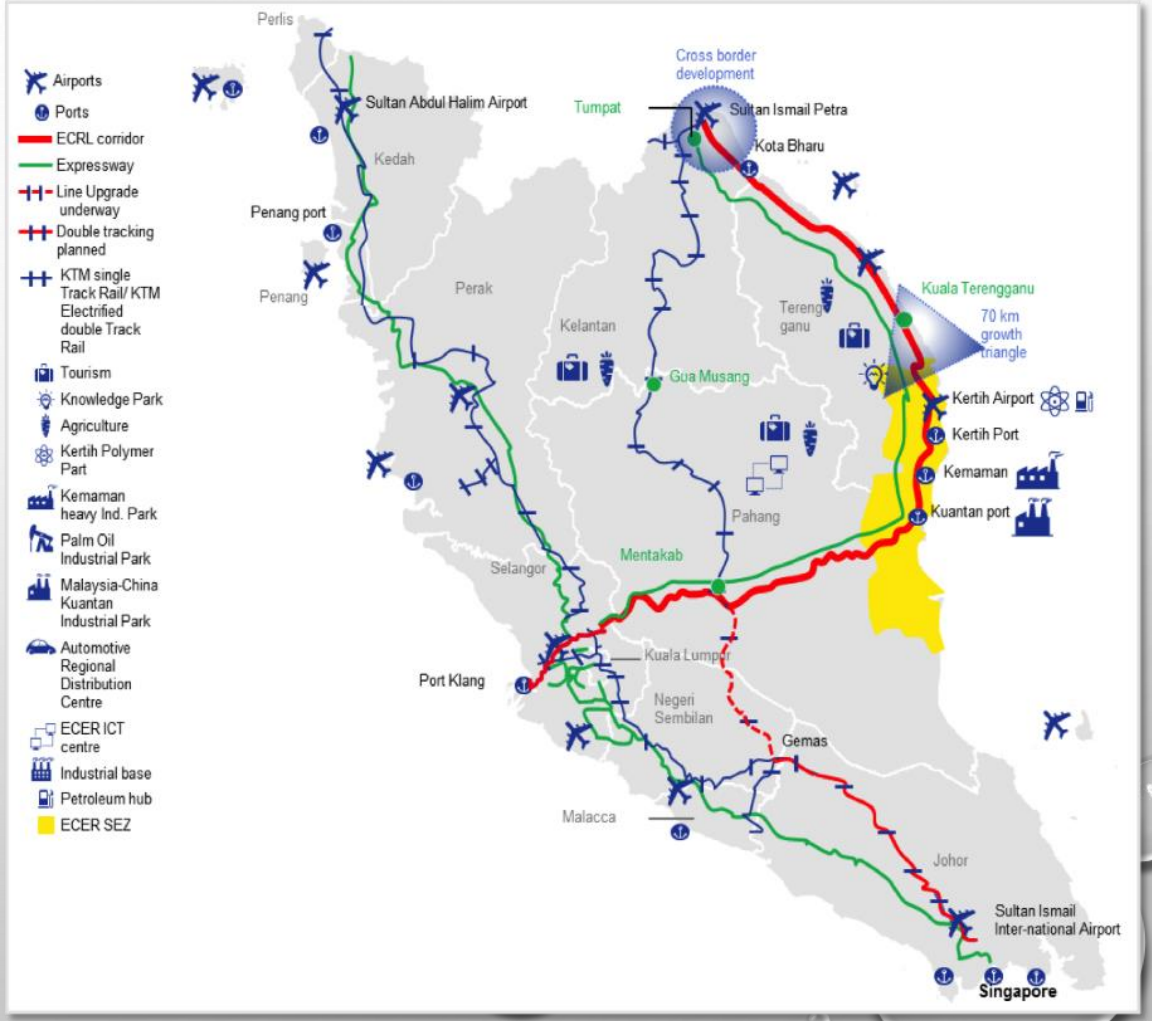
90 mins Travel time of the express train

8 ***Total number of stops, including terminal stations***

BT Graphics: Lee U-Wen, Hyrie Rahmat

EAST COAST RAILWAY LINE

- Connect townships: Port Klang, Integrated Transport Terminal Gombak, Bentong, Mentakab, Kuantan, Kemaman, Kerteh, Kuala Terengganu, Kota Bharu and Tumpat
- Estimated cost RM 55 billion
- Total length: 600 km



EAST COAST RAILWAY LINE

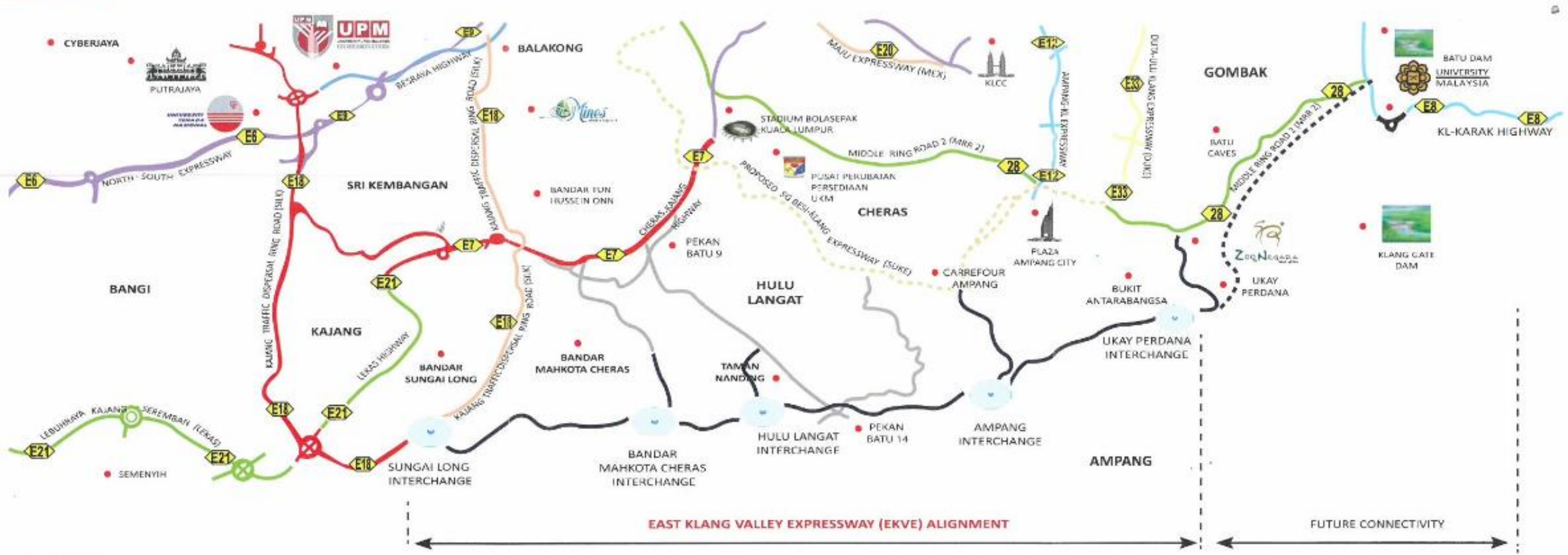
China set to build, finance Malaysia's East Coast Rail Line project

B. HIGHWAY CONSTRUCTION

1. EAST KLANG VALLEY EXPRESSWAY (EKVE)

- Dual-two lane tolled highway between Bandar Sungai Long and Ukay Perdana
- Total length: 36.16 km
- Benefits:
  - To disperse traffic for eastern Kuala Lumpur
  - Ease congestion on the existing MRR2
  - Catalyst for new developments in Semenyih and Kajang

Alignment

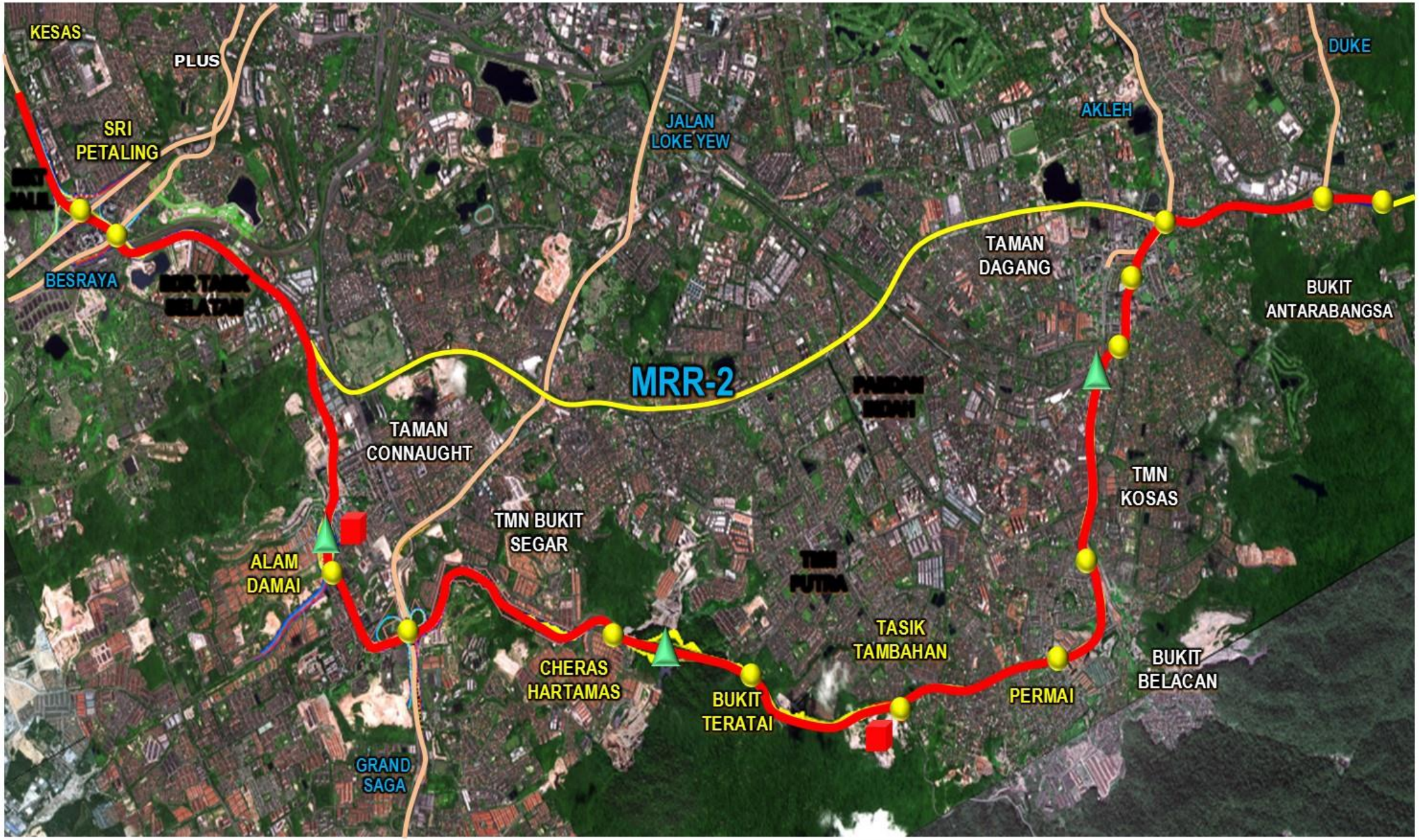


LEGENDS

- EAST KLANG VALEY EXPRESSWAY (EKVE)
- EKVE FUTURE CONNECTIVITY
- E21 LEBUHRAYA KAJANG-SEREMBAN (LEKAS)
- E7 GRAND SAGA CHERAS-KAJANG HIGHWAY
- E18 SISTEM LINGKARAN-LEBUHARAYA KAJANG (SILK)
- E6 E9 NORTH-SOUTH EXPRESSWAY
- 28 MIDDLE RING ROAD 2 (MRR2)
- E33 DUTA-ULU KLANG EXPRESSWAY (DUKE)
- E12 AMPANG-KUALA LUMPUR EXPRESSWAY (AKLEH)
- E8 KL-KARAK HIGHWAY

2. SUNGAI BESI-ULU KELANG EXPRESSWAY (SUKE)

- 31.8 km in length, 3-lane, dual carriageway
- Benefits:
  - Alternative to MRR II
  - Relieve congestion and improve traffic condition at major road
  - Direct link between new growth cheras-Kajang to Segambut/Kepong


KESAS
PLUS
SRI PETALING
JALAN LOKE YEW
AKLEH
DUKE
BESRAYA
TAMAN DAGANG
BUKIT ANTARABANGSA
MRR-2
TAMAN CONNAUGHT
TMN KOSAS
TMN BUKIT SEGAR
ALAM DAMAI
TASIK TAMBAHAN
CHERAS HARTAMAS
BUKIT TERATAI
PERMAI
BUKIT BELACAN
GRAND SAGA

3. PAN BORNEO HIGHWAY

The Pan Borneo Highway

> It was first talked about in the 1960s and when Malaysia was formed.

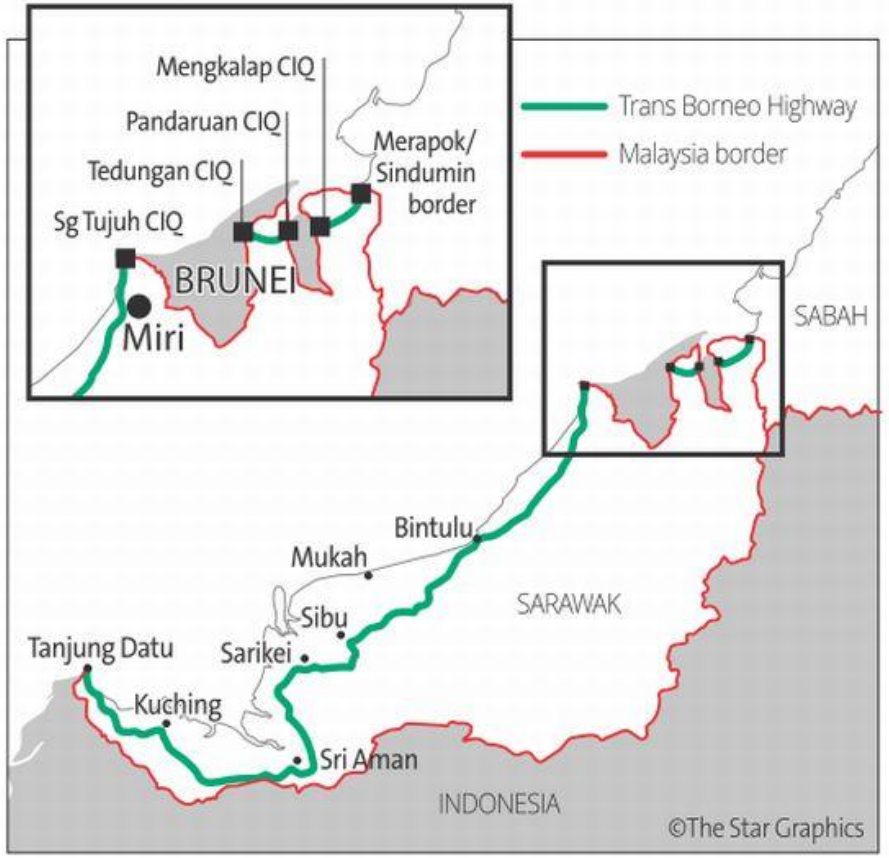
> The current trunk road is a two-lane single carriageway. The completed highway will be entirely four-lane dual carriageway.

> The highway between Sarawak and Sabah is estimated at about 1,700km. Sarawak's portion will span 1,076km.

> Travel time across Sarawak should reduce from about 19 hours to 12 hours.

> The targeted completion is 2023.

> Highway construction will lead to a multiplier effect of four times to the economy, based on studies of the North-South Expressway.



ACKNOWLEDGEMENT

- Some slides were sourced from Ir. Dr. Khoo Hooi Ling, Associate Professor, Civil Engineering Department, Universiti Tunku Abdul Rahman, Kuala Lumpur; Deputy Chairman, Highway and Transportation Engineering Technical Division, Institution of Engineers, Malaysia (IEM).

THANK YOU

from

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