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The Gemas-Johor Bahru Railway Electrified Double-Tracking Project: Steady Progress towards Completion

*Francis E. Hutchinson and Kevin Zhang**

EXECUTIVE SUMMARY

- In contrast to big-ticket items such as the East Coast Railway and the Kuala Lumpur High Speed Rail that have been called into question in recent months, the more low-profile Gemas-Johor Bahru Electrified Double-Tracking Project (EDTP) is making steady progress and is scheduled for completion by late 2021, with new train services operating by early 2022.
- Funded directly from federal government coffers, the RM 7.5 billion project will increase train speeds and capacity from Johor Bahru to Gemas—an important connector to the West and East Coast Rail lines.
- Expected benefits of the project include: improved freight capacity by rail between Malaysia's two largest ports, Port Klang and Port Tanjung Pelepas; increased ridership between Johor Bahru and a string of urban centres in Central Johor; demand for new goods and services particularly in the agricultural sector; and potential urban development in the state's interior.
- However, a number of structural issues could prevent the project from reaching its full potential. Chief among them are: a traditional preference for road-based transport, the operator's lack of autonomy over operational issues, and other ongoing upgrading projects that can affect freight capacity on the Gemas-Johor Bahru line.

** Francis E. Hutchinson is Senior Fellow and Coordinator of the Malaysia Studies Programme (MSP) and Kevin Zhang is Research Associate, at ISEAS - Yusof Ishak Institute. Thanks are given to Tan Juen for the maps in this article, and to Prof. Tham Siew Yean for her insightful comments.*

INTRODUCTION

Malaysia is well-known for its large-scale infrastructure projects. However, while highways, bridges, and interchanges have been a staple for decades, thinking among policy-makers has evolved in recent years. Following trends across the globe, physical and urban planning has gravitated away from car-based transport towards rail links between and around major urban centres. In addition to being more environmentally-friendly, rail connections can allow faster commutes for residents between large urban agglomerations as well as ambitious transit-oriented developments in new stations along the way.

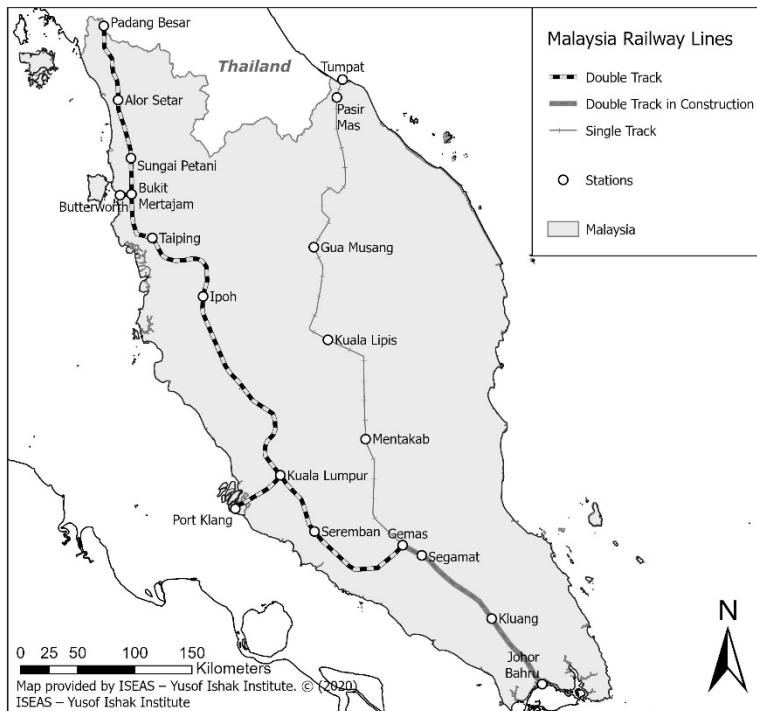
The Klang Valley did not have a rapid transit system until the mid-1990s, when the Ampang Light Rail Transit (LRT) and KTM Komuter service began operation. Since about 2000, the Malaysian government has invested heavily to improve rail transport in the Klang Valley, leading to the launching of the Kajang MRT in 2016. There are now a number of inter-city rail links in the works. Notable examples include: the East Coast Railway Line (ECRL), running from Port Klang in the west across the Peninsula to Kuantan in the east and then up to the border with Thailand; and the Kuala Lumpur-Singapore High Speed Rail (HSR) between the two capitals and seven urban centres in between.

However, in past months, the size, complexity, and cost of these initiatives have given the various administrations in power at the federal level reason to pause. In contrast to these large-ticket items, which are expected to cost RM 42 billion and RM 60 billion respectively, progress on the lower profile Gemas-Johor Electrified Double-Tracking Project (EDTP) has been consistent despite changes in the country's leadership.

THE PROJECT

The EDTP involves replacing the current single rail line with a double track, and laying electrical cabling along a 197 kilometre stretch of track between Johor Bahru and the town of Gemas in Negri Sembilan. While small, Gemas is at an important crossroads between Malaysia's two major rail arteries, called the West Coast and East Coast lines, respectively. Beyond allowing more trains to ply the route, these upgrading works will enable diesel-powered trains to be replaced with faster electrical equivalents. The Gemas-Johor Bahru route is the final piece of the existing Keretapi Tanah Melayu Berhad (KTMB) network to be upgraded and, once complete, there will be a continuous connection running from the southern tip of the Peninsula all the way to Padang Besar on the Thai border in the north. (see map 1)

Map 1: Gemas-Johor Bahru EDTP within the Malaysian railway network



Originally estimated at RM 9.43 billion, the EDTP was awarded during former Prime Minister Najib Razak’s tenure, to a Chinese consortium which comprised the China Railway Construction Corporation, China Railway Engineering Corporation and China Communication Construction.¹ However, unlike the ECRL and other Chinese-constructed rail projects in the region, the Gemas-Johor Bahru EDTP is not financed by Chinese loans but instead fully paid by the Malaysian federal budget.

Upon coming to power, the Pakatan Harapan administration agreed to proceed with the contract, albeit with a 20 percent discount.² The project, now estimated at RM 7.5 billion, kicked off a few months after the May 2018 General Election.³

As stipulated by the contract’s requirements, 50 per cent of the project’s value must be undertaken by local firms. The SIPP-YTL consortium has been appointed as the Malaysian sub-contractor to complete civil works along the route, including train stations.⁴ This consortium consists of SIPP Rail Sdn Bhd and Syarikat Pembinaan Yeoh Tiong Lay Sdn Bhd (YTL). YTL has past experience constructing rail projects in Malaysia, including the rail link between Sepang International Airport and KL Sentral.⁵ SIPP Rail is a private firm owned by Sultan Ibrahim of Johor.⁶

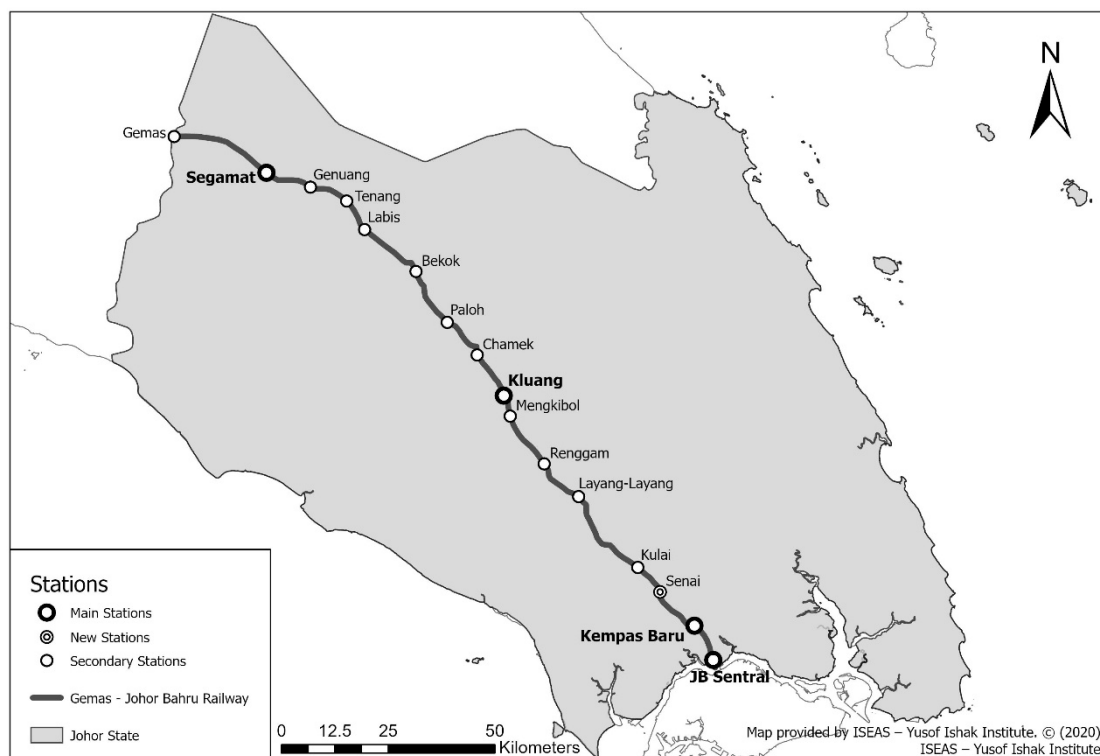
THE POTENTIAL BENEFITS

Upon completion, the EDTP will allow the new Electric Train Service (ETS) to travel at a maximum speed of 140 kilometres per hour. As passenger train services between Kuala Lumpur and Johor Bahru will call at stations along the route, the average travelling speed is likely to be approximately 100 kilometres per hour. While not a high-speed rail link, the ETS is still twice the average speed of the existing diesel passenger trains. Consequently, travelling time between Kuala Lumpur and Johor Bahru along this route will be shortened

from the current 7 to 4 hours. This will provide an attractive alternative to inter-state buses, which currently require 4.5 hours to go between the two cities even without traffic congestion.⁷

The Gemas-Johor Bahru EDTP is touted as a catalyst to spur economic development in the central part of Johor. The North-South Expressway passes through Johor’s West Coast districts, facilitating logistics and industrial activities between Johor Bahru and towns like Batu Pahat and Muar. In contrast, the Gemas-Johor Bahru line cuts through central Johor – via the districts of Segamat, Kluang and Kulai – which are not well-served by existing transport links (see map 2).

Map 2: Gemas-Johor Bahru EDTP route



Once operational, residents living in towns along the route will be able to commute daily to Johor Bahru. This transport option would be increasingly attractive if KTMB decides to provide hourly or half-hourly commuter services, similar to the KTMB Komuter services on offer in the Klang Valley and between Northern Perak and Perlis. Looking at past experience, the Ipoh-Padang Besar EDTP completed in 2015 enabled annual ridership to more than double from 1,692,000 in 2014 to 3,933,000 in 2018.⁸

With the upgrades, the line’s freight capacity would also expand considerably. An electrified and double-tracked railway network between Gemas and Johor Bahru would also facilitate large-scale cargo shipments between Malaysia’s two largest ports, Port Klang near Kuala Lumpur and Tanjung Pelepas west of Johor Bahru.

Industries which produce goods on a voluminous scale stand to benefit particularly from the increased capacity. Given that land prices in greater Johor Bahru are relatively expensive, these industries may be encouraged to relocate to towns along the railroad such as Segamat,

Kluang, and Kulai. Kluang district, for instance, announced plans to establish a new industrial park for light industries.⁹ In addition, in 2019 the Iskandar Malaysia investment corridor was expanded to include parts of Kluang district.

Improved rail capacity along this route could also revitalise the stalled Segamat Inland Port (SIP). Launched in 1999 and roughly equidistant between Port Klang and PTP, SIP ceased operations in 2006, partly due to freight capacity constraints arising from the single-track network.¹⁰ The federal government has announced plans to rejuvenate the dry port and, should the plan be successful, the SIP could encourage firms to establish or relocate their production lines to northern Johor, where land costs are generally cheaper. The wider Segamat district was incorporated into the East Coast Economic Region in 2018, and if successfully rejuvenated, SIP could serve as a transshipment hub for the East Coast and Southern Pahang.¹¹ For example, Padang Besar Container Terminal in Perlis is a dry port serving as a transshipment hub for goods in Southern Thailand to be exported through Penang port. The terminal has a rail link to Penang Port and contributes 30 to 40 per cent of the latter's annual container volume.¹²

Increased passenger numbers could also open up greenfield sectors such as agri-tourism. Zenxin Organic farm located in Kluang district, for instance, claims to be the largest organic farm in Malaysia.¹³ Beyond catering to domestic tourists, travellers from Singapore represent a larger market if successfully tapped.

In addition to work on the tracks, the project envisions ambitious upgrades to the train stations along the route.¹⁴ There are 12 existing stations between Gemas and Johor Bahru, and the EDTP will also construct a new railway station in Senai, near Johor's airport, to complement upcoming residential and industrial developments within the area.¹⁵

CHALLENGES

While the EDTP offers a number of advantages, there are a number of challenges.

At present, road-based transport remains the option of choice for most Malaysians, as the country has a well-developed highway network such as the North-South and East Coast Expressways, and has promoted car ownership for decades. In contrast, public transport remains under-developed in Malaysia. Without effective local bus services for last-mile connectivity, train stations are handicapped in their ability to function as the arterial "hub" for surrounding areas under a hub-and-spoke model.

Furthermore, the Kuala Lumpur to Johor Bahru route is presently dominated by point-to-point express bus services. For KTMB to vie for a share of the pie, its ticket price has to be competitive. A one-way trip between Kuala Lumpur and Johor Bahru on an express bus costs approximately 35 Ringgit. While KTMB has not announced the price of an ETS trip between Kuala Lumpur and Johor Bahru, the price is estimated to be around 60 Ringgit.¹⁶ With ETS fares between Kuala Lumpur and Johor Bahru likely to cost twice as much as existing options, KTMB may need to offer discount fares during non-peak hours to increase ridership.

The Johor State Government has attempted to address last-mile connectivity through the provision of free bus services (Bas Muakafat Johor) where transport hubs are connected

with the surrounding housing estates.¹⁷ However, the frequency and coverage of such services remain relatively sparse. To fully exploit the benefits of the Gemas-Johor Bahru EDTP, local bus services need to be well integrated with rail transport.

In addition, the Malaysian rail network has certain structural difficulties. Using the Ipoh-Padang Besar EDTP as a reference, the Gemas-Johor Bahru EDTP may be less successful in enabling higher freight volumes as compared to passenger numbers. Despite the completion of the Ipoh-Padang Besar EDTP in 2014, freight volumes on the national rail network have remained stagnant in subsequent years. One reason could be KTMB's decision to increase freight and cargo rates in 2015¹⁸ Rising rates for freight and cargo transport may have driven companies to switch to road transport. In addition, the state-owned railway company lacks autonomy to purchase and manage its assets, including freight and cement wagons, since such decisions are within the purview of the Ministry of Transport – rather than KTMB itself.¹⁹ KTMB has recently announced plans to purchase new freight wagons through private financing and partnership rather than government procurement, though it remains to be seen if the plan will go ahead under the new Perikatan Nasional government.²⁰

Furthermore, ongoing track rehabilitation and upgrading linked to the Klang Valley Electrified Double Track (KVDT) has severely restricted freight capacity to Port Klang. Rail segments undergoing rehabilitation are capped with a speed limit, and only one track is operational despite the double tracking. The KVDT is only expected to be completed in 2026, meaning limited throughput until then.

In other words, unless these deeper issues are resolved, the Gemas-Johor Bahru project may increase ridership and generate more revenue for the operator, but be unable to generate the wider expected economic benefits.

OUTLOOK

Upon coming to power in 2018, the Pakatan Harapan administration explored converting the KTMB link between Kuala Lumpur and Johor Bahru into a “high speed option” as an alternative to the KL-Singapore HSR.²¹ Under this scenario, a new rail track would be built along the (newly) upgraded double track and electrified network at a cost of RM 20 Billion. However, this alternative is unlikely to be adopted, as the KL-Singapore HSR crosses a number of states and links larger urban centres than does the Gemas-Johor Bahru EDTP. In addition, the travelling time along this route would be 130 minutes, as opposed to the targeted 90 minutes.²²

Thus, during the Pakatan Harapan administration, project work on the EDTP proceeded as originally planned. Prior to the outbreak of the COVID-19 pandemic, the project was progressing ahead of schedule and was expected to be completed by October 2021 -- instead of the originally planned 2022.²³

While construction was suspended after the Movement Conditional Order (MCO) of 18 March 2020, the Johor state government gave permission for the contractor to resume specific tasks in late April.²⁴ As most economic sectors in Malaysia restarted on 10 June 2020 under the Recovery MCO, the construction on the Gemas-Johor Bahru EDTP is expected to significantly pick up speed.

The new Perikatan Nasional government is likely to ensure that Gemas-Johor Bahru EDTP is completed according to plan. In addition to the expected direct and indirect economic benefits arising from the project, Johor is the power base of Prime Minister Muhyiddin Yassin, and the Gemas-Johor Bahru line passes near his constituency, Pagoh. The current Menteri Besar of Johor, Hasni Mohammad is also a key backer of the project. He was the state cabinet member for Works, Transport, and Infrastructure under the previous Barisan Nasional government, and was involved in finalising the design of the Gemas-Johor Bahru EDTP.²⁵

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¹⁴ Ibid.

¹⁵ The Star. "Three more stations for Gemas-Johor Bahru rail project". 29 October 2018.

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¹⁷ Venesa Devi. "Taken for a ride". *The Star*, 14 Feb 2019.

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<<https://www.pocketnews.com.my/2014/11/21/ktmb-raising-cargo-rates-2015/>>

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²² Since coming to power in March of this year, the Perikatan Nasional government has not commented on this alternative option, aside from seeking to reduce the building cost of Kuala Lumpur-Singapore HSR.

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