

Railway Transportation Opportunities



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Recently, railway transportation and its associated infrastructures have been highlighted extensively in the local media. Refocusing on railway transportation opportunities has highlighted the future significance and potential of railway development in Malaysia.

Suffice to say it is now at an all-time high and, following the recent completion of the Klang Valley Mass Rapid Transit (KVMRT), Line 1 from Sg. Buloh to Kajang, which began operations on 17 July, 2017, one can truly grasp the significance of the MRT services. Through a self-effacing appraisal of the past, recent and close-future development, the author will attempt to analyse the opportunities of rail transportation and connectivity in Malaysia.

PRE-INDEPENDENCE DAYS

Railways have been a part of our lives for more than 100 years. Railways began because of the need to transport tin from mines in the hinterland of the west coast states to coastal areas. The first railway line, opened on 1 June, 1885, was 13km long, linking Taiping and Port Weld in the state of Perak.

A second line was opened a year later to link Kuala Lumpur (again the centre of tin mining activity in Klang Valley) and Port Swettenham (Port Klang today) (1). Subsequently, several branch lines (between Batu Junction and Batu Caves, Bukit Mertajam and Butterworth, Tapah Road and Teluk Intan, Kempas and Tanjung Pelepas, Kempas and Pasir Gudang, Pasir Mas and Rantau Panjang) were built.

These formed the early north-south connectivity of two main lines, namely the KTM West Coast Line between Padang Besar in Perlis and Singapore in 1913, and the KTM East Coast Line between Gemas in Negeri Sembilan and Tumpat in Kelantan in 1930 (see Figure 1).

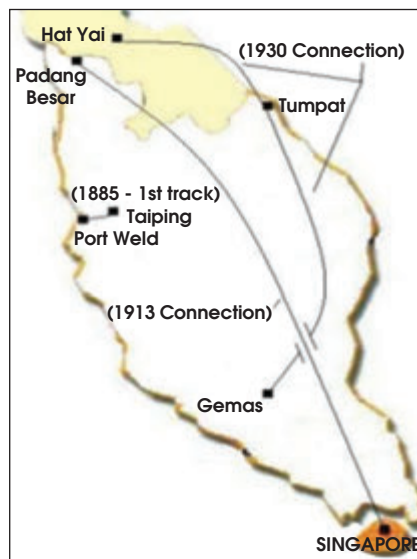


Figure 1: KTM main railway connectivity

In 1923, the Johor-Singapore Causeway was opened, connecting Singapore's railway network with that

of Malaya. This network is also linked to the Thailand railway network in Hat Yai. The network covers most of the 11 states in Peninsular Malaysia. In East Malaysia, only Sabah has railway tracks.

PAST AND RECENT PAST DEVELOPMENTS OF RAIL TRANSIT IN KLANG VALLEY

Since then, there were no railway developments until late 20th century when the Light Rail Transit (LRT), also known as the Star LRT Line (or Ampang/Sri Petaling LRT Line), began service in July 1998 in conjunction with the Commonwealth Games which was held for the first time in Kuala Lumpur.

The Star LRT was first conceived in the 1981 Transport Master Plan, when the government proposed a network



Figure 2: Klang Valley rail transit map (2015)

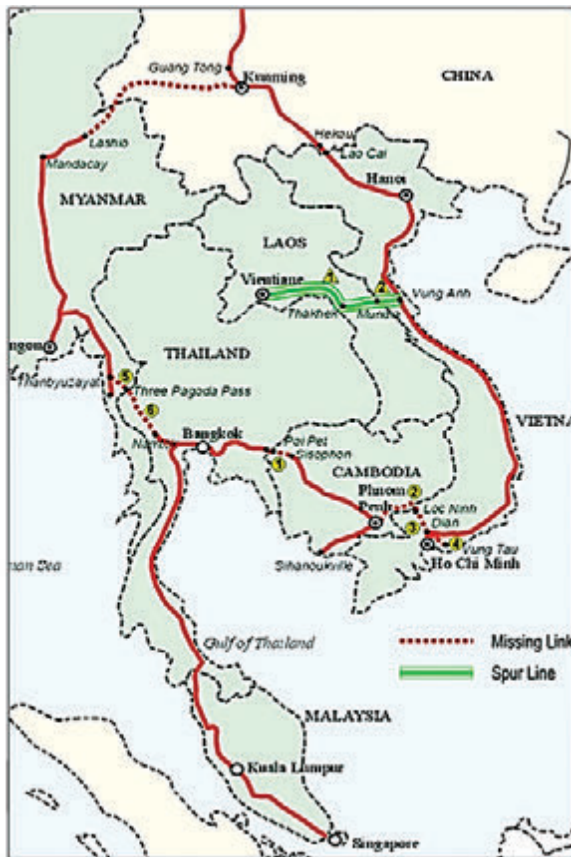


Figure 3: Singapore – Kunming Railway Link

of LRT lines connecting Kuala Lumpur to the surrounding areas.

A second LRT line, Putra LRT Line (or Kelana Jaya LRT Line) commenced full service on 1 June 1999 (construction started in 1994, about the same time as the Star LRT Line); this was the first fully automated, driverless rail system.

Like in many other countries, Malaysia also has an airport express rail link service, linking Kuala Lumpur (KL Sentral Station) and Kuala Lumpur International Airport (KLIA) in Sepang. The service is run by Express Rail Link Sdn. Bhd., which began operations on 14 April, 2002. In 2003, KL Monorail, the first urban monorail system in Malaysia, was opened.

Together with the KTM Kommuter Lines running on existing railway lines, these light rail transit lines form the base rail network for the Klang Valley (Figure 2).

RAILWAY ELECTRIFICATION

Railway electrification is a relatively recent development in Malaysia. While the first railway dated back to 1885, it was not until 1995 that the first

electrified railway service, KTM Kommuter, began operations. The term “railway electrification” mainly refers to the project to upgrade, by constructing a double-track, and to electrify the KTM West Coast Line from Padang Besar to Johor Bahru, including the entire KL-Port Klang branch line as well as the segment between KL and Sentul-Batu Caves branch line.

Initially, the double-track upgrading works were beset by problems and delays; however, the first segment from Rawang to Ipoh was completed in early 2008, followed by the segment between Seremban and Gemas in 2013. By October 2014, the northern stretch between Padang Besar and Ipoh

was completed. The remaining southern segment of the double-track upgrading works between Gemas and Johor Bahru is incomplete in the north-south railway line measuring total 808km. The corridor is part of the Singapore-Kunming Rail Link (SKRL) network (Figure 3).

THE FUTURE OF RAIL

With rapid development taking place in Greater KL/Klang Valley, an

integrated, comprehensive, affordable and comfortable public transport system is needed. The Land Public Transport Master Plan (2013) has set a number of goals and targets to achieve 40% modal share for public transport in the urban areas by 2030. It’s not surprising that railway has been identified as the backbone for public transportation. There’s been accelerated railway development in recent years and the completion of LRT Extension Line in 2016 and MRT Sg. Buloh-Kajang Line (MRT Line 1) in 2017, has further improved the connectivity and eased travelling in Klang Valley.

Urban Rail/Rapid Transit (LRT, MRT):

To date, the Klang Valley Mass Rapid Transit (KVMRT) System is one of the most important and largest transport infrastructure projects Malaysia has embarked on. The KVMRT project sees the construction of three MRT lines (MRT Line 1, MRT Line 2 and MRT Line 3), which will provide a major boost in the integration and efficiency of urban public transport. The 52.2km MRT Line 2 (Sg. Buloh-Serdang-Putrajaya Line) is under construction and is expected to be fully operational in 2022 while the third line (Circle Line) is awaiting confirmation for its alignment; it is set to be on public display in mid-2018. Recently, the Government decided to expedite the implementation of Line 3 with completion targeted for 2025. Figure 4 summarises the development journey of KVMRT within a short span of about 1½ decades.



Figure 4: Development journey of Klang Valley MRT

Besides KVMRT, the Urban Rail Development Plan (2010) (2), has also laid down an important future line, LRT3, connecting the Western Corridor of Klang Valley. LRT3 links Bandar Utama to Klang, with an overall distance of 37km and 25 stations along the route. Construction began in 2017 and it is expected to be completed in 2020/21.

In the south of the peninsula, the Rail Transit System (RTS) is a 4km shuttle system between Johor Bahru in Malaysia and Woodlands in Singapore. Conceived in 2010 and announced in 2011, the RTS serves as a convenient and cost-effective shuttle system integrated with both public transport systems on both sides of the border with co-located Singapore and Malaysia CIQ facilities. The rail transit system is targeted to open for service by December 2024.

Suburban Commuter Rail: To unlock the potential growth of the East Coast Economic Region (ECER), the East Coast Rail Link (ECRL) has been identified as a key enabler for the east coast region (Kelantan, Terengganu and Pahang) that can connect economic centres including industrial areas and provide an efficient link to Greater KL/Klang Valley. ECRL is a high impact infrastructure project that will form the backbone of ECER's multimodal transport infrastructure in complementing existing road/expressway infrastructure and KTMB East Coast Line and ports. There will be a total length of 688km of railway (including approximately 80km connecting ITT Gombak to Port Klang) and construction is planned to commence in early 2018. It is expected to create about 80,000 jobs and another 6,000 during operations as well as train up 3,000 students under the Road and Belt Initiative (3). See Figure 5.



Figure 5: Fact sheet of East Coast Rail Link

On a separate note, the last stretch of double track electrified railway between Gemas and Johor Bahru is expected to be completed by 2020/21, accomplishing Malaysia's commitment to the Singapore-Kunming Rail Link (SKRL).

High Speed Rail (HSR): Meanwhile, the KL-Singapore HSR is moving ahead with the goal of reaching both cities quickly and safely, thereby strengthening the link between two of Southeast Asia's most vibrant and fast-growing economies. Additionally, the HSR presents an opportunity to build and rejuvenate smaller cities in Peninsular Malaysia by connecting them to the two major metropolises. The HSR will connect 5 intermediate stops in Malaysia to Singapore, following a coastal route.

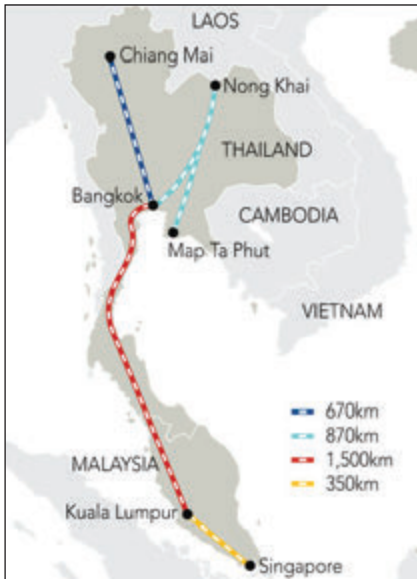


Figure 6: Planned major High Speed Railway projects in Southeast Asia

The KL-SG HSR appears to be just one of many links currently under development. Lately, Thailand has also expressed interest in holding talks with Malaysia for the construction of a HSR line from KL to Bangkok. Figure 6 shows other planned major high-speed railway projects in the region.

NEW OPPORTUNITIES

Malaysia’s railway transportation is enjoying a time of unprecedented development thanks to huge government investments and a series of aggressive favourable policies.

Compared with just 20 years ago, there are more commuters and better rail connectivity. This growth trend is set to continue. Based on the announced projects as discussed above, another 1,500km of railway lines will be built by 2030. This opens up plenty of opportunities for engineers to engage with and be a part of this railway development journey (Figure 7).

The future has a way of arriving unannounced! ■

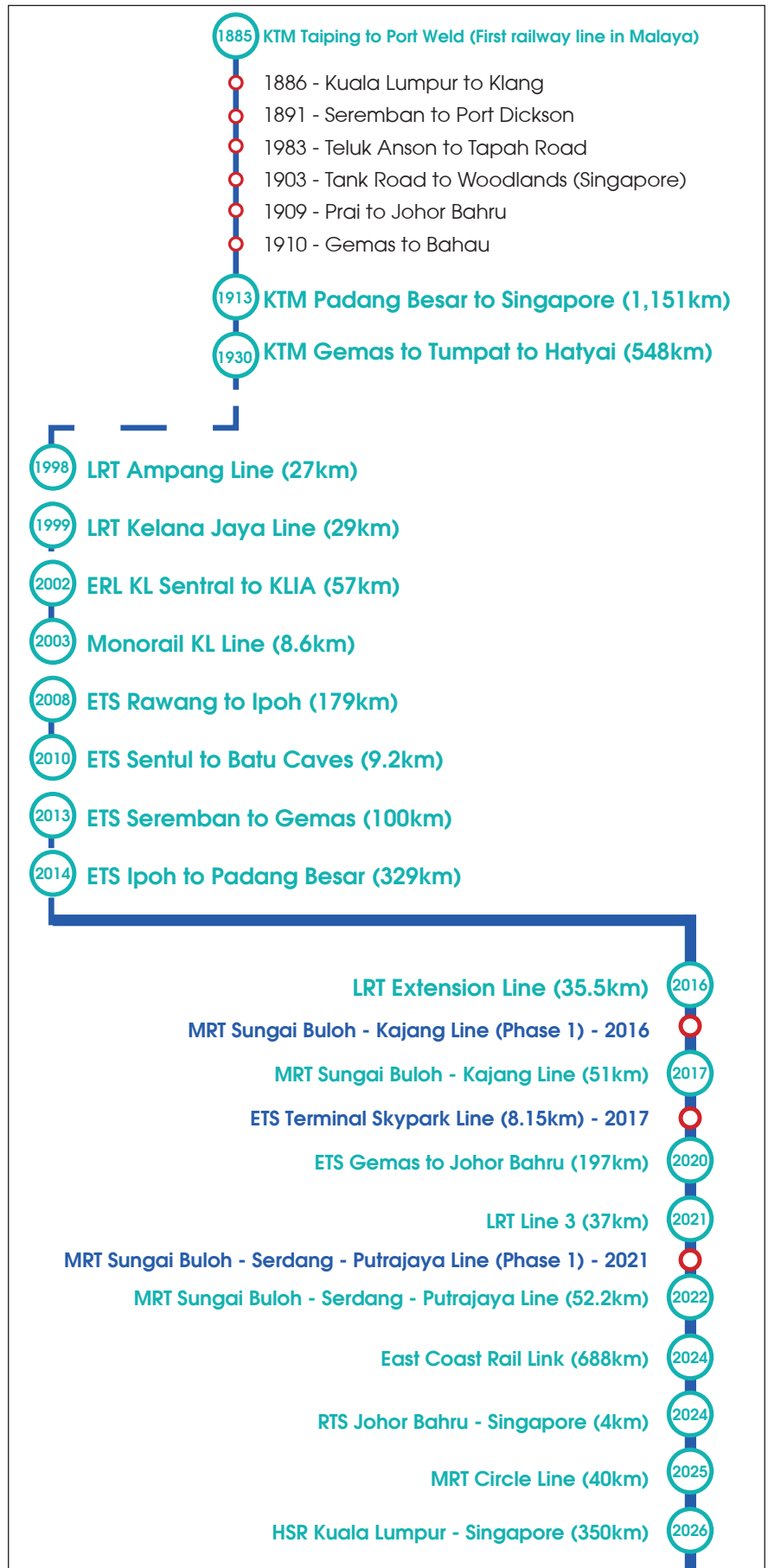


Figure 7: The chronology of rail development in Malaysia