MALAYSIA'S RAILWAY HERITAGE

PRESENTED BY:
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PRESENTED TO:
Asia Pacific Heritage and Tourist Rail Organisation (APHTRO)

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About Me

01 Railway Enthusiast

02 Aspiring Writer

FMT

The MacArthurs: the trains that rehabilitated Malaya's railways

1 YEAR AGO
FMT Reporters

Share

> *Designed by the US and named after General Douglas MacArthur, these locomotives played a significant role in post-World War II recovery.*

03 Proud Malaysian!

Timeline

1885

First Steam-hauled railway in Malaya from Taiping to Port Weld

1900

Malaya's railways consolidated to form Federated Malay States Railway (FMSR)

1941

Japanese Invasion of Malaya

1957

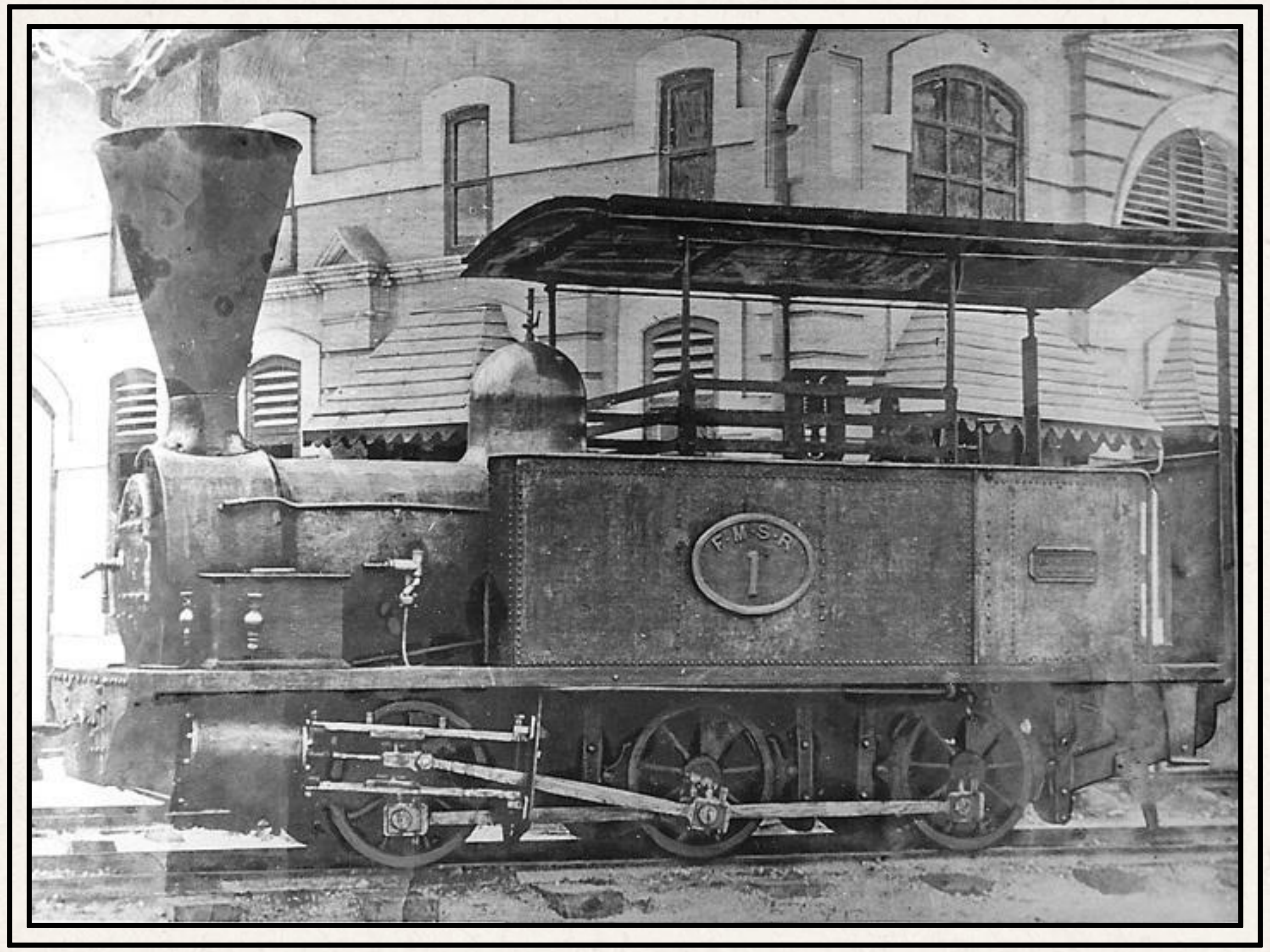
Malaya's Independence to Malaysia, Keretapi Tanah Melayu (KTMB) established

Present Day

West Coast Mainline electrified (Padang Besar - Johor Bahru), East Coast Rail Line (ECRL) under construction

Major Developments

Major Developments

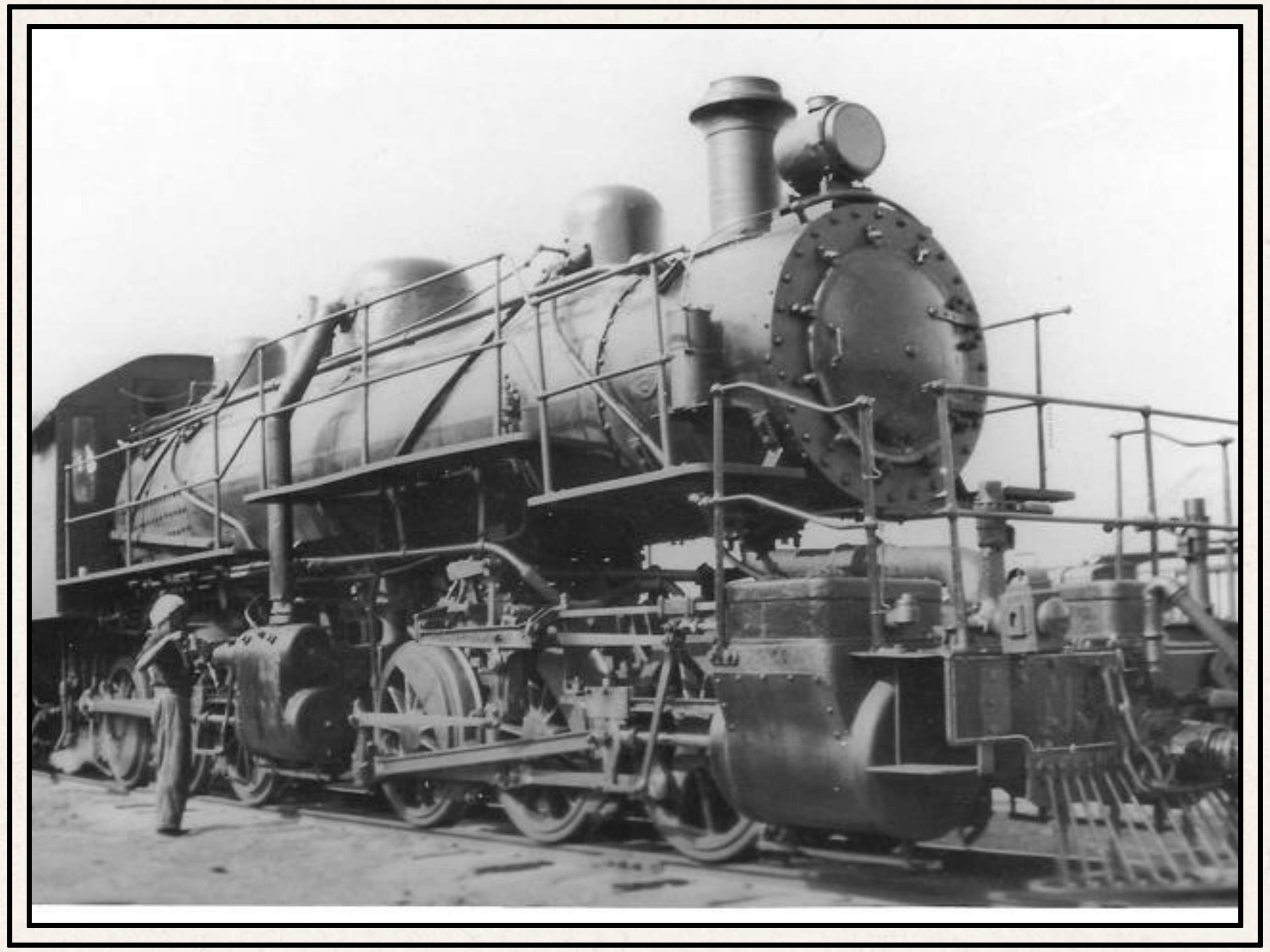


FMSR No.1

- First steam locomotive to operate in Malaya
- Built in 1881 for Ransomes & Rapier (one of only 23 locomotives built by the company.)
- Rebuilt in 1903 and spent her last year's as a shunter at the FMSR's Sentul Works
- Scrapped in 1920

Manufacturer	Number	Year	Type	Cylinders	Driving Wheels	Name	Notes	Disposal
Ransomes and Rapier	150	1881	0-6-0T	9" x 12" oc *	2' 3"	Perak	(1) became FMSR 1	Scrapped 1920

Major Developments

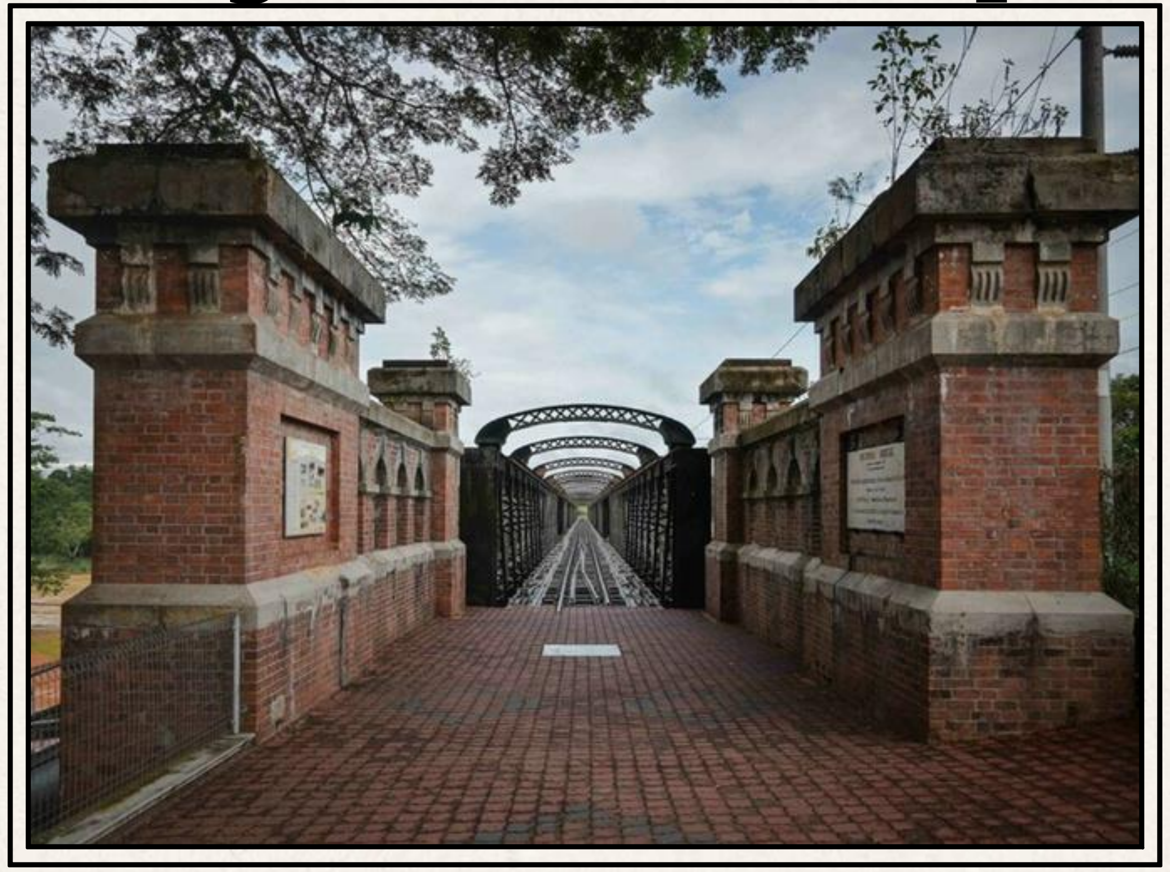


FMSR Mallet

- Built in 1919 initially for the Russian government but cancelled after the Revolution.
- Purchased in 1920 by the FMSR and used on the Kuala Lumpur to Port Swettenham (now Klang) Line.
- Scrapped in 1932
- Similar locomotive preserved in the Philippines (Insular Lumber Company No.7).

Leading particulars:	
Introduced:	c 1922
Wheel arrangement:	0-6-6-0
Articulated wheel-base:	24 feet.
Loco weight:	49 tons 2 cwt
Tender weight:	22 tons 15 cwt
Overall length:	54' 9½"
Max. axle load:	7 tons 11 cwt
Cylinders (4):	19" x 23" (L), 13" x 23" (H)
Boiler pressure:	180 lbs
Heating surface:	1,308 sq. feet.
Fire grate:	19.8 sq. feet.
Tractive effort:	18, 250 lb
Fuel capacity:	256 cu. ft.
Water capacity:	2,122 gallons.

Major Developments



Victoria Bridge

- Oldest STANDING railway bridge in Malaysia
- Opened in 1900 by Sir Frank Swettenham and the then Sultan Perak, 353 metres long.
- Spans the Perak River to serve the rich tin mining industry in the area
- Closed in 2002 when a new double track, electrified bridge was opened parallel to it, now a tourist attraction.

Guillemard Bridge

- Oldest and longest railway bridge in active service in Malaysia
- Opened in 1924 by Sir Laurence Guillemard, 660.2 metres long.
- Steel truss structures manufactured by The Metro Carriage Wagon & Finance Co of Wednesbury, England.
- First bridge to cross the Kelantan River on the East Coast Mainline

Major Developments

WD CLASS

- Designed by United States Army Transportation Corps (USATC) as a lightweight narrow gauge wartime locomotive (S118 Class)
- Nicknames 'MacArthurs' after General Douglas MacArthur.
- Only 2-8-2 'Mikado' mainline tender locomotive on the FMSR's roster.
- 96 assembled at FMSR's Sentul Works in 1947, 28 used on FMSR and later KTMB, remaining dispatched to India, Burma, Thailand and East Africa
- All Malaysian examples scrapped, several survive overseas with 4 in tourist operations

Leading particulars:			
Wheel arrangement:	2-8-2 with 8-wheel bogie tender.	Boiler pressure:	185 lbs, superheated.
Fire grate:	27.6 sq. ft.	Heating surface:	1,001 sq. ft.
Fuel capacity:	8 tons.	Water capacity:	4,168 gallons.
Max. axle load:	9 tons.	Fixed wheel-base:	13 ft 6 in.
Driving wheels:	4ft 0in.	Tractive effort:	20,100 lbs.
Cylinders:	16in x 24in.	Weight in w/o:	52 tons 9 cwt.

Major Developments

FMSR O Class

- Most notorious steam locomotives to operate in Malaya
- Built in 4 batches from 1938 to 1946, totalling 66.
- Used Caprotti valve gear, utilising rotary cams to drive wheels instead of conrods, allowed them to climb the Taiping Pass unassisted.
- Similar valve gear used on 71000 'Duke of Gloucester'

Leading particulars:			
Wheel arrangement:	4-6-2 with 8-wheel bogie tender.	Boiler pressure:	250 lbs, superheated.
Fire grate:	27.0 sq. feet.	Heating surface:	1,109 sq. feet.
Fuel capacity:	10 tons.	Water capacity:	3,430 gallons.
Max. axle load:	12.75 tons.	Fixed wheel-base:	10 feet.

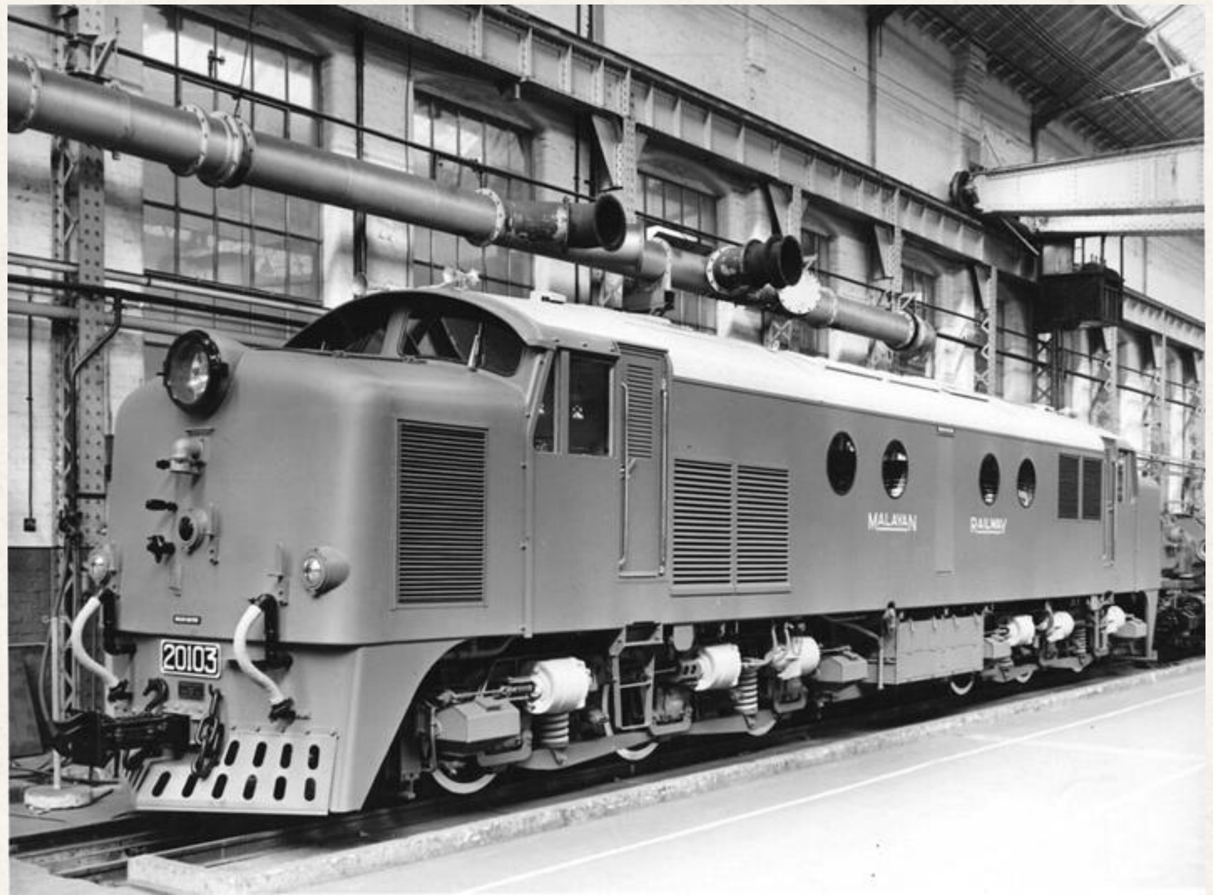
Variable particulars:

Introduced	Class	Numbers	Cylinders (3)	Tractive effort	Loco weight	Tender weight	Overall length
1938	O^1 (561)	60-70 561.01 - 561.11	12½" x 24"	22,130	58.0	42.9	56' 4"
1939	O^2 (562)	71-76 562.01 - 562.06	12½" x 24"	22,130	58.0	42.9	56' 4"
1940	O^3 (563)	77-87 563.01 - 563.11	13" x 24"	23,940	58.85	43.8	56' 6"
1946	O^4 (564)	- 564.01 - 564.40	13" x 24"	23,940	59.5	44.3	57' 4"

Major Developments

KTMB Class 20

- First mainline diesel locomotive on Keretapi Tanah Melayu (KTMB)
- Ordered from English Electric in 1957
- Uses 12SVT Prime Mover, also used in the BR Class 31s and NZR DF Class
- Mostly retired in the 1980s, one, 20125 'Bunga Raya' preserved at Sultan Alam Shah Museum



What's Left Today?

What's Left?

Muzium Negara (National Museum)

FMSR L Class 531.01

- Built in 1921 by Kitsons of Leeds, England
- Improved, more powerful replacement for the P Class 4-6-2s of 1917
- 531.01 was in use on the East Coast Mainline up to the 1970s and donated to the Muzium Negara

FMSR T Class 321.01

- Built in 1928 by W. G. Bagnall of Stafford, England
- Used as shunting locomotives around Port Swettenham, with 321.04 being used as a shunter at Sentul Works.
- 321.01 was sold to Malayan Cement in 1965 and donated to the Muzium Negara in 1973

KTMB Class 22

- 40 built in 1971 by English Electric and Metro Cammell
- 17% more powerful than the Class 20
- Most retired in 2010, 102 donated to the Muzium Negara with several others pointed across the country

What's Left?

Pekan, Royal Capital of Pahang

FMSR O Class 564.34 'Pekan'

- Built in 1946 by North British Locomotive Company
- Used on East Coast expresses prior to retirement.
- Now on display at Royal Polo Grounds in Pahang, once private residency of the Sultan of Pahang.

KTMB Class 22 135

- 40 built in 1971 by English Electric and Metro Cammell
- 17% more powerful than the Class 20
- Most retired in 2010, 135 plinthed with 3 coaches as Kafe Belibis.

What's Left?

3 Remaining O Class Pacifics

FMSR O Class 564.21 'Selama' (disguised as 564.12 'Alor Gajah')

- Built in 1946 by North British Locomotive Company
- Alor Gajah was General Templer's personal loco during reconstruction program.
- Now on display at Port Dickson Army Museum.

FMSR O Class 564.36 'Temerloh'

- Built in 1946 by North British Locomotive Company
- Briefly restored to steam in 1985 for Centenary of railways in Malaysia.
- Now on display at old Johor Bahru Railway Station.

FMSR O Class 562.04 'Dungun' (disguised as 564.25 'Kuala Lumpur')

- Built in 1939 by North British Locomotive Company
- Initially on static display at Butterworth, later Bukit Mertajam Railway Station in poor condition.
- Now under restoration to operation by DS Rail Mobility, Seremban.

What Can Be Done?

What Can Be Done?

Social Media Marketing

Spreading Awareness of Malaysia's railways via social media (Instagram, Tik Tok, X, etc...)

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Designed by the US and named after General Douglas MacArthur, these locomotives played a significant role in post-World War II recovery.

Local and International Publications

Shares stories and lesser known facts about Malaysia's railways both at home and abroad.

Model Railway and Historical Exhibitions

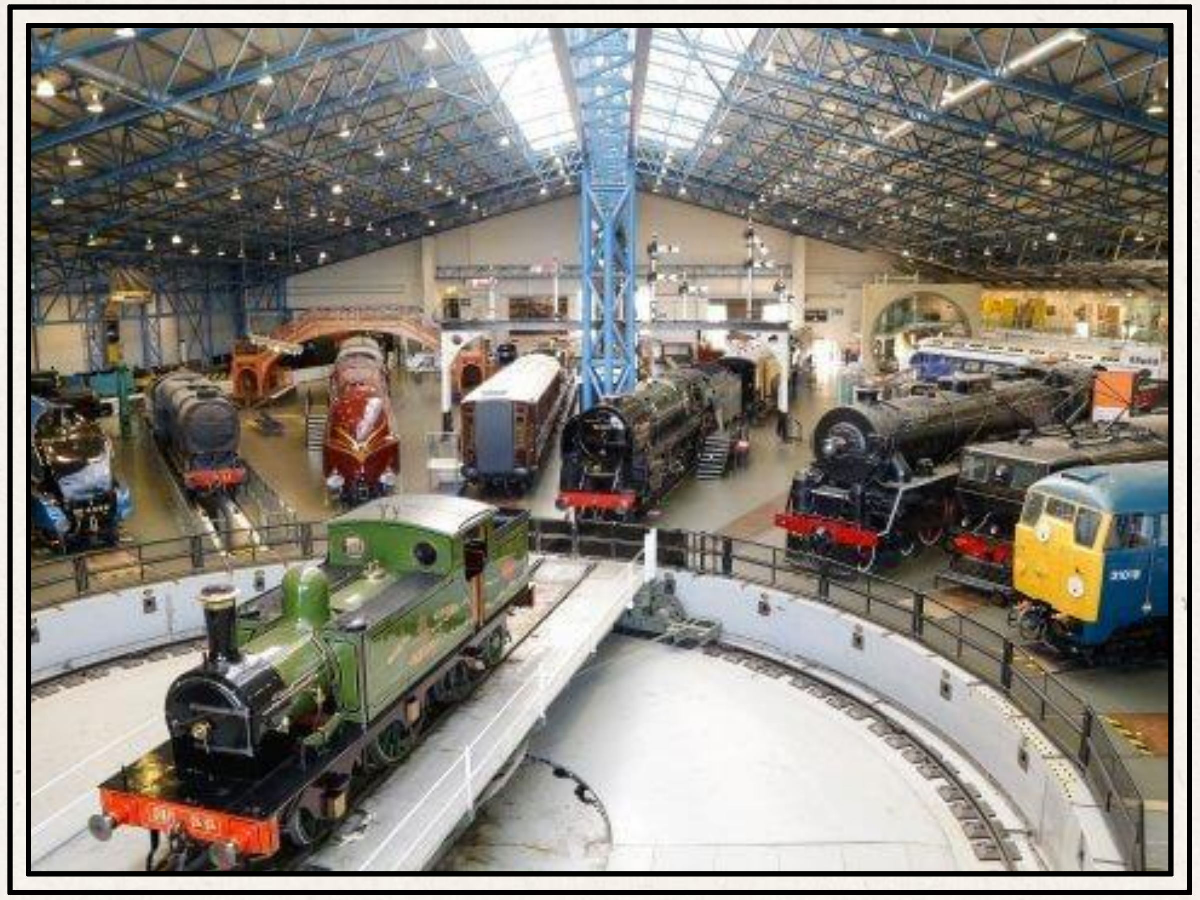
Easy and visual way to attract interest in Malaysia's railways, especially younger audiences

(Only for Dungun) Recruiting International Steam Expertise

Attaining experienced people in steam preservation can ensure safe operations while drawing publicity from the preservation scene worldwide

Major Developments

A Long Term Goal: Dedicated Railway Museum?



- JB Railway Station was intended as a museum, but it's open aired, no protection from the elements
- Perhaps restore an old locomotive shed or railway workshop (such as Sentul!)
- House surviving locomotives under cover, with informative info boards on their history and service lives. (Maybe even repatriate surviving locos from overseas!)
- Interactive displays (how locomotives work, driver simulators, screenings of popular Malaysian films about trains, etc...)
- Model Railway portraying a Malaysian railway line in a historical age.

Conclusion

Malaysia's Railway Heritage: Rich with Stories Abundant!

HOWEVER!

Greater Measures must be taken to:

- **Create Interest amongst General Public**
- **Actively involve community locally and internationally in projects**
- **Preserve Malaysian Railway Heritage**

Thank you!

Any Questions? Feel Free to Ask!

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