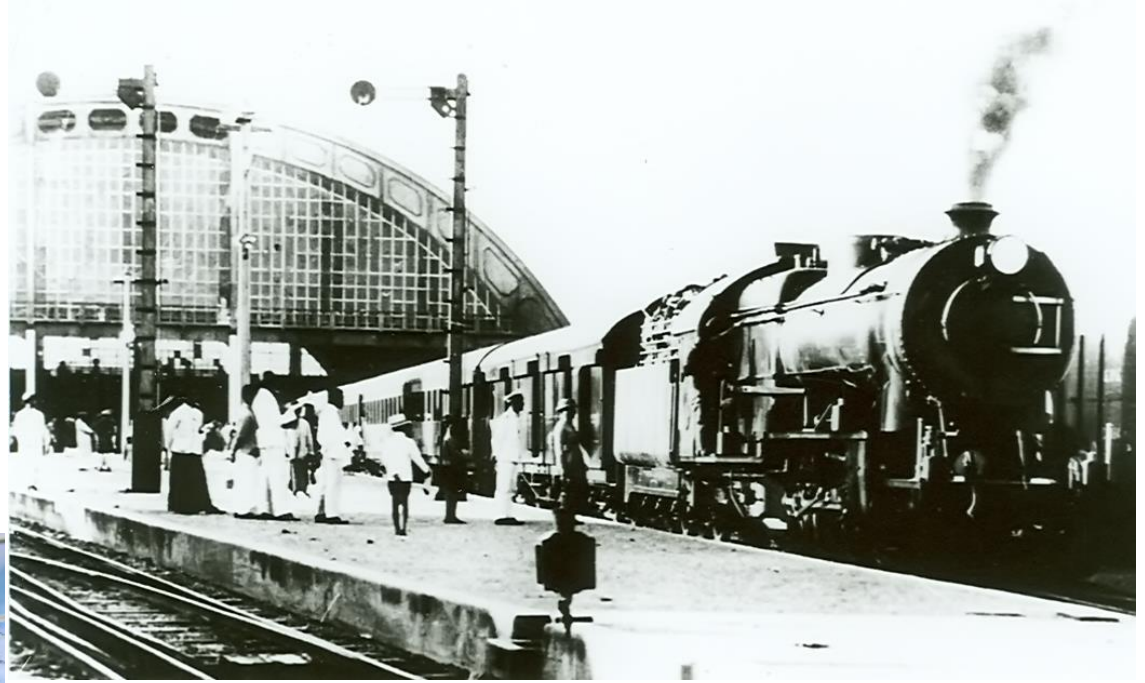
RAIL TRANSPORT IN THAILAND



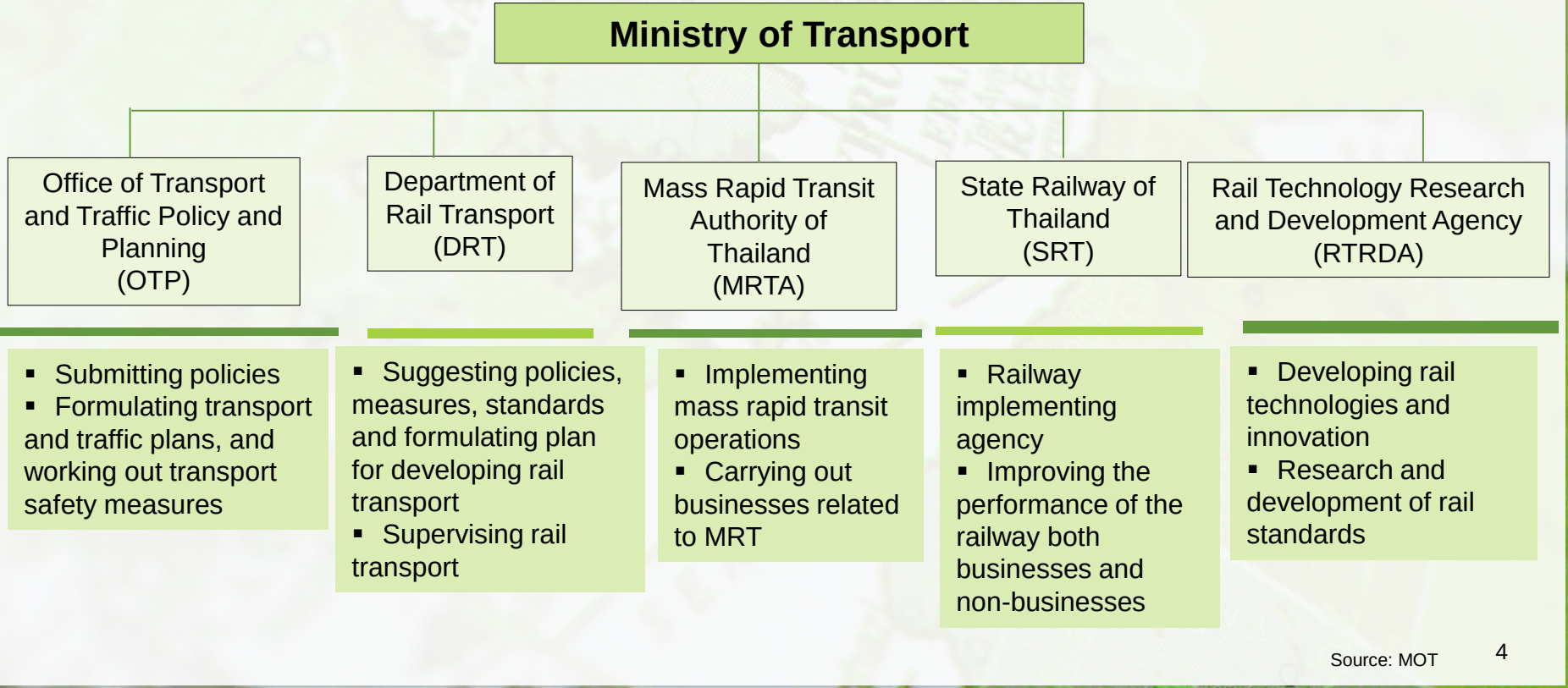
Ms. Katharine Maneethapodi
JICA Thailand Office
October 14, 2022

Outline of Presentation

1. Overview of Rail Transport in Thailand
2. JICA's Assistance for Development of Railways
3. Challenges for Future Cooperation

1.Overview of Rail Transport in Thailand

Ministry of Transport



Source: MOT

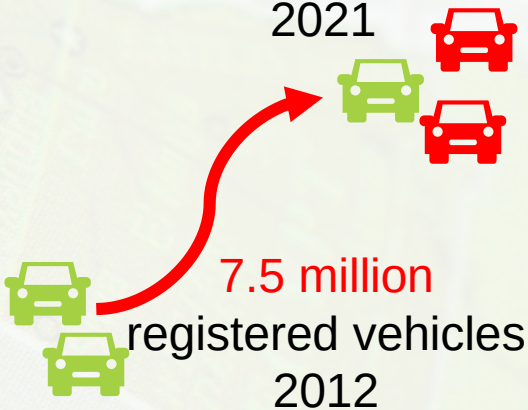
Traffic **Congestion** in Bangkok

10th World Rank

Traffic Congested City
in the World (2020)

Registered Population
in Bangkok 2021
5.52 million people

11.2 million
registered vehicles
2021



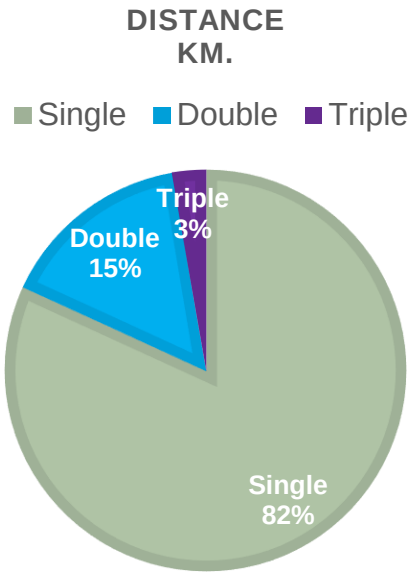
7.5 million
registered vehicles
2012

Source: NSO

Current Railway Network

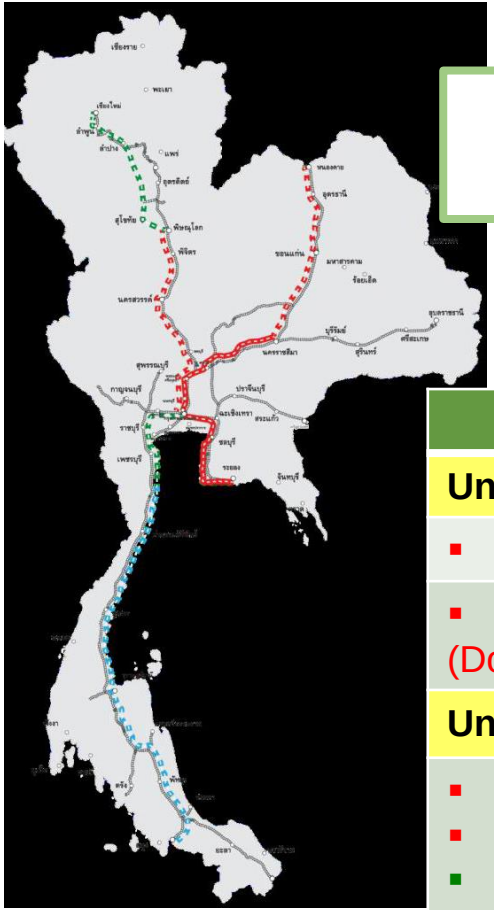
➢ 4,044 km. (47 provinces)

- ❑ Single Track 3,310 km.
- ❑ Double Track 627 km.
- ❑ Triple Track 107 km.



Track	No. of Projects	Distance
Double Track (Phase 1)	4 projects (under construction)	613 km.
New Routes	2 projects (under construction)	677 km.
Double Track (Phase 2)	7 projects (under request for approval)	1,479 km.

Source/Map: DRT



Source/Map: DRT

High Speed Rail Projects

➢ 2,466 km.

Route	No. of Projects	Distance
Under Construction		
▪ Bangkok-Nakorn Ratchasima	1 project	253 km.
▪ HSR linking 3 Airports Project (Donmuang-Suvarnabhumi-U Tapao)	1 project	220 km.
Under Project Preparation		
▪ Bangkok-Phitsanulok ▪ Nakorn Ratchasima-Nong Khai ▪ Bangkok-Hua Hin ▪ Phitsanulok-Chiang Mai ▪ Hua Hin-Surat Thani ▪ Surat Thani-Padangbesa	6 projects	1,993 km.

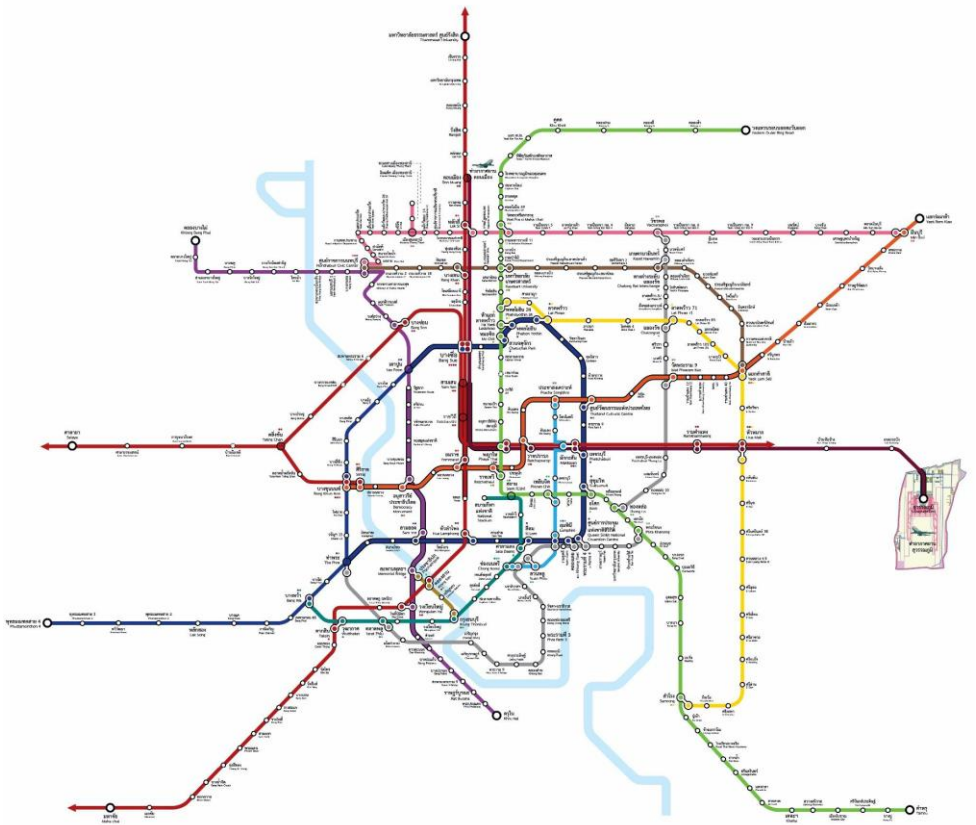
MRT Network in Bangkok Metropolitan Region

- **M-MAP** (2010-2029) covering **12 lines**, 509 km. (**Gold line** and **Brown line** approved additionally by the cabinet)

14 lines covering 553.41 km

- In operation: 11 lines (211.94 km.)
- On-going: 6 projects (135.80 km.)
- Not construction yet: 16 projects (205.67 km.)

Whole MRT Network in Service within 2029



Source/Map: DRT

2. JICA's Assistance for Development of Railways

PHOTO

STEAM LOCOMOTIVE

TRAINS

HUA LAMPHONG STATION

RANGSIT STATION

Photo: SRT

JICA's Assistance for Development of Railways

1981

1st Yen Loan for Railway Project

1981-Present

16 Projects (24 Yen loans)

1992-1997

Railway Training Center Project (Technical Cooperation)

Opening of 1st MRT Underground Project

Blue Line
(Bang Sue-Hua Lamphong Sect.)

2004

2021

Opening of Red Line and Bang Sue Grand Station

New Rail Transportation Hub for Thailand and ASEAN

Photo: SRT

❑ Infrastructure Development

Red Line

(Bang Sue-Rangsit Section) 10 stations, 26.4 km.

The M.R.T Chalong Ratchadham Line

(Bang Sue-Bang Yai Section) 16 stations, 23 km.

The M.R.T Chaloem Ratchamongkhon Line

(Bang Sue-Hua Lamphong Section) 18 stations, 20 km.

MASS RAPID TRANSIT

BLUE LINE

The M.R.T Chaloem Ratchamongkhon Line (Bang Sue-Hua Lamphong Section)

Project Information

- ❑ Responsible Agency: Mass Rapid Transit Authority of Thailand (MRTA)
- ❑ Distance: 20 km., 18 stations, underground structure
- ❑ Opening Year: July 2004
- ❑ Total Project Cost: 358 Bil. Yen
- ❑ Funding Source: Government and Private Sector
- ❑ ODA Loan Amount: 222 Bil. Yen (Civil Work, Depot, Track Work)
- ❑ Operator: Bangkok Expressway and Metro Public Company Limited (BEM)
- ❑ No. of Ridership: 398,854 passengers-trip/day (Oct.2020)

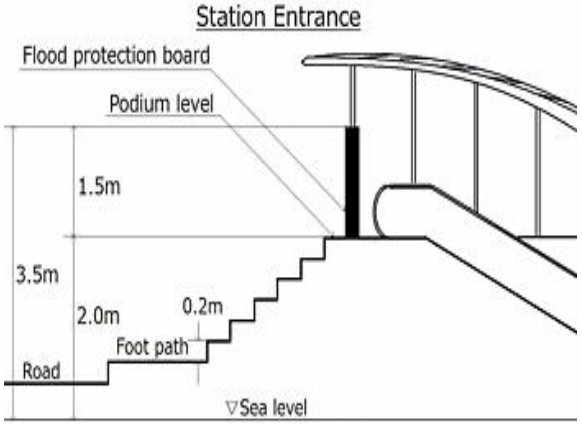
Photo: MRTA

Key issues as QUALITY INFRASTRUCTURE

- ❑ In 2011, Bangkok had a severe flooding but the MRT Blue Line stations were not flooded.

Measures

- ✓ Designing subway entrances and allowing installation of water-shielding/ protection boards
- ✓ Elevating the subway entrance from pedestrian walkways to prevent water from entering subway during flooding period
- ✓ Installing air ventilation and drainage pump



Source: MLIT/JICA report

PURPLE LINE

The M.R.T Chalong Ratchadham Line
(Bang Sue-Bang Yai Section)

Photo: MRTA Source: MLIT/JICA

Project information

- ❑ Implementing Agency: Mass Rapid Transit Authority of Thailand (MRTA)
- ❑ Distance: 23 km., 16 stations, elevated structure
- ❑ Opening Year: August 2016
- ❑ Total Project Cost: 210 Bil. Yen
- ❑ Funding Source: Government and Private Sector
- ❑ ODA Loan Amount: 79 Bil. Yen (Civil Work, Depot, Track Work)
- ❑ Operator: Bangkok Expressway and Metro Public Company Limited (BEM)
- ❑ No. of Ridership: 58,961 passengers-trip/day (Oct. 2020)

Key issues as QUALITY INFRASTRUCTURE

- ❑ Train cars: Rolling stock manufacturer is J-TREC. Japan-made stainless steel cars “lightweight”, “energy saving”, “maintenance cost reduction”
- ❑ Knowledge and expertise transfer: A Japanese railway operator acting as a maintenance services provider has provided knowledge and expertise on Japanese maintenance methods. “Enhancing Railway Technology Capability to Thailand”

RED LINE
Bang Sue-Rangsit Section

Project Information
- ❑ Implementing Agency: State Railway of Thailand (SRT)
- ❑ Distance: 26.4 km., 10 stations, elevated and at ground structure
- ❑ Opening Year: November 2021
- ❑ Total Project Cost: 332 Bil. Yen
- ❑ Funding Source: Government
- ❑ ODA Loan Amount: 268 Bil. Yen (Civil Work, Bang Sue grand station, Depot, Track, M&E works)
- ❑ Operator: SRTET (subsidiary company of SRT)
- ❑ No. of Ridership: 10,848 passengers-trip/day (Sep.2022)

Key issues as QUALITY INFRASTRUCTURE
- ❑ Train cars: Japan-made cars by Hitachi that help to mitigate noise and vibration

Training for Human Resource Development
- ❑ Train Operation Planning and Management
- ❑ Urban Railway Management

Dispatching JICA Expert
- ❑ Urban Development Expert (2018-2020)
- ❑ Urban Development and Smart City Expert (2020-2022)

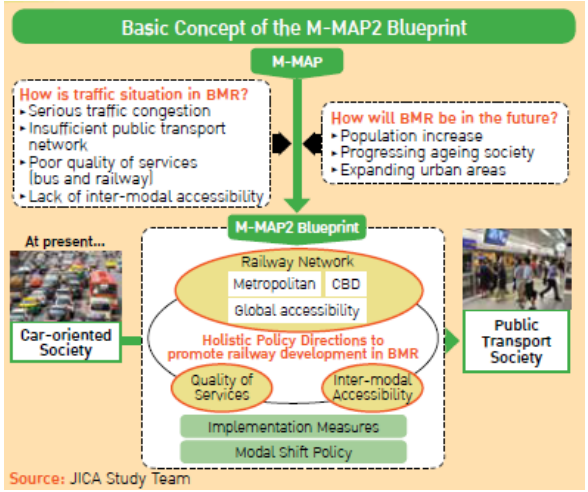
Photo: SRT

❑ Technical Assistance

Project for Enhancing Capacity of Formulation of the Second Mass Rapid Transit Master Plan in Bangkok Metropolitan Region (M-MAP2)

- To enhance the capability of the Department of Rail Transport (DRT) to formulate future detailed plan of M-MAP2 through various project activities (3 years: 2021-2024)

Dispatching JICA Expert to DRT



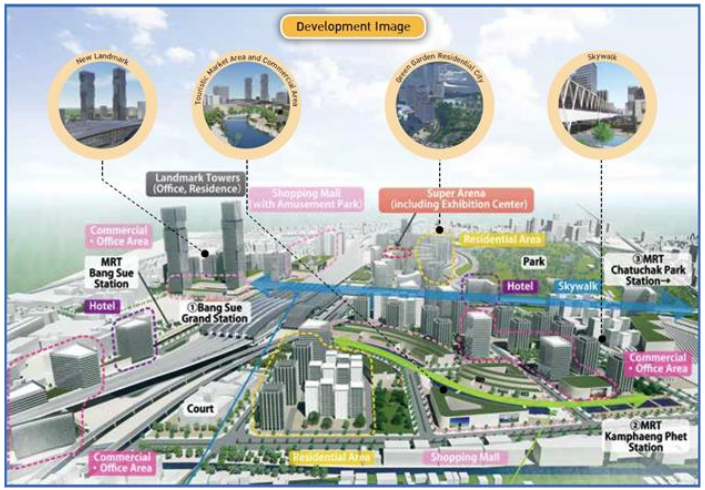
❑ Study/Survey

Data Collection Survey on Urban Redevelopment in Bang Sue Area

- To make a proposed “Integrated Master Plan” for Bang Sue area (March-November 2017)

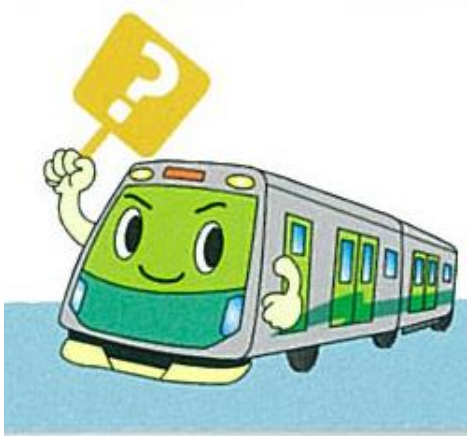
Development of Smart City Concept for the Bang Sue Area

- To propose the Bang Sue Smart City Concept envisaging Thailand 4.0 (November 2018-January 2020)



3. Challenges for Future Cooperation

What are the Challenges for Future Cooperation?



- ✓ Technology Innovation
  - -Transition period of EV, automated driving and AI
- ✓ Collaboration and Cooperation with the Private Sector
- ✓ Knowledge Transfer
- ✓ Facilitation of Behavioral Change towards to Public Transportation
  - -Shifting private car to public transportation

Thank you for your kind attention