

# Project Update : The High Speed Rails in Thailand

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## Topics

1

**Thailand-Japan Cooperation 2015-Present**

2

**Thailand Investment in Infrastructure 2015-2022**

3

**Thailand Rail Infrastructure Development Plan and Progress**

4

**Outstanding Thailand-Japan Cooperation in Transport Sector**

5

**Future Prospects**



1

# **Thailand-Japan Cooperation** **2015-Present**

# Bilateral Cooperation between THAILAND and JAPAN

## MOU/MOC :Thailand- Japan

MOU Signed

Expressway Authority of Thailand  
April 2010

MOC Signed

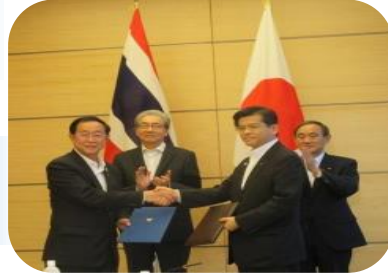
October 2015

MOC Signed

August 2016

MOC Signed

June 2017



## Projects in Cooperation between Thailand and Japan

### Total 16 Projects

**Rail**  
7 Projects

- HSR (Bangkok-Chiang Mai, 3 Airport Connection)
- Urban Mass Rail Transit System (Purple Line and Red Line)
- M-MAP 2
- Freight Rail Service
- Railway Development along Southern Economic Corridor and East-West Economic Corridor

**Road**  
4 Projects

- MOI on Road Safety
- DOH on Tunneling Construction
- Mobile Mapping system (MMS)
- Expressway

**Area Development**  
2 Projects

- Bang Sue Area Development
- Smart City

**Human Resource Development**  
3 Projects

- MRTA Training Center
- Urban Railway Management (Purple Line and Red Line)





2

# **Thailand Investment in Infrastructure**

## **2015-2022**

# Thailand Investment in Infrastructure 2015-2022

**Transport Action Plan  
FY 2015**

**FY2016**

**FY2017**

**FY2018**

**FY2019**

**76 Projects / Investment of US\$ 100.23 billion dollars**



**Double Track Rail Network**  
13 Projects  
US\$ 18,198.90 Mill.  
(18.15%)



**Commuter Train Network**  
4 Projects  
US\$ 2,252.06 Mill.  
(2.27%)



**Mass Transit Dev. Network**  
12 Projects  
US\$ 22,311.62 Mill.  
(22.25%)



**High Speed Train Network**  
4 Projects  
US\$ 37,240.22 Mill.  
(37.14%)



**Motorway & Expressway**  
11 Projects  
US\$ 12,299.73 Mill.  
(12.27%)



**Road Facilitation**  
9 Projects  
US\$ 834.32 Mill.  
(0.83%)



**Common Ticket System**  
1 Projects  
US\$ 24.58 Mill.  
(0.02%)



**Public Bus Procurement**  
2 Projects  
US\$ 73.42 Mill.  
(0.07%)



**Maritime Transport Dev.**  
9 Projects  
US\$ 1,880.54 Mill.  
(1.88%)

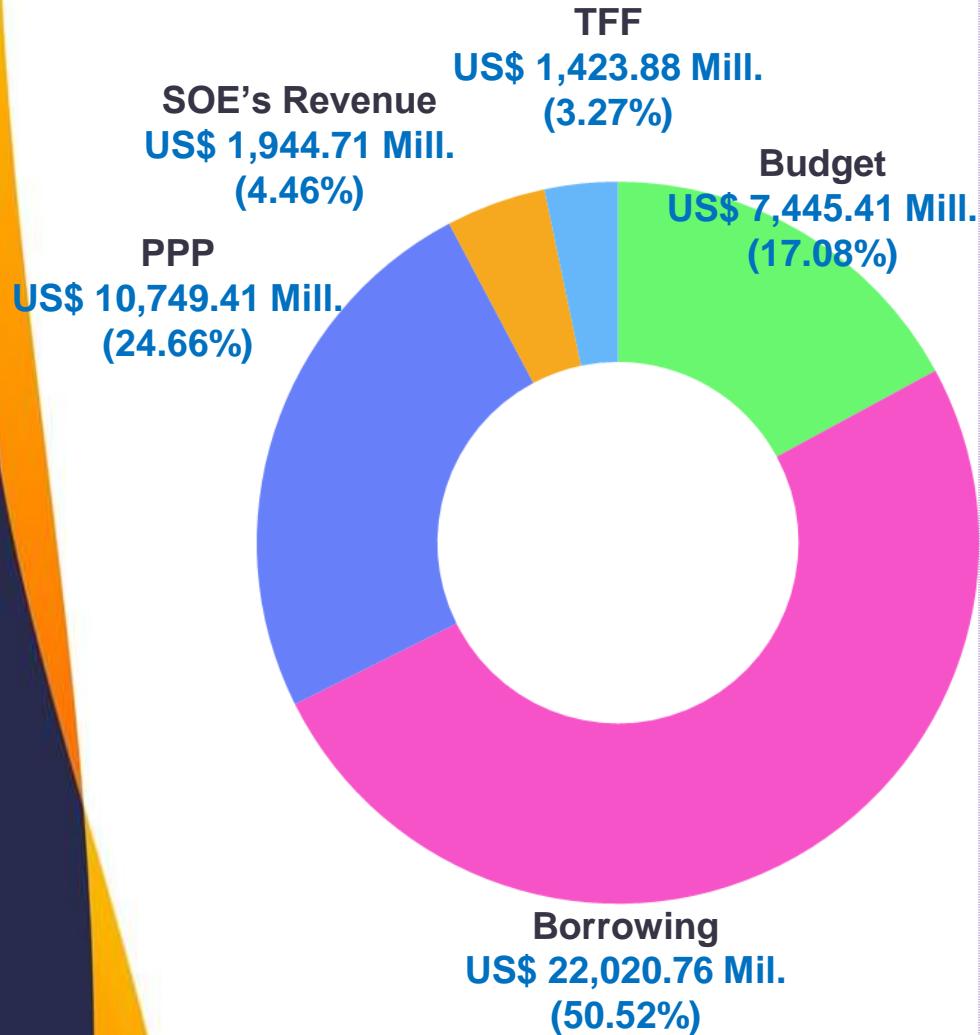


**Air Transport Development**  
11 Projects  
US\$ 5,119.90 Mill.  
(5.11%)

# Thailand Investment in Infrastructure

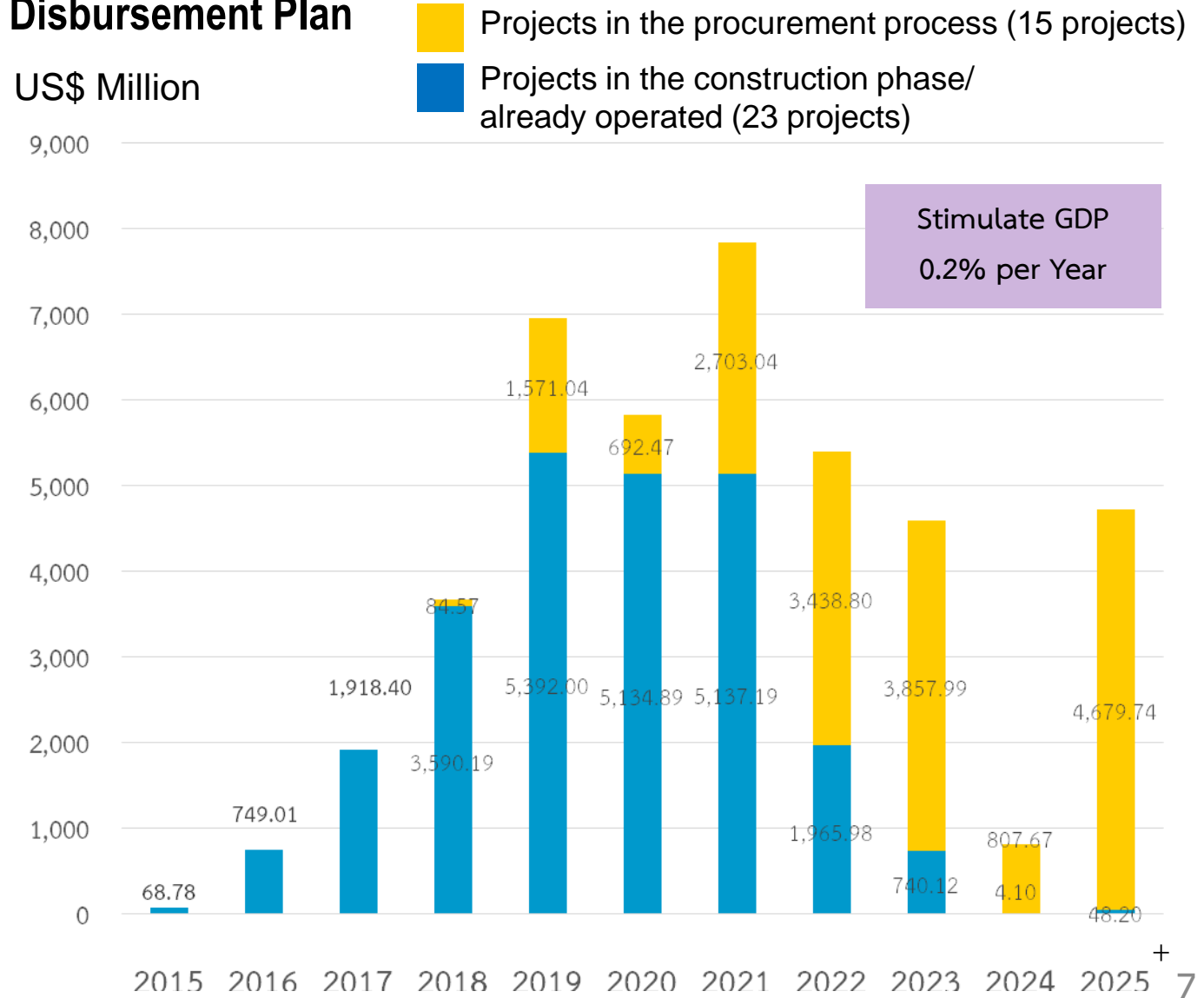
38 Projects Approved by Cabinet / Investment of US\$ 43,584.16 Million dollars

## Source of Financing



Source : Ministry of Transport, May 2019

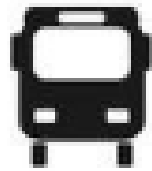
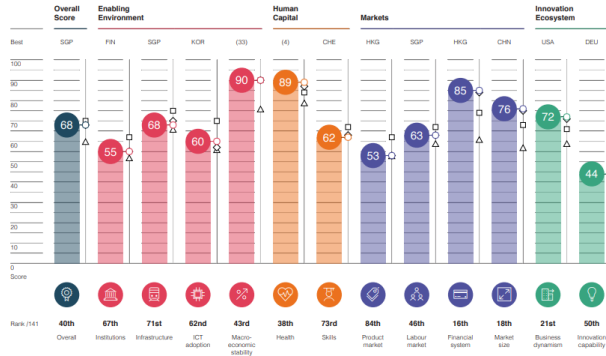
## Disbursement Plan



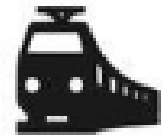
# World Economic Forum (WEF) : The Global Competitiveness Ranking



**Thailand**  
**40<sup>th</sup> / 141**



## Transport infrastructure



Year	Score	Rank
2016	4.39 (Full score 7)	49 <sup>th</sup> /138
2017	4.7 (Full score 7)	43 <sup>th</sup> /137
2018	69.7 (Full score 100)	60 <sup>th</sup> /140
2019	68 (Full score 100)	71 <sup>th</sup> /141



## Rank : Transport infrastructure Index

### Road connectivity

**2018**  
**55**

**2019**  
**54**

↑

### Quality of road infrastructure

**2018**  
**55**

**2019**  
**55**

=

### Railroad density

**2018**  
**54**

**2019**  
**55**

↓

### Efficiency of train services

**2018**  
**91**

**2019**  
**75**

↑ **16**

### Airport connectivity

**2018**  
**9**

**2019**  
**9**

=

### Efficiency of air transport service

**2018**  
**48**

**2019**  
**48**

=

### Liner shipping connectivity

**2018**  
**39**

**2019**  
**35**

↑

### Efficiency of seaport service

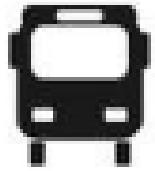
**2018**  
**68**

**2019**  
**73**

↓



# IMD : World Competitiveness Ranking



## World Competitiveness Ranking : IMD

**Thailand**



		2014	2015	2016	2017	2018
		28	30	35	34	31
Criterion	Source					
Road	Hard Data	47	47	26	26	19
Rail	Hard Data	43	43	42	42	42
<b>Air</b>	IATA	20	20	20	19	19
Quality	Executive Opinion Survey	29	36	36	33	34
Water	Executive Opinion Survey	40	38	43	44	43
<b>Management</b>	Executive Opinion Survey	44	41	47	47	-

3

## **Thailand Rail Infrastructure Development Plan and Progress**

- *Mass Rapid Transit System in BMR*
- *Intercity Rails Network*
- *High Speed Rails*



# ***Mass Rapid Transit System in BMR***

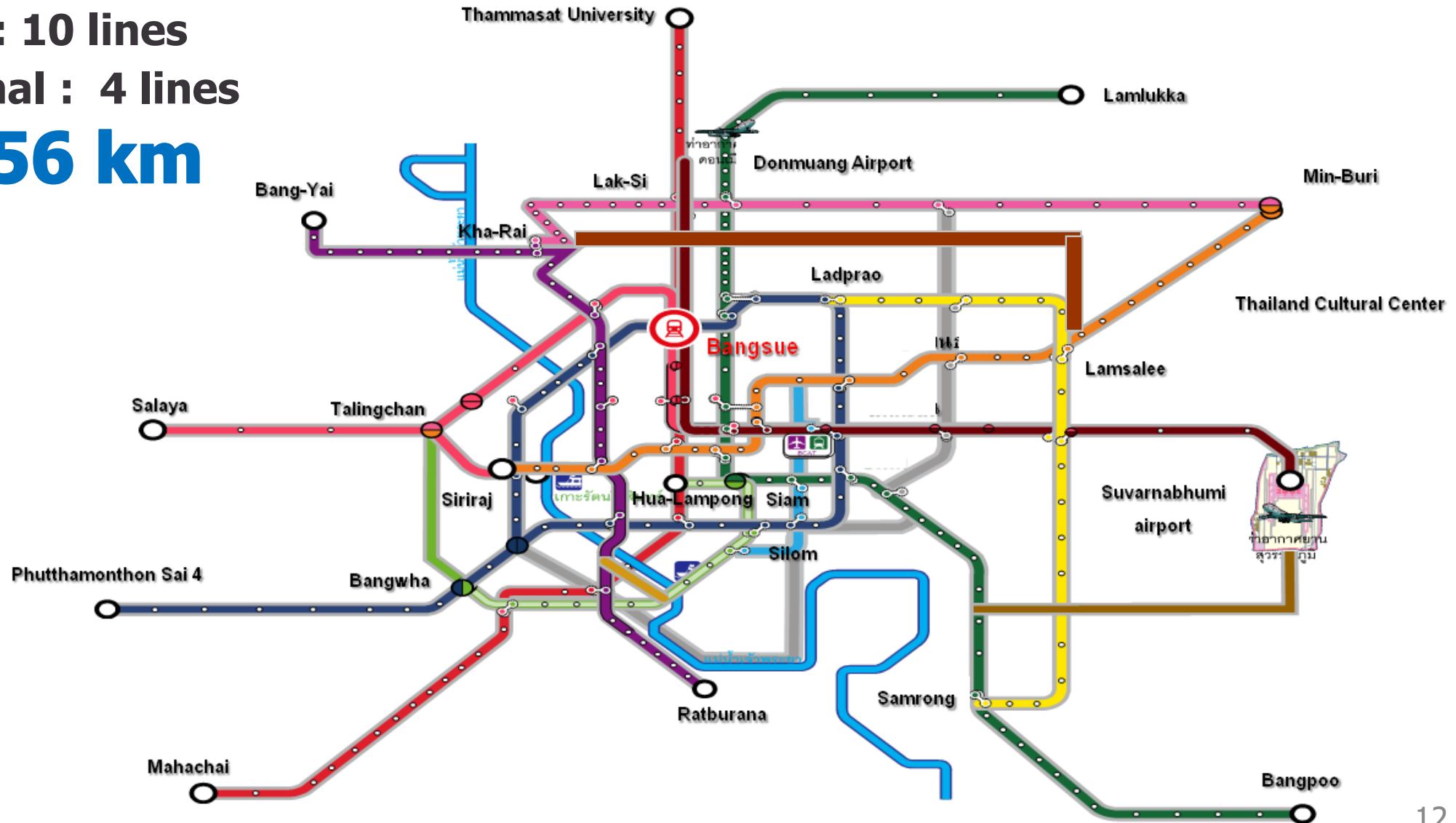
# Mass Rapid Transit **Development Plan**

## Total **Future MRT** Network in BMR (Bangkok Metropolitan Region)

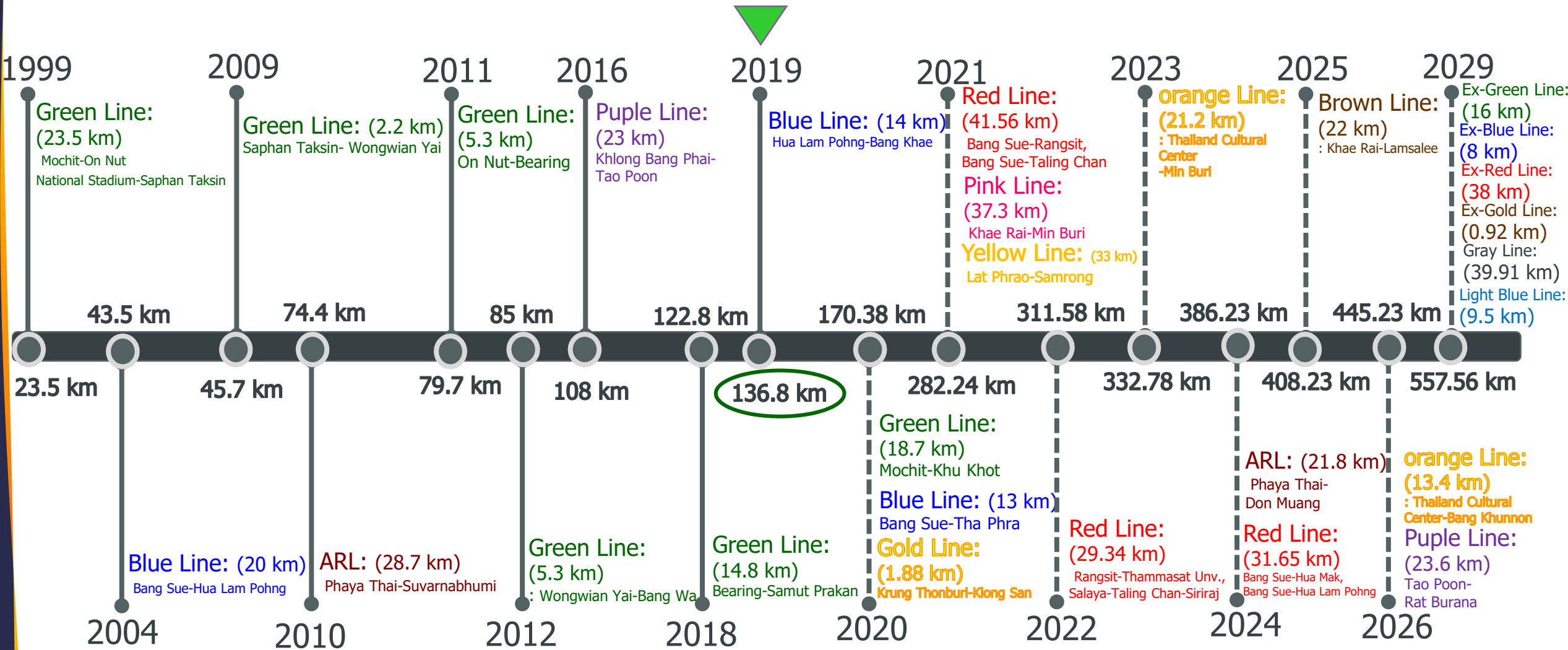
M-MAP : 10 lines

Additional : 4 lines

**557.56 km**



# Mass Rapid Transit Time Line



# World's Largest Metro Systems

Rank	Cities	Kilometers
1	Shanghai Metro	548
2	Beijing Subway	527
<b>3</b>	<b>Bangkok Metro (Once all lines in services by 2026)*</b>	<b>445.23</b>
4	London Underground	402
5	New York Subway	373
6	Seoul Subway	332
7	Moscow Metro	328
8	Madrid Metro	294
9	Guangzhou Metro	240
10	Mexico City Metro	227
11	Nanjing Metro	224

Source: 1-10 from <https://www.citymetric.com>, by 2029 total distance will be 557.56 km, ranked no.1

# Mass Rapid Transit in BMR : In-Operation 5 lines - 136.8 km

## Green Line

Ridership: 740,000

Passengers-trip/day



## Blue Line

Ridership: 400,000

Passengers-trip/day



## Purple Line

Ridership: 50,000

Passengers-trip/day



## Airport Rail Link

Ridership: 75,000

Passengers-trip/day



# Mass Rapid Transit in BMR : Under-Construction 8 lines - 173.88 km

Remark :  
Progress on July 2019



**Dark Red Line : 26 km**  
Rangsit-Bangsue : 92.8%  
Open in 2022



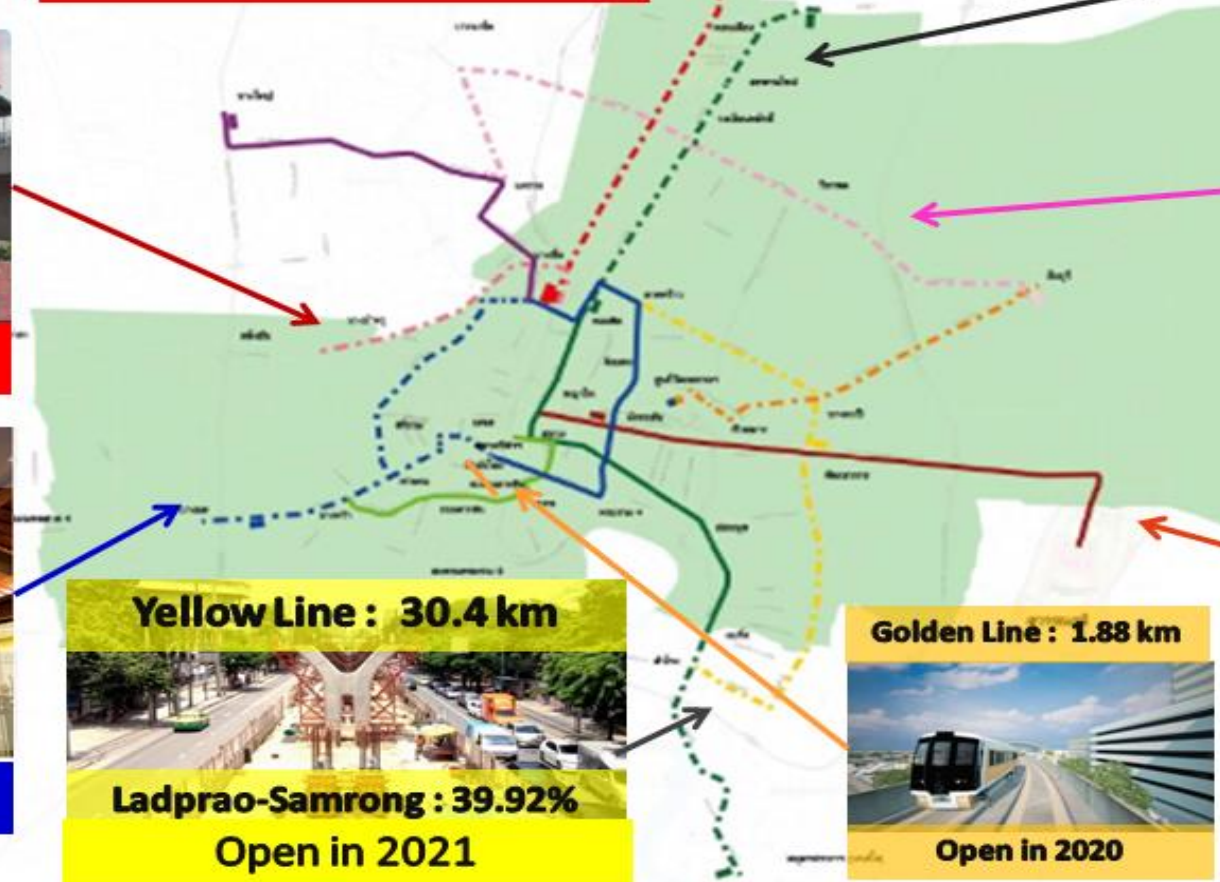
**Dark Green Line : 19 km**  
Mochit-Kukot : 100%  
Open in 2021



**Pink Line : 19 km**  
Kaerai-Minburi : 40.13%  
Open in 2021



**Orange Line (East) : 21.2 km**  
Thai Cultural Center-Minburi : 42.27%  
Open in 2023



**Golden Line : 1.88 km**  
Open in 2020



**Yellow Line : 30.4 km**  
Ladprao-Samrong : 39.92%  
Open in 2021



**Light Red Line : 15 km**  
Bangsue-Talingchan : 100%  
Open in 2022



**Blue Line : 25.8 km**  
Hua Lampong – Bangkae, Bang sue-Taphra : 100%  
Open in 2020



# Mass Rapid Transit in BMR : In-Tendering Process 6 lines - 101.5 km

**Light Red Line : 14 km**  
(Salaya-Talingchan)  
Open in 2022

**Light Red Line : 5.7 km**  
(Talingchan-Siriraj)  
Open in 2022

**Purple Line : 23.6 km**  
(Taopoon-Ratburana)  
Open in 2025

**Dark Red Line : 8.9 km**  
(Rangsit-Thammasat Univ.)  
Open in 2022

**ARL Extension: 21.8 km**  
(Phayathai-Donmuang)  
Open in 2023

**Light Red Line : 27.5 km**  
(Bangsue-Hualampong-Huamhak)  
Open in 2024



# Mass Rapid Transit in BMR

**Preparing for Cabinet Approval in 2019 :**

**1 Line 13.4 km**

**Orange Line : 13.4 km**  
(Thai Cultural Center-Bangkhunnon)  
Open in 2024



**Future Extension :**

**4 Line 60 km**

**Blue Line : 8 km**  
(Bangkae-Phuttamonthon Sai 4)

**Dark Red Line : 38 km**  
(Hualampong-Mahachai)



**Additional Network : 4 lines - 72.33 km (Supplementary to M-MAP)**



**Gray line : 39.91 km**



**Light Blue line : 9.5 km**



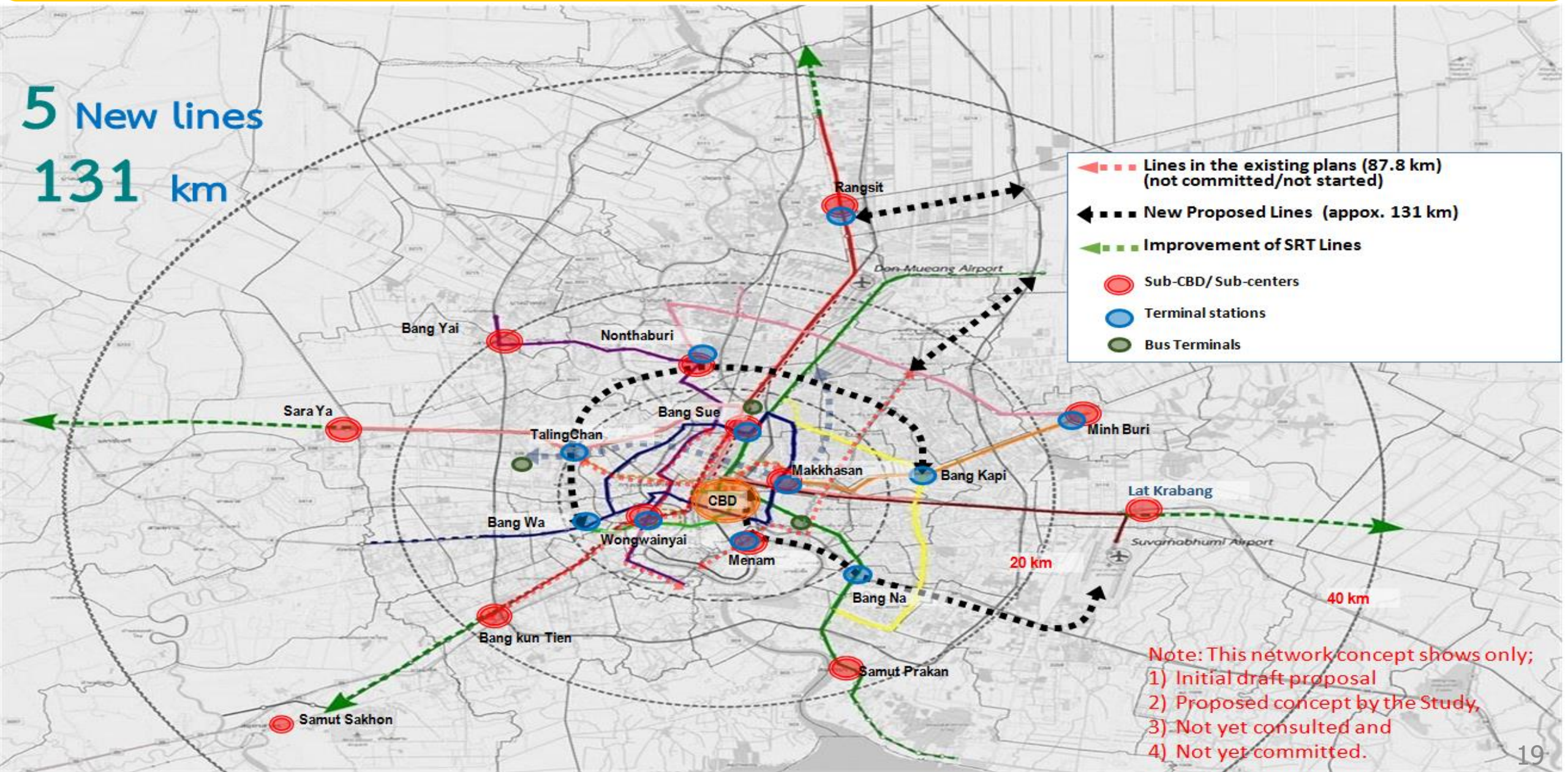
**Brown line : 22 km**



**Ex-Gold line : 0.92 km**

# Future Plan : Draft Proposal of Future Mass Transit Corridors (M-MAP 2)

5 New lines  
131 km

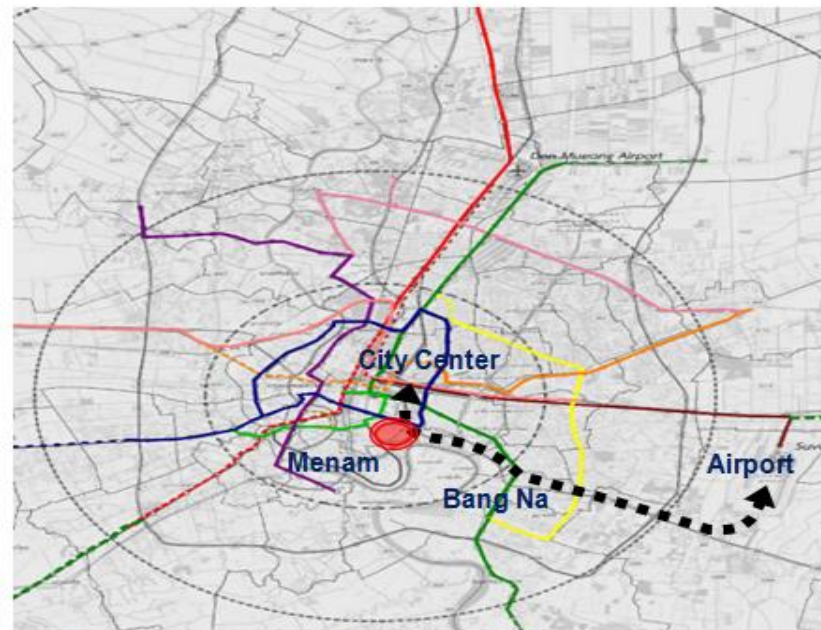


Note: This network concept shows only;  
1) Initial draft proposal  
2) Proposed concept by the Study,  
3) Not yet consulted and  
4) Not yet committed.

# Future Plan : Draft Proposal of Future Mass Transit Corridors (M-MAP 2)

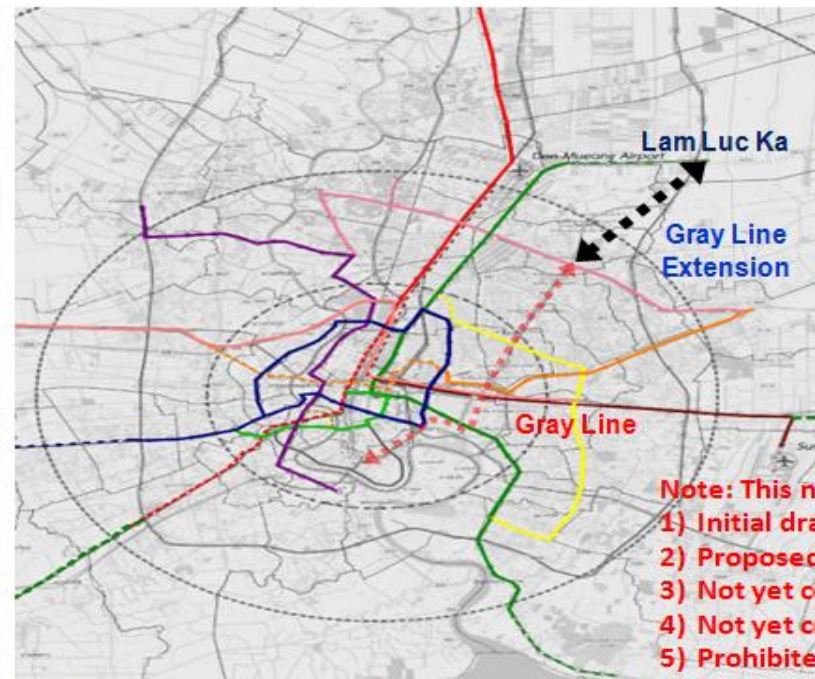
Proposed Lines identified based on the future demand-supply gap  
(serving for high demand area)

## 1. New Line linking City Center Mae Nam- Bang Na- Airport : 33 km



- To serve for the high demand area in the east-south
- To connect with new urban development at Menam.
- To provide alternative airport link from the existing city center
- Length: approx. 33km
- System capacity: medium-high

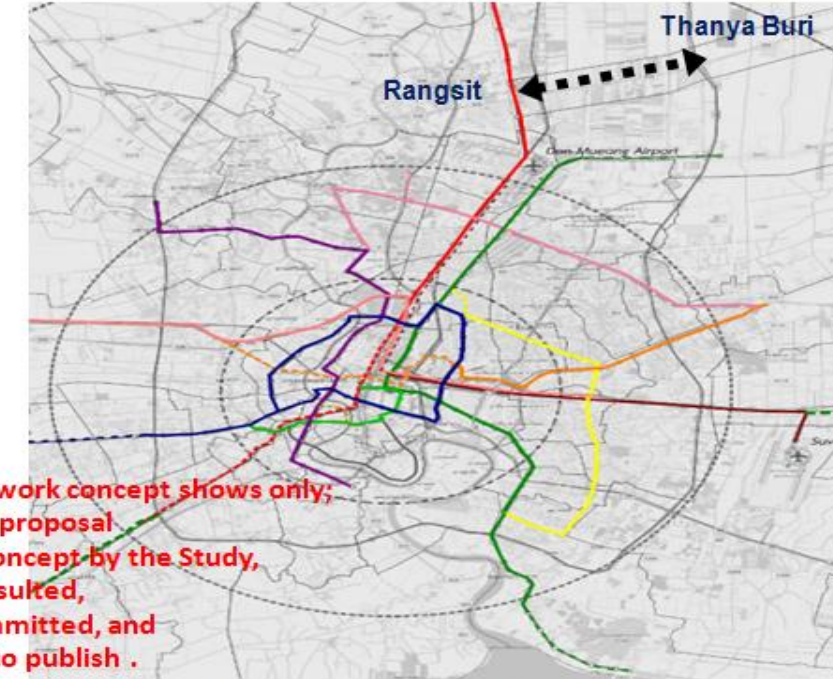
## 2. Extension of Gray Line to the North Ramintra – Lam Lukka : 14 km



Note: This network concept shows only;  
1) Initial draft proposal  
2) Proposed concept by the Study,  
3) Not yet consulted,  
4) Not yet committed, and  
5) Prohibited to publish .

- To serve for the high demand area in the east-north
- To connect with Gray and Green Lines linking directory to the City Center
- Length: approx. 14 km (extension)
- System capacity: medium-high

## 3. New Line in Pathum Thani Rangsit – Thanya Buri : 12 km

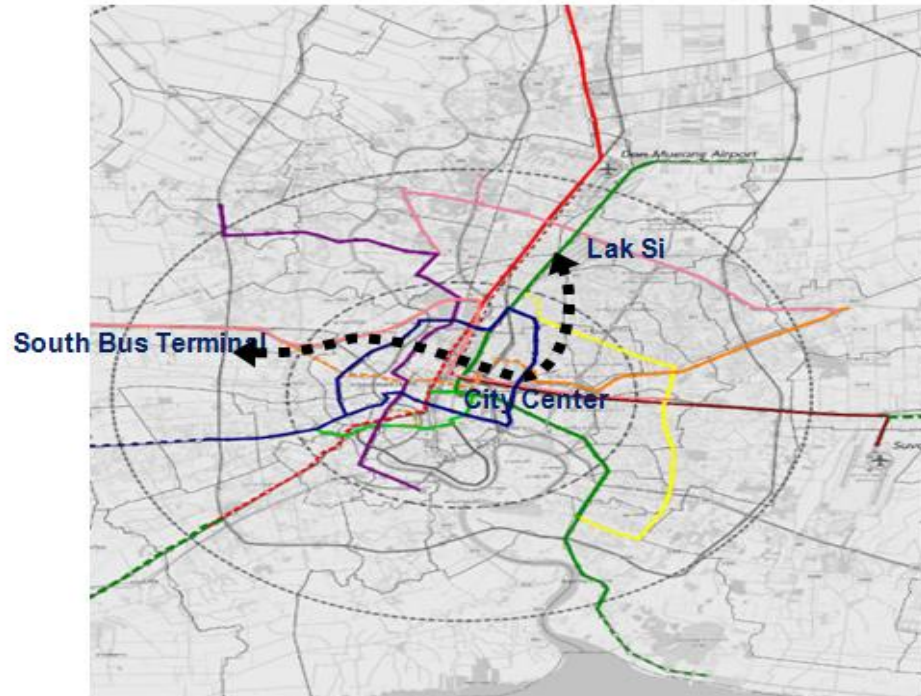


- To serve for the high demand area in the east-north
- To connect with Dark Red Line linking directory to the City Center
- Length: approx. 12 km
- System capacity: medium

# Future Plan : Draft Proposal of Future Mass Transit Corridors (M-MAP 2)

## Proposed Line for the railway missing area in the city center

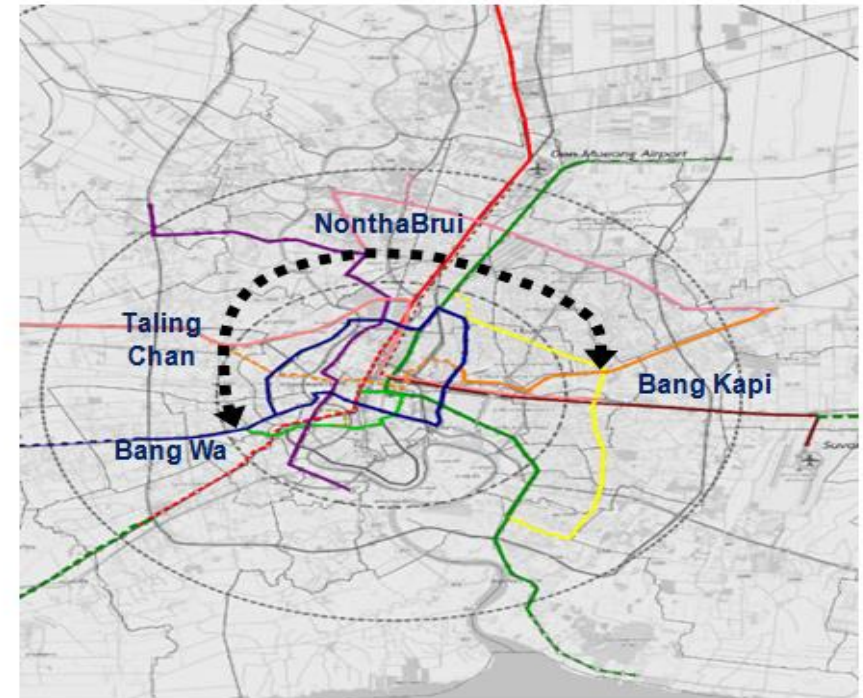
### 4. Additional Line in the City Center Laksi – South Bus Terminal : 30 km



- To serve for the railway-missing areas in the City Center
- To connect with many lines in the city center and South Bus terminal, Lak Si
- Length: approx. 30 km
- System capacity: medium-high

## Proposed Line Linking Sub-centers

### 5. New Northern Ring Line Bangwa – Taling Chan – Nonthaburi – Bang Kapi : 42 km



- To serve for the railway missing area in the north (20-30km from City Center )
- To connect with radial lines at major transit terminals and sub-centers to serve as feeder
- Length: approx. 42km
- System capacity: medium-high



# ***Intercity Rails Network***

# Double-Track Projects Development Plan

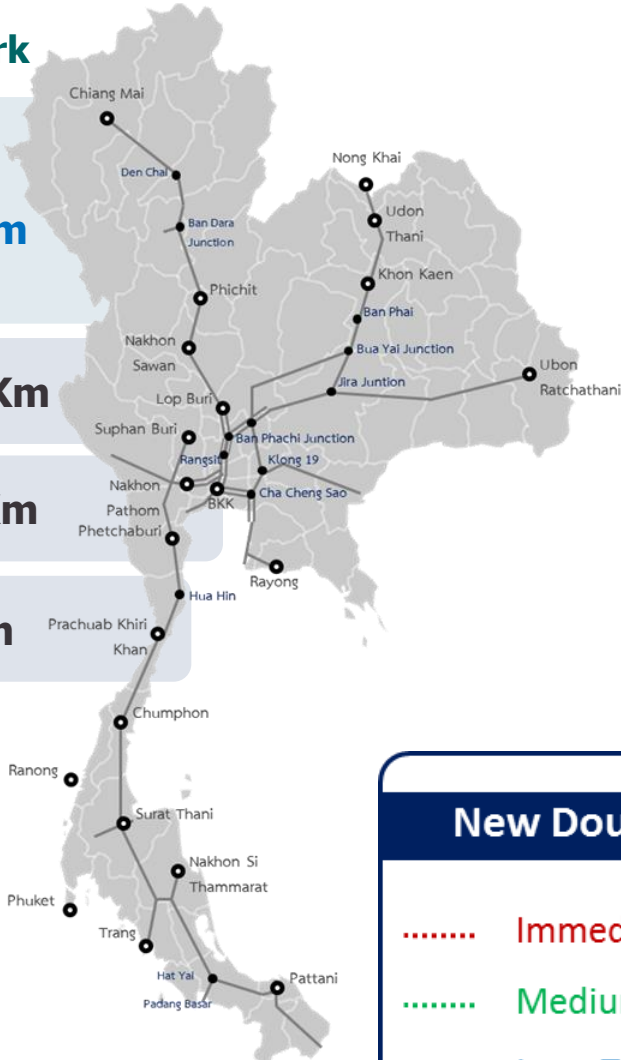
## Existing Railway Network

**Before : 2015**  
**Total 4,043 Km**

**Single 3,763 Km**

**Double 173 Km**

**Triple 107 Km**



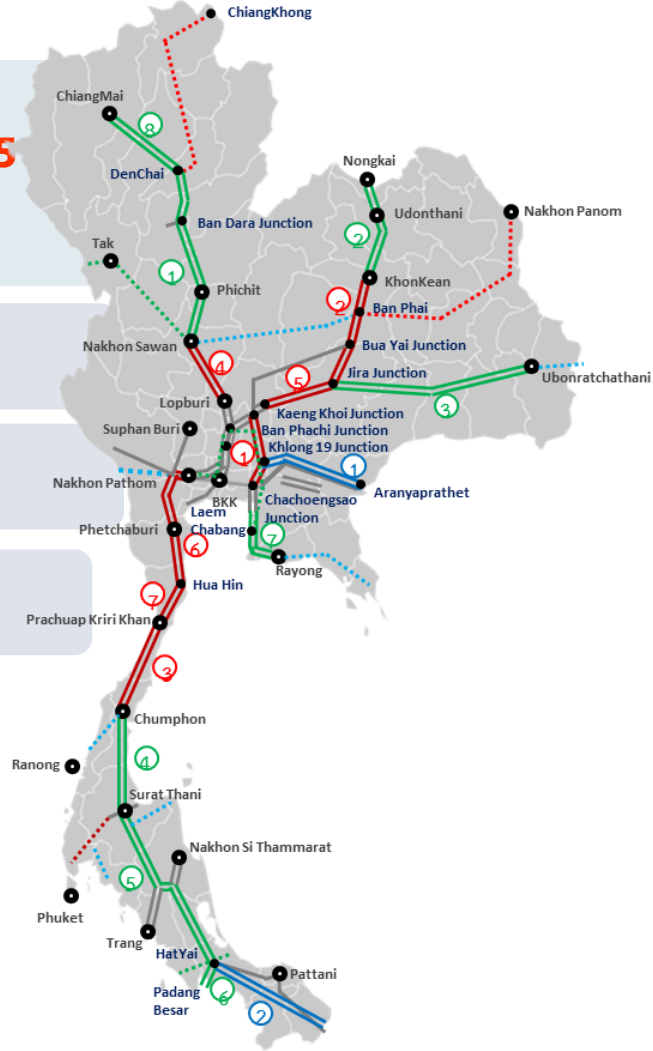
## Future Railway Network

**During : 2023-2025**  
**Total 4,721 Km**

**Single 1,287 Km**

**Double 3,327 Km**

**Triple 107 Km**



**New Double Track 14 Lines 2,352 km**

- ..... Immediate Phase 3 sections (839 km)
- ..... Medium Phase 4 sections (642 km)
- ..... Long Term Plan 7 sections (871 km)



# Progress of Double-Track Projects

## Under Construction

Phase	Section	Completion	km
7 sections 993 km	Chachoengsao-Khlong19 - Kaeng Khoi	2019	106
	Jira Junction - Khon Kean	2019	185
	Prachuap Kiri Khan - Chumphon	2020	167
	Lopburi - Pak Nam Pho	2020	148
	Mab Kabao - Jira Junction	2020	132
	Nakhon Pathom - Hua Hin	2020	165
	Hua Hin - Prachuap Kiri Khan	2020	90

## Preparing for Cabinet Approval

Phase	Section	Completion	km
8 sections 1,609 km	Khon Kean - Nong Kai	2024	174
	Chumphon - Surat Thani	2024	167
	Pak Nam Pho - Den Chai	2025	285
	Jira Junction - Ubonratchathani	2025	309
	Hat Yai - Padang Besar	2025	48
	Sriracha - Map Ta Phut	2025	70
	Surat Thani - Hat Yai-Song Kha	2026	339
	Den Chai - Chiang Mai	2029	217

## Future Extension

Phase	Section	Completion	km
Long term Plan 2 sections 390 km	Klong19 - Aranyaprathet	2030	174
	Hat Yai - Junction-Sungai Kolok	-	216



## Under Construction : 7 Sections - 993 km



Denchai-Chiang Khong

Baan Phai-Mukdahan

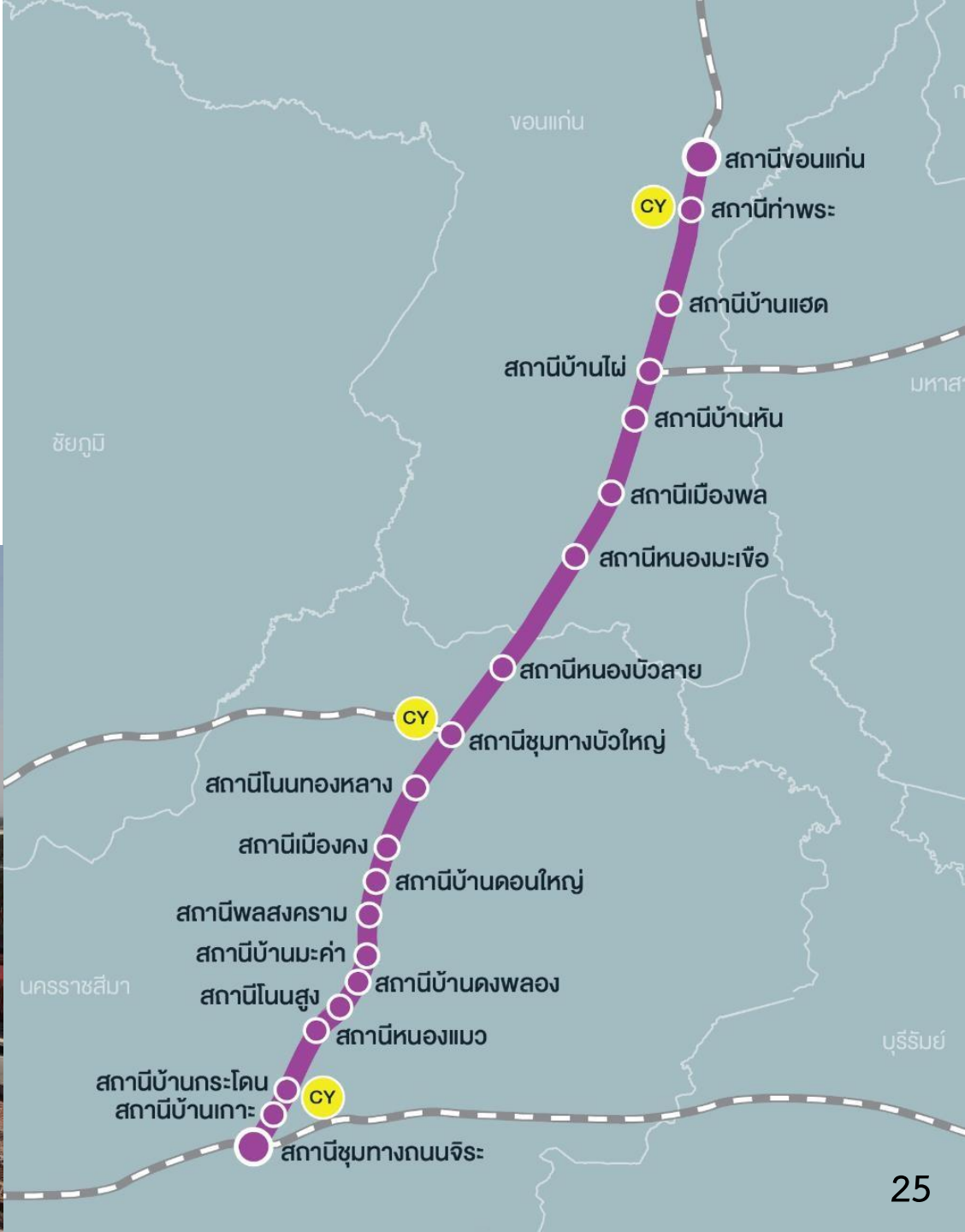
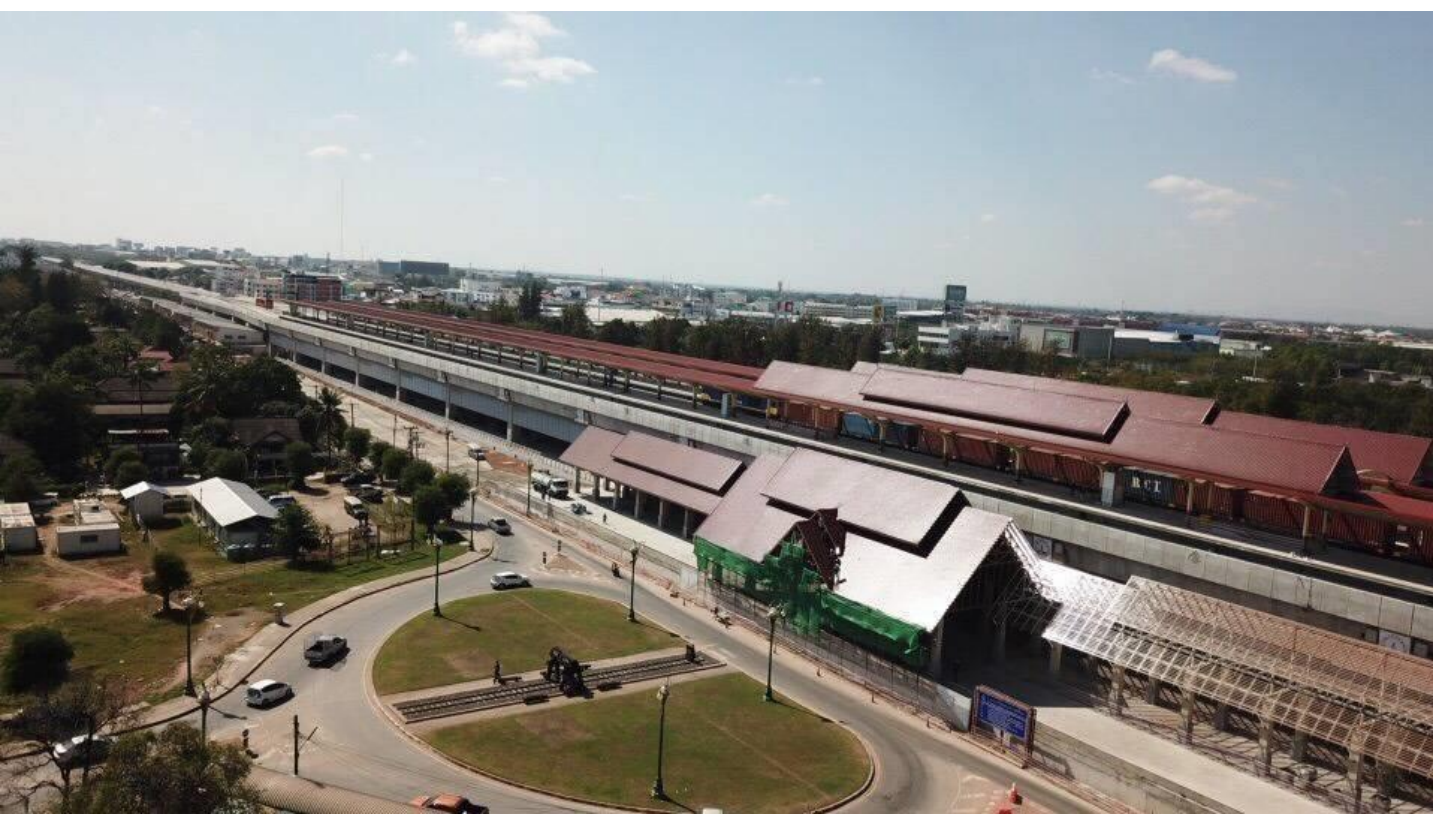




# Double Track Project : Completed construction

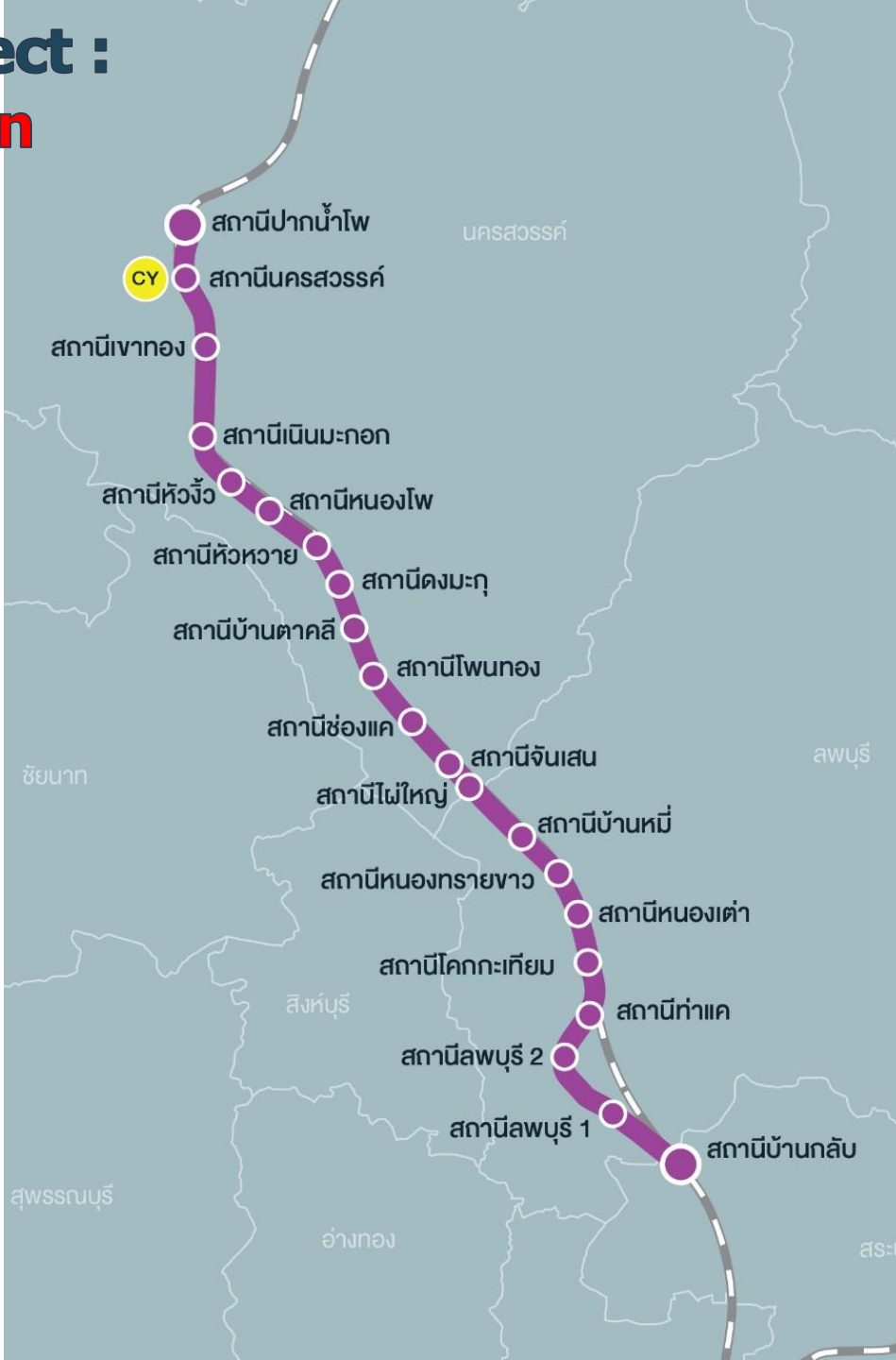


Jira - Khon Kaen  
Distance : 187 km  
Opened : April 2019



# Double Track Project : Under-Construction

## Lopburi - Paknampho



Distance **148 km**  
Progress **10%**  
To be Opened in **2022**

# Double Track Project : Under-Construction

Chachoengsao  
-  
Klong 19  
-  
Kaengkhohi



Distance **106 km**  
Progress **94%**  
To be Opened in **2019**

# Double Track Project : Under-Construction

## Mab Kabao - Jira



Distance 132 km

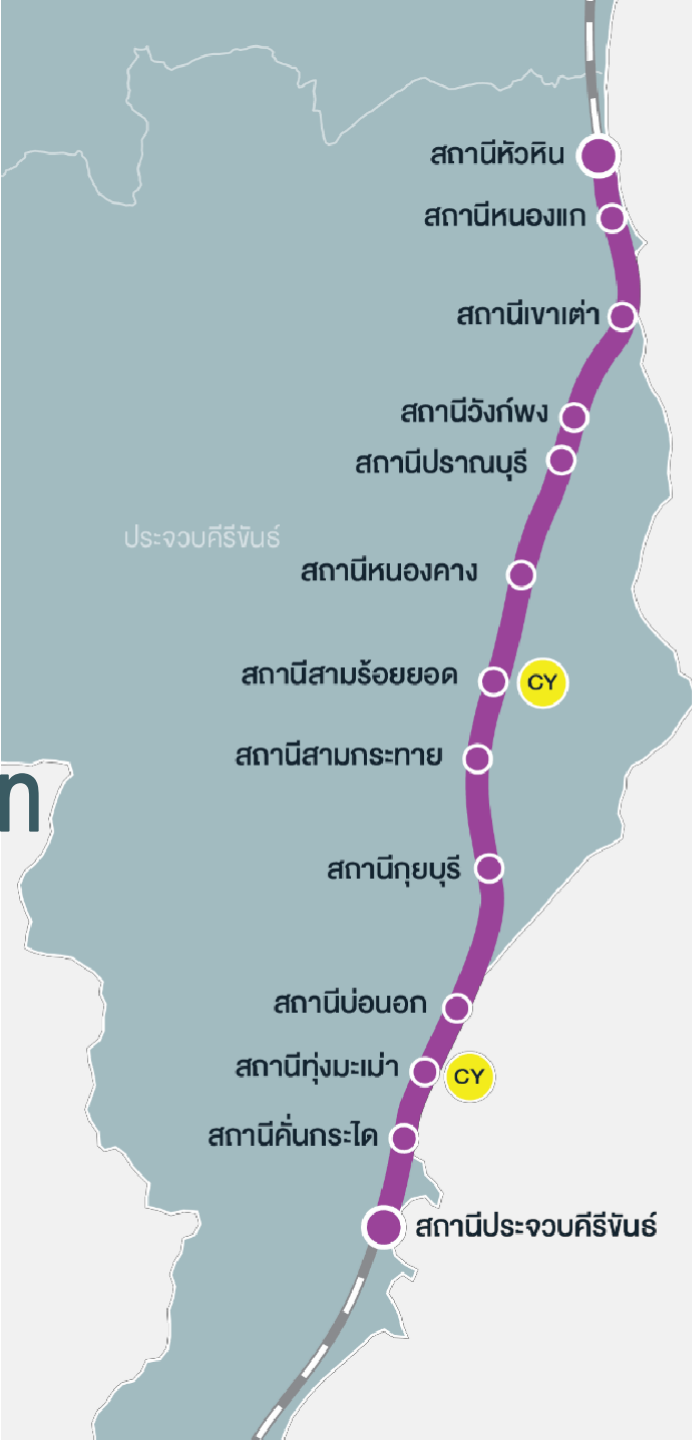
Progress 12%

To be Opened in 2023



# Double Track Project : Under-Construction

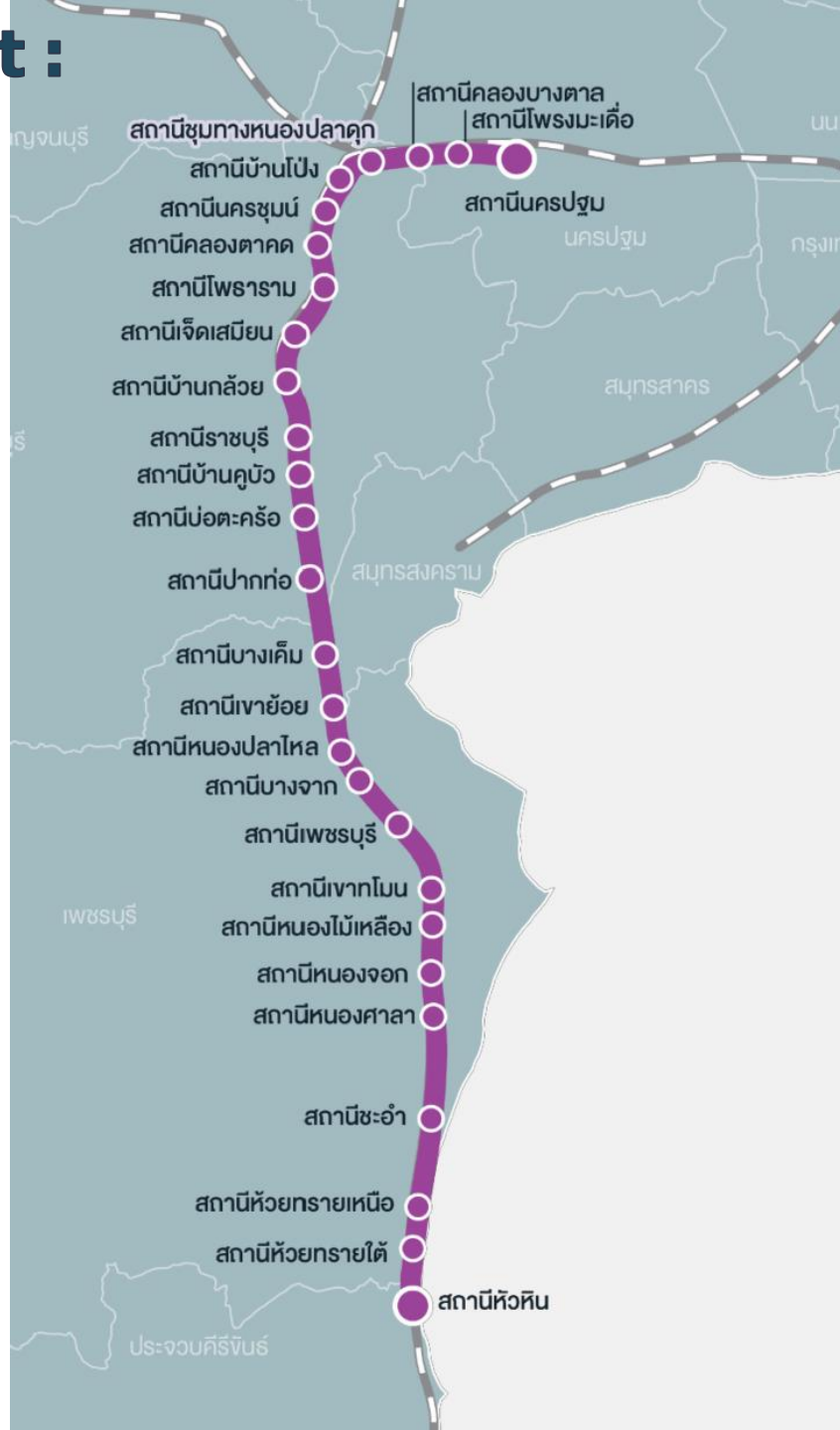
## Hua Hin - Prachuap Khiri Khan



Distance **84 km**  
Progress **23%**  
To be Opened in **2021**

# Double Track Project : Under-Construction

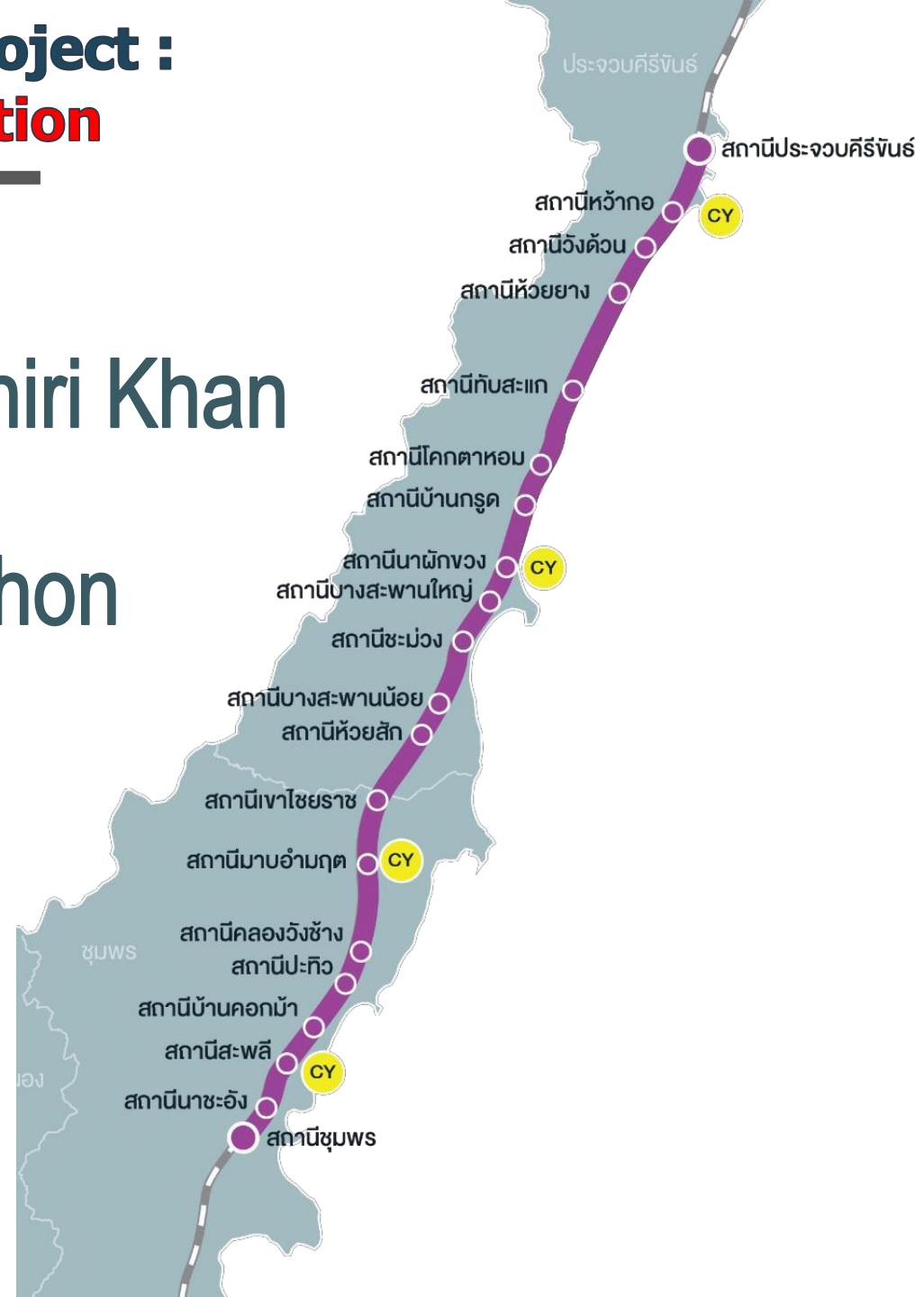
## Nakhom Pathom - Hua Hin



Distance **169 km**  
Progress **20%**  
To be Opened in **2021**

# Double Track Project : Under-Construction

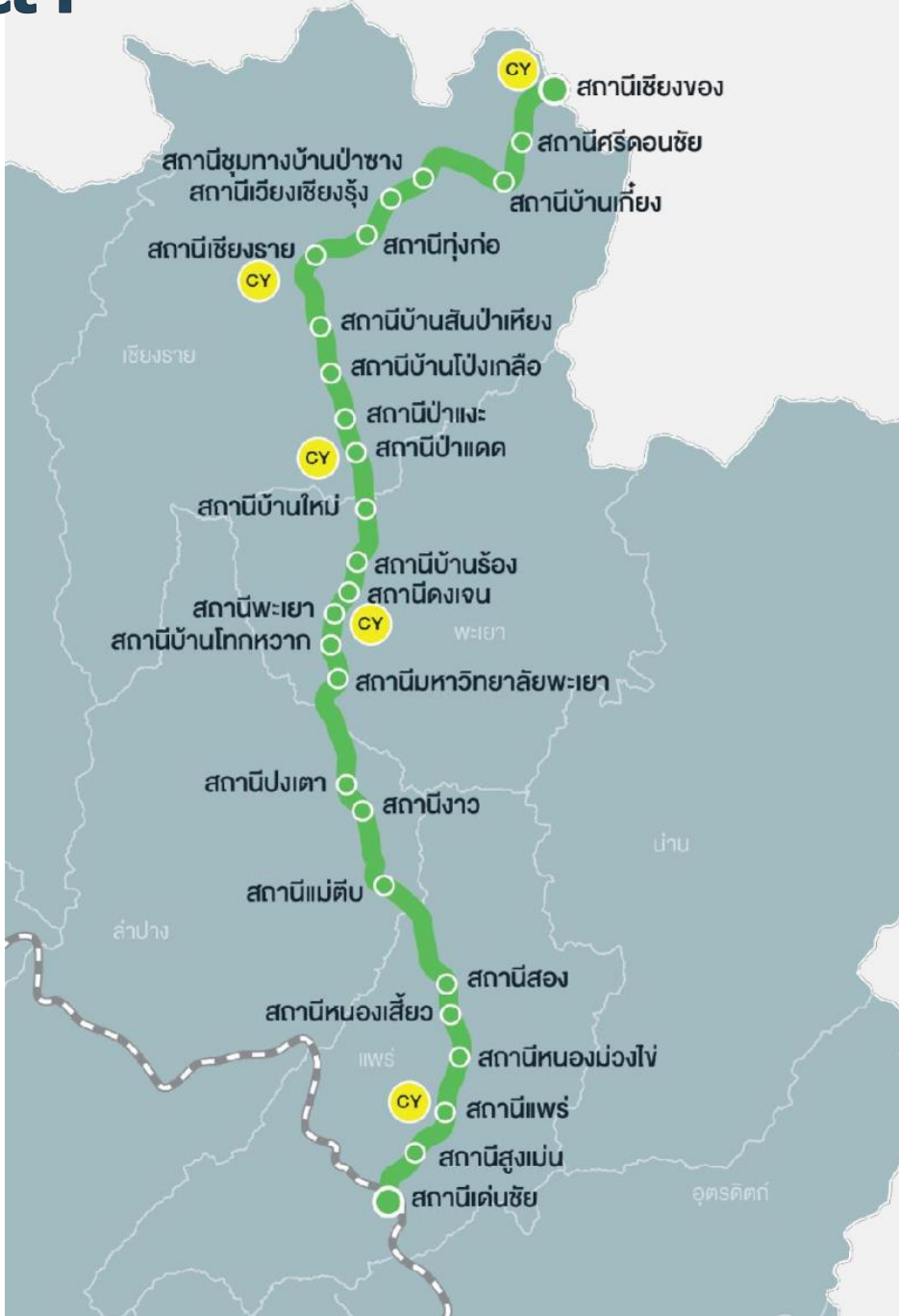
## Prachuap Khiri Khan - Chumphon



Distance 167 km  
Progress 13%  
To be Opened in 2021

# Double Track Project : New Route

Denchai  
-  
Chiang Rai  
-  
Chiang Khong



Distance **326 km**  
To be Opened in **2023**  
Cabinet : Approved 31 July 2018



# Double Track Project : New Route

## Ban Phai – Mukdahan – Nakhon Phanom



Distance 355 km

To be Opened in 2025

Cabinet : Approved 28 May 2019



# Double Track Project : Phase 2

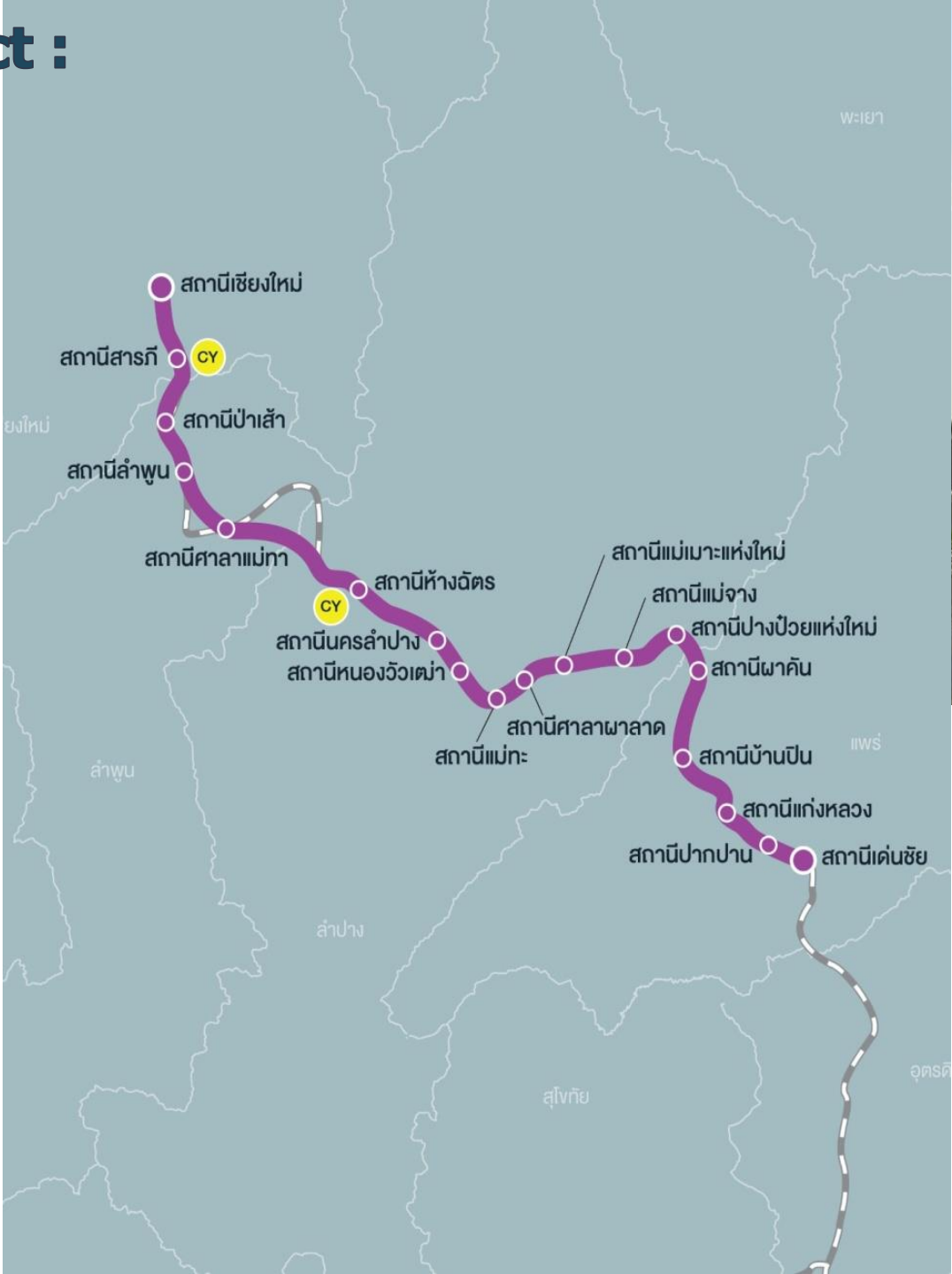
## Paknamphon - Denchai



Distance **285 km**  
To be Opened in **2024**

# Double Track Project : Phase 2

## Denchai - Chiang Mai



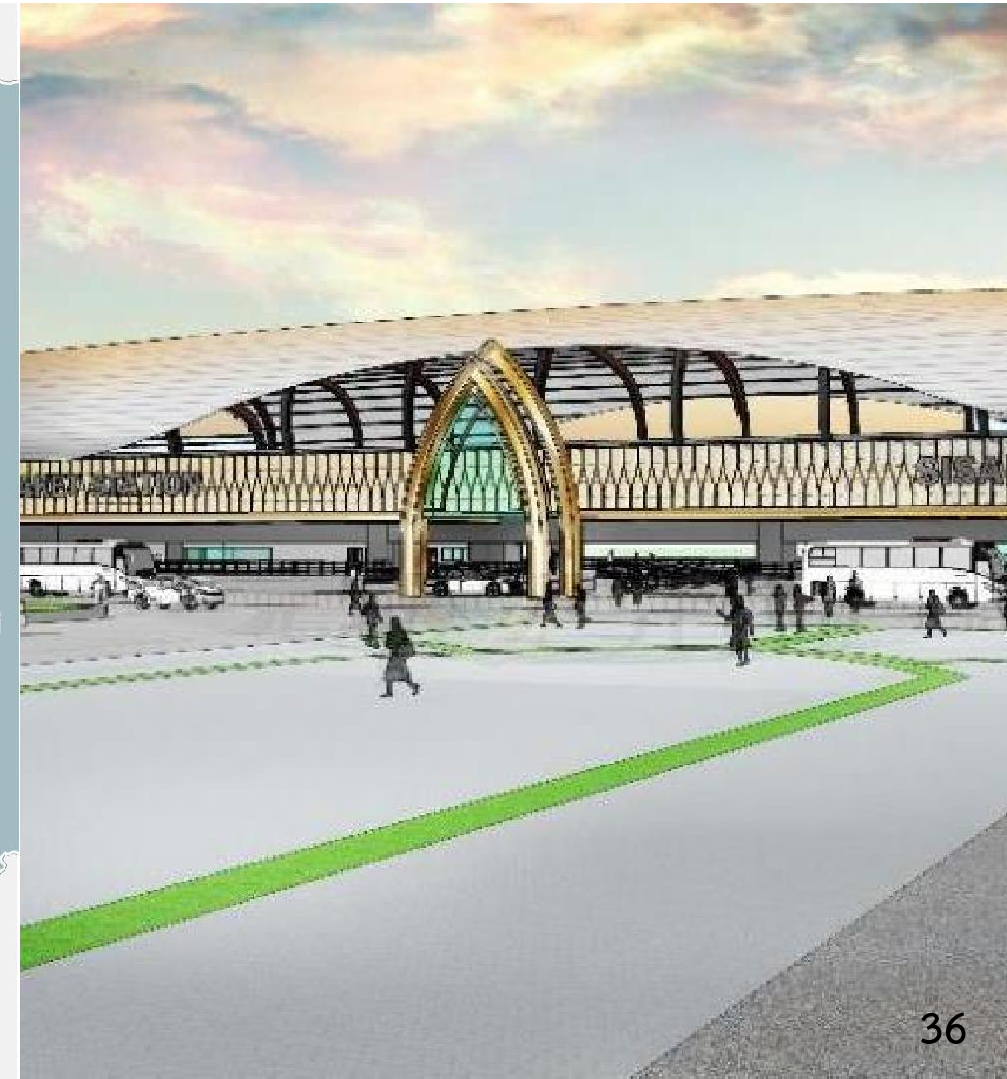
Distance **189 km**  
To be Opened in **2024**

# Double Track Project : Phase 2

## Jira – Ubon Ratchathani



Distance **308 km**  
To be Opened in **2023**



# Double Track Project : Phase 2

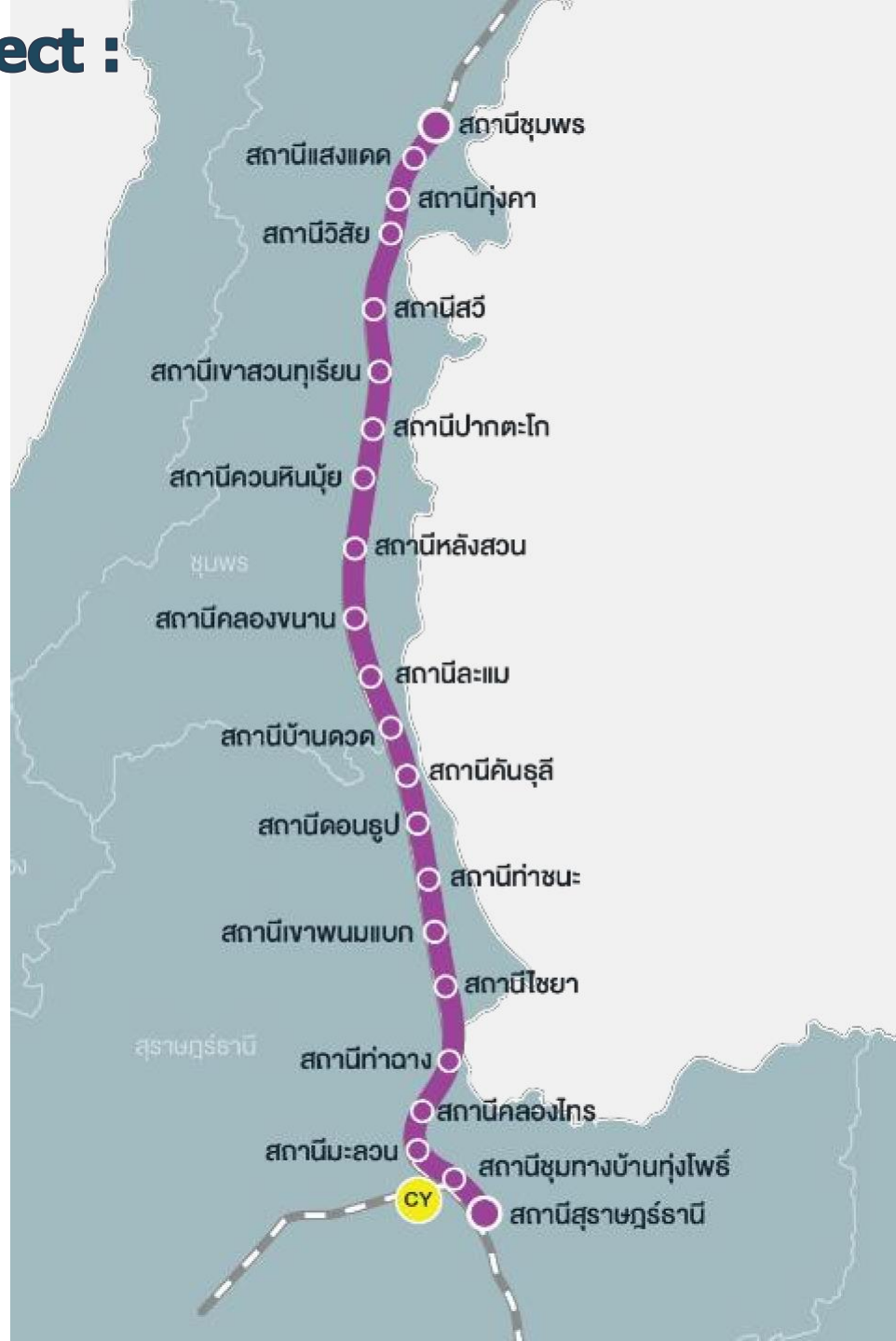
## Khon Kaen - Nong Khai



Distance **167 km**  
To be Opened in **2023**

# Double Track Project : Phase 2

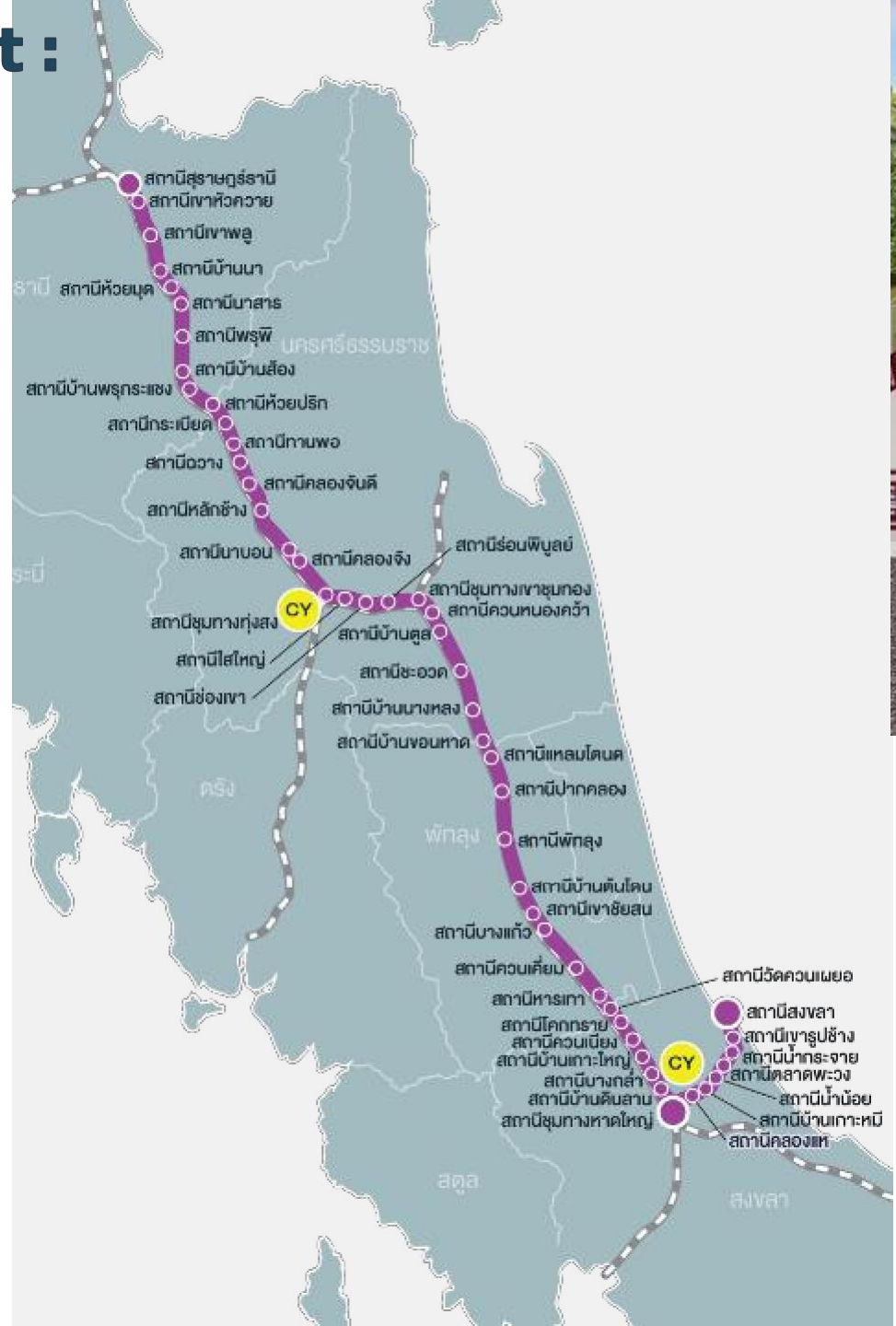
## Chumphon - Surat Thani



Distance **168 km**  
To be Opened in **2023**

# Double Track Project : Phase 2

Surat Thani  
-  
Hat Yai  
-  
Songkhla



Distance **321 km**  
To be Opened in **2024**

# Double Track Project : Phase 2

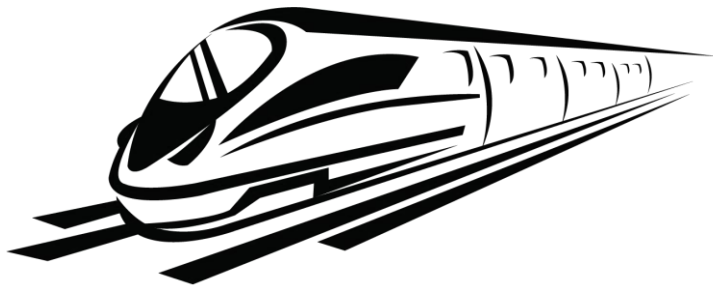
## Hat Yai - Padang Besar



Distance **45 km**  
To be Opened in **2023**

Malaysia





# *High Speed Rails*



# High Speed Train Projects Development Plan

## High Speed Train Development Plan (2017-2027)

<b>Immediate Phase 4 sections</b>	<b>1,248 km</b>
2017-2021 ① Bangkok-Nakhon Ratchasima	(253 km)
② Bangkok-Rayong	(260 km)
Phase 1 3 Airports Seamless Connections	220 km
Phase 2 U Ta Pao-Rayong	40 km
③ Bangkok-Phitsanulok	(380 km)
④ Nakhon Ratchasima-Nong Khai	(355 km)
<b>Medium Phase 2 sections</b>	<b>499 km</b>
2022-2026 ① Bangkok-Hua Hin	(211 km)
② Phitsanulok-Chiang Mai	(288 km)
<b>Long Term Plan 2 sections</b>	<b>759 km</b>
2026-2027 ① Hua Hin-Surat Thani	(424 km)
② Surat Thani-Padang Besar	(335 km)
<b>Total : 2,506 km</b>	



## High-speed Railway Network in Progress



### Thai-China Corporation Project

- Bangkok-Nakhonratchasima : 253 km
- Nakhonratchasima-Nong Khai 355 km



### Thai-Japan Corporation Project

- Bangkok-Phitsanulok : 380 km
- Phitsanulok-Chiang Mai 288 km



### EEC Project

- Bangkok-Rayong
  - 3 Airport-U Ta Pao : 220 km
  - U Ta Pao-Rayong : 40 km

# Thailand's First High-speed Train

## Northeastern Line:

### Bangkok-Nakhon Ratchasima-Nong Khai

#### Phase 1 : Bangkok-Nakhon Ratchasima

1

Distance : **253 km**

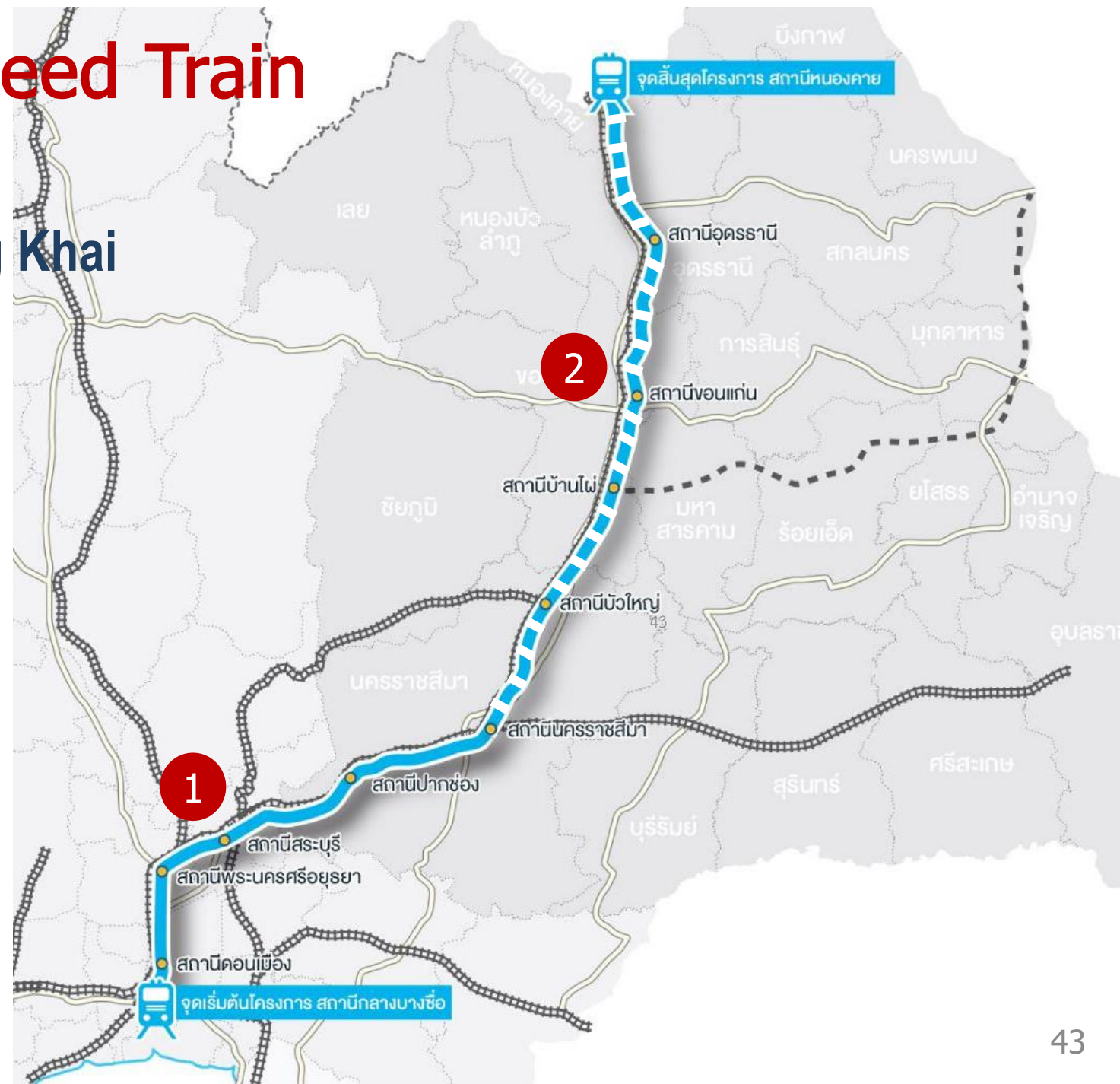
Current Status : **Under Construction**,  
to be opened **in 2023**

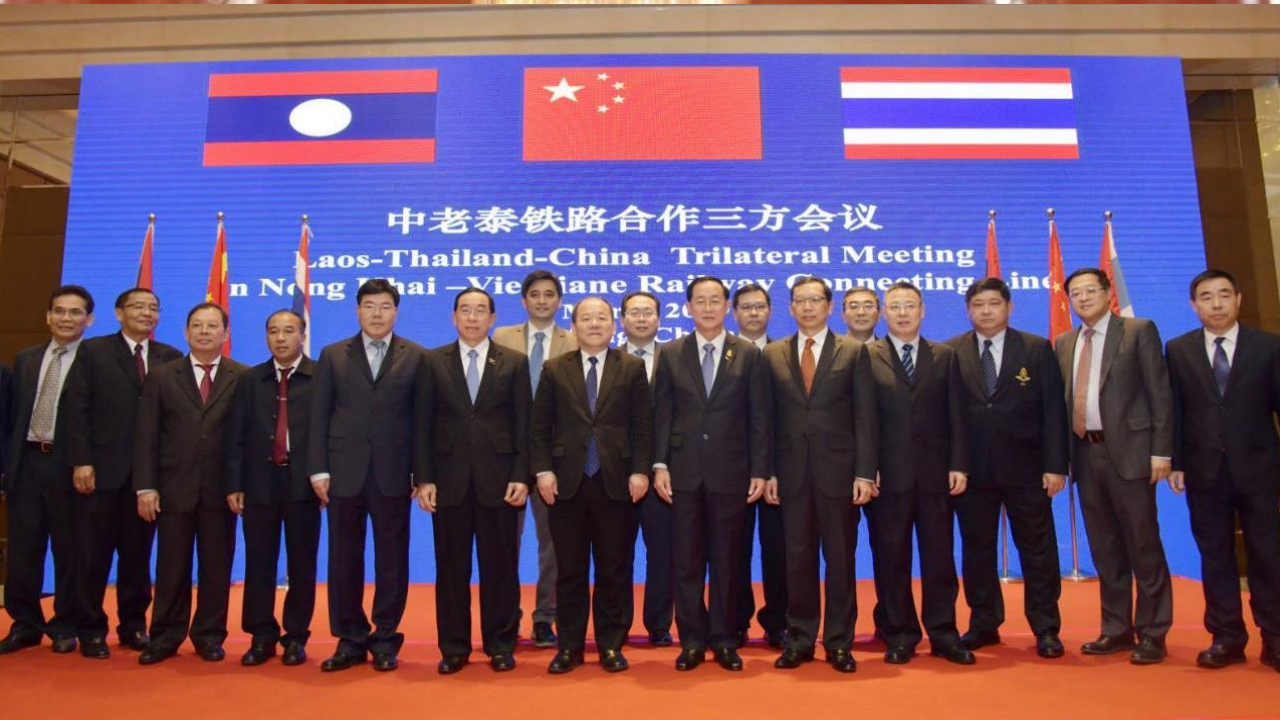
#### Phase 2 : Nakhon Ratchasima-Nong Khai

2

Distance : **355 km**

Current Status : **Waiting for EIA Approval**





# Northeastern Line: Bangkok-Nakhon Ratchasima-Nong Khai

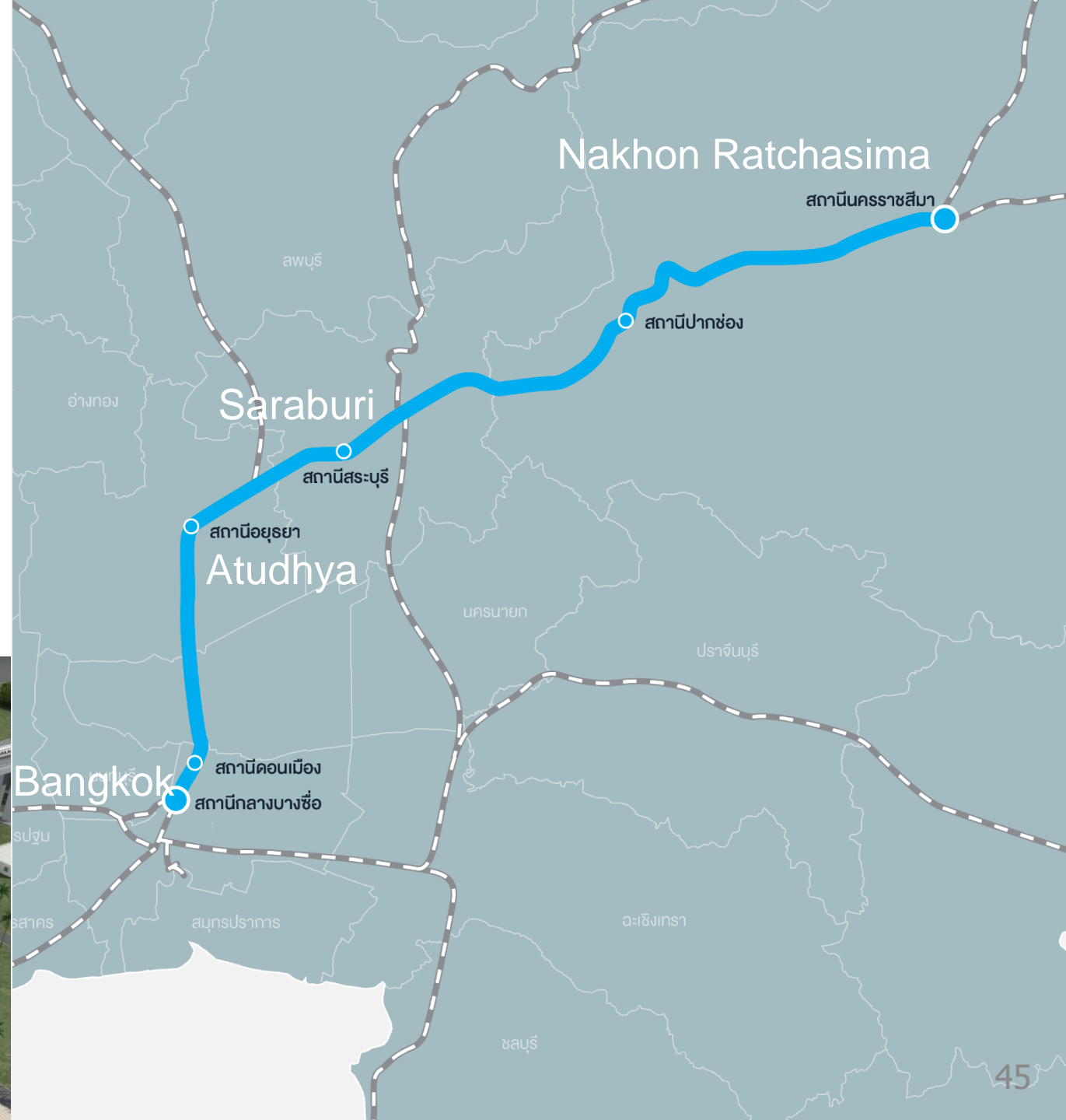
## Phase 1 :

### Bangkok-Nakhon Ratchasima Section

Length: **253** km

Investment: **179,413** million baht

To be Opened in **2023**



# Progress : Bangkok - Nakhon Ratchasima High Speed Train Project



## Under-Construction



2018-8-16 10:01

# Northeastern Line: Bangkok-Nakhon Ratchasima-Nong Khai

**Phase 2 :**  
**Nakhon Ratchasima-Nong Khai Section**  
Length: **355 km**  
Investment: **226,340 million baht**  
To be Opened in **2026**



# Eastern Line: High-speed Train Linking Three Airports

## Don Muang – Suvarnabhumi – U-Tapao

Length: 220 km  
Investment: 224,544 million baht  
To be Opened in 2024



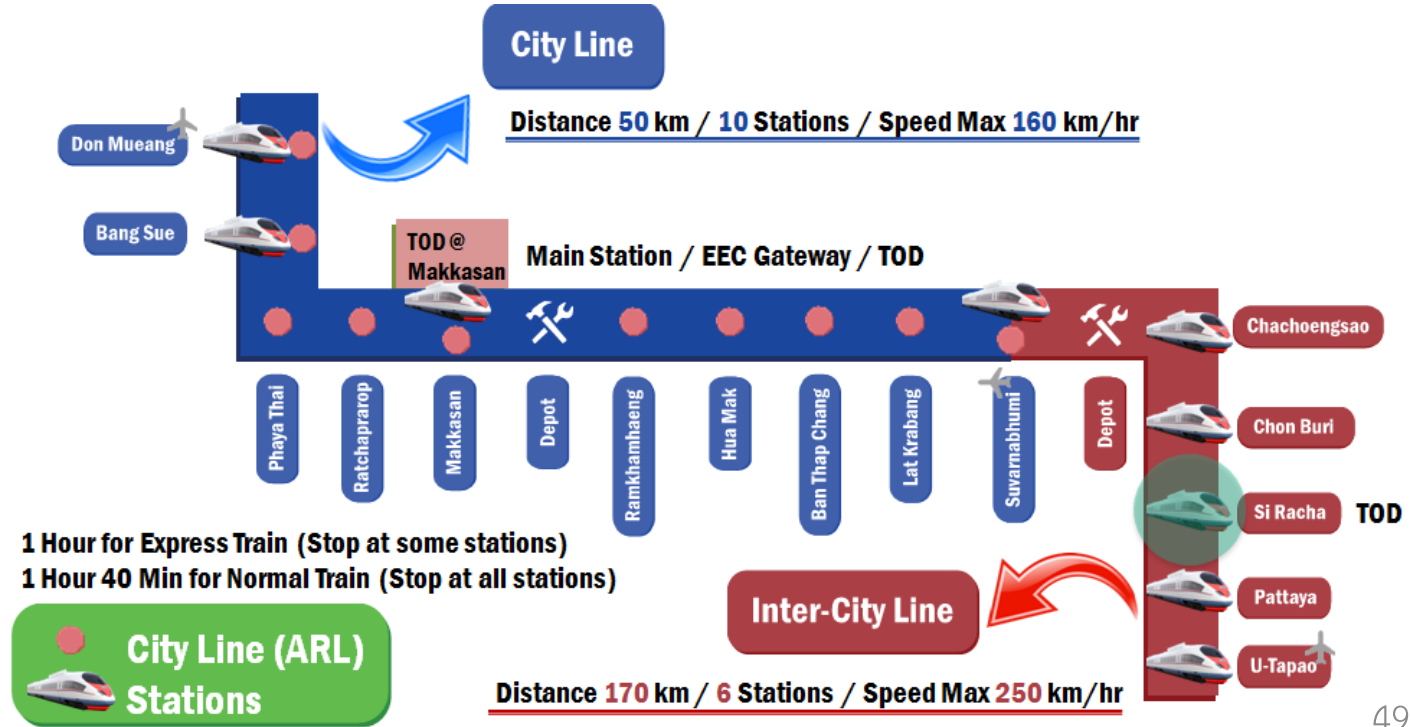
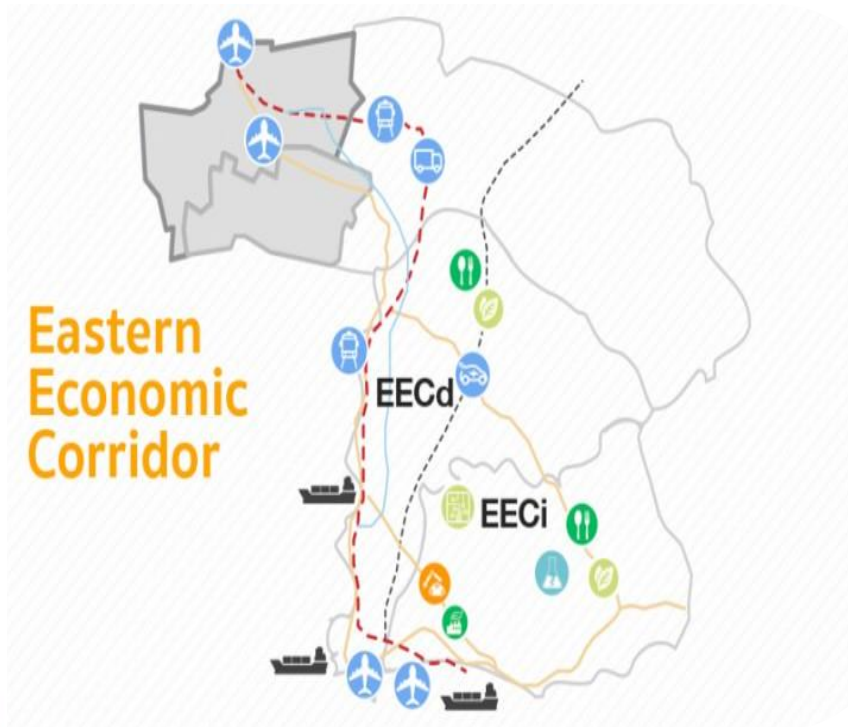


# Cooperation Between Three Countries: Thailand, China and Japan

## High Speed Train Linking Three Airports (Don Mueang-Suvarnabhumi-U-tapao)

### Project Detail:

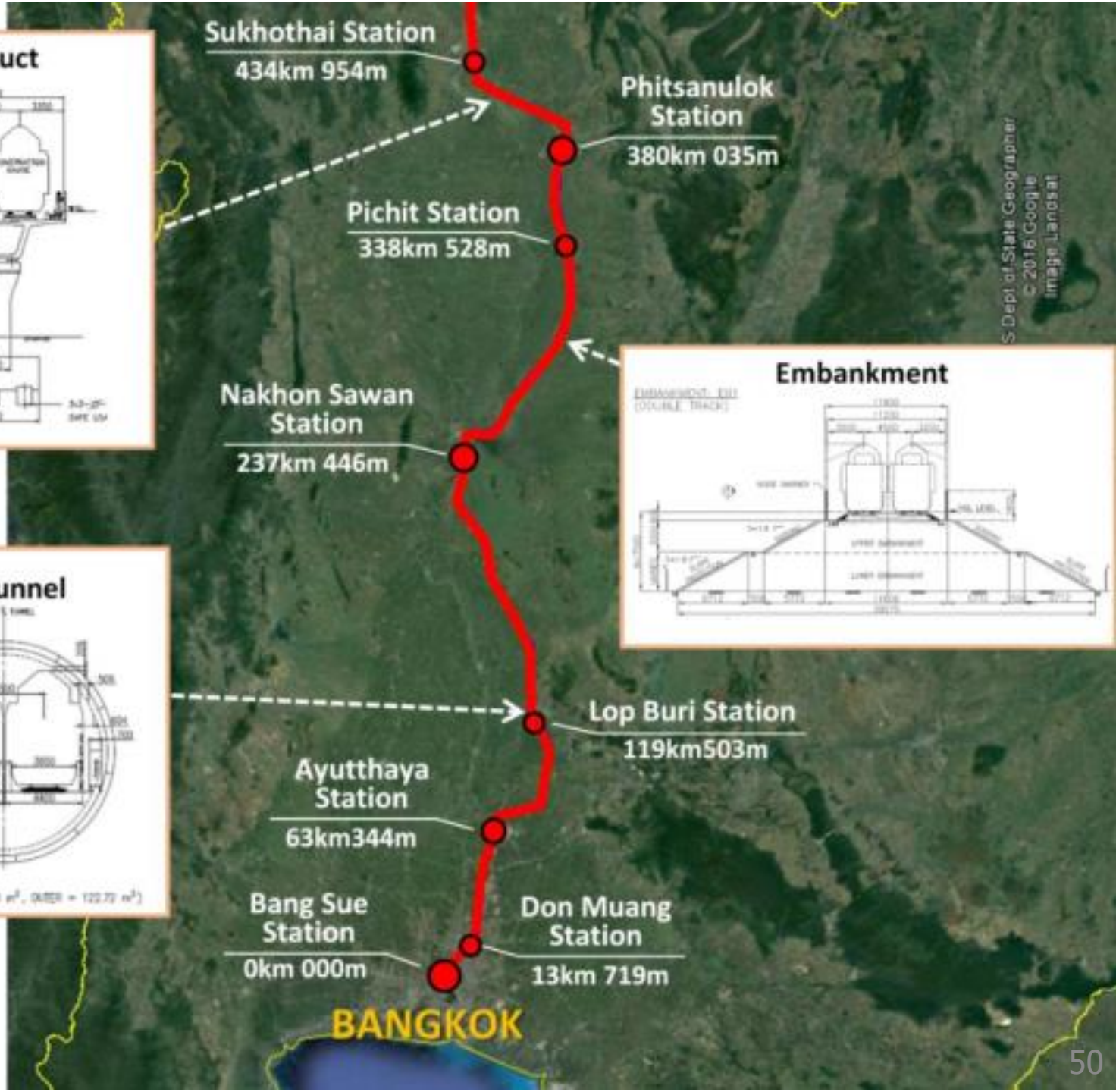
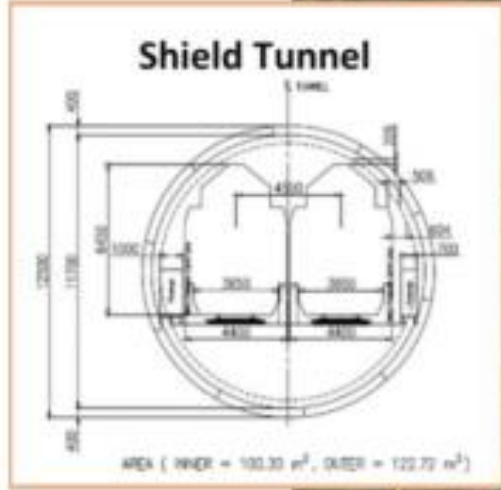
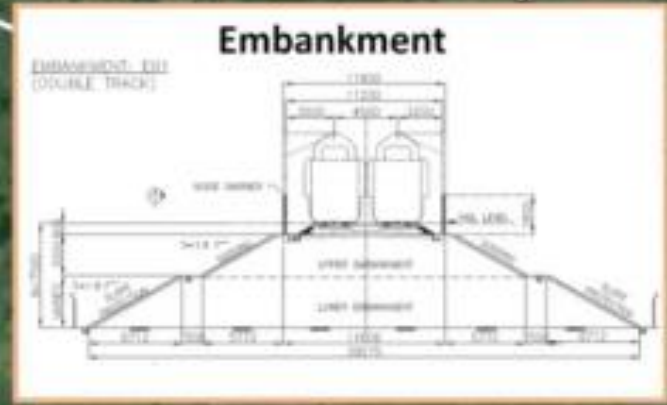
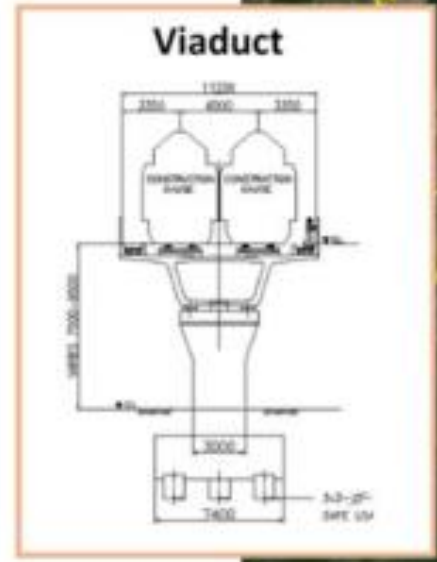
- Length : **220 km**
- Investment : **224,544 million baht**
- To be opened in **2024**



**Northern Line:  
Bangkok-Phitsanulok-Chiang Mai**

**Phase 1 :**  
**Bangkok-Phitsanulok Section**  
Length: 380 km  
Investment: 276,227 million baht

**Current Status:**  
**Under Discussion**  
**on business Scheme**  
**To be Opened in 2025**



S Dept of State Geographer  
© 2016 Google  
Image Landsat

4

## Outstanding **Thailand-Japan** Cooperation in **Transport Sector**

- *Railway Sector*
- *Road Sector*
- *Area/Regional Development*
- *Human Resource Development*

# Cooperation in **Railway Sector**

## 1 **MRTA Purple Line**

The M.R.T. Chalong Ratchadham Line (Bang Sue-Bang Yai Section), 16 stations, 23 km.

**Project Cost** : 210 Billion JPY

**Opening Year**: August 2016

### JICA's Project Cooperation

**ODA Loan** : 79 Billion JPY

(Civil work, Depot and Track work)

**Planning Support** : Study on Financial Frameworks

**Training for Human Resource Development** :

- Train Operation and Management
- Track Works and Depot Design
- Urban Railway Management
- Urban Public Transport





# Cooperation in Railway Sector

## 2 Red Line Commuter Train

Red Line (Bang Rangsit Section),  
10 stations, 26.4 km.

**Project Cost** : 332 Billion JPY

**Expected Opening Year**: January 2021

### JICA's Project Cooperation

**ODA Loan** : 268 Billion JPY

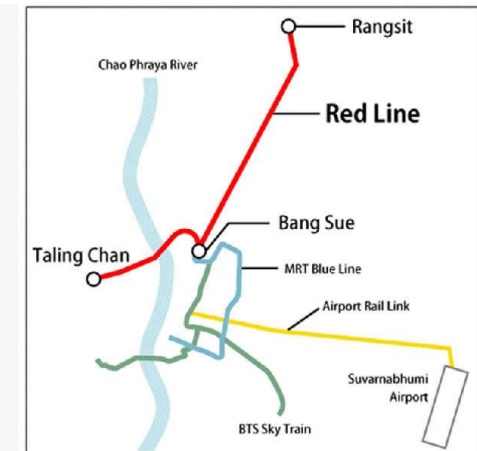
(Civil work, Depot, Track work, E&M and Rolling Stock)

**Planning Support** : Development of Barrier Free Guidelines

**Training for Human Resource Development** :

- Train Operation and Management
- Track Works and Depot Design
- Urban Railway Management

**Current Progress as on September 2019**  
**Contract 1 (Bang Sue Station) : 91.1%**  
**Contract 2 (Civil work) : 100%**  
**Contract 3 (E&M and Rolling stock) : 62.4%**



# Red Line assembly at Hitachi, Kasado Works, 5 July 2019



# Cooperation in Railway Sector

## 3 The Second Mass Rapid Transit Master Plan in BMR (M-MAP 2)

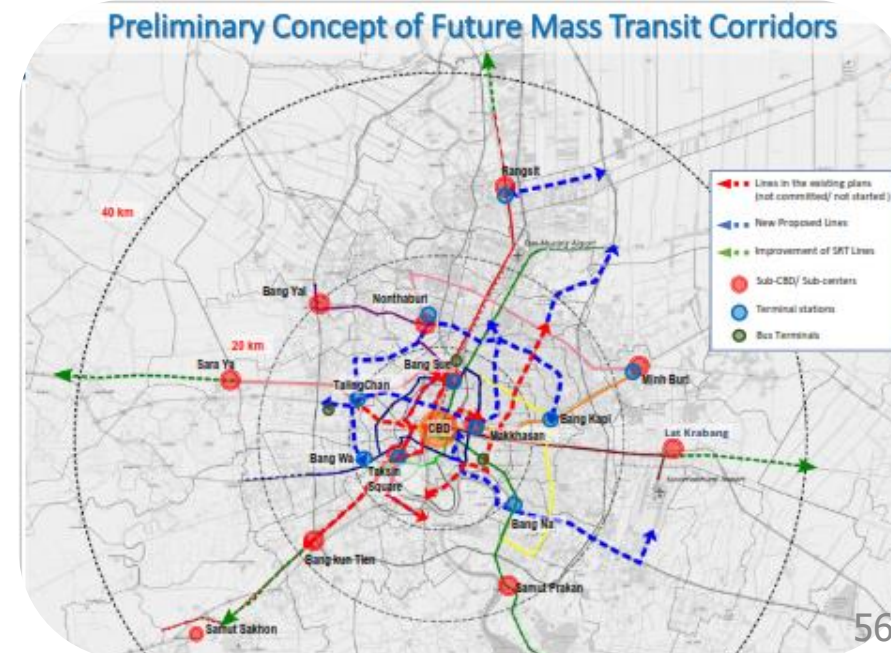
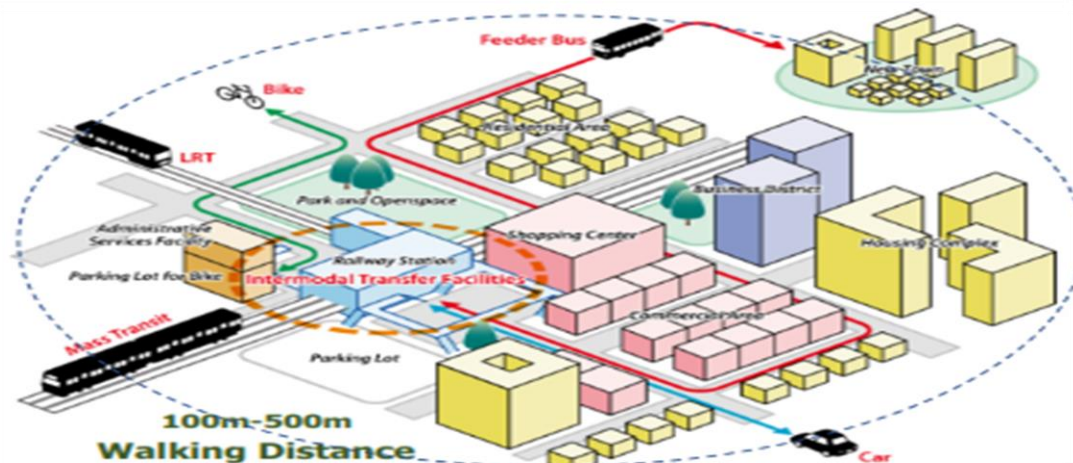
### JICA's Project Cooperation

**Planning Support :** Conduct the Study M-MAP 2 Blueprint

**Period of Time :** March 2017 – September 2018

**Outcome of the Study :**

- Establish Blueprint including the future vision and concept for rail mass transit plan and take into account countermeasures and draft route map to achieve the future vision.





# G-G Cooperation Between Thailand and Japan

## The High-speed Railway Project (Bangkok-Chiang Mai)

### JICA's Project Cooperation

**Planning Support :** Conduct the Feasibility Study

**Period of Time :** December 2015 – November 2017

**Outcome of the Study :** Making a project for “the highest standard on safety and technology for the benefit of Thai people” by consideration of all important issues



### Bangkok-Chiang Mai

Distance: 673 km



#### HSR Project 2<sup>nd</sup> Phase

- Phitsanulok~ChiangMai (293km)
- 5 stations

#### HSR Project 1<sup>st</sup> Phase

- Bangkok~Phitsanulok (380km)
- 7 stations
- Open : 2025 (JICA F/S proposed)

# Bangkok-Chiang Mai HSR : Phase 1 Bangkok-Phitsanulok Section



	Bangkok-Phitsanulok	Bangkok-Chiang Mai
Length	380 km	673 km
M-Speed	300 km/h	300 km/h
Time	1 hour 58 min.	3 hour 27 min.
Signaling	DS-ATC	DS-ATC
Track	1,435 mm	1,435 mm
Stations	7 stations	12 stations

Bangkok- Phitsanulok	JICA FS (A)	Thai FS (B)	Difference (A) - (B)
1. Initial Investment Cost	276.2	233.8	+42.5
2. O&M Cost for 30 years	213.9	301.1	-87.2
<b>Total. Life Cycle Cost</b>	<b>490.1</b>	<b>534.8</b>	<b>-44.7</b>

	Basic Case	With Regional Development
EIRR	7.2%	<b>14.7%</b>
Ridership	FY2025 : 29,700 /day FY2055 : 50,000 /day	FY2025 : 29,700 /day FY2055 : 73,200 /day

# Bangkok-Chiang Mai HSR : Phase 1 Bangkok-Phitsanulok Section

## Further Discussion : **Points to Success**

1

Cost Reduction of Project

2

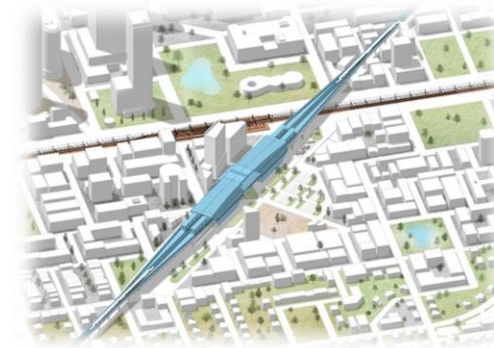
Business Scheme

3

Area/Regional Development

4

Human Resource Development and Technology Transfer

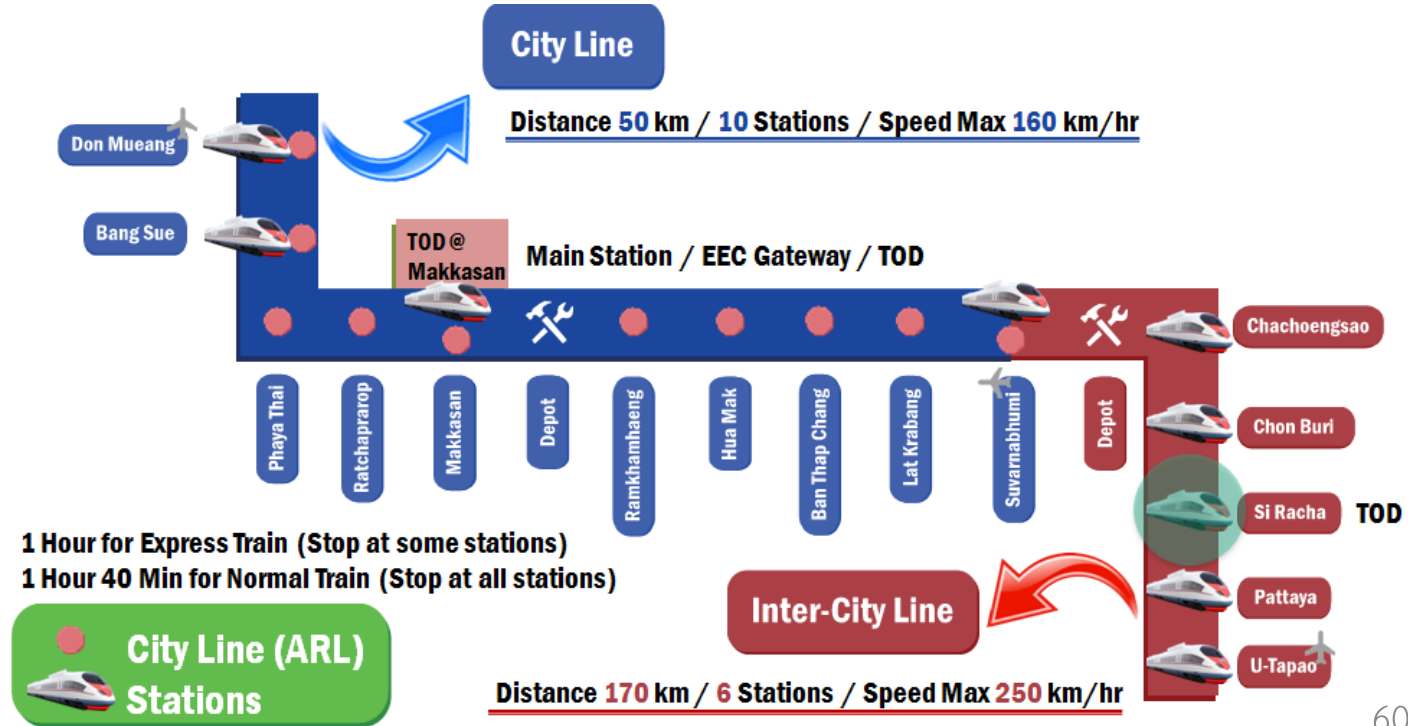
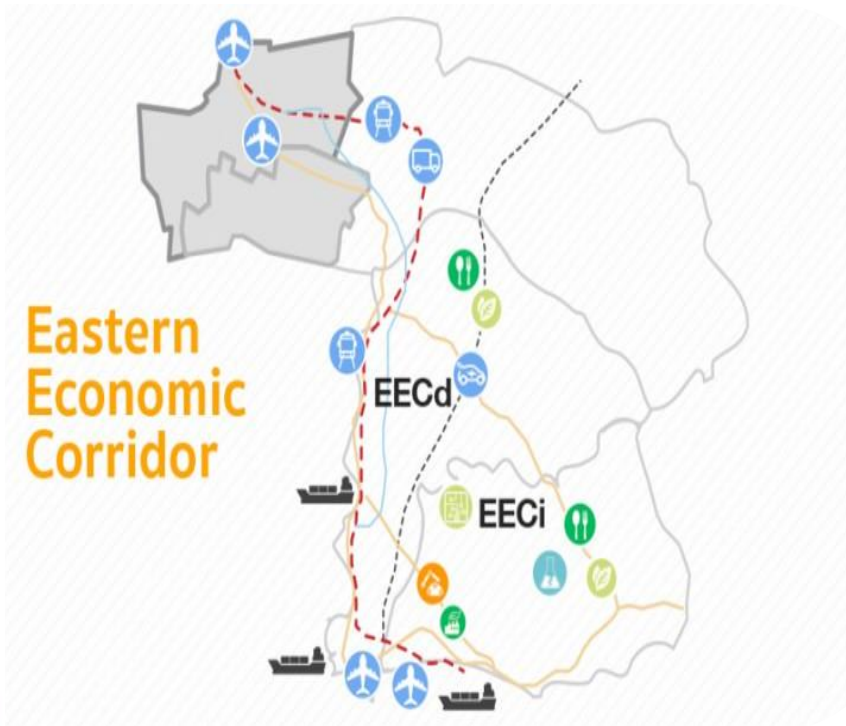


# Cooperation in Railway Sector

## 5 High Speed Rail Linking Three Airports (Don Mueang-Suvarnabhumi-U-tapao)

### Project Detail:

- Length : **220 km**
- Investment : **224,544 million baht**
- To be opened in **2024**



# Cooperation in Road Sector

## 1 Road Safety

**MOC on Road Safety** : Signed in June 2017

**Purpose** : Improving road safety in Thailand by sharing policies, technologies and experiences on road safety between both ministries

**Scope of Cooperation** :

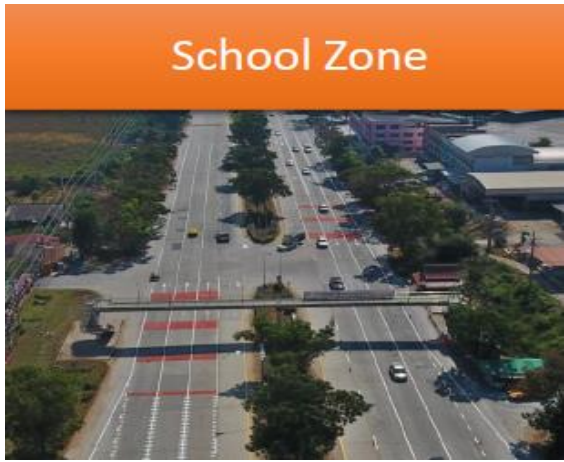
- Stocktaking of current situation on traffic accidents, and identification Of cause and challenges of the traffic accidents
- Sharing of policies, technology and experiences on road safety
- Consideration of necessary measures of both hard and soft infrastructure



# Cooperation in Road Sector

## Road Safety

### School Safety Zone : Suphan Buri



Red Rumble Strips

Optical Speed Bar (OSB Marking)



School Zone Marking



Speed Zone Marking

Pilot Project: Suphan Buri (Central region)  
Completed Projects: Pathum Thani (BMR), Nakhon Sawan (Northern region)  
On-going Project Sites: Ang Thong (Central region), Krabi (Southern region)

# Cooperation in Road Sector

## Road Safety

### ▪ School Safety Zone : Pathum Thani (Completed Project)



**Widening roadway to provide lane for load-unload students**



**Connecting walkway from pedestrian bridge to school**



**Guard fence to ban on-ground crossing**

Pilot Project: Pathum Thani (BMR)

Completed Projects: Pathum Thani (BMR), Nakhon Sawan (Northern region)

On-going Project Sites: Ang Thong (Central region), Krabi (Southern region)

# Cooperation in Road Sector

## Road Safety

- **School Safety Zone : Nakhon Sawan (Completed Project)**



**Red Rumble Strips**  
**Optical Speed Bar (OSB Marking)**



**Crosswalk & Street Lighting**  
**Bus Stop**



**Walkway to Bus Stop**  
**Street Lighting**

Pilot Project: Nakhon Sawan (Northern region)  
Completed Projects: Pathum Thani (BMR), Nakhon Sawan (Northern region)  
On-going Project Sites: Ang Thong (Central region), Krabi (Southern region)



# Cooperation in Road Sector

## Road Safety

- **School Safety Zone : Ang Thong**  
(On-going Project)



Construct separated lane for school car and bus

Organized load-unload area for student's car

Bus Stop

Guard fence to ban on-ground crossing

Pilot Project: Ang Thong (Central region)

Completed Projects: Pathum Thani (BMR), Nakhon Sawan (Northern region)

On-going Project Sites: Ang Thong (Central region), Krabi (Southern region)

# Cooperation in Road Sector

## Road Safety

- **School Safety Zone : Krabi**  
(On-going Project)



**Widening roadway to provide lane for load-unload students**



**Walkway to Bus Stop**



**Bus Stop**

Pilot Project: Krabi (Southern region)  
Completed Projects: Pathum Thani (BMR), Nakhon Sawan (Northern region)  
On-going Project Sites: Ang Thong (Central region), Krabi (Southern region)

# Cooperation in Road Sector

## Road Safety

## Mountain Zone

### Uttaradit Khao Plung and Khao Khad

### Phetchabun Huai Tong Bridge



Use Low gear / Reduce Speed



OSB Marking



Red Rumble Strips



Barrier Median



Your Speed Sign Board



Barrier



Guard Rail



Red Chevron



Use Low gear / Reduce Speed



Chevron Sign

# Cooperation in Road Sector

## Road Safety

### Highway Safety : Khon Kaen



OSB Marking



Speed Zone



Close Median Opening



Channelized Lane at Median Opening

# Cooperation in **Road Sector**

## Road Safety

### ▪ Highway Smart Bus Stop



In co-operated with private sector , MOT launched the first Highway Smart Bus Stop on Vibhavadi Rangsit Highway in front of PTT head office.

The project included :

- Friendly design for handicaps
- Separated lane for bus bay
- Smart Lighting with solar power
- Real time bus schedule information display

# Cooperation in Road Sector

## Road Safety

### Highway Smart Bus Stop



ปตท สำนักงานใหญ่			2019-01-21	
No.	Minute	to Arrive		
191	2	Min		
510	2	Min		
3	1	Min		
29	10	Min		
555	16	Min		

19:26:11



กระทรวงคมนาคม | กรมทางหลวง | องค์การขนส่งมวลชนกรุงเทพ



# Cooperation in Road Sector

## Road Safety

	MOT Road network					14 Pilot Areas				
List	2018	2017	2016	2018/2017 %	2017/2016 %	2018	2017	2016	2018/2017 %	2017/2016 %
Accidents (Times)	19,543	18,667	17,874	4.69	4.44	447	545	651	-17.98	-16.28
Deaths (Persons)	3,043	2,754	2,824	10.49	-2.48	36	62	81	-41.94	-23.46
Injured (Persons)	17,680	17,104	17,641	3.37	-3.04	397	621	837	-36.07	-25.81

# Cooperation in Road Sector

## Road Safety

- Highway Police Driving Learning Center

**Project kick-off : 14 November 2019**





# Cooperation in Road Sector

## Road Safety

- Highway Police Driving Learning Center



# Cooperation in Road Sector

## 2 Mobile Mapping system (MMS)

**Co-Organization :** The Department of Rural Roads

**Period of Time :** 2014

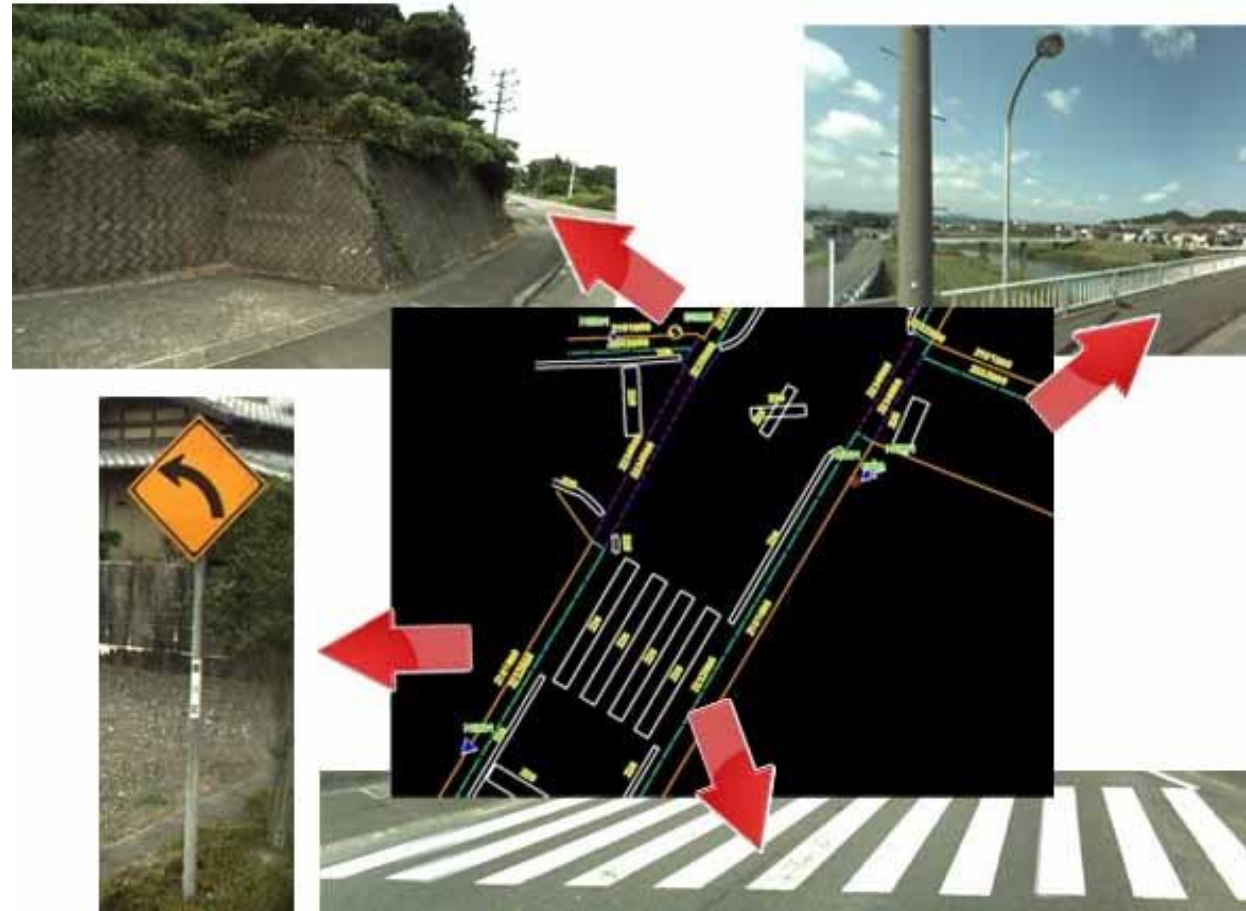
**Scope of Cooperation :**

- To collect road inventory data of the rural and local roads
- To improve the efficiency of road asset management system
- To map the flood affected areas in Thailand which can be used for disaster mitigation and prevention

**DEPARTMENT OF RURAL ROADS  
MINISTRY OF TRANSPORT**



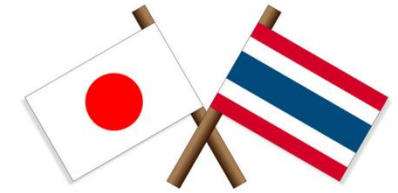
## Mobile Mapping System (MMS)



# Cooperation in Road Sector

3

## Capacity Development and Technical Advisor for Newly Establishing Tunnel Construction Division



Co-Organization :

The Department of Highway

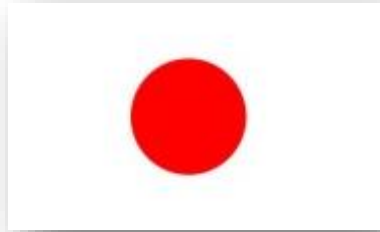
Year of operation:

2019

# Cooperation in Road Sector

4

## Cooperation with Expressway Authority of Thailand (EXAT)



# MOU



**6th April 2010**

• West Nippon Expressway Engineering Chugoku Co.,Ltd.

• Expressway Authority of Thailand



**7th April 2010**

• Hanshin Expressway Co.,Ltd.  
• Metropolitan Expressway Co.,Ltd.



• Expressway Authority of Thailand

# Cooperation in Road Sector

EXAT

## Effective Date

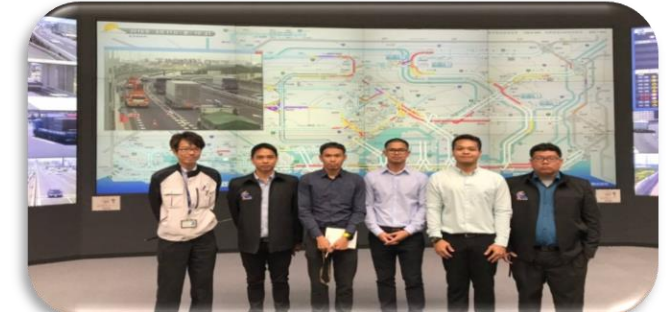
5 years / automatically extended 5 years

## Scopes of Cooperation

- Electronic Toll Collection System: ETC
- Intelligent Transportation System: ITS
- Bridge and Road Maintenance
- Exchange of Experts

## Activities

- 1) Technology Transfer in Japan
  - 28 Aug.-14 Oct. 2011 (4 Engineers)
  - 2 Sept.-13 Oct. 2012 (5 Engineers)
  - 2-15 December 2013 (4 Traffic Control Officers)
  - 26 Mar.-5 Apr. 2019 (10 Non-engineers)
  - 11 May-16 Jun. 2019 (5 Engineers)
  - 16 Jul.-28 Jul. 2019 (3 Traffic Control staff)



# Cooperation in Road Sector

## Activities

EXAT

### 2) Technical & Site Visit (in Japan)

- 2011 : EXAT's executives Group-1
- 2012 : EXAT's executives Group-2
- 2013 : EXAT's executives Group-3 and Group-4
- 2014 : EXAT's executives and the Committee for the Study of Strategic Plan to Enhance the Readiness of EXAT for

ASEAN

- 2016 : EXAT's executives



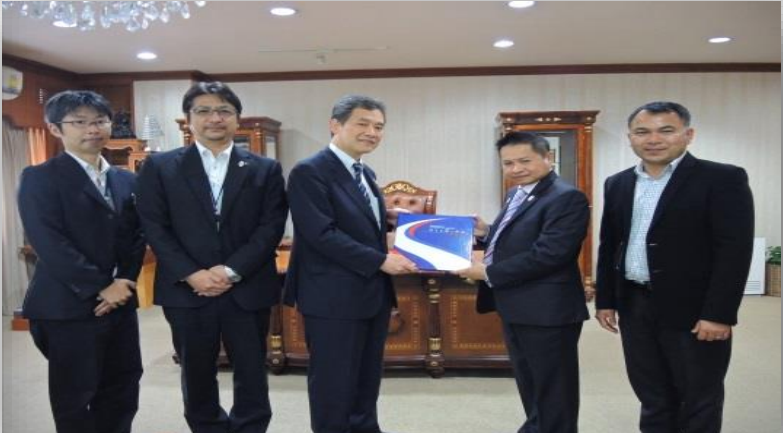
# Cooperation in Road Sector

## Activities

EXAT

### 2) Technical & Site Visit (in Thailand)

#### MEX visit EXAT 2013-2019



# Cooperation in Road Sector

## Activities

EXAT

### 2) Technical & Site Visit (in Thailand)

#### HEX visit EXAT : 2013-2019





# Cooperation in Road Sector

## Activities

EXAT

### 2) Technical & Site Visit (in Thailand)

### NEXCO E.C. visit EXAT 2012-2019



# Cooperation in Road Sector

## Technical Conferences & Seminar 2013

EXAT



# Cooperation in Road Sector

## Technical Conferences & Seminar 2014

EXAT



# Cooperation in Road Sector

## Technical Conferences & Seminar 2015

EXAT



# Cooperation in Road Sector

## Technical Conferences & Seminar 2018

EXAT



# Cooperation in Road Sector

## Technical Training Program in Thailand 2015

EXAT



# Cooperation in Road Sector

EXAT

## Technical Training Program in Thailand 2017



# Cooperation in Road Sector

## Technical Training Program in Thailand 2018

EXAT

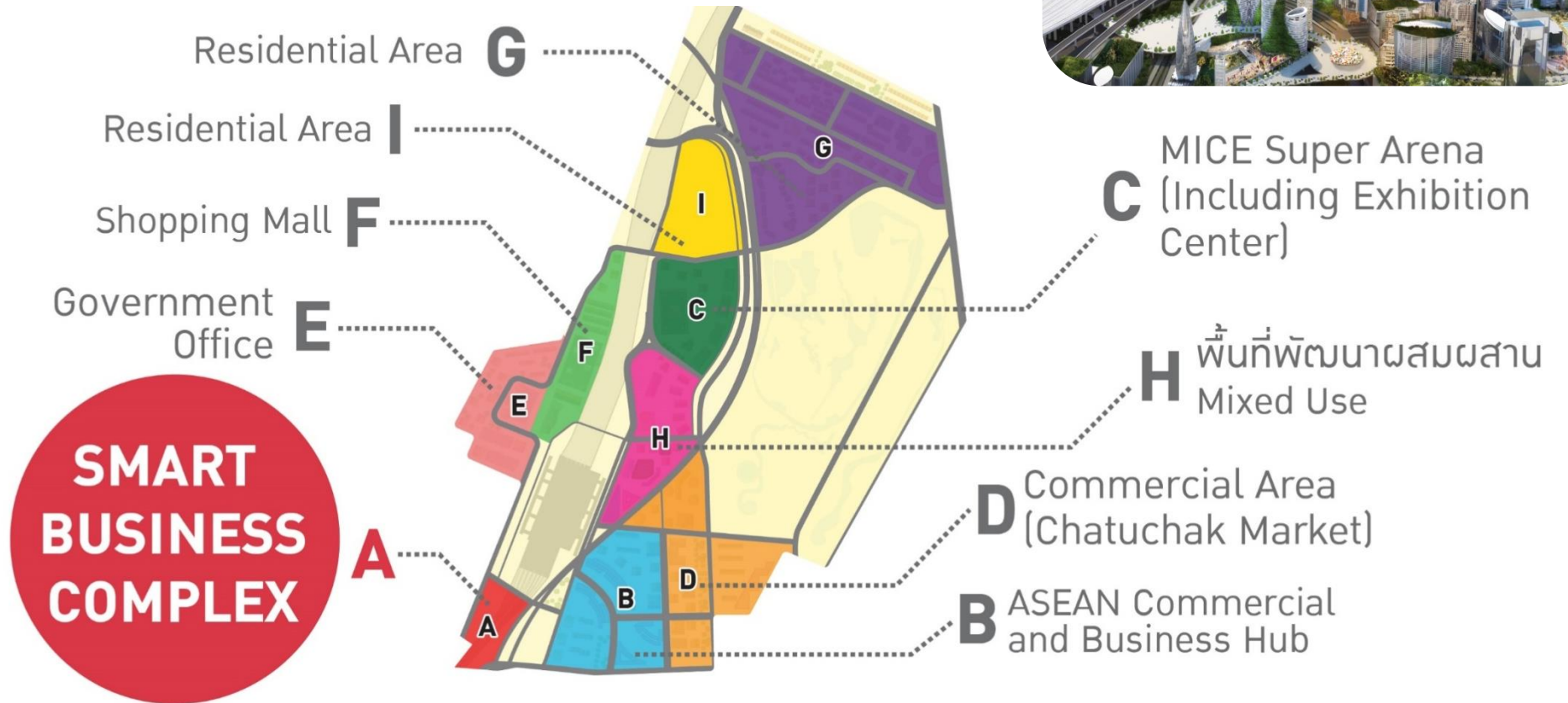




# Cooperation in Area/Regional Development

## Bang Sue Grand Station and Smart City

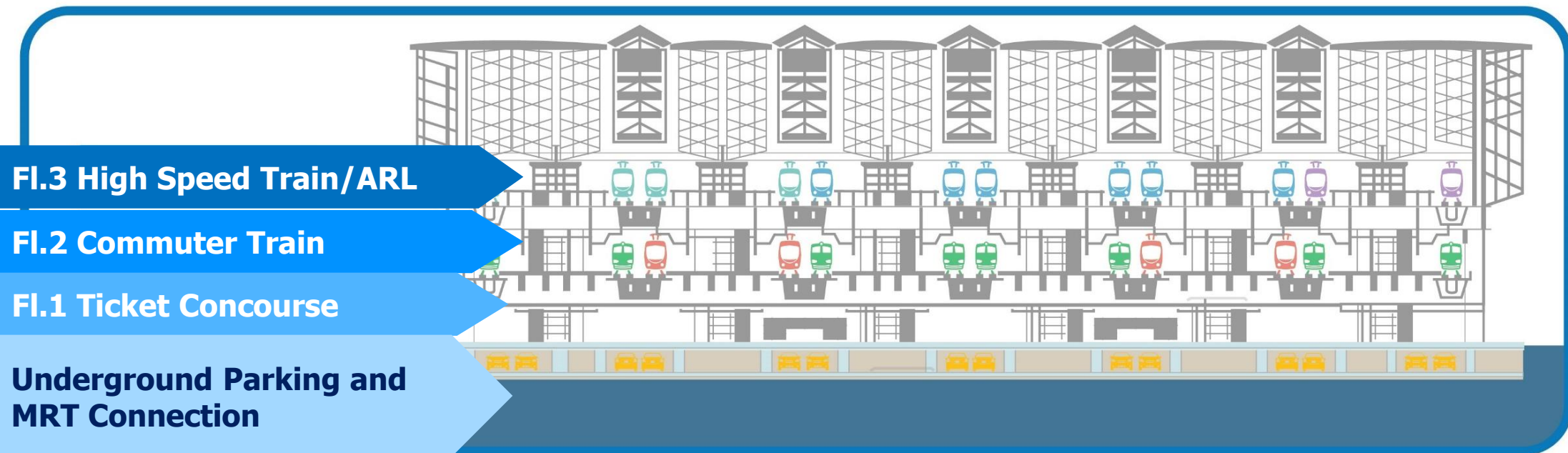
Ministry of Transport of Thailand and JICA are co-developing the Master Plan of Bang Sue Smart city.



# Cooperation in Area/Regional Development

## Bang Sue Grand Station

- Bang Sue Station will start commercial operation in early 2021.
- The Station will serve as a major hub for national railway systems.
- 24 Platforms : Provide connection to mass transit systems including The Red line Commuter Train, The Blue Line, The Airport Rail Link, and the High Speed Rail System.
- Area-wise, the Grand Station comprises 264,862 square meters.



# Cooperation in Area/Regional Development

## Bang Sue Grand Station

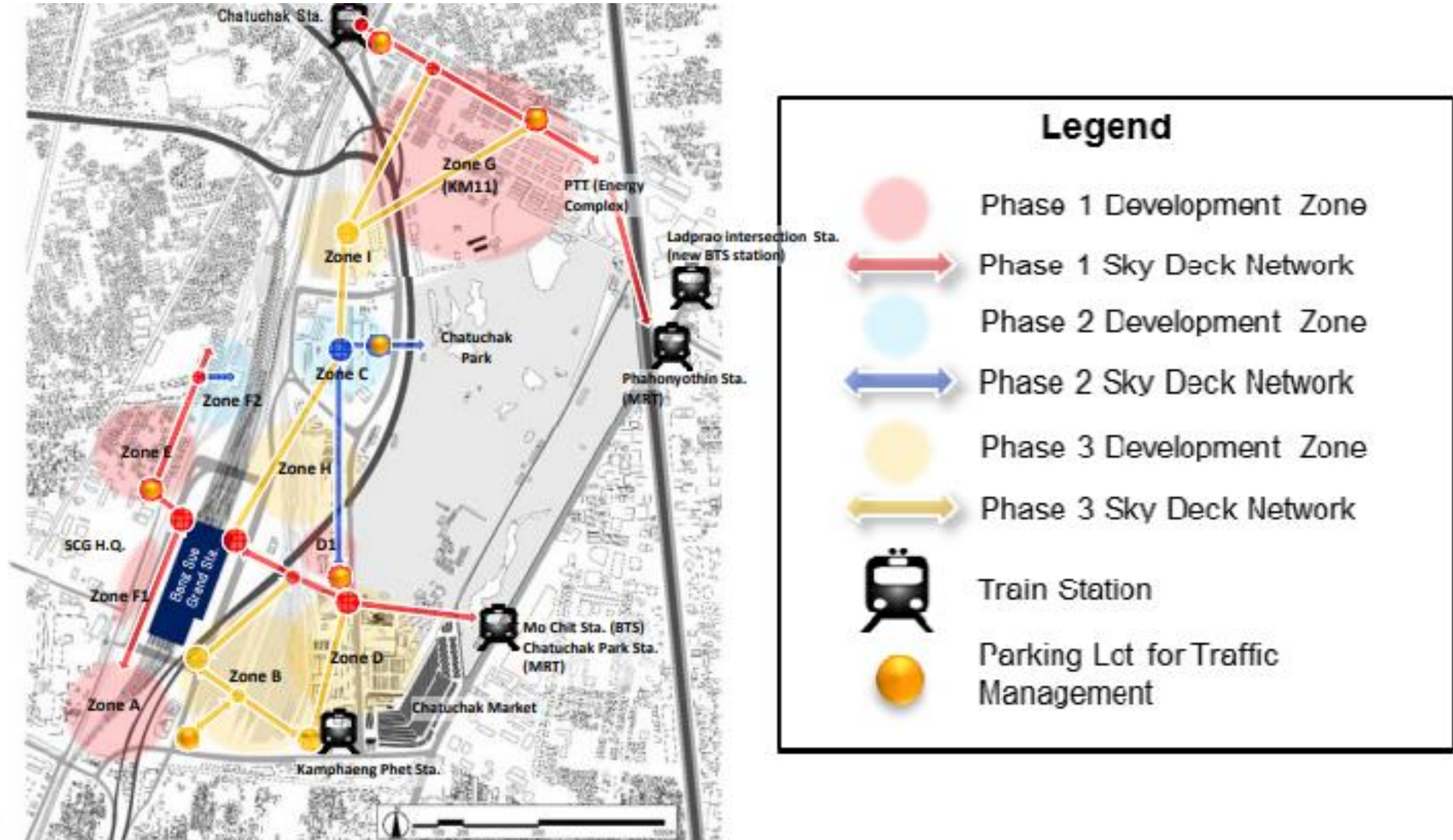


Photo by SRT on 4 November 2019

# Cooperation in Area/Regional Development

## 1. Smart Mobility

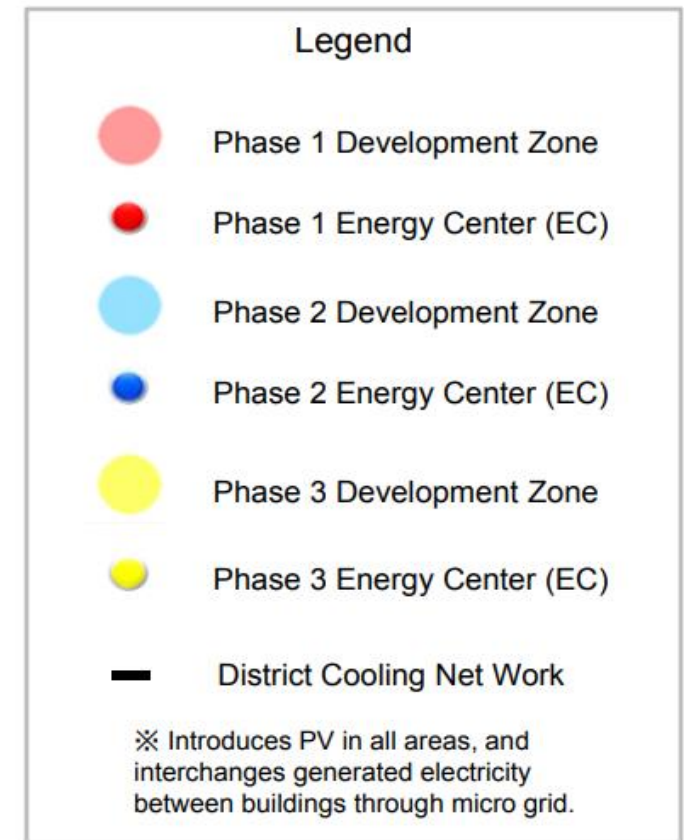
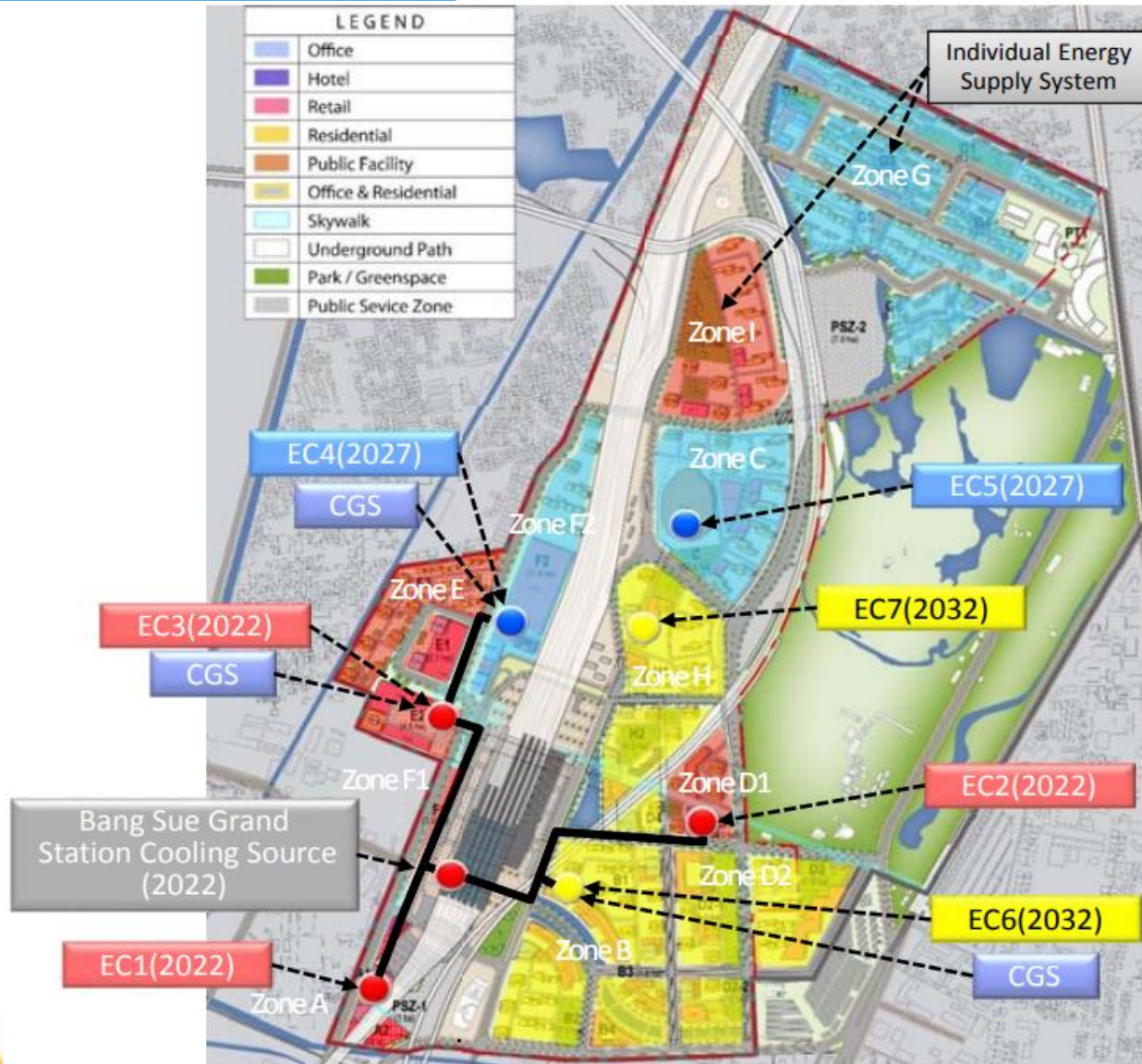
## Bang Sue Grand Station and Smart City



# Cooperation in Area/Regional Development

## 2. Smart Energy

## Bang Sue Grand Station and Smart City

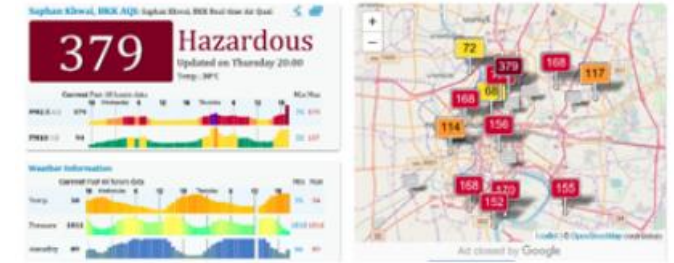


# Cooperation in Area/Regional Development

## 3. Smart Environment

## Bang Sue Grand Station and Smart City

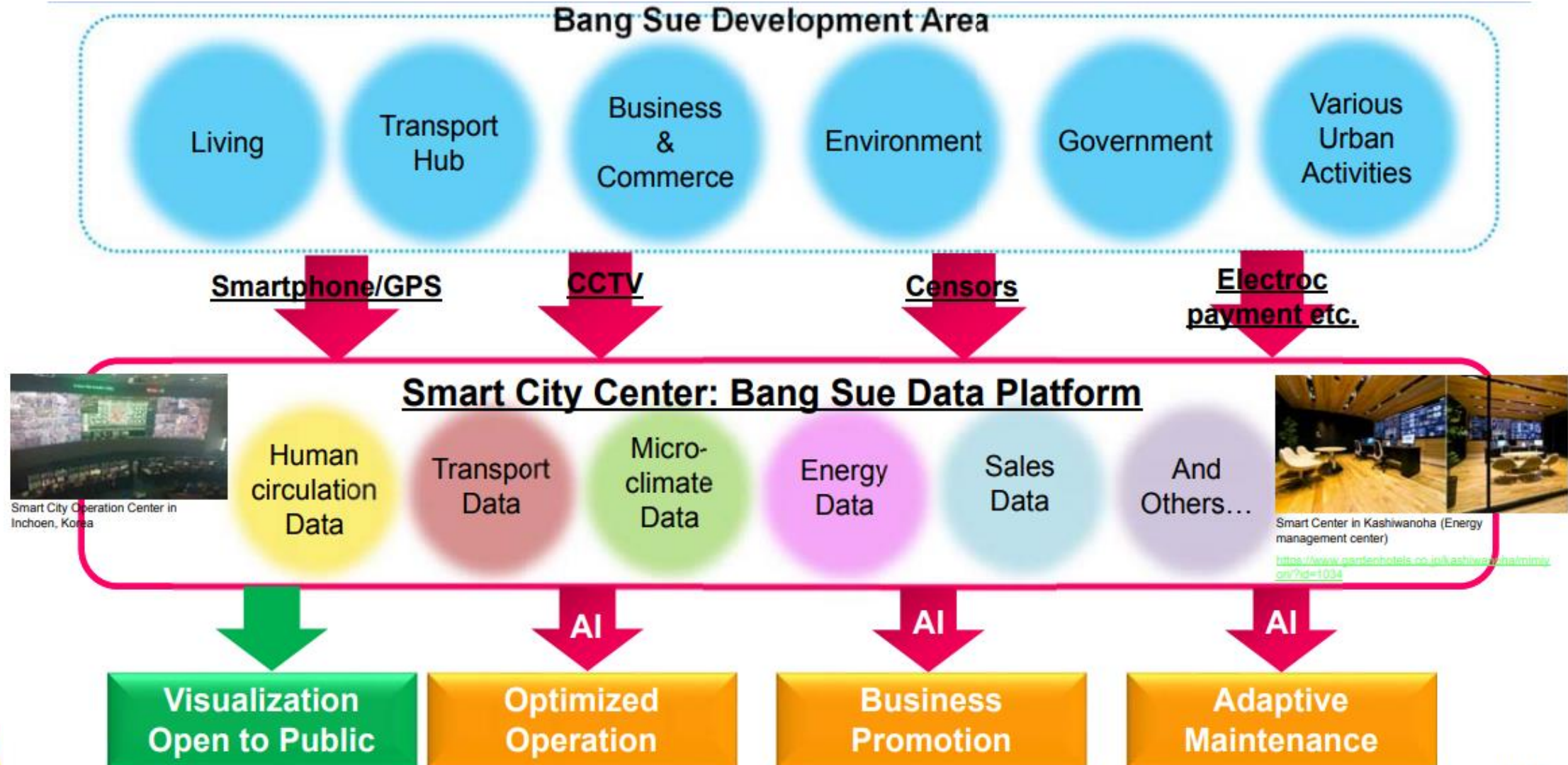
- Green network
- Real time environment monitoring system (Visualization)
- Establishment of Area management body and guideline
- Waste and water management
- Landscaping
- Environmental-friendly public transportation service



# Cooperation in Area/Regional Development

## 4. Open Data Platform

## Bang Sue Grand Station and Smart City



# Cooperation in **Human Resource Development**

## MRTA Operations Training Center

- On March 22, 2019, Mr. Pairin Chuchotethavorn, Deputy Minister of Transport presided over the opening ceremony of MRTA Operations Training Center at MRT Depot in Khlong Bang Phai, Bang Yai District, Nonthaburi Province.





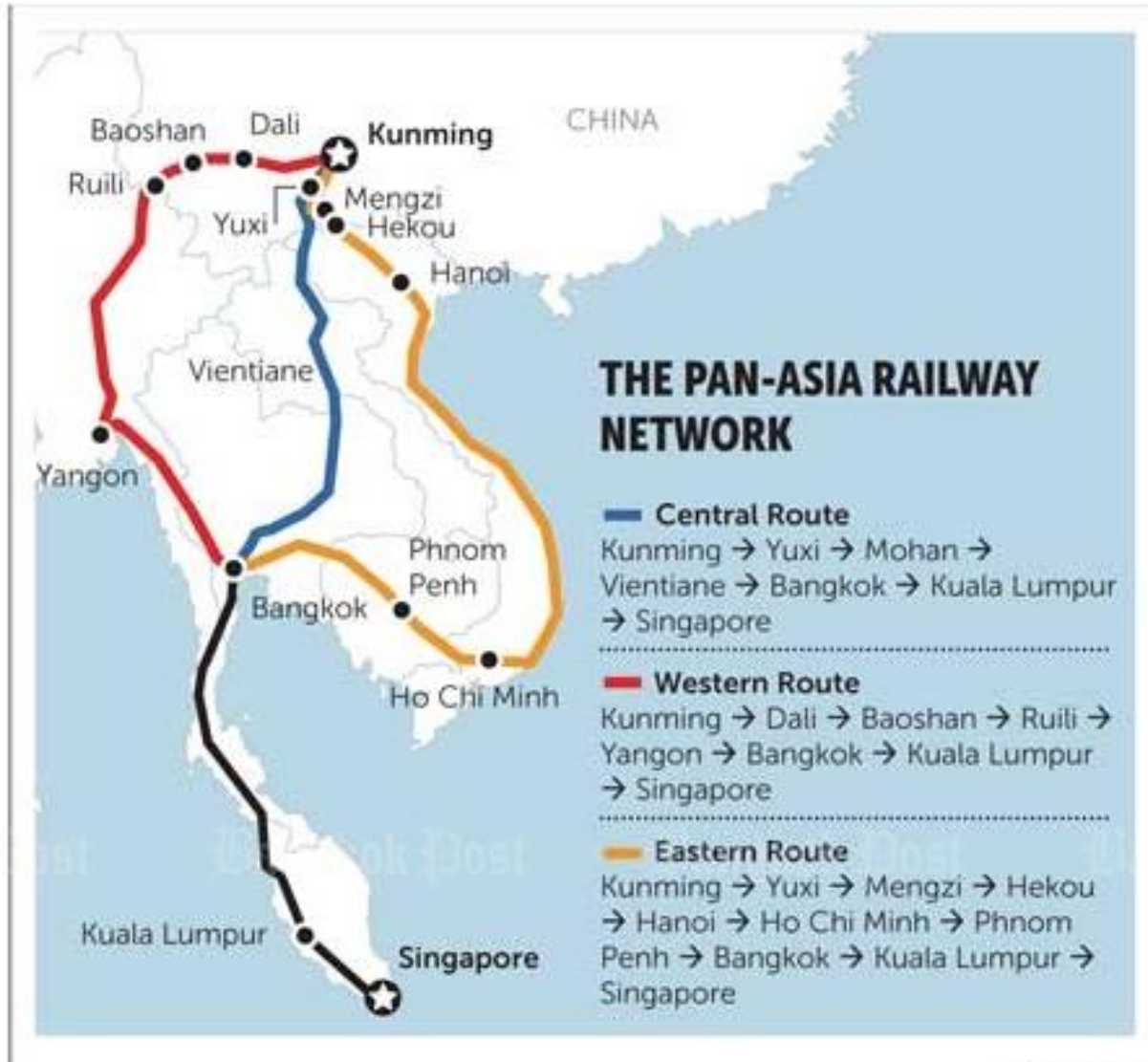


4

# Future Prospects

# Future Prospects

- JTTRI's Role in Supporting Thailand as an ASEAN's Railways Hub.



# Future Prospects

- **MLIT's Role now is to assist Thailand's Newly Established Department of Rail Transport in Enhancing Regulatory Capacity.**



- The Department of Rail Transport (DRT) of Thailand was established in April 2019. The DRT will play a key role as a regulatory agency of railways system as well as the national policy maker. Main focus will be on safety and standards.
- MOT is now in a process of establishing the railways technology research institute to be supervised by DRT.



## Future Prospects

- Knowledge sharing in combating road safety issue through JICA technical assistance.
- MOT is now setting up the Transport Safety Operation Center (TSOC) to coordinate relevant agencies in studying the safety measures and resolving road and rail accidents.



**Thank You**

**ขอบคุณครับ**

**ありがとうございます**

