

Reforming Rail Administration in Thailand and its goal

17th DRT-AIRO Railway Workshop
January 17, 2025
by Mr. Arkhom Termpittayapaisith



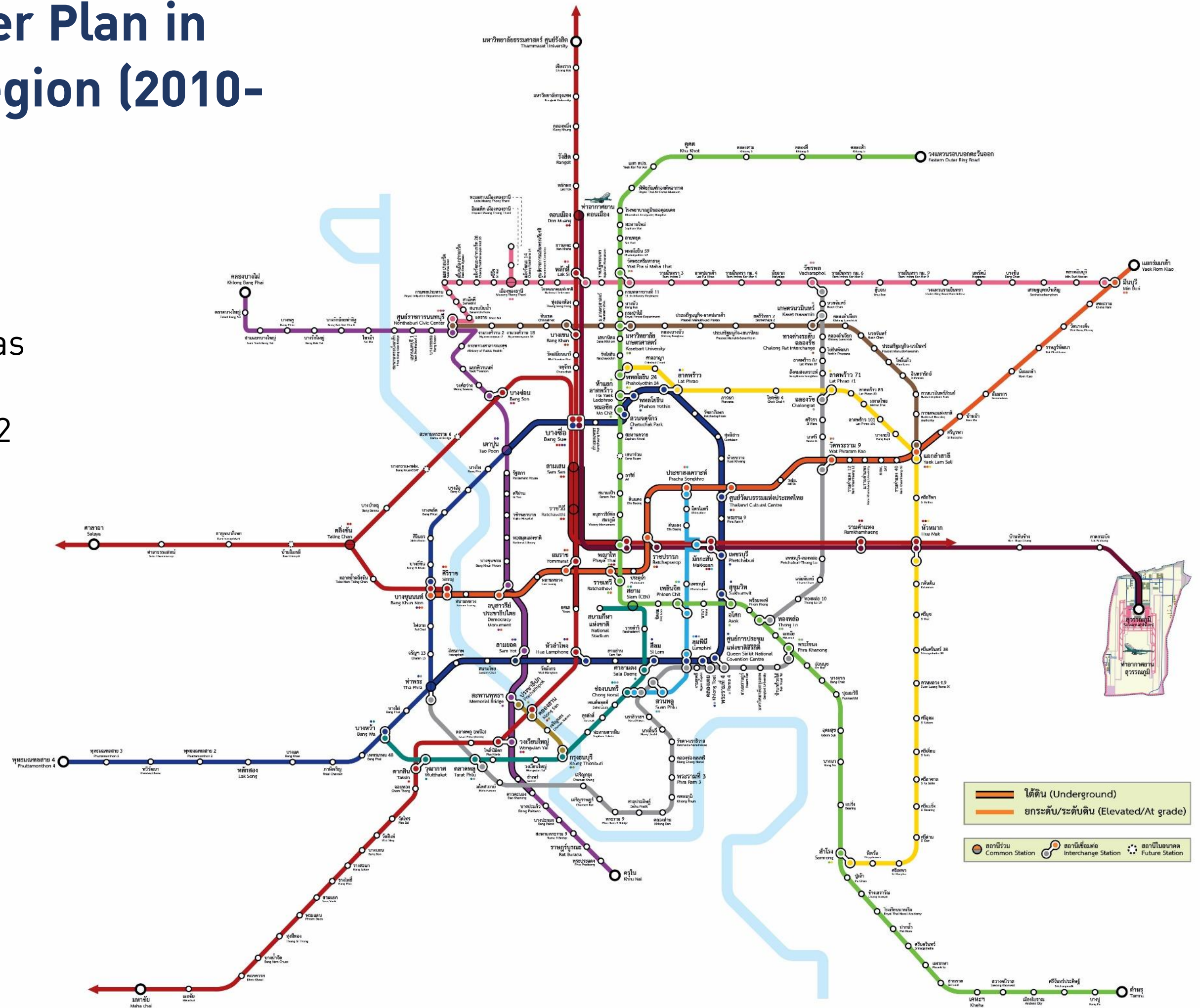
Mass Rapid Transit Master Plan in Bangkok Metropolitan Region (2010-2029)

14 routes 553.41 KM

- The Master Plan for Mass Transit System in Bangkok (M-Map 1) was approved in 2010 and covers a total distance of 509 km across 12 routes.

In 2016, the Cabinet approved for implementing the **Gold Line** (Krung Thon Buri - Klong San - Prachadhipok).

In 2019, the Cabinet allowed MRTA to develop the **Brown Line** (Khae Rai - Lam Salee (Bueng Kum) as part of M-Map 1.



In service

13 Routes **276.84** KM

1999- BTS Sukhumvit Line (Mo Chit – On Nut) and BTS Silom Line (National Stadium – Saphan Taksin) opened.

2004- MRT Blue Line (Bang Sue – Hua Lamphong) opened.

2009- BTS Silom Line Extension (Saphan Taksin – Wongwian Yai) opened.

2010- Airport Rail Link (Suvarnabhumi – Phaya Thai) opened.

2011- BTS Sukhumvit Line Extension (On Nut – Bearing) opened.

2013- BTS Silom Line Extensions to Bang Wa completed.

2016- MRT Purple Line (Klong Bang Phai – Tao Poon) opened.

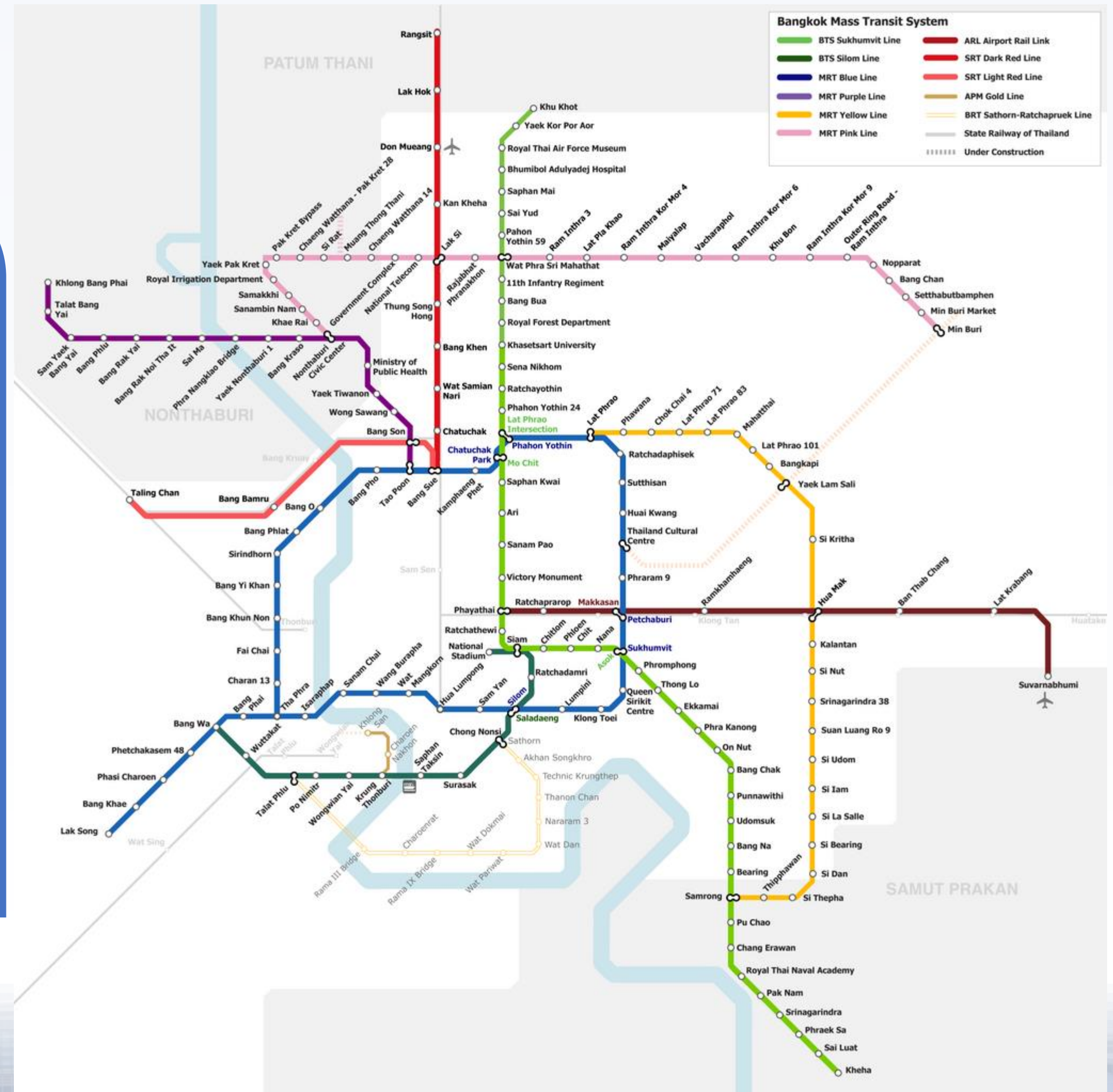
2019- MRT Blue Line and BTS Sukhumvit Line Extensions to Lat Phrao and Kheha opened.

2020- BTS Sukhumvit Line Extension to Khu Khot opened.

2021- Gold Line (Krung Thon Buri – Khlong San) and Red Line (Bang Sue – Rangsit, Bang Sue – Taling Chan) opened.

2023- Yellow Line (Lat Phrao – Samrong) opened.

2024- Pink Line (Nonthaburi Center – Min Buri) opened.



Timeline

2024–2029: Future Timeline for M-Map and Ongoing Rail Projects

2025 (B.E. 2568)

- MRT Pink Line Extension (Muang Thong Thani – Talay Muang Thong Thani).

2027 (B.E. 2570)

- MRT Purple Line Extension (Tao Poon – Khu Khot).
- MRT Orange Line (East) (Cultural Center – Rom Klao).

2028 (B.E. 2571)

- Red Line Extensions (Bang Sue – Hua Lamphong, Bang Sue – Hua Mak, Rangsit – Thammasat, Taling Chan – Salaya, and Taling Chan – Siriraj).

2029 (B.E. 2572)

- MRT Silver Line (Bang Na – Thana City).
- Airport Rail Link Extension (Phaya Thai – Don Mueang Airport).
- MRT Orange Line (West) (Bang Khun Non – Cultural Center).

Bangkok Mass Transit



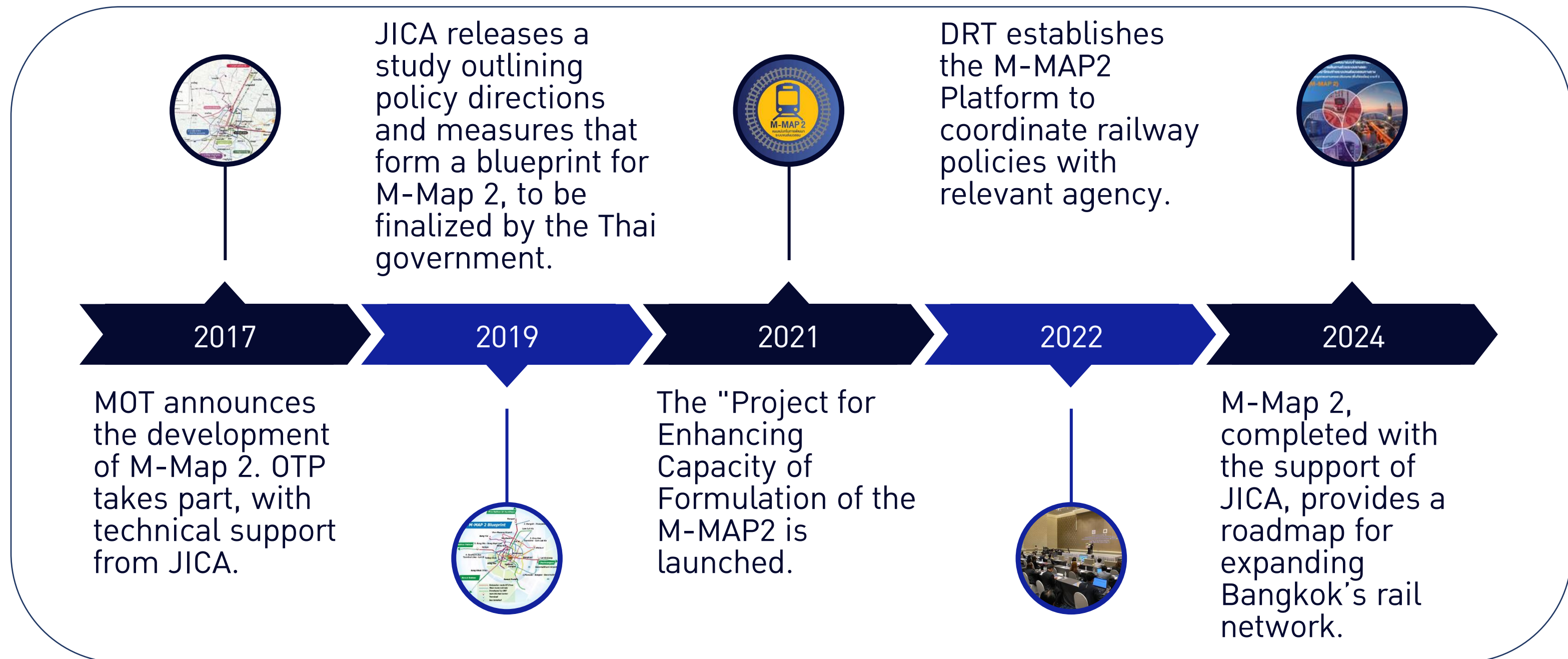
เส้นทาง (Line) / หน่วยงานกำกับดูแล (Project Owners)

<p> สายสีเขียวอ่อน (สายสุขุมวิท) Light Green Line การรถไฟฟ้าขนส่งมวลชนแห่งประเทศไทย (Mass Rapid Transit Authority of Thailand)</p> <p> สายสีเขียวเข้ม (สายสีลม) Dark Green Line กรุงเทพมหานคร (The Bangkok Metropolitan Administration)</p> <p> สายสีน้ำเงิน (สายเฉลิมรัชมงคล) Blue Line การรถไฟฟ้าขนส่งมวลชนแห่งประเทศไทย (Mass Rapid Transit Authority of Thailand)</p> <p> สายสีม่วง (สายฉลองรัชธรรม) Purple Line การรถไฟฟ้าขนส่งมวลชนแห่งประเทศไทย (Mass Rapid Transit Authority of Thailand)</p>	<p> สายสีชมพู Pink Line การรถไฟฟ้าขนส่งมวลชนแห่งประเทศไทย (Mass Rapid Transit Authority of Thailand)</p> <p> สายสีเหลือง Yellow Line การรถไฟฟ้าขนส่งมวลชนแห่งประเทศไทย (Mass Rapid Transit Authority of Thailand)</p> <p> สายสีส้ม Orange Line การรถไฟฟ้าขนส่งมวลชนแห่งประเทศไทย (Mass Rapid Transit Authority of Thailand)</p> <p> สายสีแดงเข้ม Dark Red Line การรถไฟฟ้าขนส่งมวลชนแห่งประเทศไทย (State Railway of Thailand)</p>	<p> สายสีแดงอ่อน Light Red Line การรถไฟแห่งประเทศไทย (State Railway of Thailand)</p> <p> สายฟ้าอากาศ Airport Rail Link การรถไฟฟ้าขนส่งมวลชนแห่งประเทศไทย (State Railway of Thailand)</p> <p> สายสีทอง Gold Line กรุงเทพมหานคร (The Bangkok Metropolitan Administration)</p> <p> สายสีน้ำตาล Brown Line การรถไฟฟ้าขนส่งมวลชนแห่งประเทศไทย (Mass Rapid Transit Authority of Thailand)</p> <p> สายสีเทา Grey Line กรุงเทพมหานคร (The Bangkok Metropolitan Administration)</p>	<p> สถานีร่วม/เชื่อมต่อ Interchange Station</p> <p> สถานีร่วม/เชื่อมต่อ Junction Station</p> <p> ทางเดินเชื่อมต่อ Skywalk</p> <p> เส้นทางที่เปิดให้บริการแล้ว Opening Line</p> <p> เส้นทางที่เปิดให้บริการในอนาคต Future Line</p>	<p> แม่น้ำ River</p> <p> ท่าเรือ Port</p> <p> สถานีรถไฟ Train Station</p> <p> สนามบิน Airport</p> <p> ที่จอดรถ Parking</p>
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M-Map 2

Development of the rail mass transit network in Bangkok and surrounding areas

The M-Map 2 project is a collaboration between Thailand and Japan's JICA to enhance the planning and development of the next phase of Bangkok's mass transit network. M-Map 2, completed with the support of JICA, provides a roadmap for expanding Bangkok's rail network, creating a more connected and sustainable urban transit system.

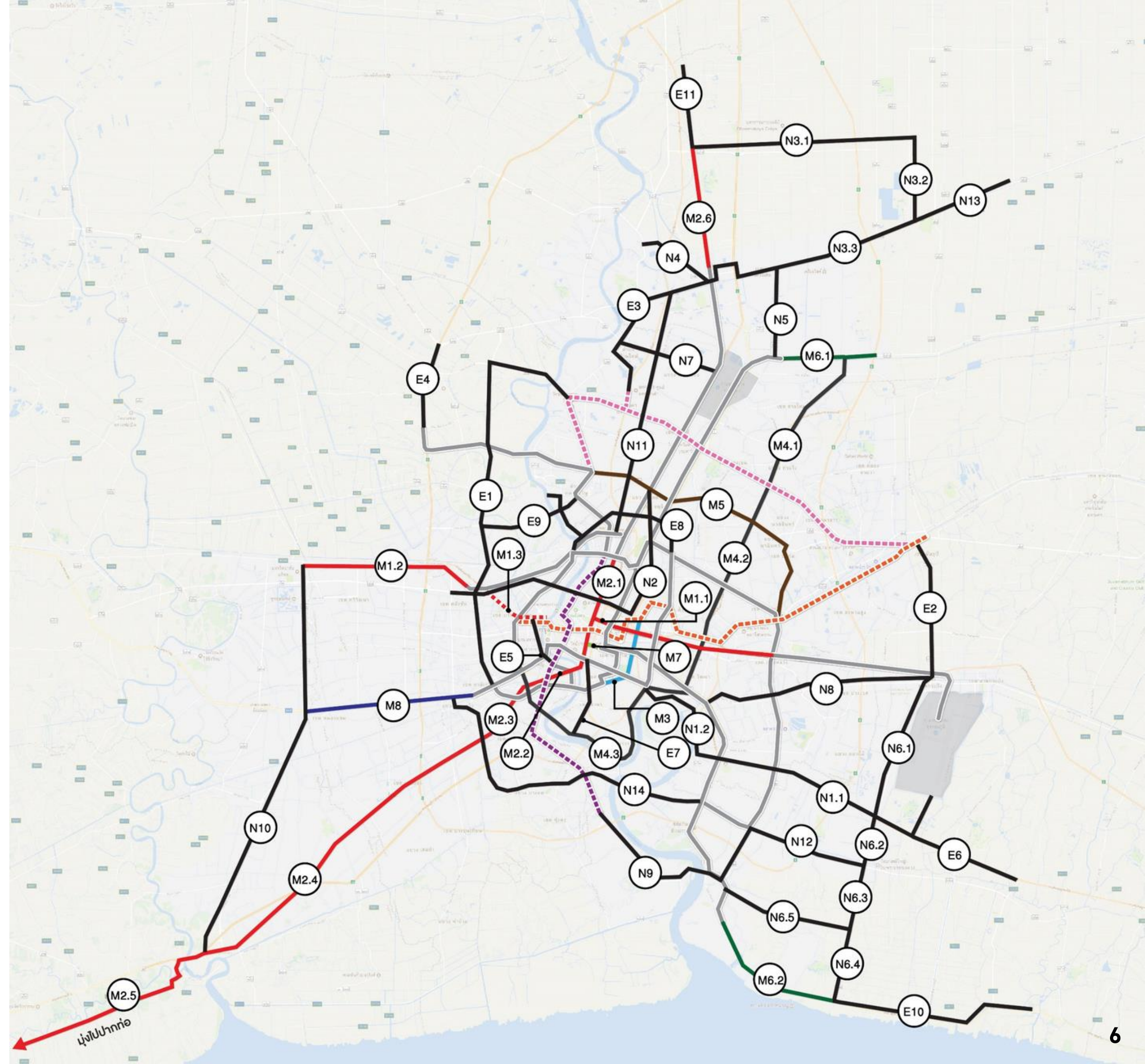


M-Map 2 completed

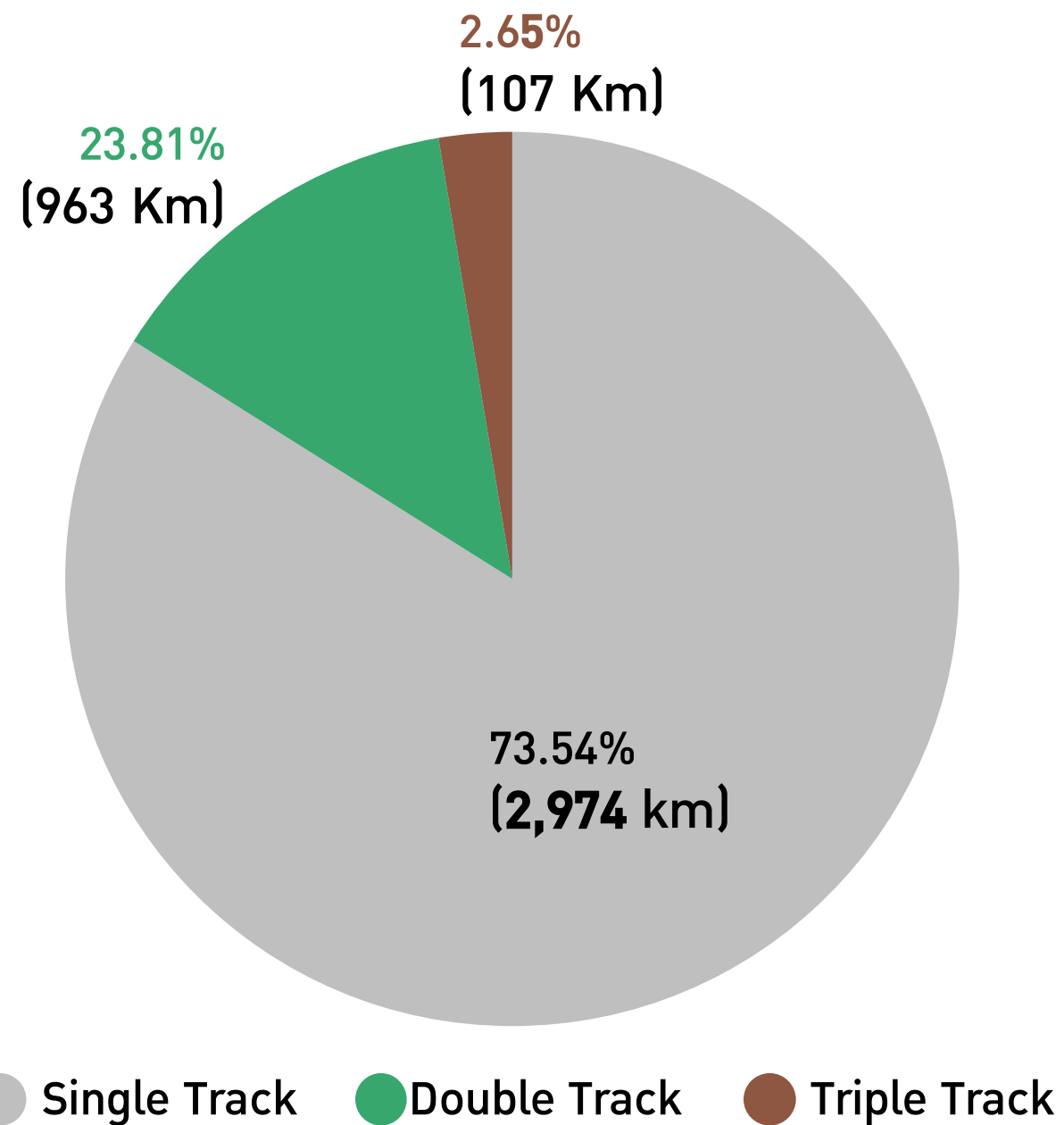
The study identifies 33 potential MRT lines, including 8 lines from the original M-MAP plan, 14 new lines, and 11 extensions.

Project Long List

- M** Remaining MMAP1 :
8 Line (MMAP1, M)
- N** New Line 14 Line (New
Route, N)
- E** Extension Line 11 Line
(Extension Route, E)



4,044 km covering 47 provinces



Double-Track Railway Construction Project Phase 1

Total Completed Projects: 4 out of 7 projects. **545 km** out of the planned 995 km are fully completed.



1. Chachoengsao - Kaeng Khoi (107 km)

Contract 1: Railway and signaling system

Construction completed

Contract 2: Railway tunnel

Construction completed



2. Thanon Jira Jct. - Khon Kaen (187 km)

Construction completed



3. Lopburi - Pak Nam Pho (148 km)

Contract 1: Ban Klab - Khok Kathiam

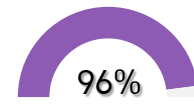
- Construction cost: 10,050 million THB

- Progress: 98.290% [-1.680%]

Contract 2: Tha Khae - Pak Nam Pho

- Construction cost: 8,649 million THB

- Progress: 93.740% [-6.010%]



4. Map Kabao - Thanon Jira Jct. (132 km)

Contract 1: Map Kabao - Khlong Khanan Chit

- Construction cost: 7,560 million THB

- Progress: 96.310% [-3.690%]

Contract 2: Khlong Khanan Chit - Thanon Jira Jct.

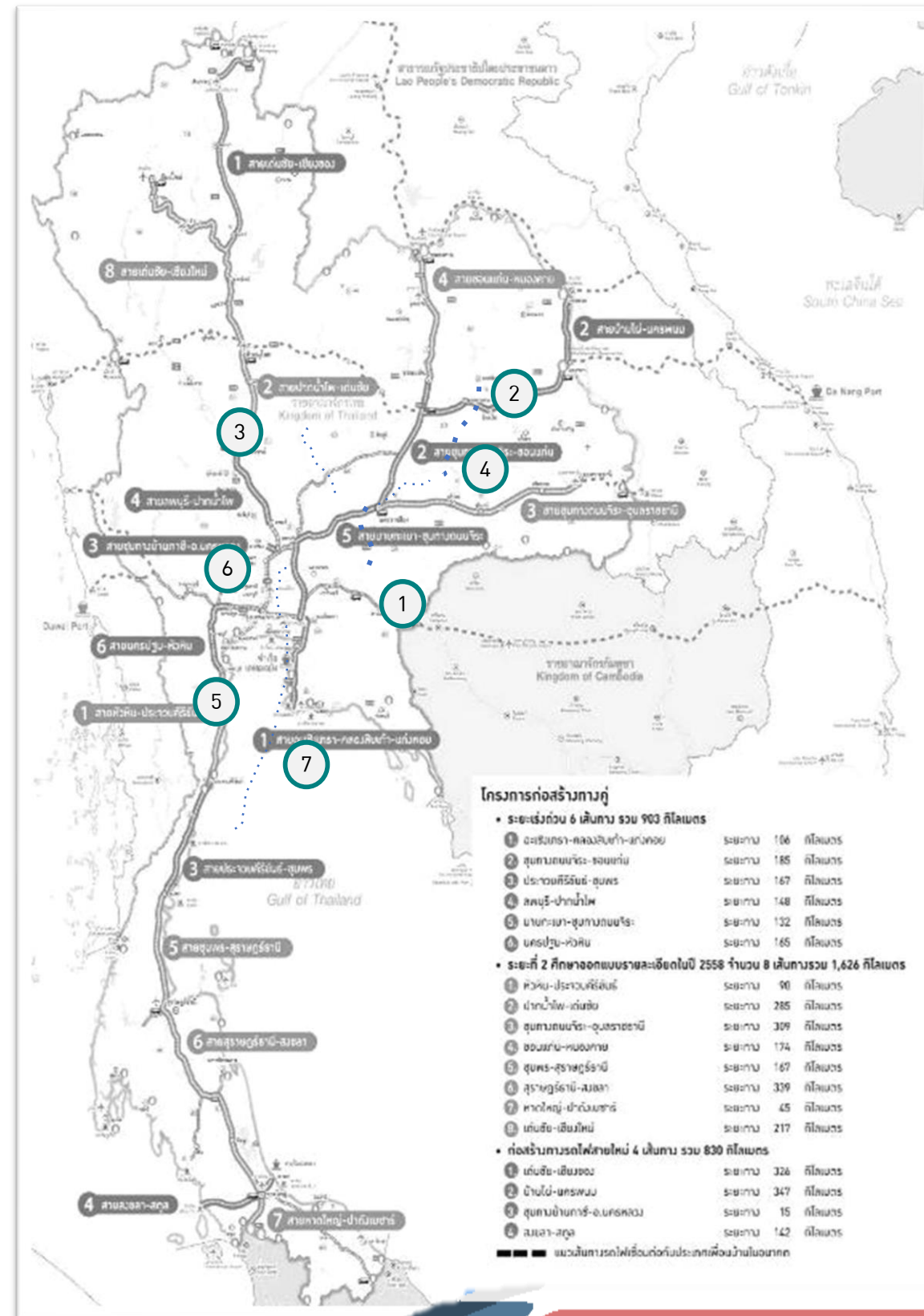
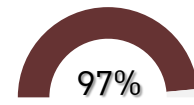
- Adjusting construction design to elevated rail

to align with the high-speed railway project

Contract 3: Railway tunnel

- Construction cost: 9,290 million THB

- Progress: 98.188% [-1.812%]



5. Nakhon Pathom - Hua Hin (169 km)

Contract 1: Nakhon Pathom - Nong Pla Lai

- Construction cost: 8,198 million THB

- Progress: 99.274% [-0.726%]

Contract 2: Nong Pla Lai - Hua Hin

- Construction cost: 7,520 million THB

- Progress: 100%



6. Hua Hin - Prachuap Khiri Khan (84 km)

- Construction cost: 5,807 million THB

- Progress: 100%



7. Prachuap Khiri Khan - Chumphon (167 km)

Contract 1: Prachuap Khiri Khan - Bang Saphan Noi

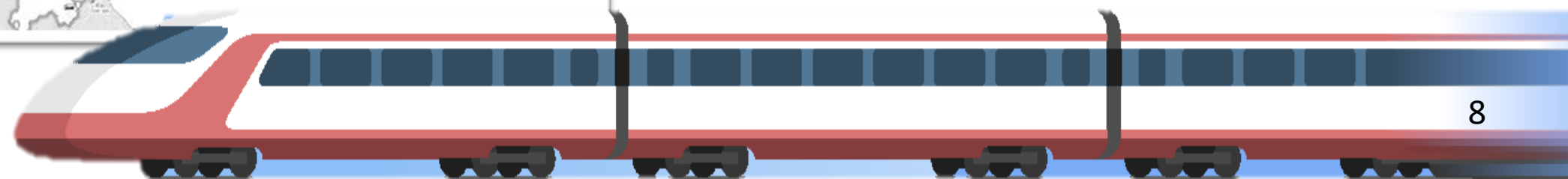
- Construction cost: 6,465 million THB

- Progress: 100%

Contract 2: Bang Saphan Noi - Chumphon

- Construction cost: 5,992 million THB

- Progress: 100%



Double-Track Railway Construction Project Phase 1

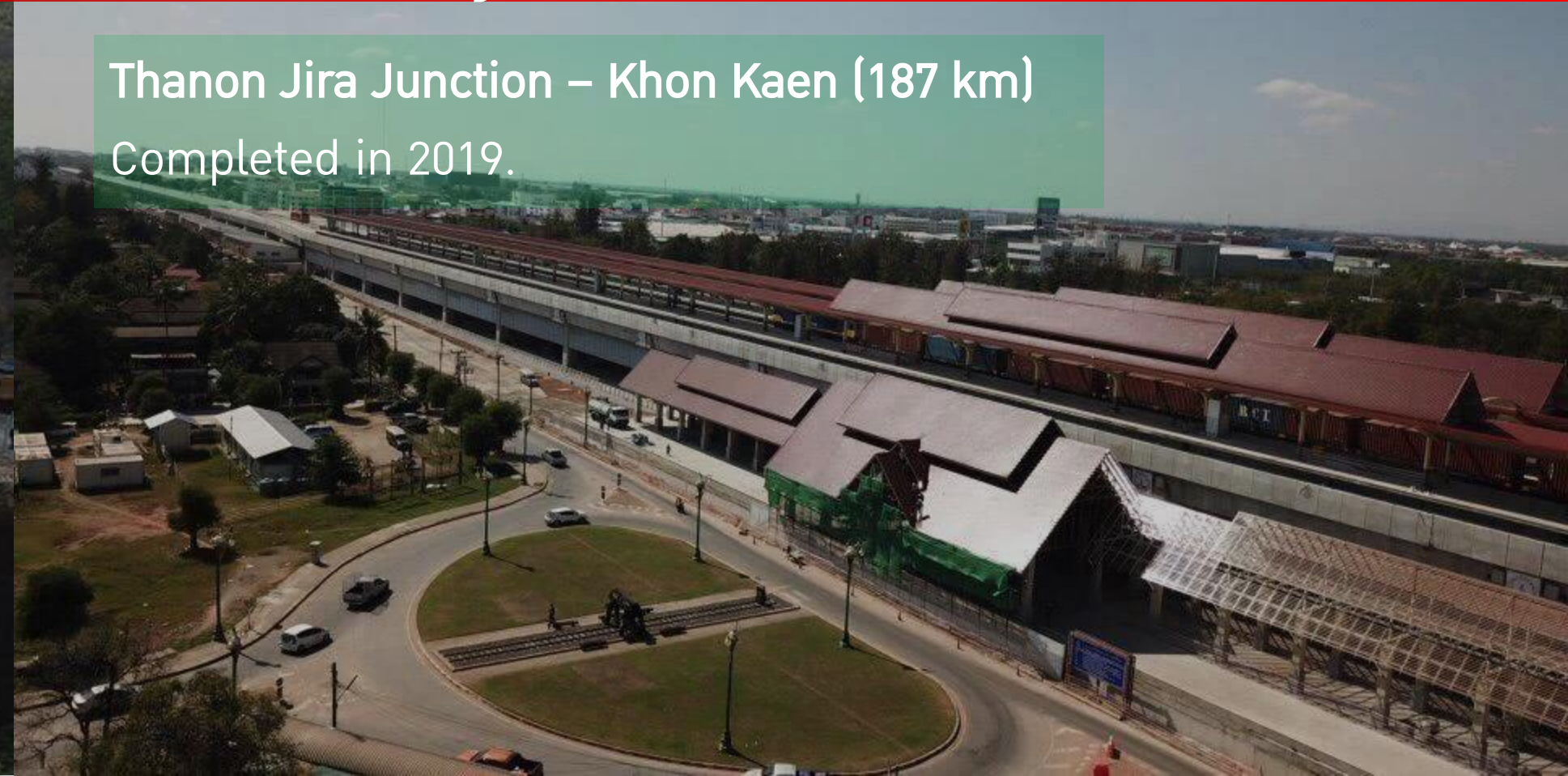
Chachoengsao – Kaeng Khoi (107 km)

Completed in 2019.



Thanon Jira Junction – Khon Kaen (187 km)

Completed in 2019.



Prachuap Khiri Khan – Chumphon (167 km)

Completed in 2023.



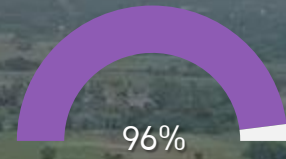
Hua Hin – Prachuap Khiri Khan (84 km)

Completed in 2023.



Total Completed Projects: **4 out of 7** projects. **545 km** out of the planned 995 km are fully completed. 9

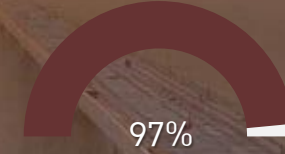
Double-Track Railway Construction Project Phase 1



Lop Buri – Pak Nam Pho (148 km)

Combined Progress: 96.01%

Expected Full Completion: 2024



Map Kabao – Thanon Jira Junction (132 km)

Combined Progress: 97.33%

Expected Full Completion: March 2025



Nakhon Pathom – Hua Hin (169 km)

Combined Progress: 99.64%

Expected Full Completion: 2024

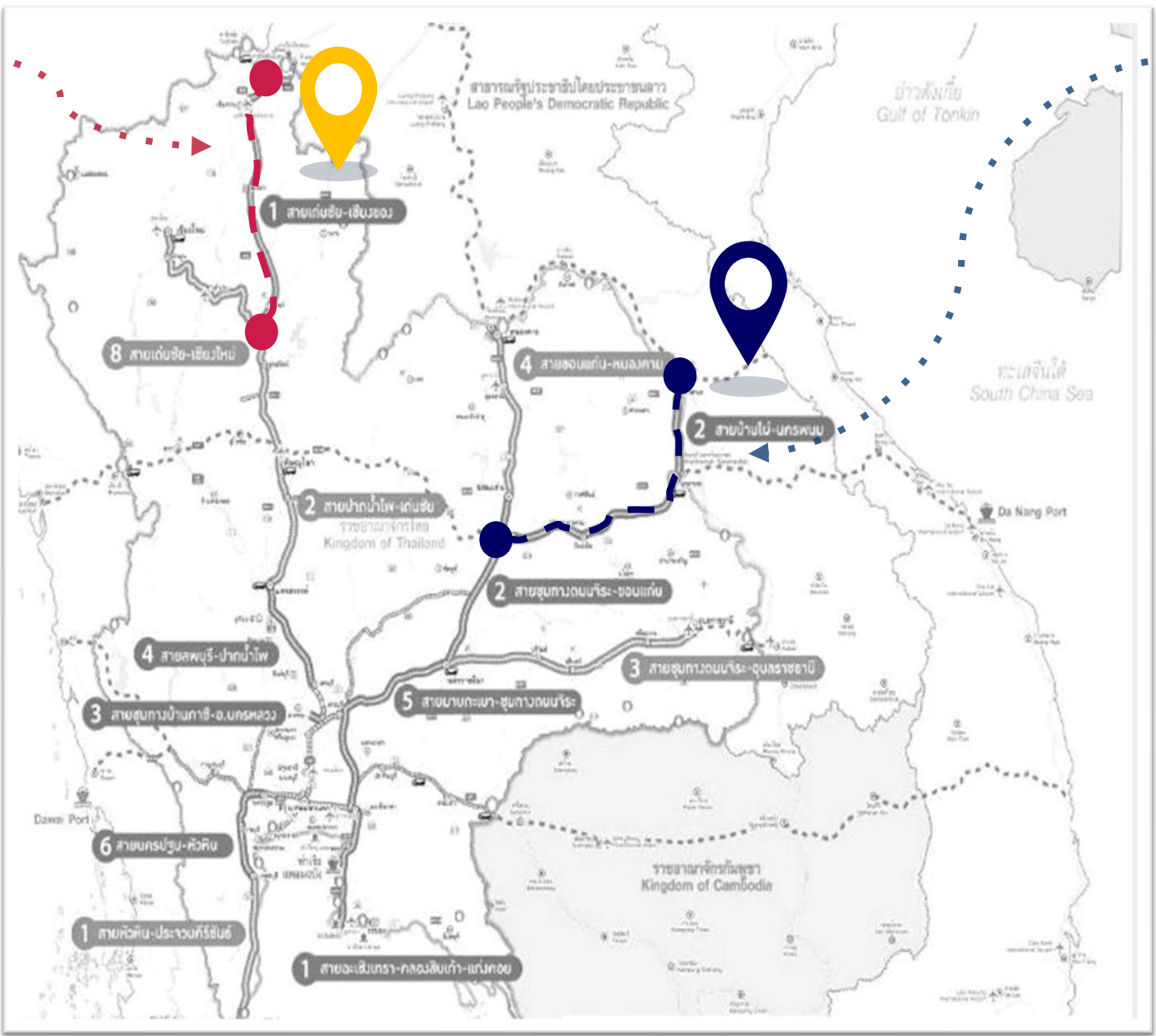
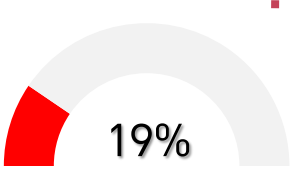
New Double-Track Railway Construction Projects

1. Den Chai - Chiang Rai - Chiang Khong 322 km

Project duration: 2022 - 2028 (71 months)

Project budget: 85,343.96 million THB

- **Contract 1: Den Chai - Ngao**
 - Construction cost: 26,560 million THB
 - Progress: 15.729% (5.288%)
- **Contract 2: Ngao - Chiang Rai**
 - Construction cost: 26,890 million THB
 - Progress: 24.345% (-2.697%)
- **Contract 3: Chiang Rai - Chiang Khong**
 - Construction cost: 19,385 million THB
 - Progress: 17.142% (-9.900%)

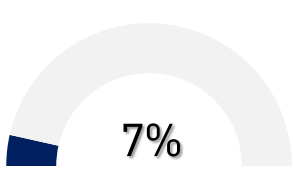


2. Ban Phai - Nakhon Phanom 355 km

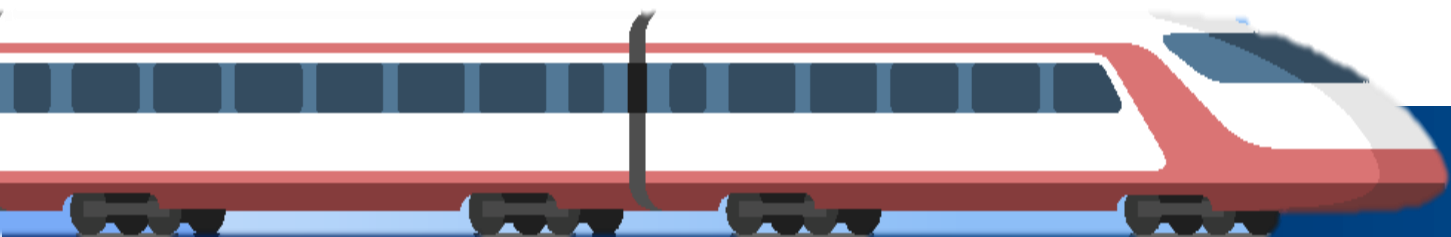
Project duration: 2023 - 2027 (48 months)

Project budget: 66,785.53 million THB

- **Contract 1: Ban Phai - Nong Phok**
 - Construction cost: 27,095.00 million THB
 - Progress: 13.187% (-19.109%)
- **Contract 2: Nong Phok - 3rd Friendship Bridge**
 - Construction cost: 28,306.00 million THB
 - Progress: 0.274% (-29.339%)



2 New Line Construction Projects which are currently under construction.



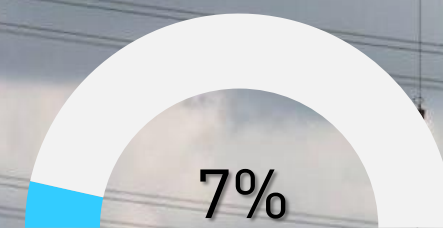


Den Chai - Chiang Rai - Chiang Khong 322 km

Duration: 2022 - 2028 (71 months)

Budget: 85,343.96 million THB

Expected Completion: **January 2028.**



Ban Phai - Nakhon Phanom 355 km

Duration: 2023 - 2027 (48 months)

Budget: 66,785.53 million THB

Expected Completion: **March 2027.**



Phase 2 Double-Track Railway Construction

7 Projects, which are mostly awaiting approvals and in the bidding phase.

Den Chai - Chiang Mai (189 km)

- Project budget: 57,992.44 million THB
- Current status: Project submission and waiting for cabinet approval.

Pak Nam Pho - Den Chai (285 km)

- Project budget: 59,399.80 million THB
- Current status: Project submission and waiting for cabinet approval

Chumphon - Surat Thani (168 km)

- Project budget: 23,080 million THB
- Current status: Project submission and waiting for cabinet approval.

Hat Yai Junction - Padang Besar (45 km)

- Project budget: 7,864.49 million THB
- Current status: Project submission and waiting for cabinet approval.

Khon Kaen - Nong Khai (167 km)

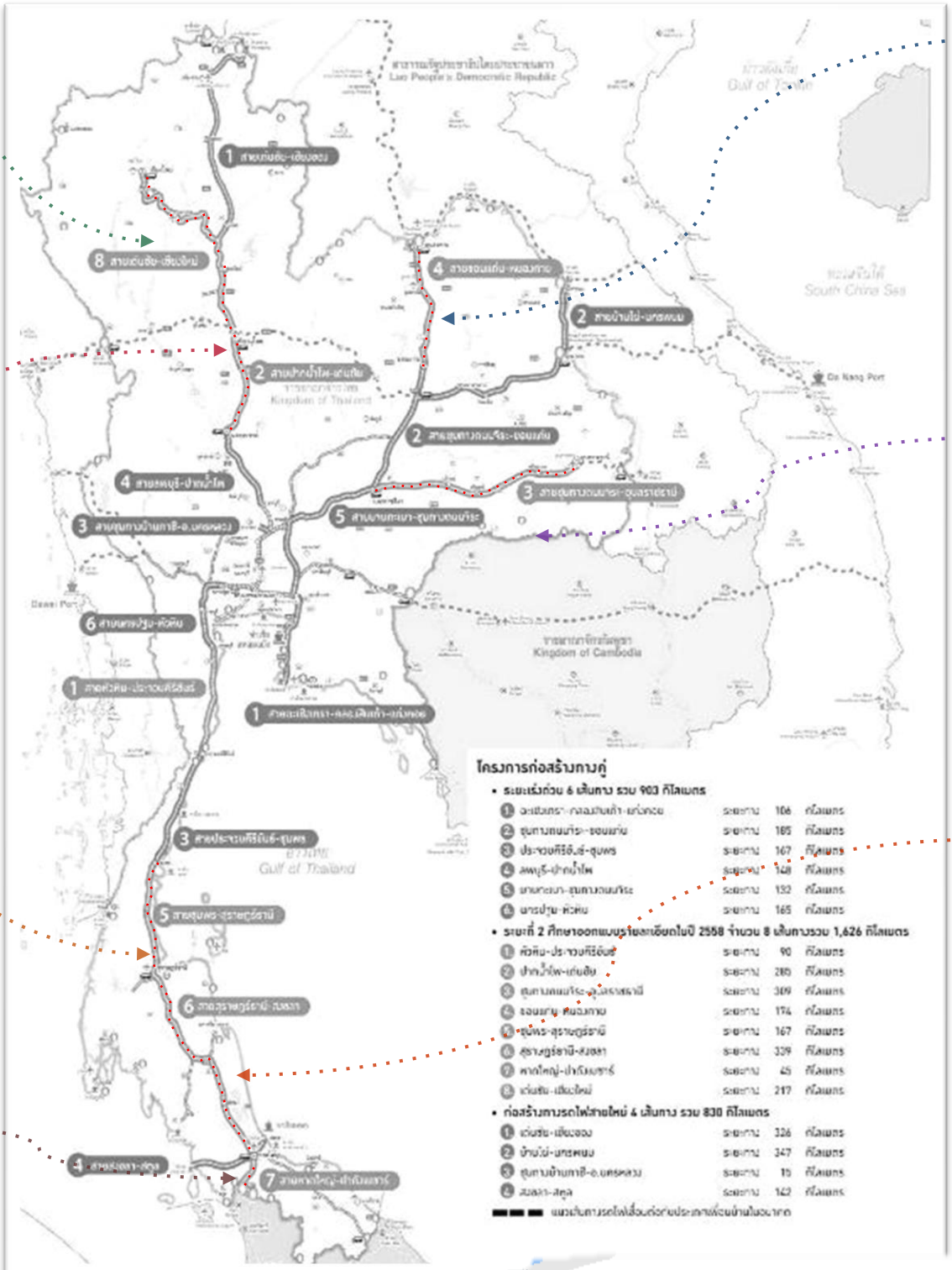
- Project budget: 29,748 million THB
- Current status: Bidding Process

Thanon Jira Jct.- Ubon Ratchathani (308 km)

- Project budget: 36,683 million THB
- Current status: Project submission and waiting for cabinet approval.

Surat Thani - Hat Yai - Songkhla (321 km)

- Project budget: 56,114.26 million THB
- Current status: Project submission and waiting for cabinet approval.





Bangkok to Hua Hin: from 5 hours to **3 hours**

Bangkok to Chumphon: from 7 hours to **5 hours..**

Time Savings After Double Track Project

25-30% reduction in travel time

Savings of 30 minutes to 2 hours

Increased speed from 50 km/h to 100-120 km/h





Station Facility Improvements

Station Facilities:

- Upgraded facilities across major stations
- Construction of safe pedestrian walkways within stations
- Improved accessibility and convenience for passengers

ROYAL BLOSSOM

SRT Royal Blossom

- Background:
- Formerly the Hamanasu train from Hokkaido, Japan
 - Refurbished for luxury tourism



Features:

- Wood interiors
- Spacious seating, beautiful windows
- Amenities: Air conditioning, Café car

Routes:

- Bangkok to Kanchanaburi
- Future: Hua Hin, Chachoengsao

KIHA 183

SRT Refurbished diesel railcars
from Hokkaido, Japan



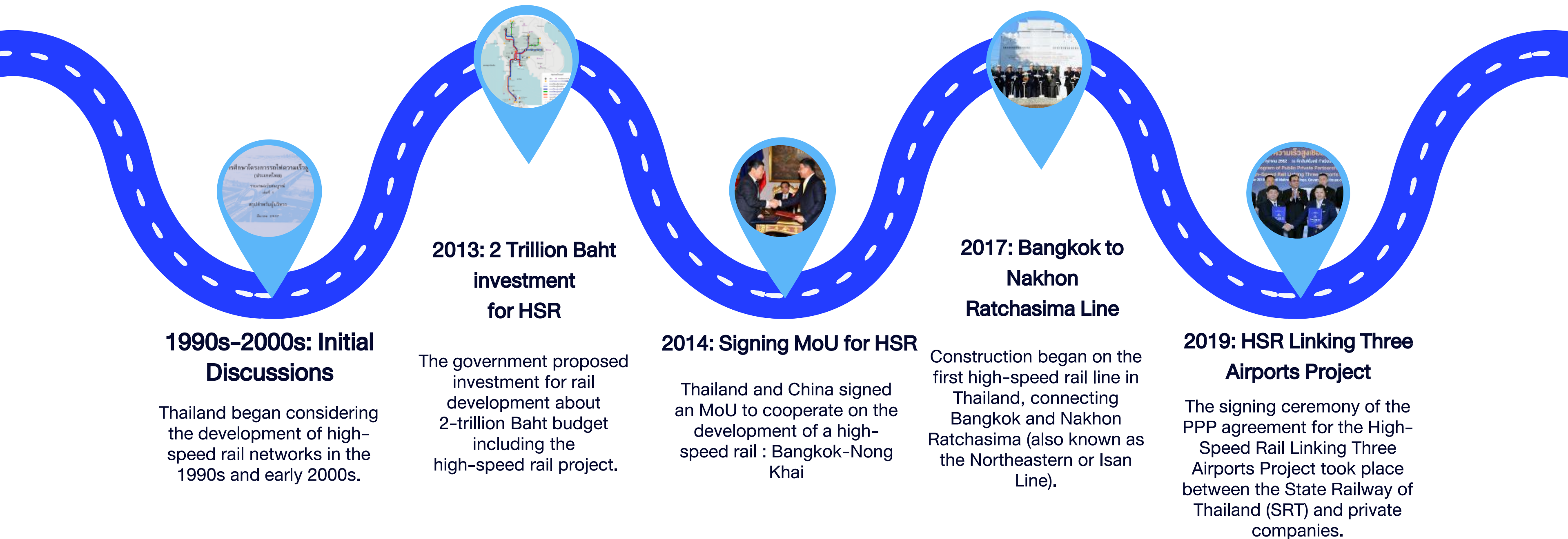
KiHa 183 Usage in Thailand

Tourist Trips:

Special routes featuring cultural and natural attractions



High-Speed Rail in Thailand: A Historical Overview





High Speed Rail

5 Routes in 2032



2028

Bangkok – Nakhon Ratchasima
253 km. (Under construction)



2029

Don Muang – U-Tapao (Bangkok-Rayong)*
220 km. (Under construction)



2031

Nakhon Ratchasima – Nong Khai
355 km.



2032

Bangkok – Phitsanulok
384 km.



Bangkok – Padang Besar
970 km.

* Public-Private Partnership (PPP)

Bangkok–
Nakhon
Ratchasima

HSR Linking
3 Airports

253

kilometers

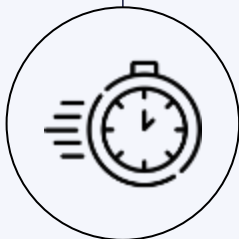


220

kilometers

250

kilometers per hour

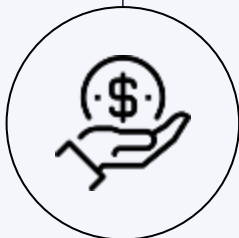


250

kilometers per hour

Gov't

Budget/Loan

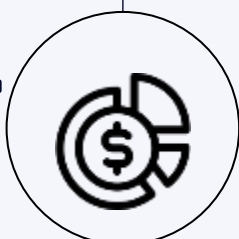


PPP

Public-private
partnership

179.4

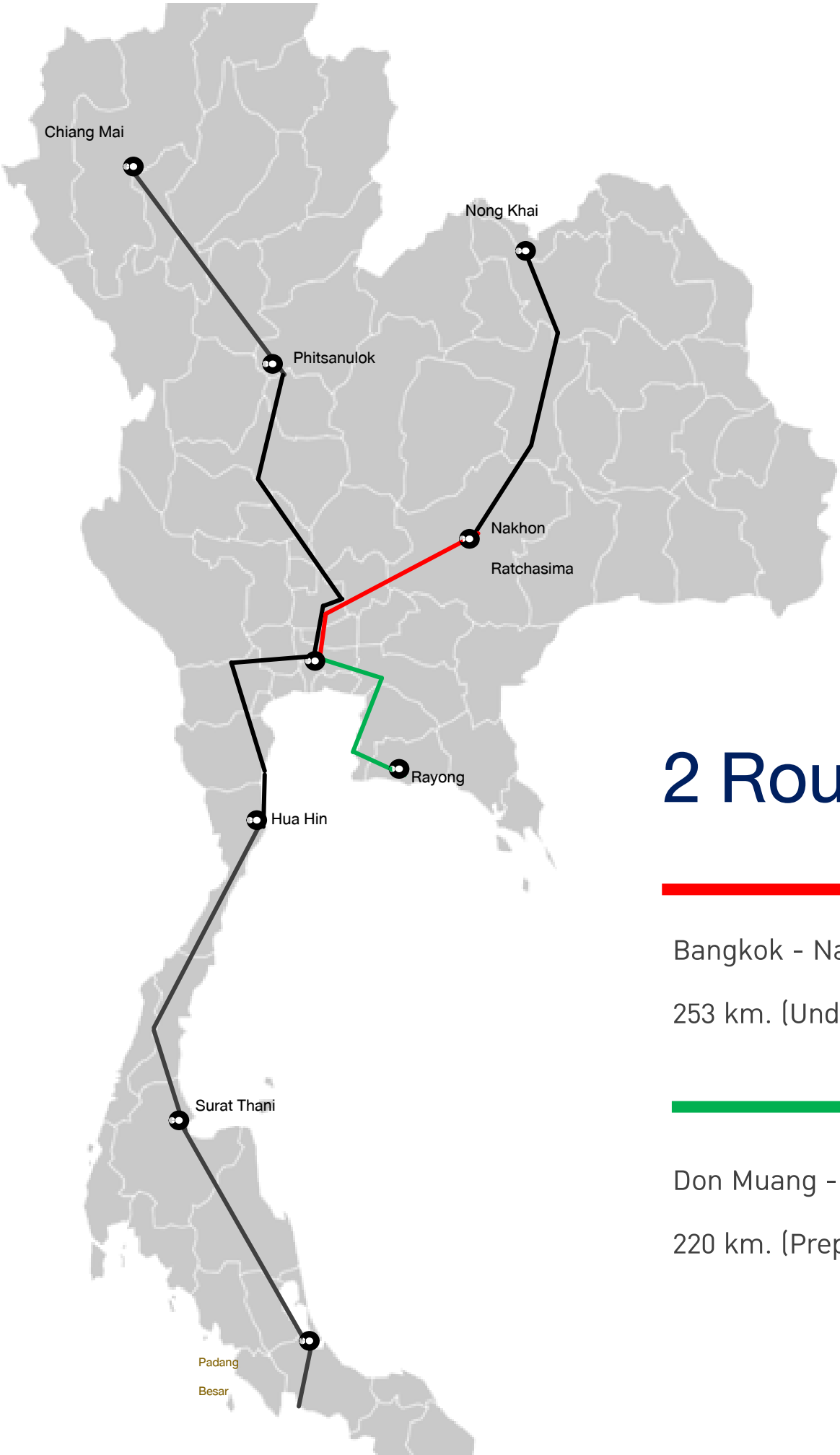
THB billion



168.7

THB billion

Total cost 224.5 THB billion



2 Routes is under construction

2028

Bangkok - Nakhon Ratchasima

253 km. (Under construction)

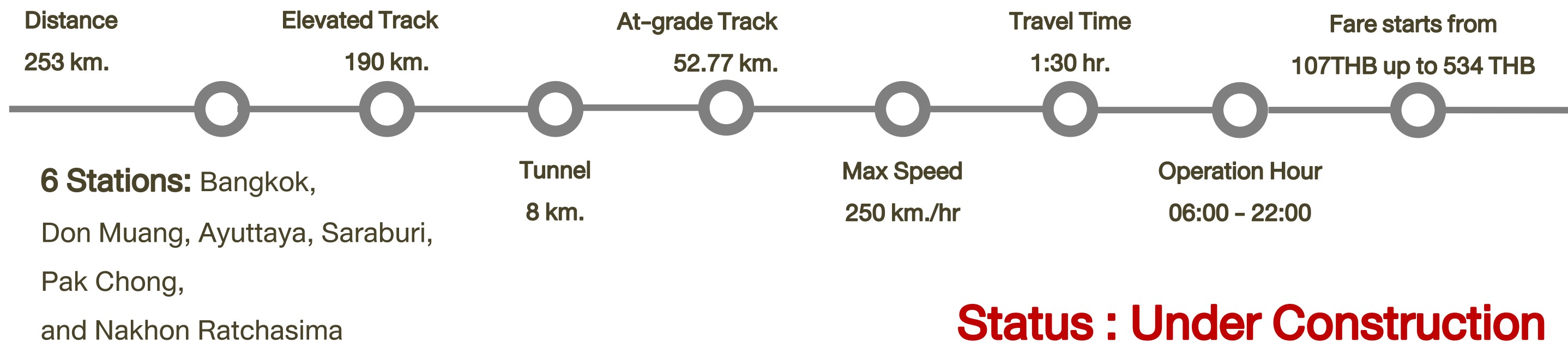
2029

Don Muang - U-Tapao (Bangkok-Rayong)

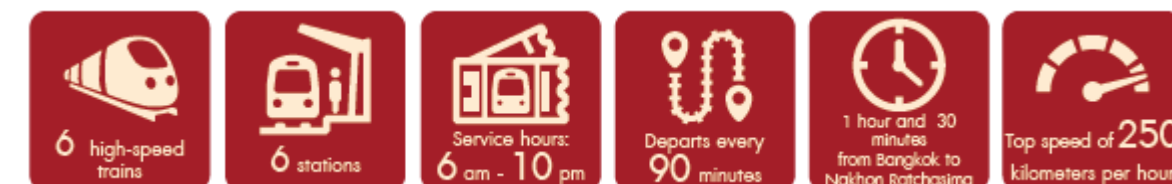
220 km. (Prepare for construction)



Route Alignment : Phase I Bangkok – Nakhon Ratchasima



Status : Under Construction



2 contracts
have been completed

Phase I : Bangkok – Nakhon Ratchasima



Contract 1-1

(Klang Dong – Pang Asok, 3.5 km)

Contract 2-1

(Si Khio – Kudjik, 11.00 km).



Phase I : Bangkok – Nakhon Ratchasima

**10
contracts**

Ten contracts are under construction, with varying progress percentages



Phase I : Bangkok – Nakhon Ratchasima

Conceptual Design for stations in the projects.



Universal Design



Environment Friendly

Show local identity in each city




Modern & Facilitate Users



The High-Speed Rail Linking Three Airports Project


The project will use high-speed rail to connect five provinces in Eastern : Bangkok, Samut Prakan, Chachoengsao, Chonburi, and Rayong. The extension of the Don Mueang - Bang Sue - Phaya Thai (ARL Extension), with the rail connected to the existing ARL line and a new route to U-Tapao in eastern area where the industrial and tourist destination are located.



Preparing for construction



250 km/h



Asia Era One Company



2029





Rail Transport Act

- The draft consists of 165 articles divided into 10 chapters, covering various aspects of railway transport such as regulation, safety, and service.
- The draft was approved by the Cabinet and presented to the House of Representatives, with an expected enforcement date in mid-2025.

ร่าง
พระราชบัญญัติ
การขนส่งทางราง
พ.ศ.

โดยที่เป็นการสมควรมีกฎหมายว่าด้วยการขนส่งทางราง

พระราชบัญญัตินี้มีบทบัญญัติบางประการเกี่ยวกับการจำกัดสิทธิและเสรีภาพ
ของบุคคล ซึ่งมาตรา ๒๖ ประกอบกับมาตรา ๒๙ มาตรา ๓๓ มาตรา ๓๗ และมาตรา ๔๐ ของ
รัฐธรรมนูญแห่งราชอาณาจักรไทย บัญญัติให้กระทำได้โดยอาศัยอำนาจตามบทบัญญัติแห่งกฎหมาย

เหตุผลและความจำเป็นในการจำกัดสิทธิและเสรีภาพของบุคคลตามพระราชบัญญัตินี้
เพื่อให้การกำกับดูแลการประกอบกิจการขนส่งทางรางเป็นไปอย่างมีประสิทธิภาพอันจะเป็นประโยชน์
ในการพัฒนาระบบการขนส่งทางรางและด้านเศรษฐกิจของประเทศ รวมทั้งควบคุมให้เกิดความ
ปลอดภัยกับประชาชนและผู้ใช้บริการ ซึ่งการตราพระราชบัญญัตินี้สอดคล้องกับเจตนารมณ์ที่บัญญัติไว้ใน
มาตรา ๒๖ ของรัฐธรรมนูญแห่งราชอาณาจักรไทยแล้ว

มาตรา ๑ พระราชบัญญัตินี้เรียกว่า “พระราชบัญญัติการขนส่งทางราง พ.ศ.”

มาตรา ๒ พระราชบัญญัตินี้ให้ใช้บังคับเมื่อพ้นกำหนดเก้าสิบวันนับแต่วันประกาศ
ในราชกิจจานุเบกษาเป็นต้นไป

มาตรา ๓ ในพระราชบัญญัตินี้

“การขนส่งทางราง” หมายความว่า การขนส่งผู้โดยสารหรือสินค้าโดยรถขนส่งทางราง

“รถขนส่งทางราง” หมายความว่า รถที่ใช้ในการขนส่งผู้โดยสารหรือสินค้า
โดยขับเคลื่อนไปบนทางซึ่งมีราง เช่น รถไฟฟ้า รถไฟราง และให้หมายความรวมถึงรถที่ใช้วิ่ง
บนรางหรือทางเฉพาะตามที่กำหนดในกฎกระทรวงด้วย



SRT establish Asset company to manage assets under SRT

SRT Asset Co., Ltd. established in 2021, subsidiary of State Railway of Thailand (SRT) focused on managing and developing SRT land/assets for commercial purposes.



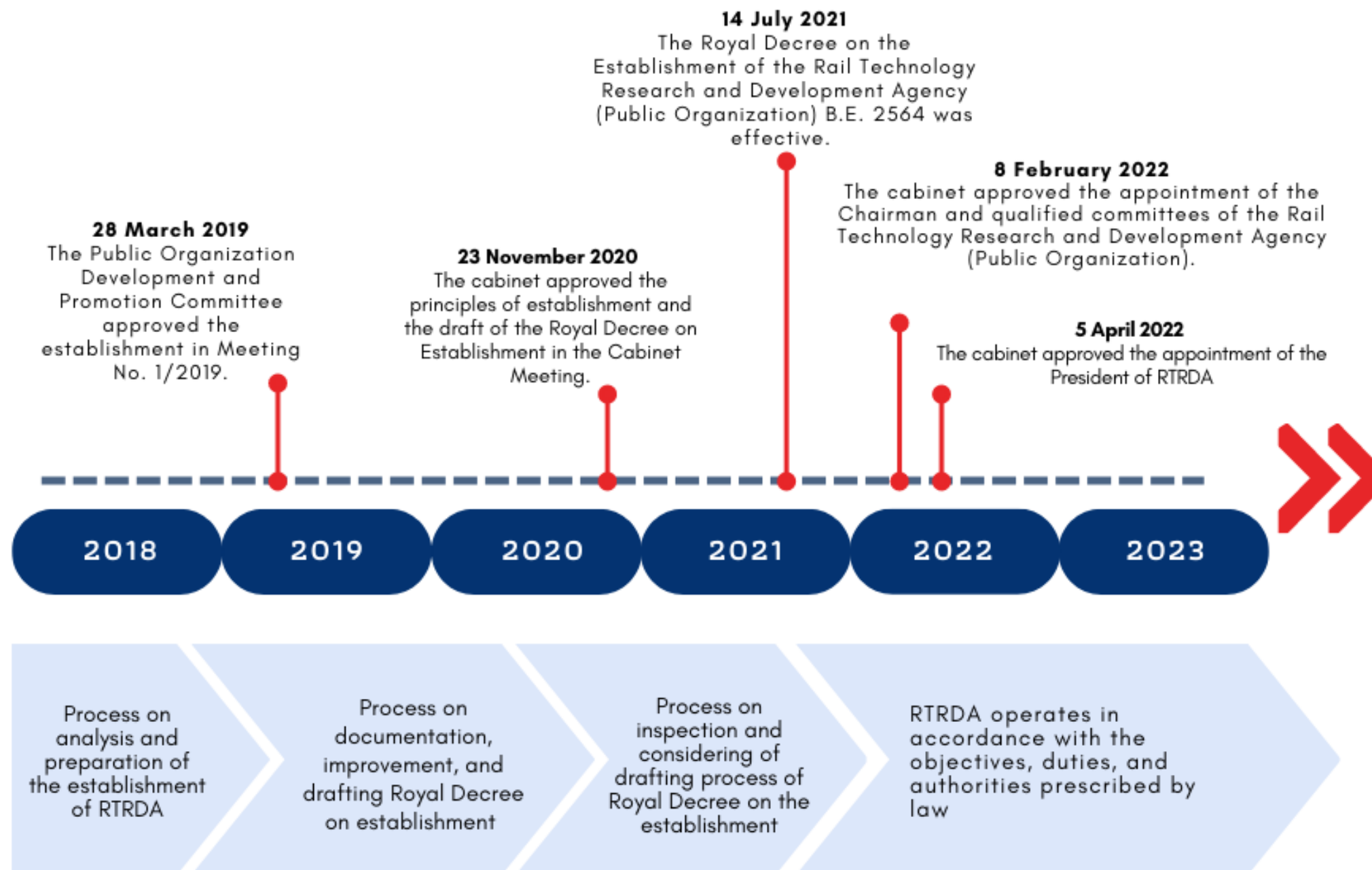
Example: **Bang Sue TOD project**

- Largest railway station in Southeast Asia
- Hub for several high-speed rail lines
- Mixed-use development around the station

RTRDA: Public organization under the Ministry of Transport.

RTRDA was founded in 2021 and plays a role as the focal point for technology transfer in Thailand

Background of the Establishment of the Rail Technology Research and Development Agency (RTRDA)



SUMMARY



Overview



• Mass Transit System in Bangkok

- The mass transit system in Bangkok is growing, with new lines planned under M-Map 2.



• Double-Track Railways Construction Projects

- Phase 1 of the double-track railway is nearly complete. Phase 2 construction will start soon.



• Refurbishment of Transferred Japanese Trains

- The Royal Blossom train (Hokkaido-Hamanasu) and KIHA 183 trains from Japan are being refurbished for use as tourist trains in Thailand.



• High-Speed Rail in Thailand

- High-speed rail projects are in progress, connecting major cities in the northeastern and eastern parts of Thailand.



• Total Investment Costs of Railway Development

- The total investment in Thailand's railway development is over 1.6 trillion THB.



• Railways Management

- Asset Management Corporation
 - SRT Asset (SRTA) was established on April 30, 2021, to manage more than 10,000 contracts related to land, assets, and other valuable resources.
- Rail Technology Research and Development Institute
 - The Rail Technology Research and Development Agency (RTADA) was founded to develop rail technology and innovation and to support technology transfer.



Q&A

Thank you.