

Tokyo Symposium

Urban Railway Construction and Operating & Maintenance in Asian Mega Cities

~ Perspectives and Issues of PPP ~

Urban Railway Projects in Bangkok

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Overview

- Introduction
- The Blue Line PPP Operation
- Issues facing the Operator (BEM)
- Conclusions

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Thailand



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Thailand

- Area 513,120 Sq Km
- Population 68.2 M (2016)
- GDP/capita \$16,800 (ppp)
- Registered vehicles 36.912 M
 - Car 7.848 M
 - Motorcycle 20.342

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Thailand GDP per capita

The Gross Domestic Product per capita in Thailand was last recorded at 5775.10 US dollars in 2015. The GDP per Capita in Thailand is equivalent to 46 percent of the world's average. GDP per capita in Thailand averaged 2532.32 USD from 1960 until 2015, reaching an all time high of 5775.10 USD in 2015 and a record low of 570.86 USD in 1960.

THAILAND GDP PER CAPITA



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Bangkok



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Bangkok Metropolitan Region

- Area 7761 Sq Km (Bangkok 1565 Sq Km)
- Population 10.6 M (Bkk registered 5.7 M)
- GDP/capita \$ 37,832 (ppp) for Bangkok
- Registered vehicles 9.096 M
 - Car 3.846 M
 - Motorcycle 3.308 M

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Mode of Transport in Bangkok and Vicinity (2008)

	Private Transport				Pubric Transport			Daily Total
	Car	MC	Taxi	Total	MRT	Other	Total	
Daily Trips	5.38	2.30	0.70	8.38	0.57	6.39	6.85	15.31
%	35.1%	15%	4.5%	54.7%	3.7%	41.7%	45.3%	100%

Source: Rail Mass Transit Master Plan Adjustment in Bangkok and its Vicinities Study Project, 2010

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2015, BBC ranked Bangkok as 2nd most congested city



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Existing Public transport in Bangkok and Metropolitan area

Bangkok MRT (Green lines)

Opening on December 1999.

Transit Type – Heavy rail

Total length : 31 kilometers. (2 routes)

Ridership : 720,000 passenger-trips/day



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Existing Public transport in Bangkok and Metropolitan area

Bangkok MRT (Blue line)

Opening on July 2004.

Transit Type – Heavy rail

Total length : 20.8 kilometers.

Ridership : 310,000 passenger-trips/working day(as of Dec 2016)



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Existing Public transport in Bangkok and Metropolitan area

Airport rail link

Opening on August 2010.

Connecting Bangkok City Air Terminal and downtown to Suvarnabhumi Airport

Transit Type – Heavy rail

Total length : 28.5 kilometers.

Ridership : 53,000 passenger-trips/working day



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Average ridership in January 2017 = 21000 pax/day



- Opened to public : on August 6th, 2016
- 21 three-car train sets from J-TREC



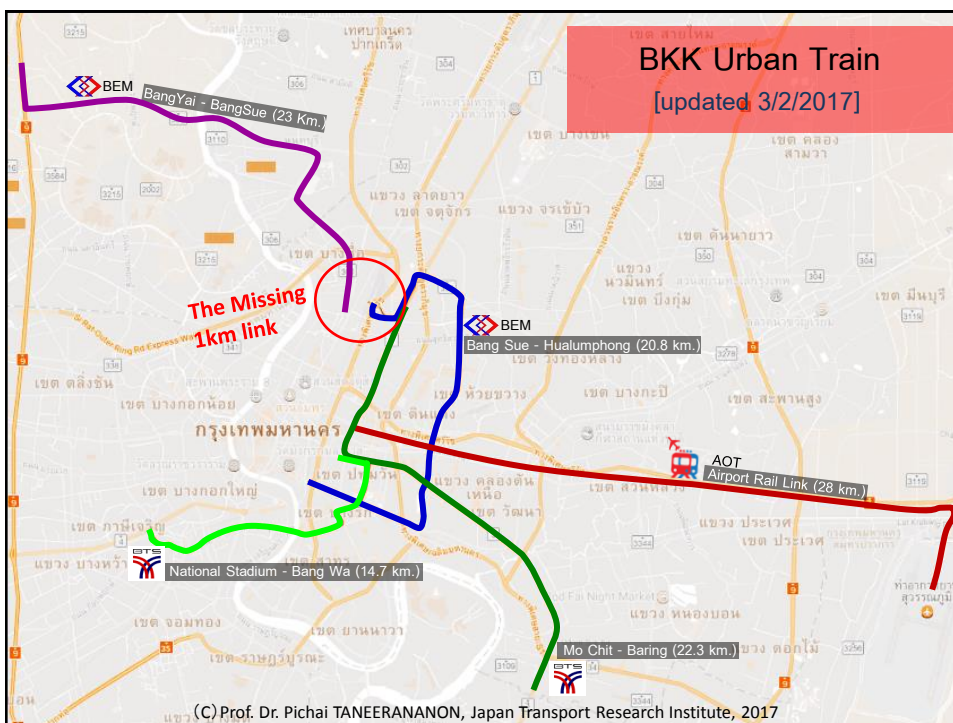
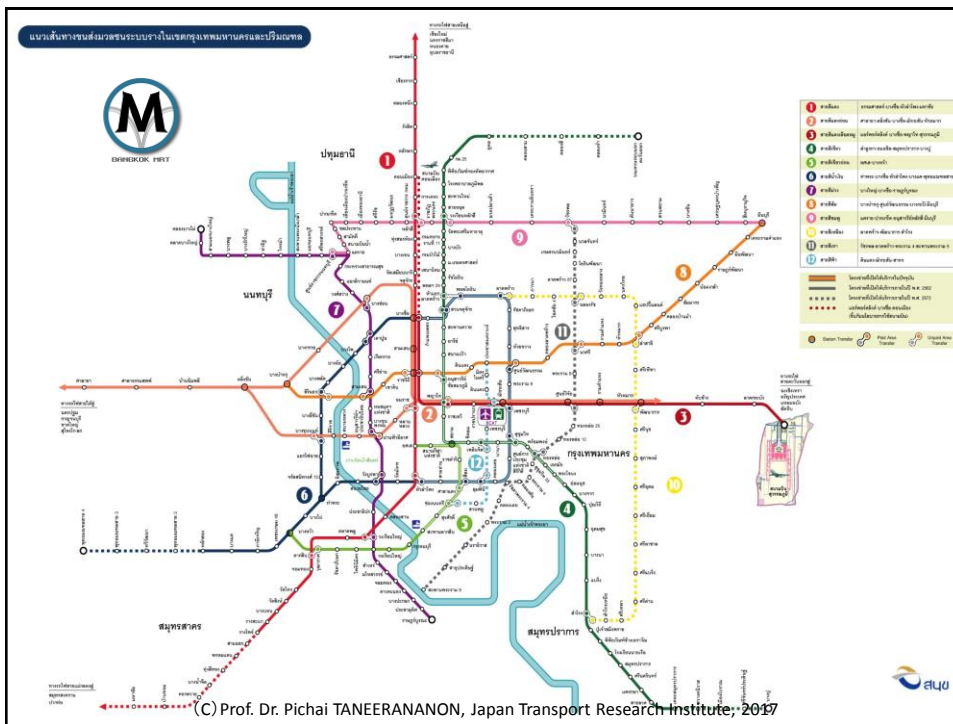
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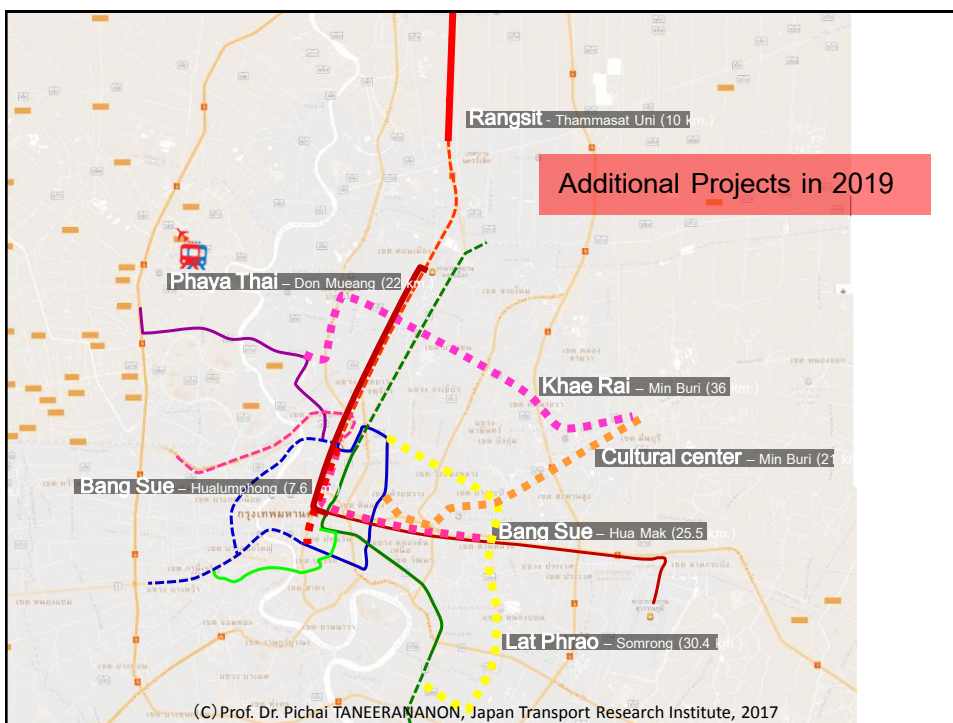
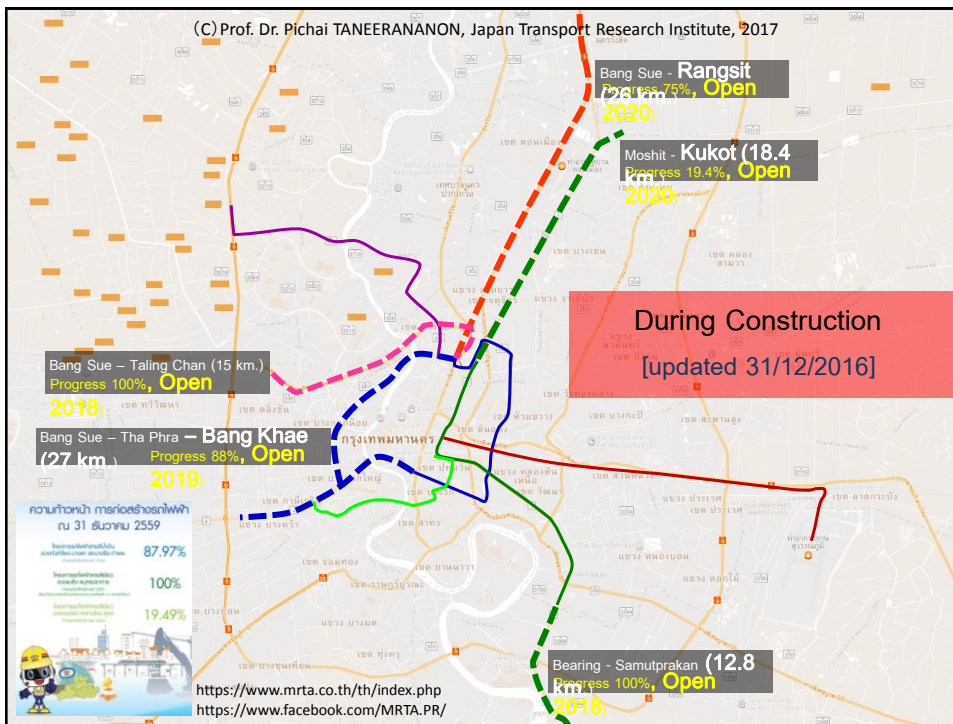
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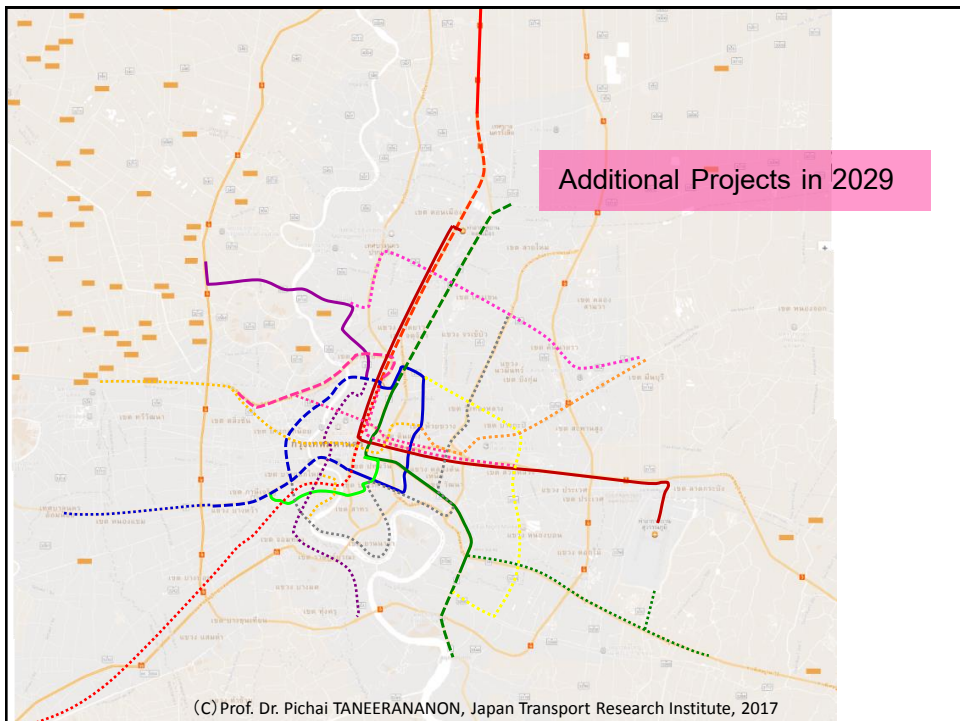
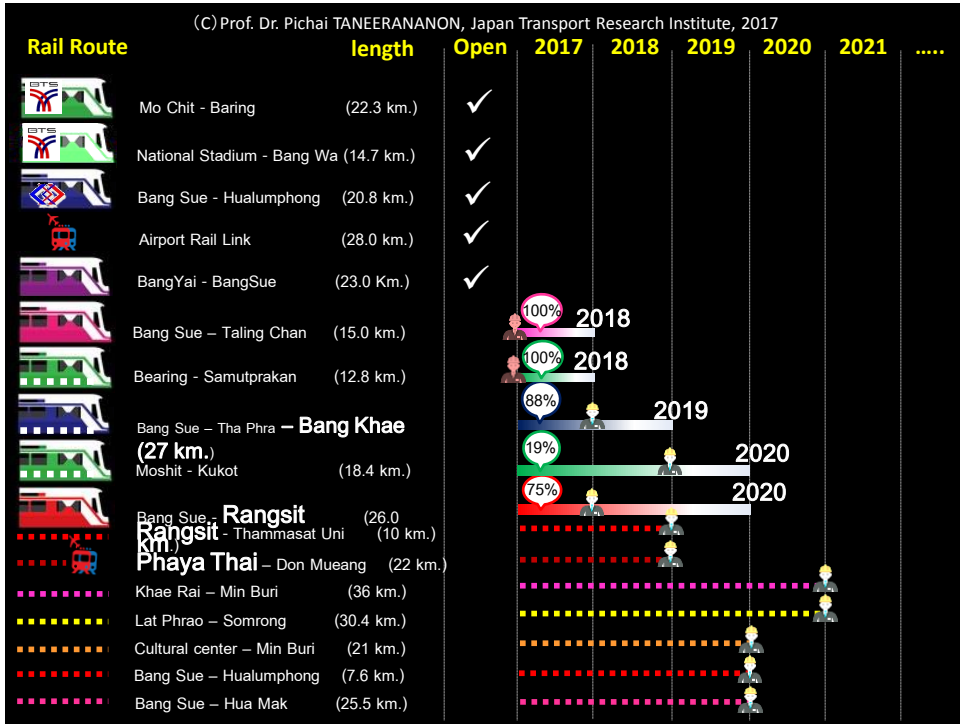
Master Plan

- 12 routes, totalling 555.74 kilometres to be constructed within a development period of twenty years (2010–29).
- 8 primary routes,
 - 2 commuter rail lines,
 - an airport rail link,
 - 5 mass rapid transit lines,
- 4 feeder lines.

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5 Lines to start in 6 month 2017

- Purple South 23.6 km 131,004 MB
- Orange (West) 111,186
- Blue 21,197
- Dark Green (S) 12,146
- Dark Green (N) 9,803

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Contract signed on 9.2.17

Orange (EAST) 22.57 km 79,211 MB

Construction to start June 2017

To be completed January 2023

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Bangkok MRT's PPP Models

▪ Net Cost :

- The concessionaire pays for civil works and/or mechanical and electrical works(M&E) and pays for O&M and pertinent asset costs.
- The concessionaire retains fare revenue and other revenue(e.g. commercial development).
- The government will need to make payments to the concessionaire if fare and other revenue is less than the costs incurred by concessionaire,
- Or the concessionaire will need to make payments to the government if the reverse should occur.

▪ Gross Cost :

- The concessionaire pays for civil works and/or electrical and mechanical works(E&M) and pays for O&M and pertinent asset costs.
- The government pays the concessionaire an amount equal to the costs the concessionaire incurs for the provision of agreed and services.
- The government retains fare revenue and other revenue.

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The Blue Line

- Mass Rapid Transit Authority of Thailand (MRTA), granted Blue Line 25 -year concession beginning from 2 July 2004.
- Blue Line is on a Public-Private Partnership (PPP) Net Cost agreement basis
- BMCL has rights to collect fare box revenue and undertake commercial development activities and bear risk on ridership.

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BMCL to pay MRTA

(1) From Fare box Revenue

(i) Annual Payments

Payments to MRTA shall be made every year starting from the 11th year after revenue operations commencement up to and including the final year of the contract. The total amount shall be 43,567,000,000 (Forty-Three Thousand Five Hundred Sixty-Seven million baht).

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BMCL to pay MRTA

(ii) Percentages of Fare box Revenue

BMCL is to pay percentages of the fare box revenue (inclusive of VAT) as follows:

- 1% of revenue from Year 1 of revenue operations to Year 14.
- 2% of revenue of Year 15.
- 5% of revenue from Year 16 to Year 18.
- 15% of revenue from Year 19 to Year 25.

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BMCL to pay MRTA

(2) From Commercial Development Revenue

(i) Annual Payments

BMCL is to share revenue from commercial development with MRTA every year to a total of 930M baht (inclusive of VAT) according to the schedule below:

- 10M baht per year, from Year 1 of revenue operations to Year 8.
- 50M baht per year, from Year 9 of revenue operations to Year 25.

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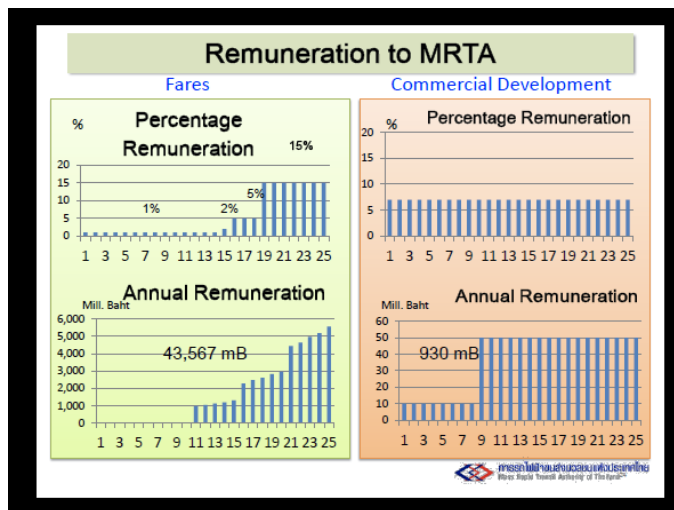
BMCL to pay MRTA

(ii) Percentages of Commercial Development Revenue

BMCL is to pay 7% of the commercial development revenue (inclusive of VAT) every year

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Source: Dr. Rithika Suparat ,Assistant MRTA Governor, 2015 presentation at ESCAP



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Operation of BL

- Due to lower than expected ridership, BMCL had made losses
- As of December 2016, Fare collection to Cost stood at 0.94
- The shortfall is made up by commercial development
- Fare start at 16 B max 42 B increase by 1-2 B per station

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Bangkok Expressway and Metro PLC (BEM)

- Established 30.12.2015 through the amalgamation of Bangkok Expressway PLC (BECL) and Bangkok Metro PLC (BMCL).
- Listed on Stock Exchange of Thailand 5.1.16
- Major shareholder, as of April 2016, was CH. Karnchang PLC (CK), holding 28.16% of the shares.

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BEM's Board of Directors

- Mr. VIRABONGSA RAMANGKURA CHAIRMAN OF THE BOARD OF DIRECTORS
- Mr. VIRABONGSA RAMANGKURA INDEPENDENT DIRECTOR
- Mr. PLEW TRIVISVAVET CHAIRMAN OF THE EXECUTIVE BOARD
- Mr. PLEW TRIVISVAVET VICE CHAIRMAN OF THE BOARD OF DIRECTORS
- Mr. SOMBAT KITJALAKSANA MANAGING DIRECTOR
- ...
- ...
-
- GEN. CHETTA THANAJARO INDEPENDENT DIRECTOR
- GEN. CHETTA THANAJARO AUDIT COMMITTEE
- GEN. SAMPAO CHOOSRI INDEPENDENT DIRECTOR
- GEN. SAMPAO CHOOSRI AUDIT COMMITTEE
-
- ...

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Blue Line ..the missing link

- MRTA has awarded BEM to operate the missing 1 km linking Tao Poon to Bang Sue station at a total cost of 918.5 MB for 2 years
- which includes
 - 672 MB for signal system installation
 - 52 MB for operation per year
 - 82.5 MB for fee and 7% Vat
- Opening date 12 August 2017

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Cabinet approved

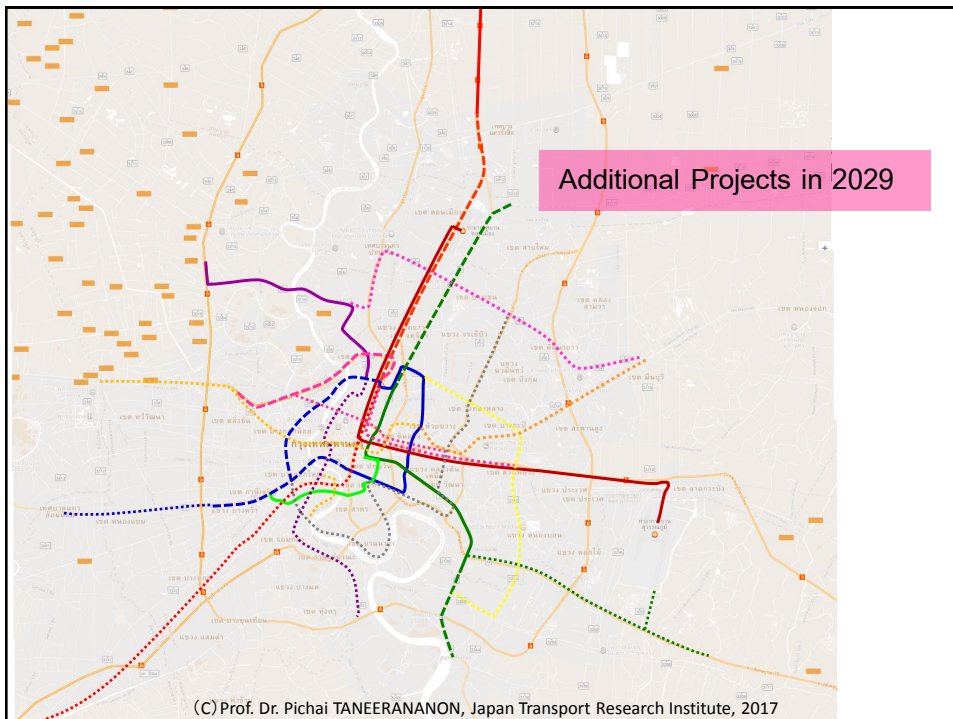
- On 14.2.17, Cabinet has approved the deal
- Contract to be signed on 16.2.17

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Blue Line Extension

- 27 km
- 30 year concession
- Progress as of January 2017 89.16%
- Some section to open September 2019
- The rest March 2019
- BEM got the approval to install M&E system and operate the extension
- Contract to be signed in March 2017

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The Purple Line

- concession is under a 30-year agreement on PPP Gross Cost scheme.
- MRTA paid for all the civil works while BEM invested in the M&E systems and the rolling stocks
- MRTA will gradually repay the M&E equipment to BEM in 10 years after BEM delivers ownership to the MRTA. BEM will provide O&M services throughout the concession period

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The Gross Cost PPP model for Purple Line

- Contract 30 years
- MRTA pays BEM 176 MB/month to operate the service
- BEM invested in M&E system but will be reimbursed when BEM hands over the system to MRTA in 10- year time
- MRTA collects all the fare

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Conclusions

- Blue Line, the first Thai MRT open in 2004
- MRTA granted 25 year concession to BMCL
- Under the Net Cost PPP contract
- Low ridership led to financial losses for BMCL
- Purple Line granted to BEM 30 Y concession
- Under Gross Cost PPP contract, no risk to BEM
- It appears BEM is in MRT business for the long term

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Thank you !

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