

Thailand Mega Project for GMS connectivity

The 9th GMSARN International Conference 2014



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Agenda : Thailand Mega Project for GMS connectivity

Part 1: Trend of the future

- Globalization & Global value chain
- Urbanization
- Critical Factor

Part 2: Basic Fact of the GMS

Part 3: Thailand

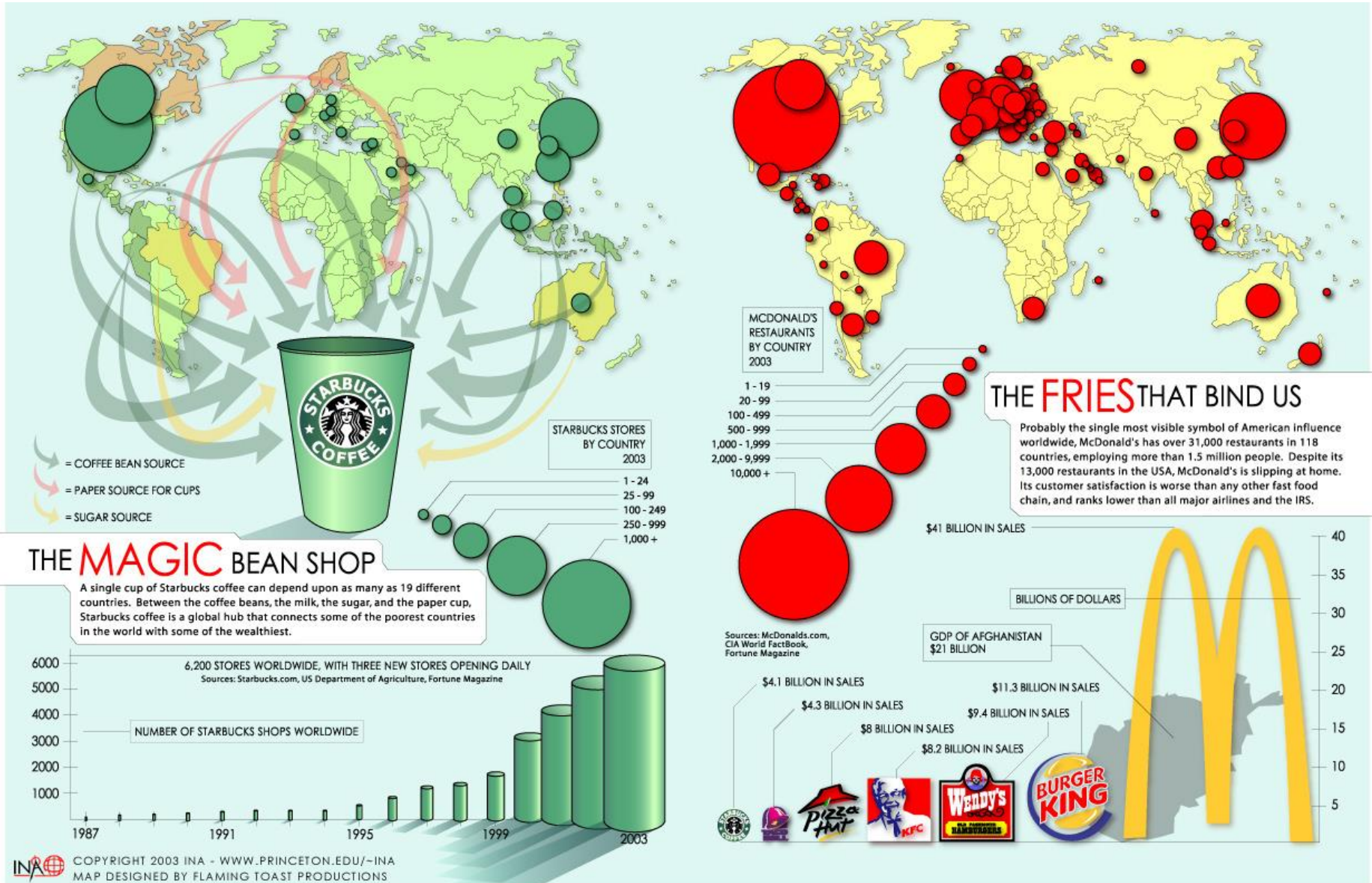
- Logistics challenges
- Infrastructure development program
- Key projects

Part 4 : Impact to the regional economy

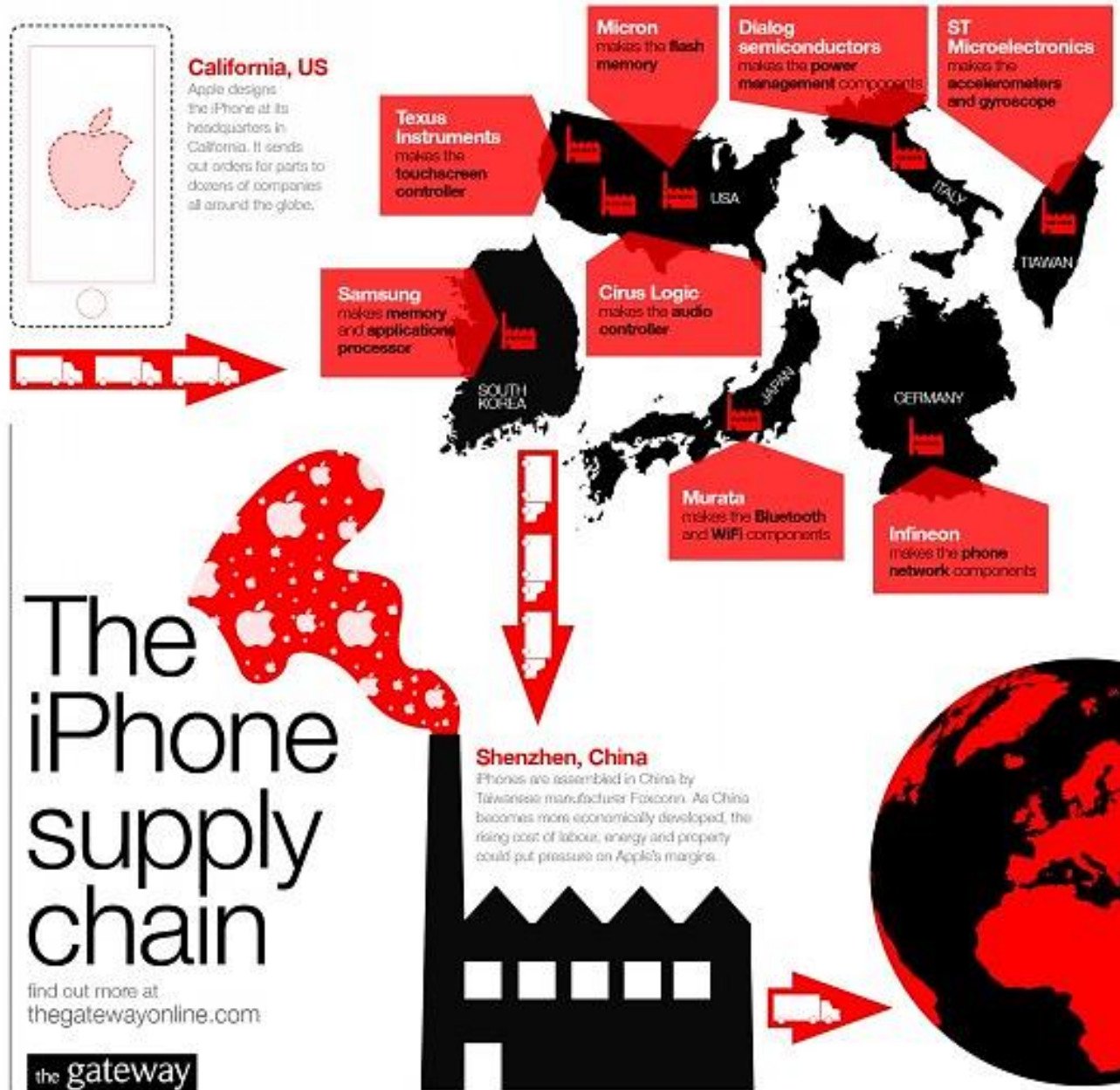


Trend : Globalization & Global Value Chain

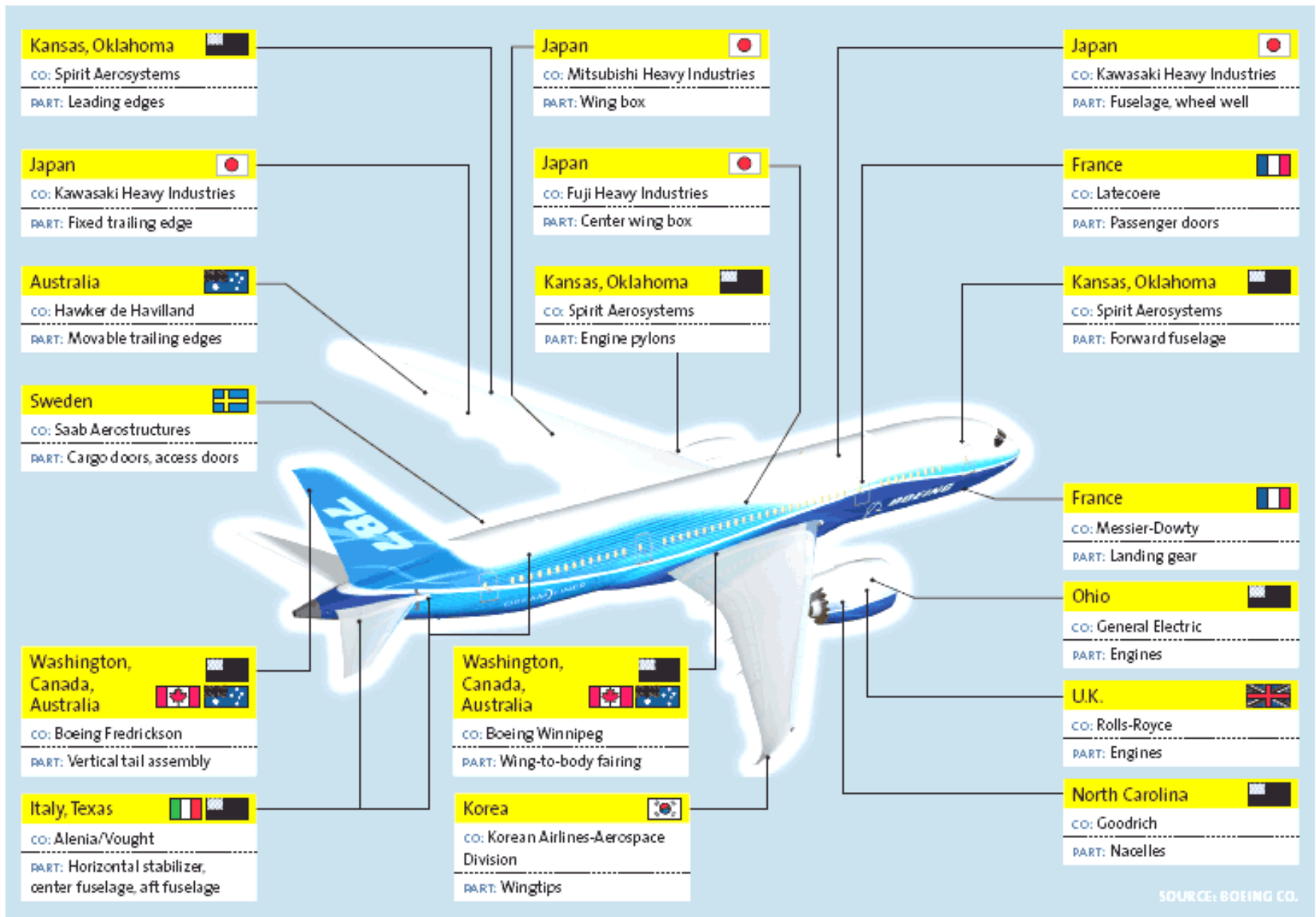
Effects of McDonalds and Starbuck's franchises on global trade



Trend : Globalization & Global Value Chain : iPhone



Trend : Globalization & Global Value Chain : Boeing 787



Trend : urbanization

- 50% global GDP generated by 600 cities
- Yr. 2025 : 40% global GDP will be generated by emerging markets

The new urban world

The earth reaches a momentous milestone: by next year, for the first time in history, more than half its population will be living in cities. Those 3 billion people are expected to grow to 5 billion by 2025 - this unique map of the world shows where those people live now.



Trend : urbanization

Urban population

- Yr. 1900 : 2 of 10 people live in urban
- Yr. 2010 : 5 of 10 people live in urban
- Yr. 2030 : 6 of 10 people live in urban
- Yr. 2050 : 7 of 10 people live in urban

Social :

- Lack of jobs -> crime
- Pollution -> disease
- Traffic -> quality of life

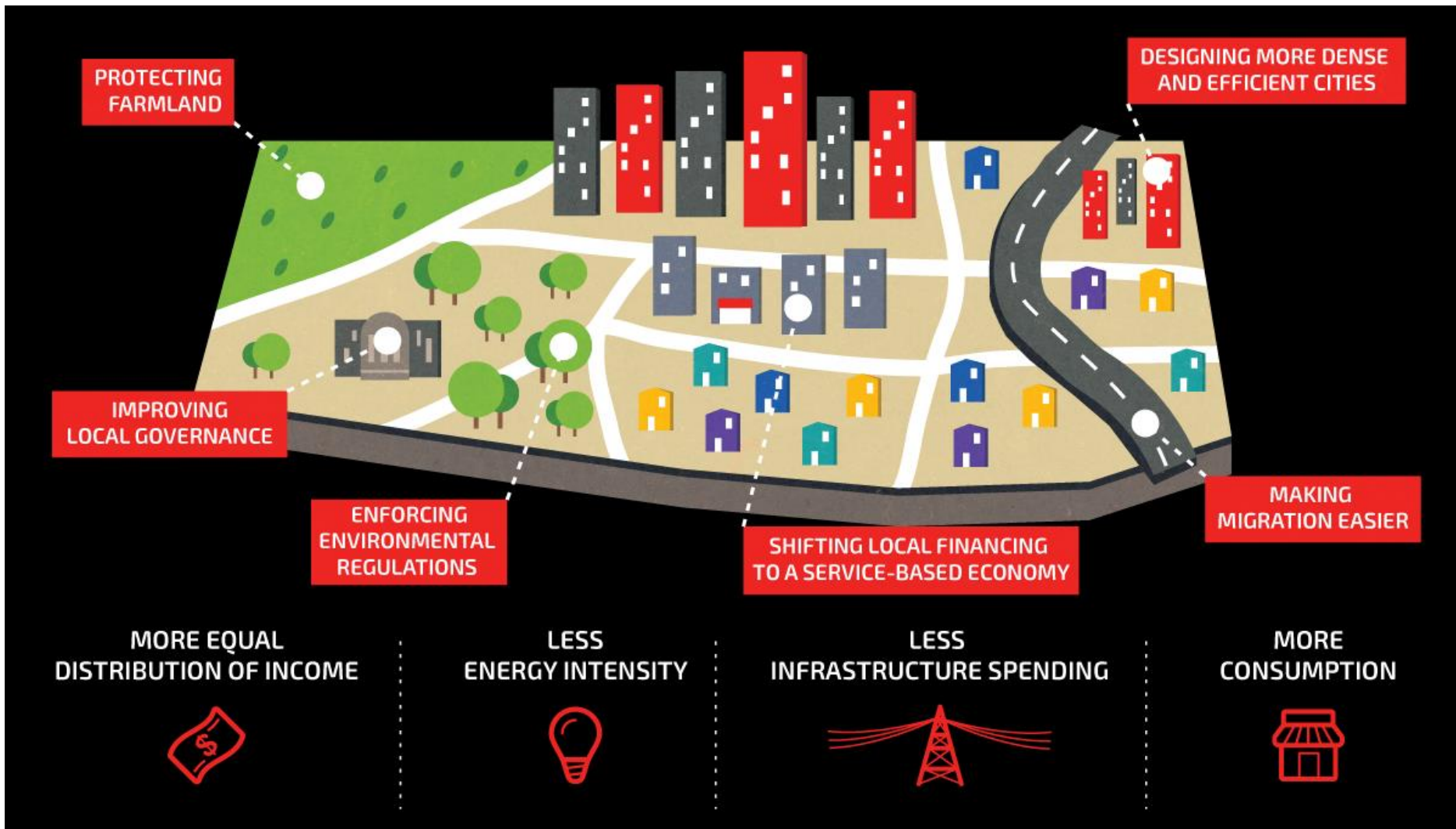
Environment : cities consume

- 2/3 global energy
- 60% water
- CO₂ 70%



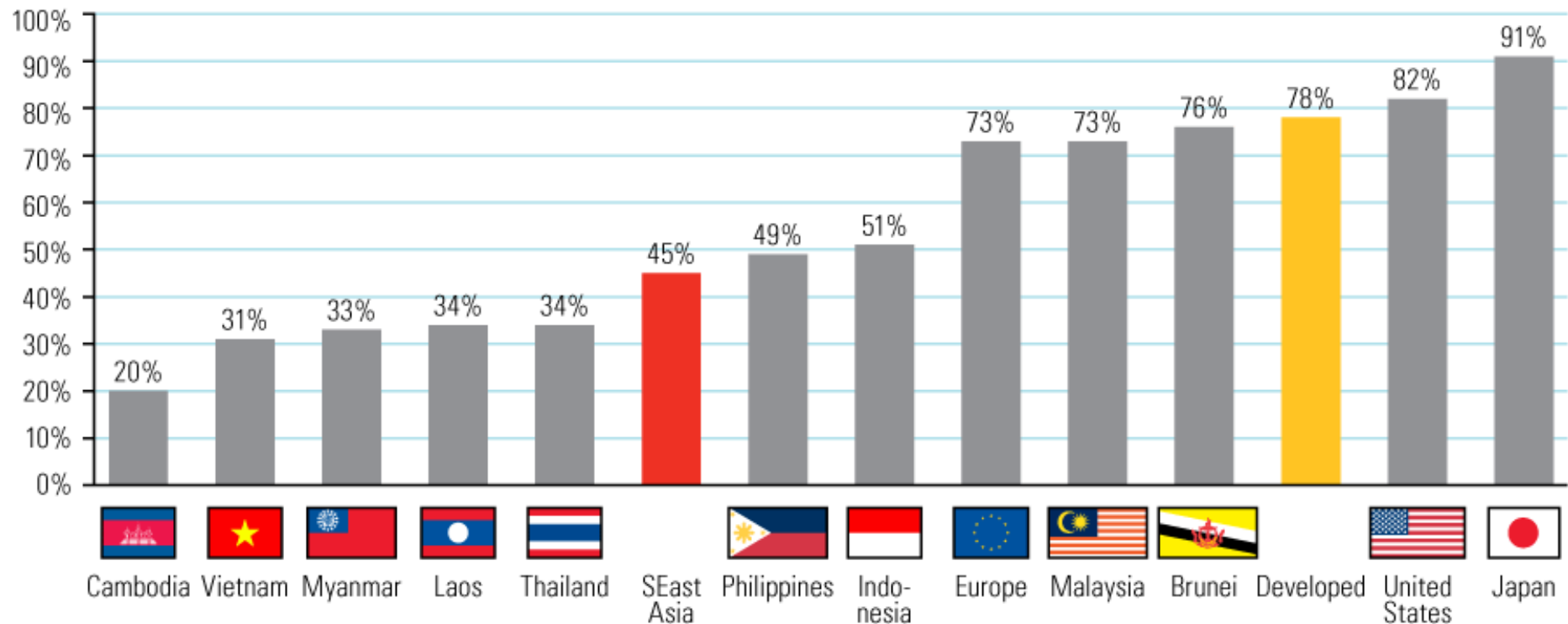
Trend : urbanization

Better Urbanization leads to higher-quality growth for all people
- Urban & Transport infrastructure



Trend : urbanization

Urbanization Remains Low in Southeast Asia



Source: UN Population Database, BofA Merrill Lynch Global Research

Trend : critical factor

- Globalization & Global Value Chain
- urbanization

“Connectivity”



GMS : Basic Fact

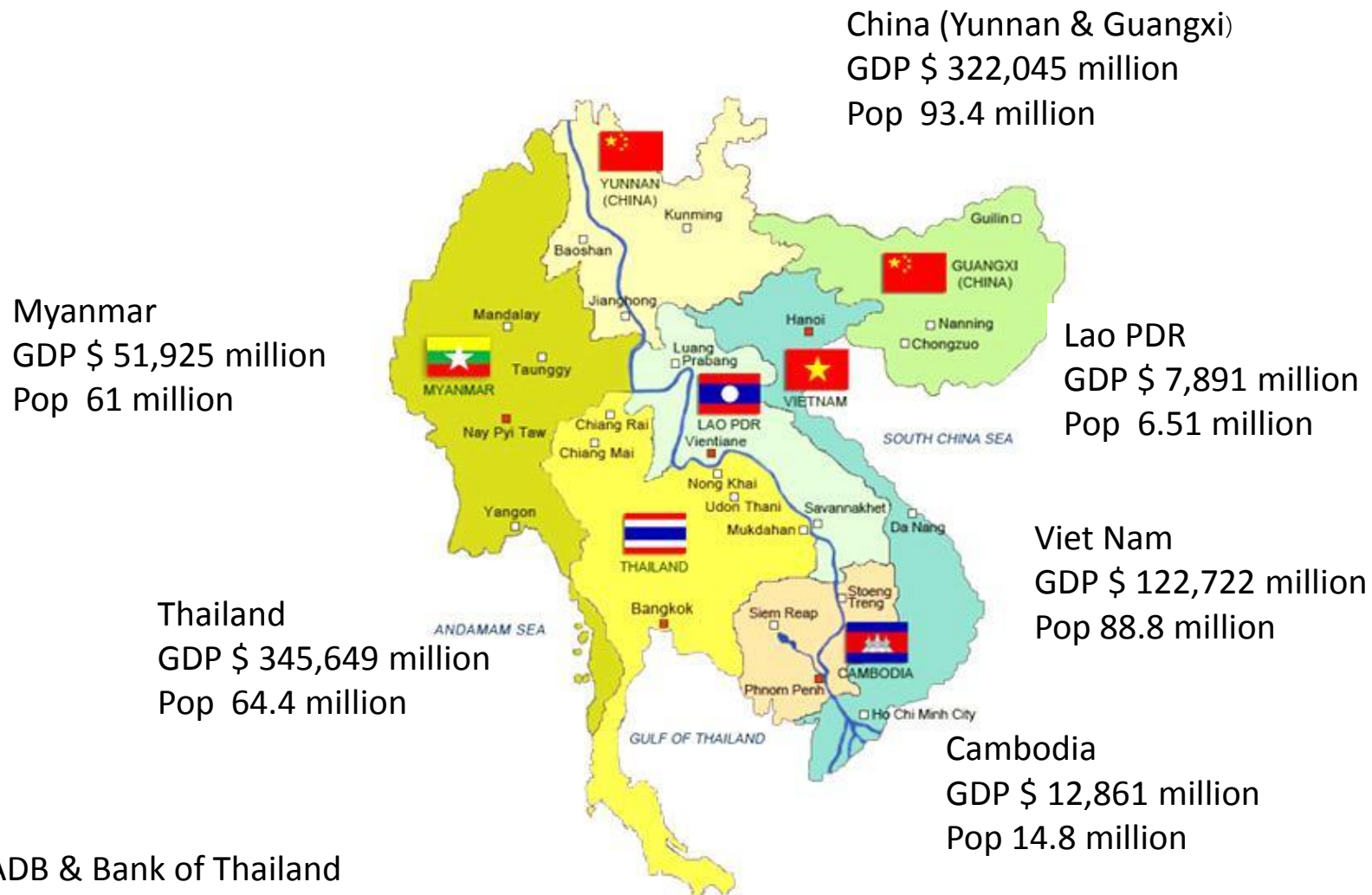
Basic fact : the GMS

6 economies : Cambodia, China (Yunnan & Guangxi), Lao PDR, Myanmar, Thailand, and Viet Nam

Area : 2.55 million sq.km.

Population : 329 million people

GDP : \$ 969.93 billion



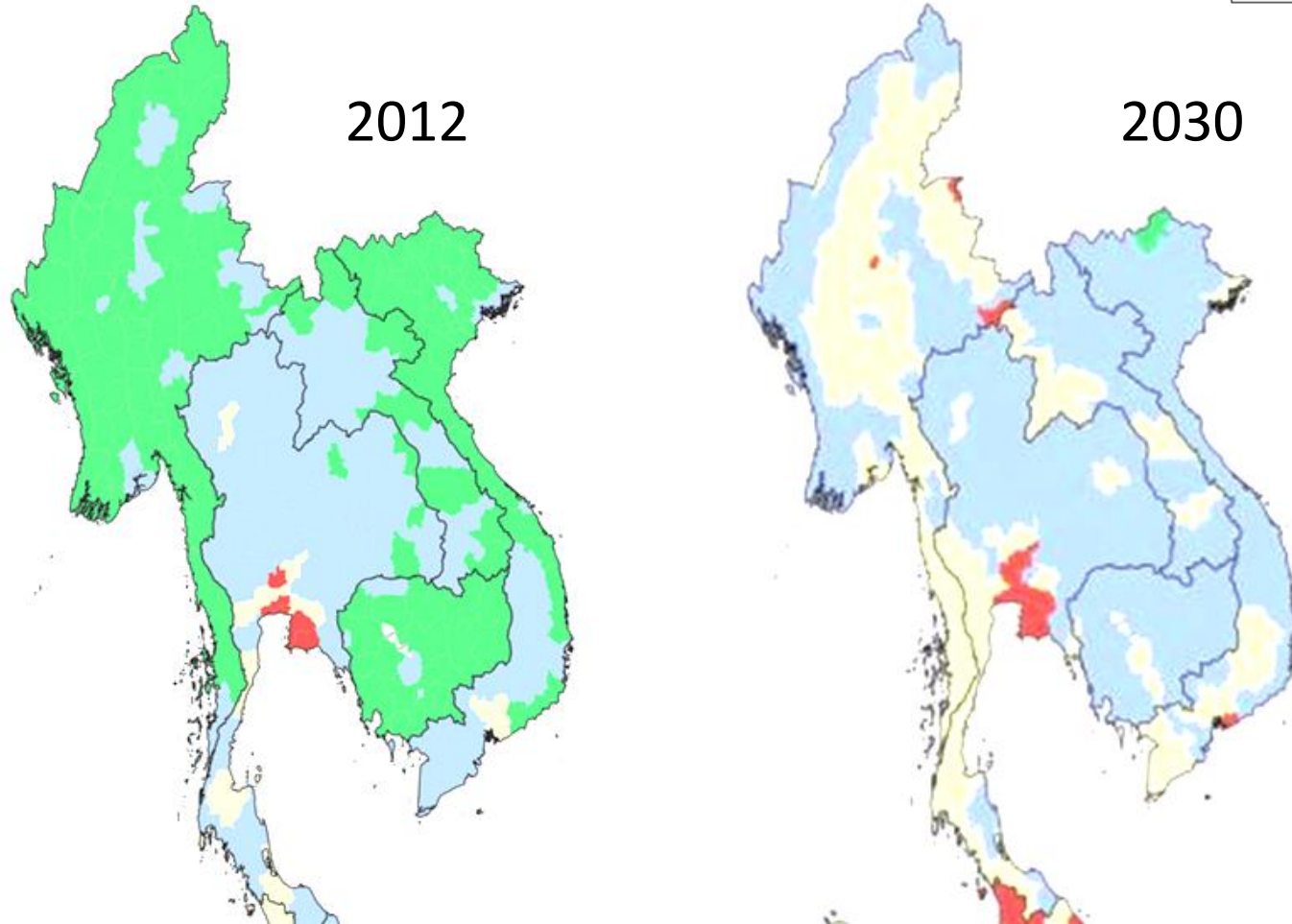
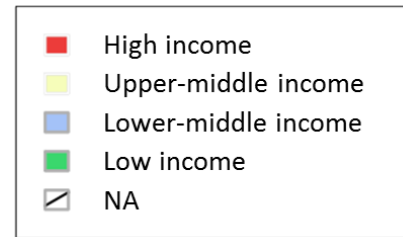
Basic fact : the GMS

GMS		Compare to
Population 329 million	>	USA
GDP size 969.92 Billion USD	=	3 Times Thailand
FDI 276.35 Billion USD	=	20% of China
Tourist 38.6 million	=	Ranked 6 th globally next to France Spain USA China Italy
Energy consumption 286,806 ktoe	>	South Korea
CO ₂ per capita 1.21 T/person	<	India = 1.6 t/people World = 4.9 t/people USA = 16.4/people

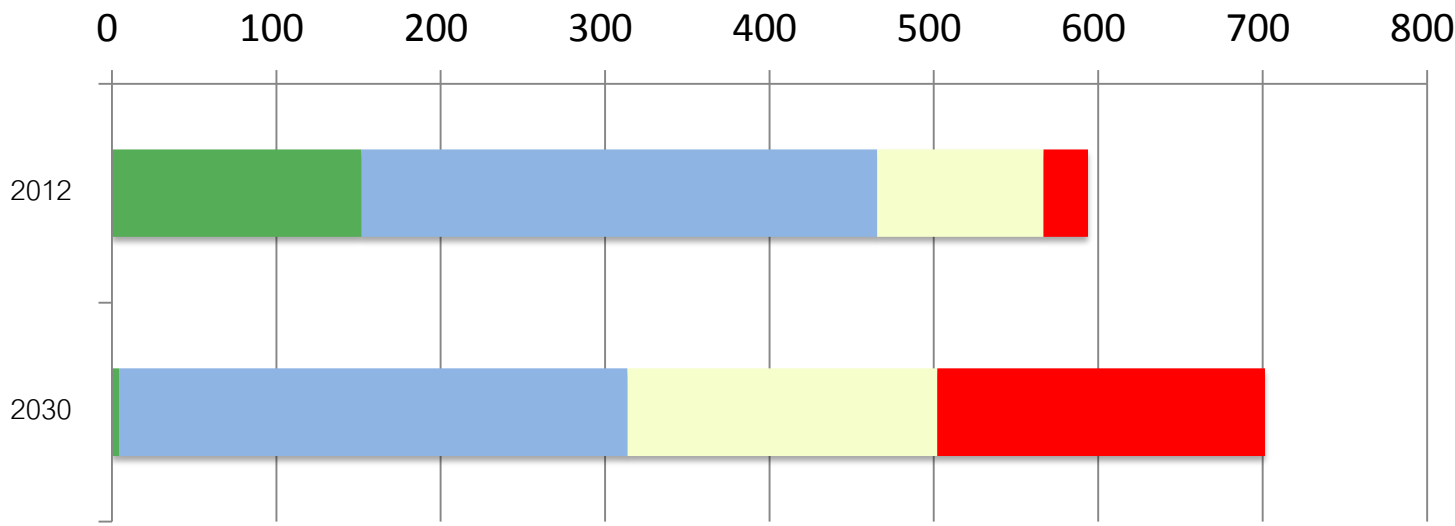
Basic fact : the GMS : GDP per Capita by region

Assumptions for IDE-GSM prediction :

- Population & Productivity growth rate.
- Inter-industry & Inter-regional labor movement is allowed.
- international immigration is prohibited.



Basic fact : the GMS : GDP per Capita by region



	2030		2012	
■ Low	4	(1%)	152	(26%)
■ Lower-Middle	309	(44%)	314	(53%)
■ Upper-Middle	188	(27%)	101	(17%)
■ High	199	(28%)	27	(5%)

■ Low ■ Lower-Middle ■ Upper-Middle ■ High

Source : Satoru KUMAGAI(IDE-JETRO/MIER)

Basic fact : the GMS : infrastructure & economic corridor



R1: Southern Economic Corridor (SEC)

Bangkok – Aranyaprathet – Poipet – Pratabong – Phnom Penh-Ho Chi Minh – Vung Tau

R2: East-West Economic Corridor (EWEC) 1,320 km

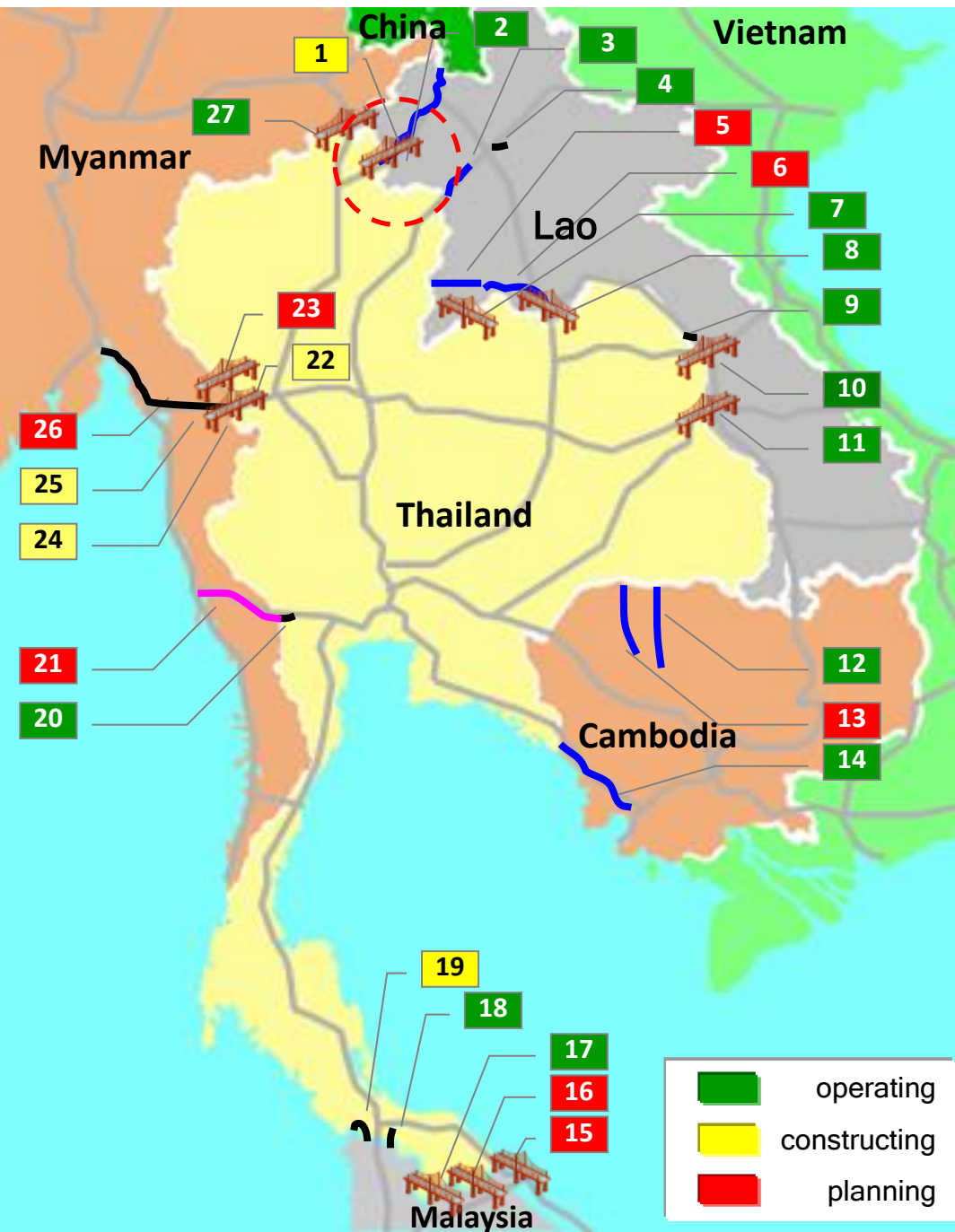
Malamang – Mae Sot – Tak – Sukhothai – Phitsanulok – Khon Kaen – Mukdahan – Savannakhet – Lao Bao – Dong Ha – Danung

R3 North-South Economic Corridor (NSEC)

R3A: Via Lao: Chiang Rai – Chiang Kong – Huay xai – Luang Namtha – Bohan – Chiang Rung – Kunming (1,090 km)

R3B: Via Myanmar: Chiang Rai – Mae Sai – Takelek – Chiang Tung – Chiang Rung – Kunming

Thailand and its connectivity



Thailand – Lao PDR (11 projects)

1. Friendship Bridge 4 (Chiang Khong-Huay Sai)
2. R3A in Laos
3. Huay Kon – Pak Beng
4. Hinhway No.13 North – Sang Kha Lok
5. Phu Du – Pak Lai
6. Highway No. 11 Lao PDR
7. Bridge across Huang River, Tha Li, Loei
8. Friendship Bridge 1 (Nong Khai – Thanaleng)
9. Road access Ban Woen Tai Pier
10. Friendship Bridge 3 (Nakhon Panom – Kham Mouane)
11. Friendship Bridge 2 (Mukdahan – Savannakhet)

Thailand – Cambodia (3 projects)

12. Road No. 67 Chong Sa Ngam – Siem Reap
13. Road No. 68 Chong Chom – Kralanh
14. Road No. 48 Ko Kong – Sre Ambel

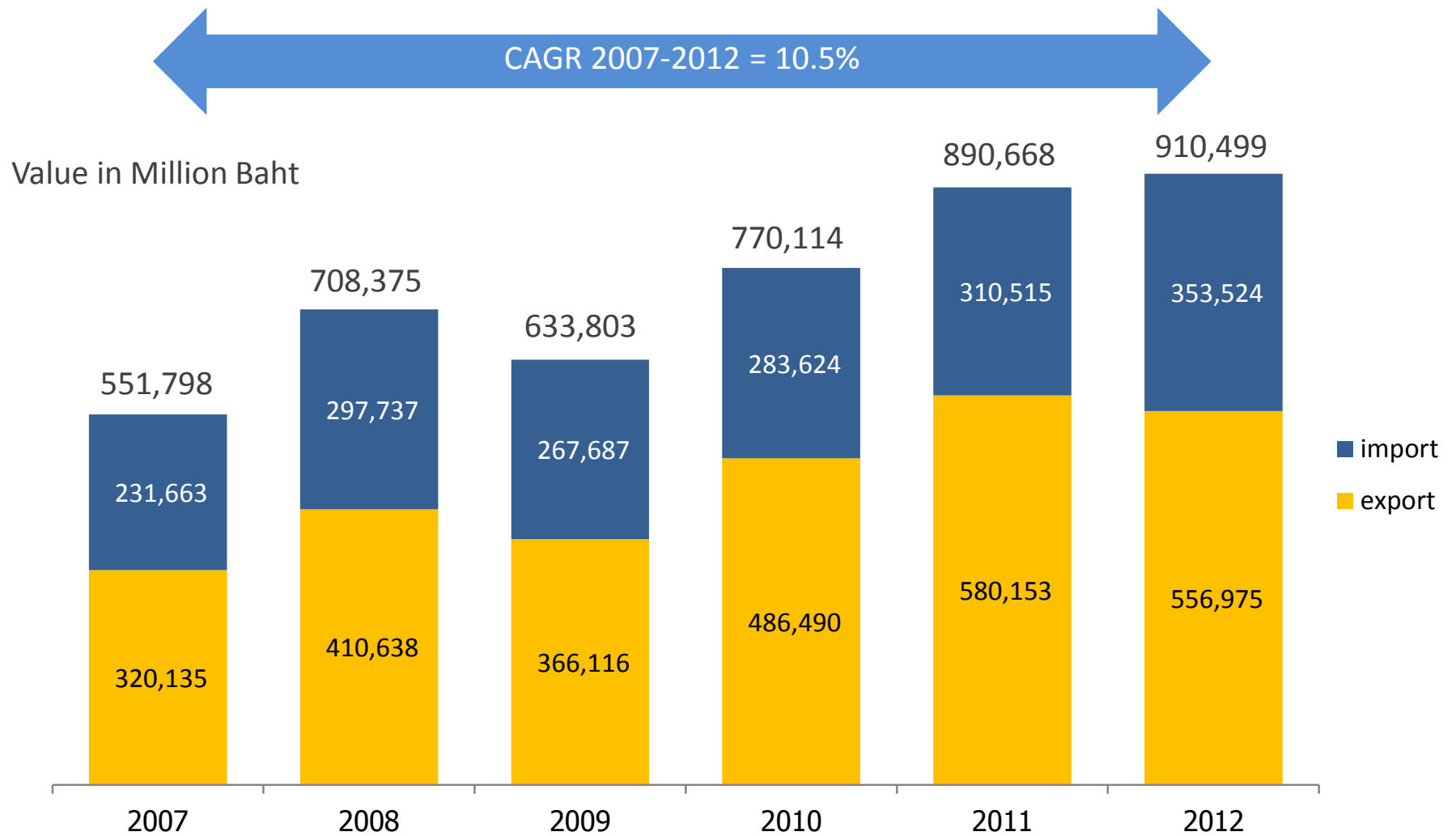
Thailand – Malaysia (5 projects)

15. Bridge across Kolok River, Tak Bai
16. Bridge across Ko Lok River 2, Sungai Kolok
17. Bridge across Ko Lok River 3, Bu Ke Ta
18. Nathawi – Ban Pra Kop
19. Kuan Sa Taw – Wang Pra Chan

Thailand – Myanmar (8 projects)

20. Phu Nam Ron – Thailand-Myanmar border
21. Kanchanaburi – Dawei
22. Friendship Bridge (Mae Sot)
23. Friendship Bridge 2 (Mae Sot)
24. Myawaddy – Dawna Foothill
25. Dwana foot print – Kawkareik
26. Kawkareik – Thaton
27. Friendship Bridge (Mae Sai)

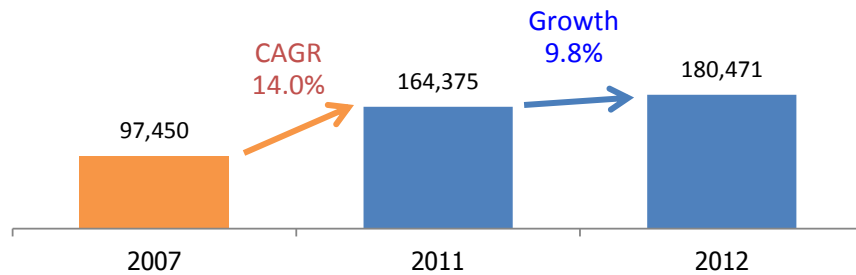
Border trade of Thailand 2007-2012



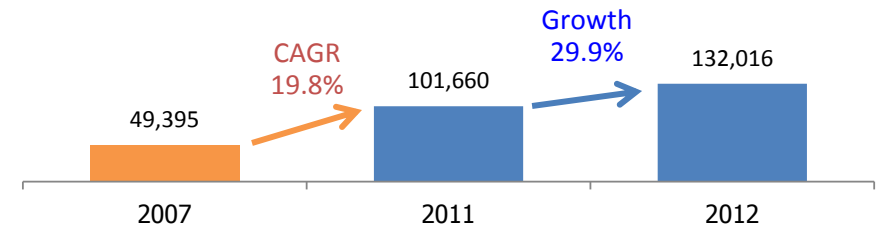
Border trade by country

Value in Million Baht

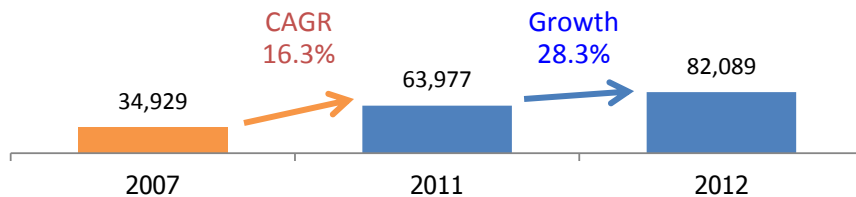
Myanmar



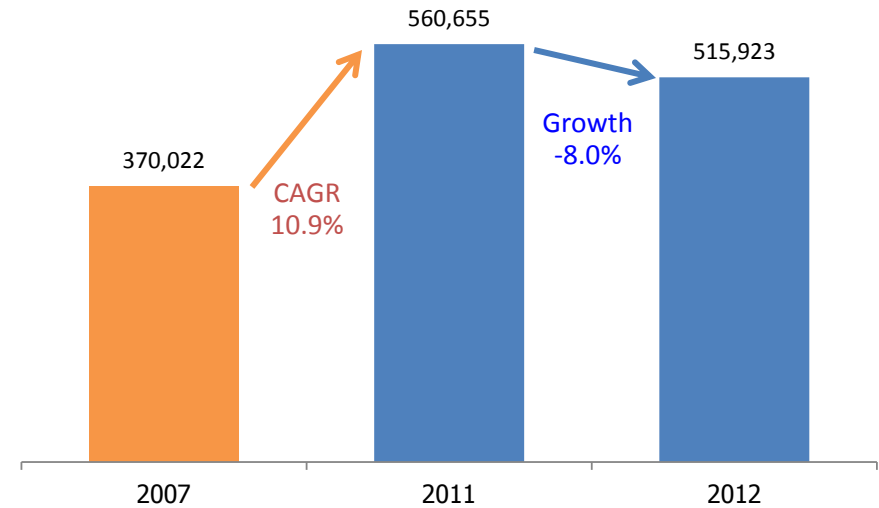
Lao PDR



Cambodia



Malaysia



Border trade by country

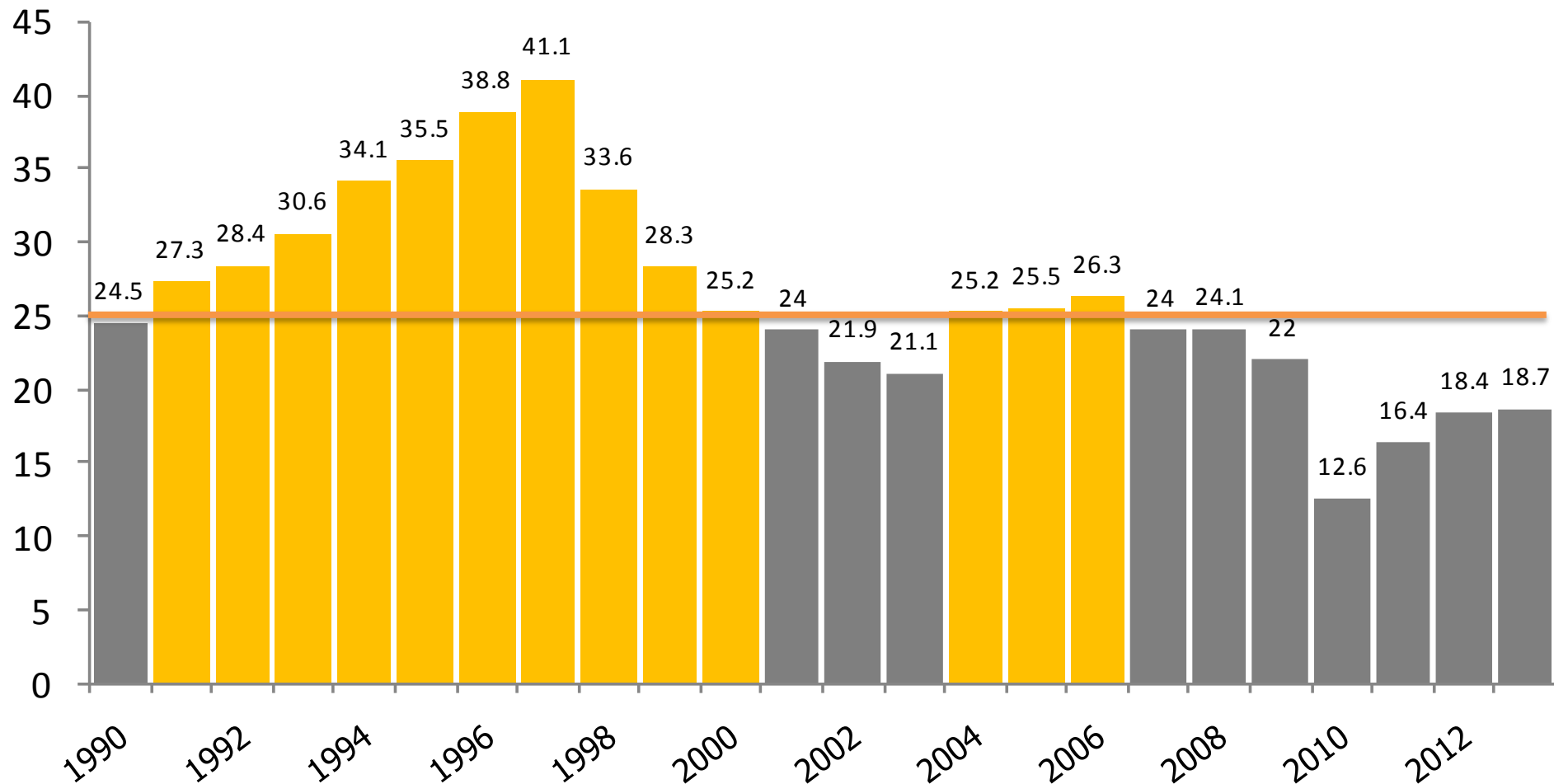
Order in rank

Economy	export	import
Myanmar	<ul style="list-style-type: none"> • Diesel • Benzene • Beverage 	<ul style="list-style-type: none"> • Natural Gas • Animals • Tiber product • Metal
Lao PDR	<ul style="list-style-type: none"> • Diesel • Car & part • Computer • Benzene • Construction Machine & tools 	<ul style="list-style-type: none"> • Copper • Timber Product • Vegetable • Chemical • Grain
Cambodia	<ul style="list-style-type: none"> • Engine • Sugar • Beverage • Cosmetic • Rubber tire 	<ul style="list-style-type: none"> • Vegetable • Iron • Aluminum product • Vegetable oil • Copper
Malaysia	<ul style="list-style-type: none"> • Rubber • Rubber Product • Computer • Timber Product • Car & parts 	<ul style="list-style-type: none"> • Machine • Computer part • Media • Electronics

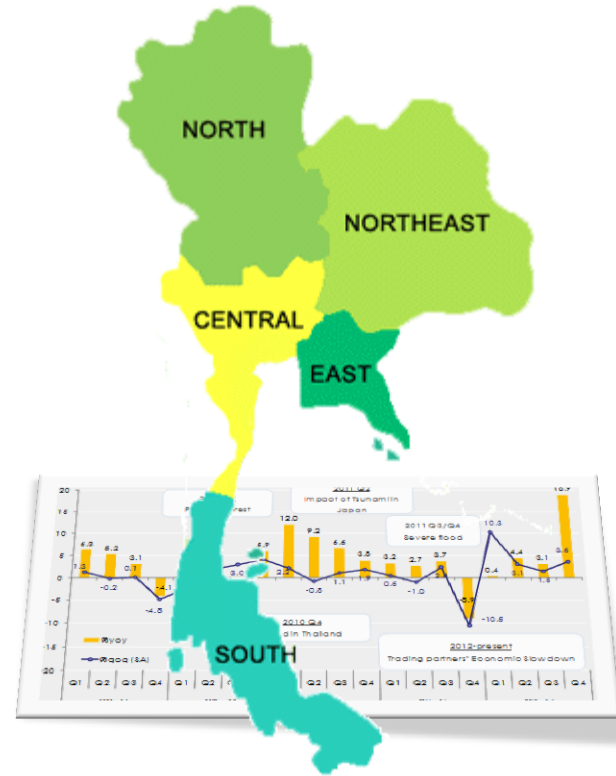
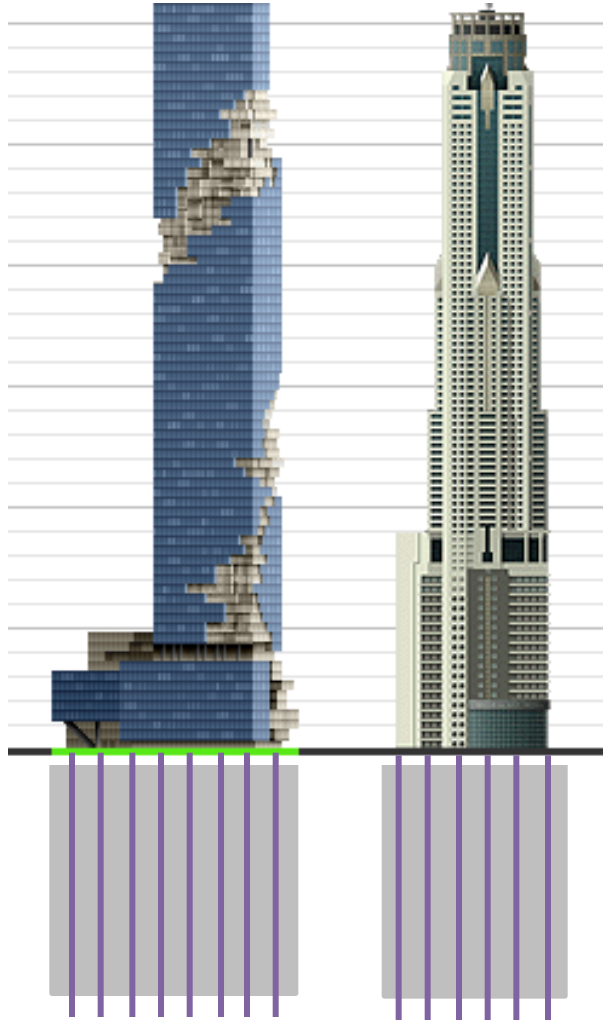
Thailand : Logistics Challenges

Capital expenditures to total fiscal budget 1990-2013

Capital expenditures/
total fiscal budget (%)



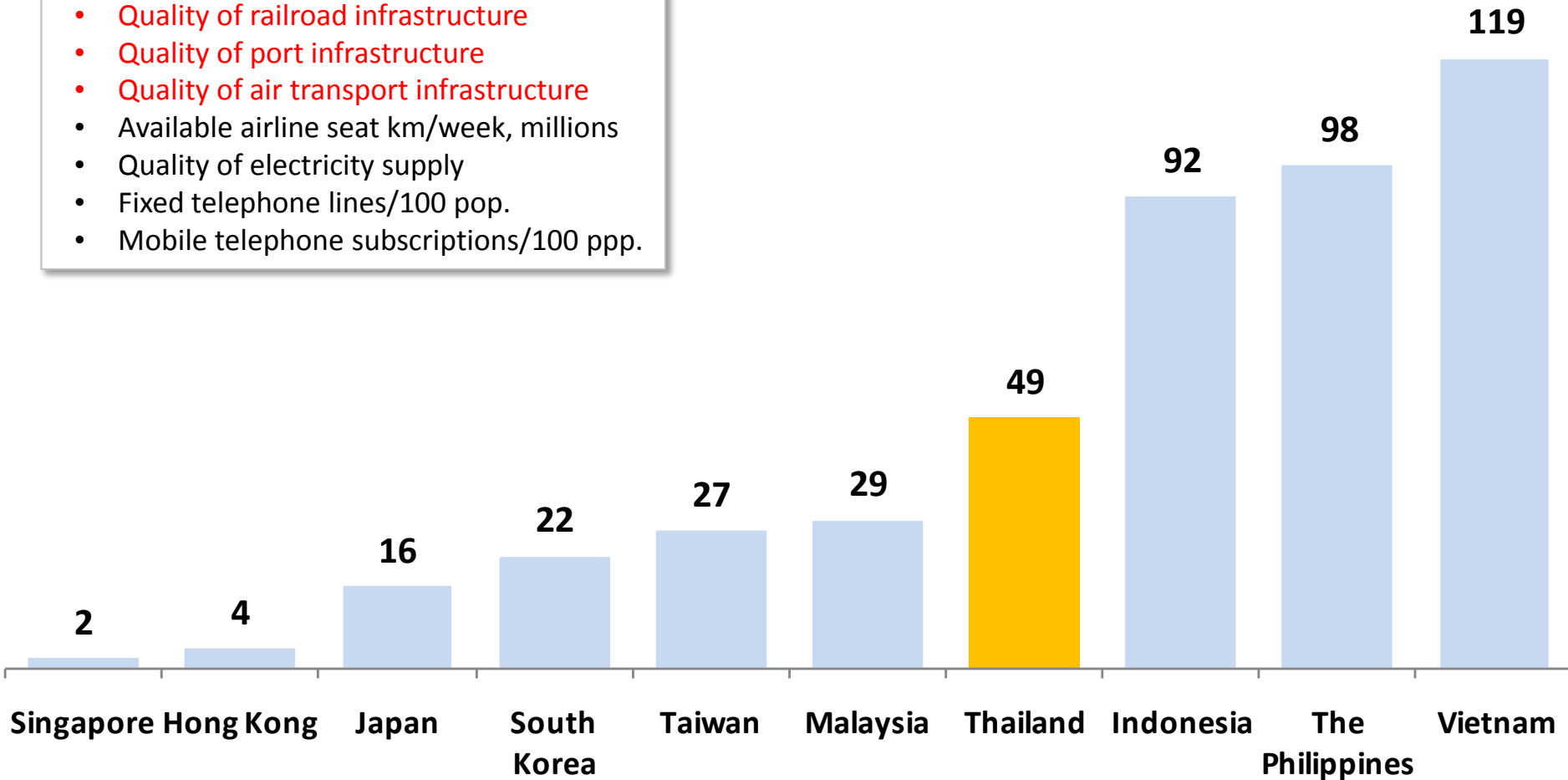
Infrastructure in transportation is similar to a skyscraper's foundation



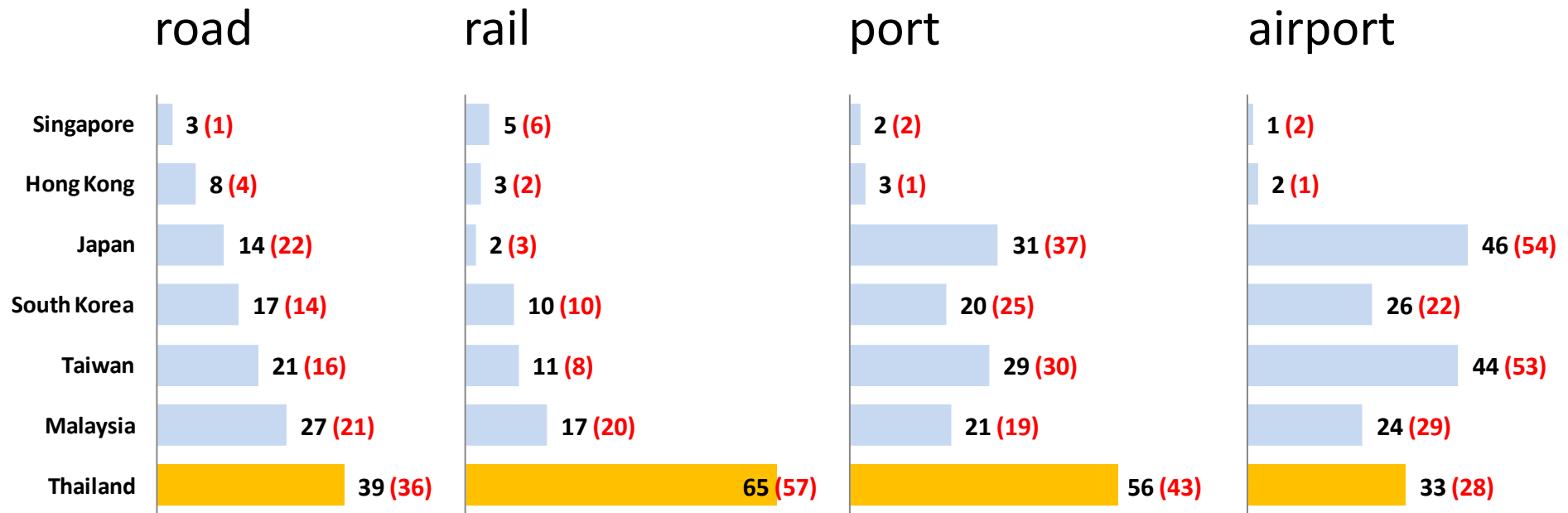
The 2012-2013 rankings of global competitiveness on infrastructure (Thailand vs Asian countries)

Quality of overall infrastructure :

- Quality of roads
- Quality of railroad infrastructure
- Quality of port infrastructure
- Quality of air transport infrastructure
- Available airline seat km/week, millions
- Quality of electricity supply
- Fixed telephone lines/100 pop.
- Mobile telephone subscriptions/100 ppp.



The 2012-2013 rankings of competitiveness on road, rail, port and airport (Thailand vs Asian countries)



Note: numbers represent rankings in 2012-2013, numbers in bracket represent rankings in 2010-2011

Thailand has lost its momentum in attracting FDI

	(USD million) Avg.FDI/year 2004-2012	(USD million) FDI 2004	(USD million) FDI 2012	(%) CAGR* 2004-2012
Singapore	36,610	1 24,390	1 56,651	11%
Indonesia	9,904	4 1,896	2 19,853	34%
Thailand	8,181	2 5,859	4 8,607	5%
Malaysia	7,033	3 4,624	3 10,074	10%
Vietnam	5,960	5 1,610	5 8,368	23%

CAGR* = Compound annual growth rate



เอกสารประกอบการพิจารณา
ร่างพระราชบัญญัติให้อำนาจกระทรวงการคลังกู้เงินเพื่อ
การพัฒนาโครงสร้างพื้นฐานด้านคมนาคมขนส่งของประเทศ พ.ศ.

รายละเอียดโครงการภายใต้แผนงาน
ตามยุทธศาสตร์การพัฒนาโครงสร้างพื้นฐาน

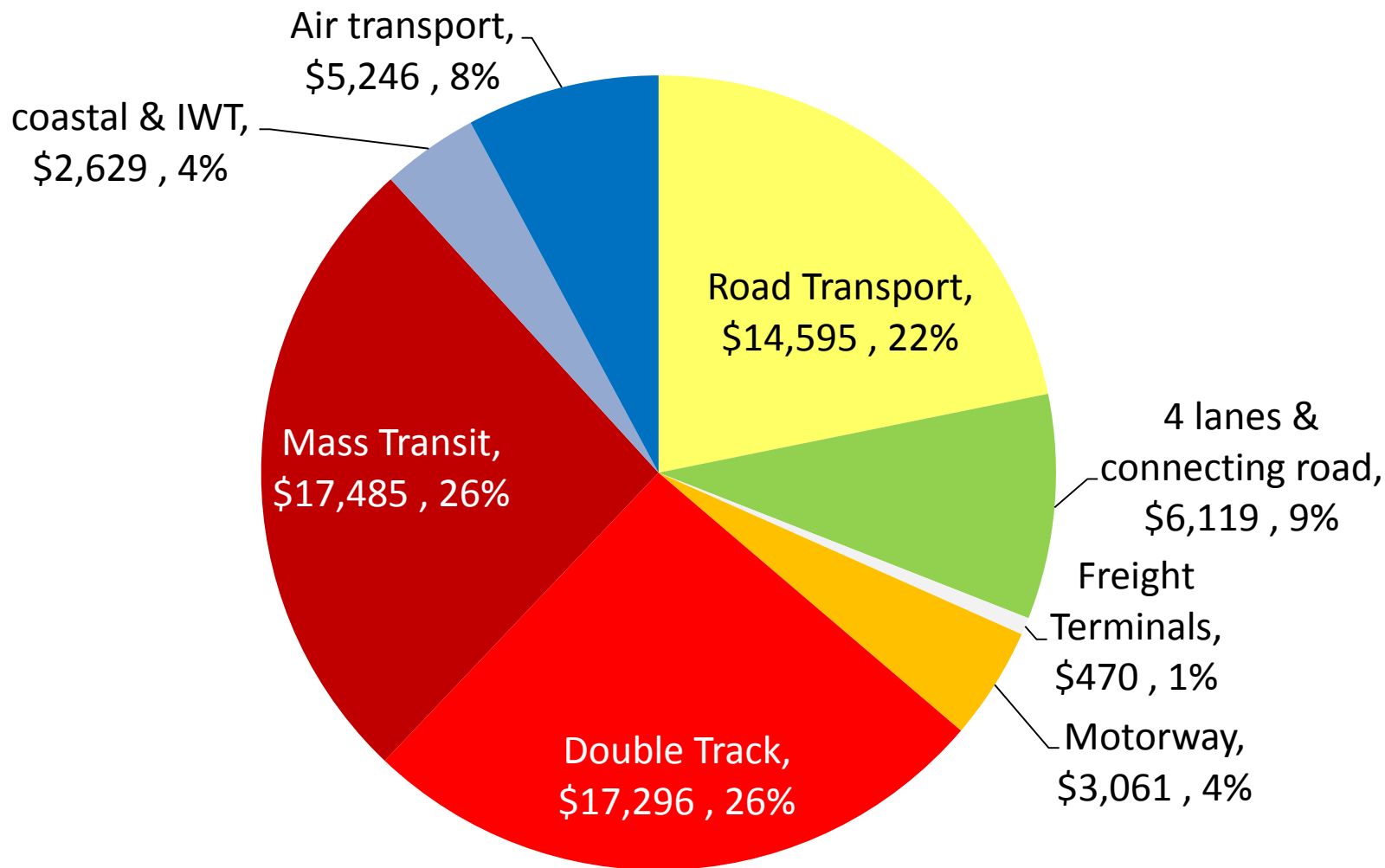
Thailand Infrastructure Development Program

THB 2 trillion program for infrastructure development
for 2015-2024

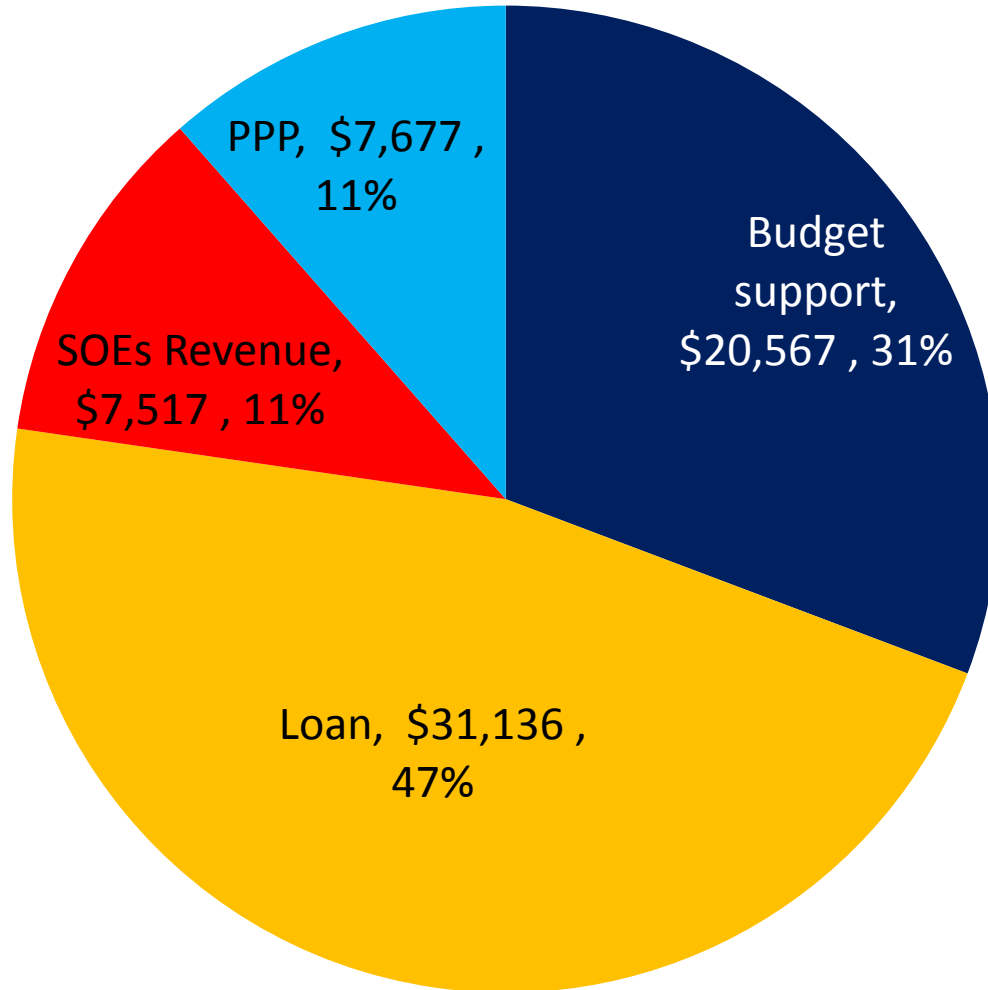
The three strategies for infrastructure development programs

1st Strategy	2nd Strategy	3rd Strategy
Modal Shift	Connectivity	Mobility
Promote the modal shift from the higher cost to lower cost modes-i.e. from truck to rail or IWT.	Develop transport infrastructure and multimodal facilities to support connectivity to the sub-region and AEC.	Develop and upgrade transport facilities & infrastructures to increase mobility.

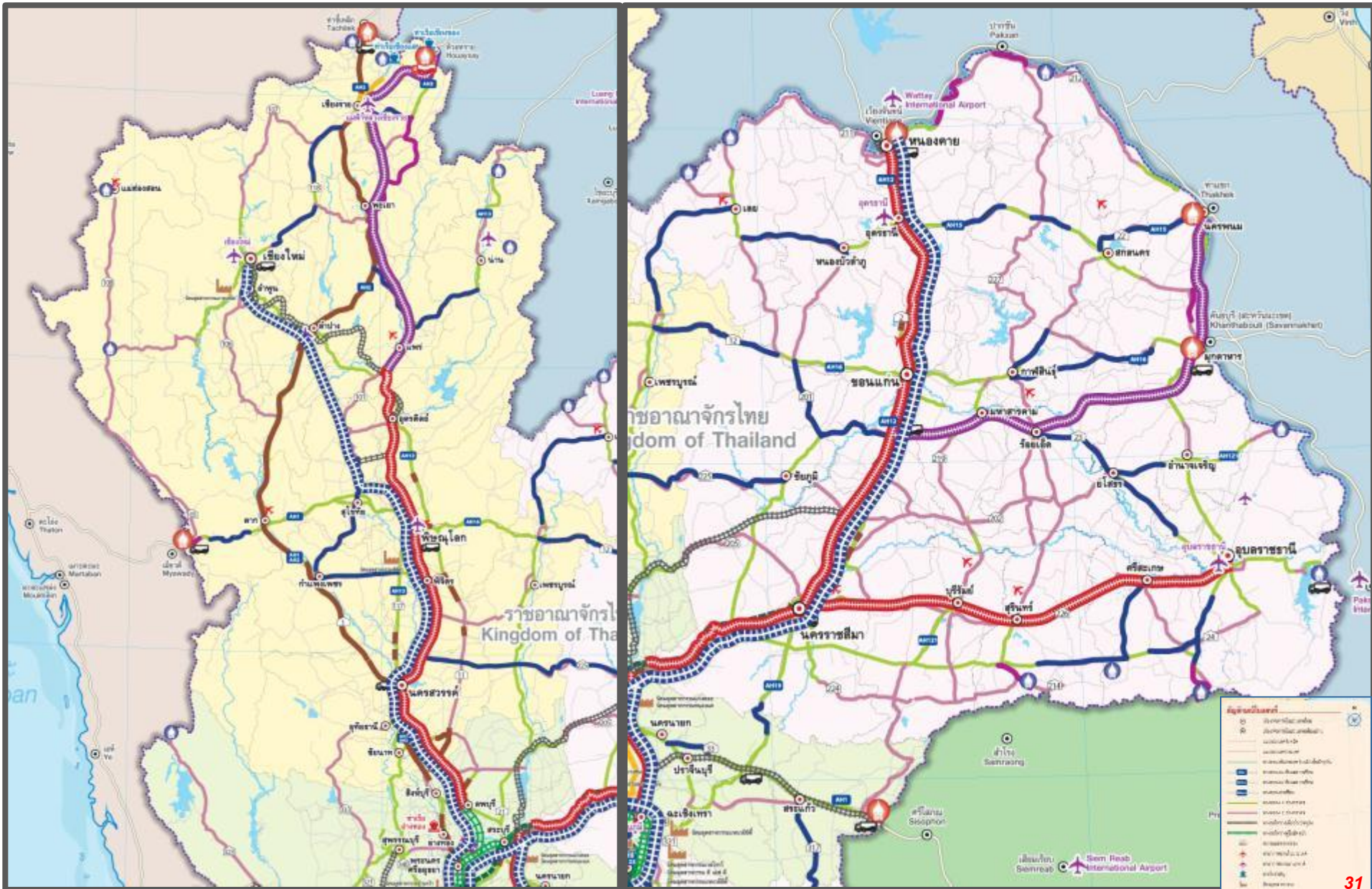
Investment allocation for infrastructure development programs YR 2015-2024 (approved by NPOMC 29 July 2014)



Source of Fund



Map of infrastructure development programs (Northern and Northeastern region)



Map of infrastructure development programs (Central and Eastern region)



Map of infrastructure development programs (Southern region)



Direct Benefits of Infrastructure Development Programs

Targets of the infrastructure development programs

- 1) **Logistic Cost to GDP ratio** reduced by no less than 2% (current 15.2%)
- 2) **Private vehicles travelling between provinces** reduced from 59% to 40%
- 3) **Average speed of freight train** increased from 39 to 60 km./hr. & Passenger train from 60 to 100 km/hr
- 4) **Rail transport share (freight)** increased from 2.5% to 5%
- 5) **Water transport share** increased from 12% to 18%
- 6) **Saving Energy** no less than THB 100 Billion per year
- 7) **Mass transit share in BKK increased** from 5% to 30%
- 8) **Cross broader freight Volume** increased more than 5%
- 9) **Railway passengers** increased from 45 to 75 million trips per year
- 10) **Reduce travel time** between Bangkok and regional cities within 300 km from 180 min to 90 min by the High Speed Train project

Strategic projects

Key Projects: Railways Improvements

Route	Distance (km)
Lobhuri - Nakronsawan	118
Mabkabal – Jira (Korat)	132
Jira – KonKane	185
Nakronpatom – Hua Hin	165
Prachubkirikun - Chumporn	167
Total	767
Kangkoy – Bua Yai	220
Jira - Ubonratchatani	309
Konkane - Nongkhi	172
Nakronsawan - Tapanhin	69
HuaHin - Prachubkirikan	89
Chumpron - Surattani	166
Total	1025
Tapanhin - ChemgMai	427
Suratchtani-Padugbeasa	339
Klong 19 - Kabinburi	76
HadYai-Sukyakolok	214
Tungsong-Kantrung	93
Kabinburi-Klongluk	98
Total	1247
Grand Total	3,039



Key Projects: Railways Improvements

New connection to the sub region

พัฒนาโครงข่ายเชื่อมต่อประเทศเพื่อนบ้าน

ดำเนินการเชื่อมต่อโครงข่ายทางรถไฟ

สายสิงคโปร์-คุนหมิง

ผ่านทางสายฉะเชิงเทรา-อรัญประเทศเพื่อที่จะเชื่อมต่อกับโครงข่ายทางรถไฟสายปอยเปต - ศรีโสภณ ระยะทาง 7 กิโลเมตรเพื่อรองรับการขนส่งระหว่างกลุ่มประเทศอนุภูมิภาคกลุ่มแม่น้ำโขง-ประเทศจีนตอนใต้

สายเด่นเรย์ - เชียงราย - เชียงของ

เพื่อรองรับต่อการขนส่งต่อเนื่องหลายรูปแบบจากประเทศสาธารณรัฐประชาชนจีนผ่านเส้นทาง ถนนสาย R3E

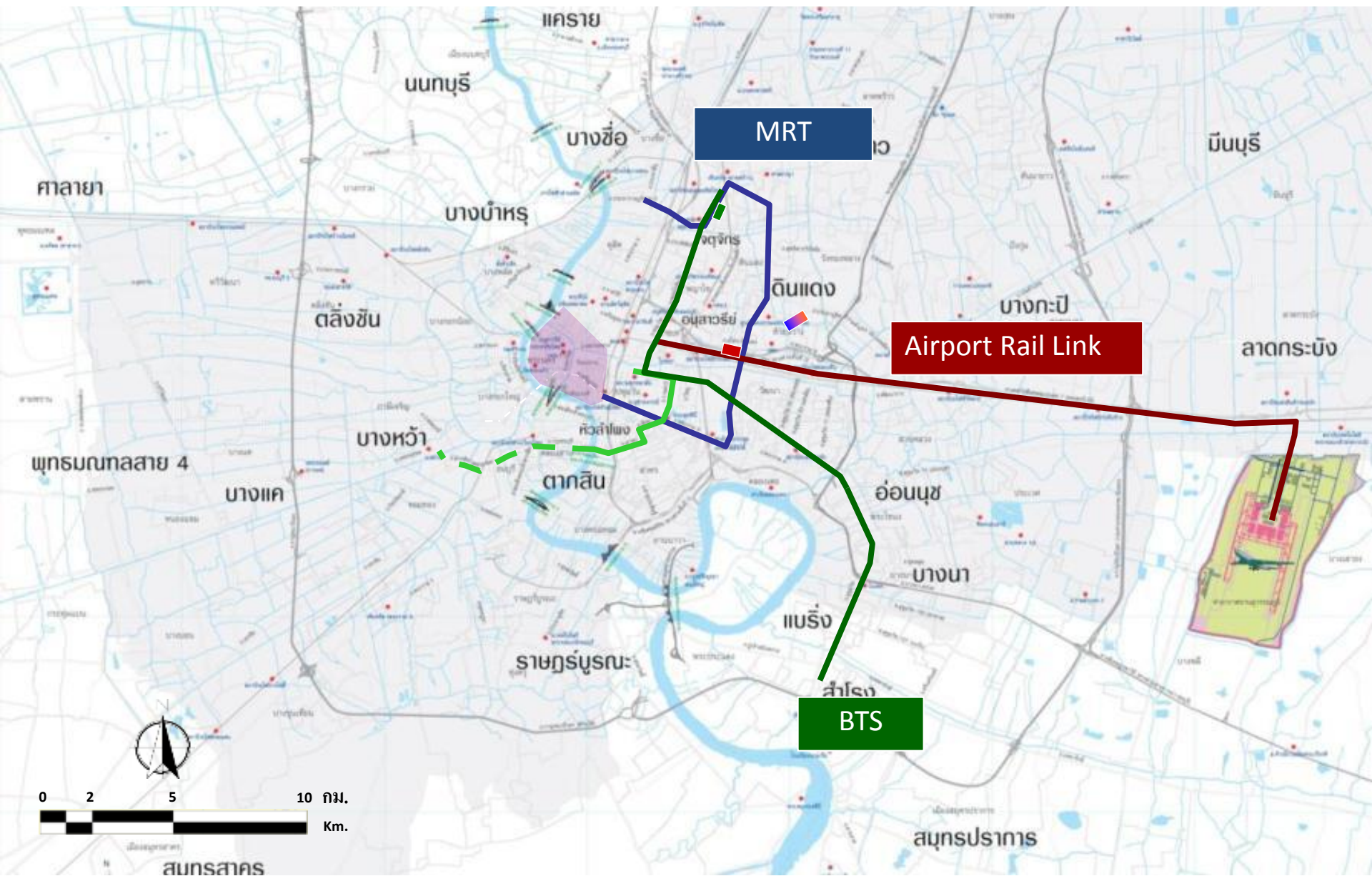
สายบัวใหญ่-ขอนแก่น-มุกดาหาร-นครพนม

สามารถเชื่อมต่อกับประเทศลาวและเวียดนามภายใต้กรอบการเจรจา Greater Mekong Sub region :GMS

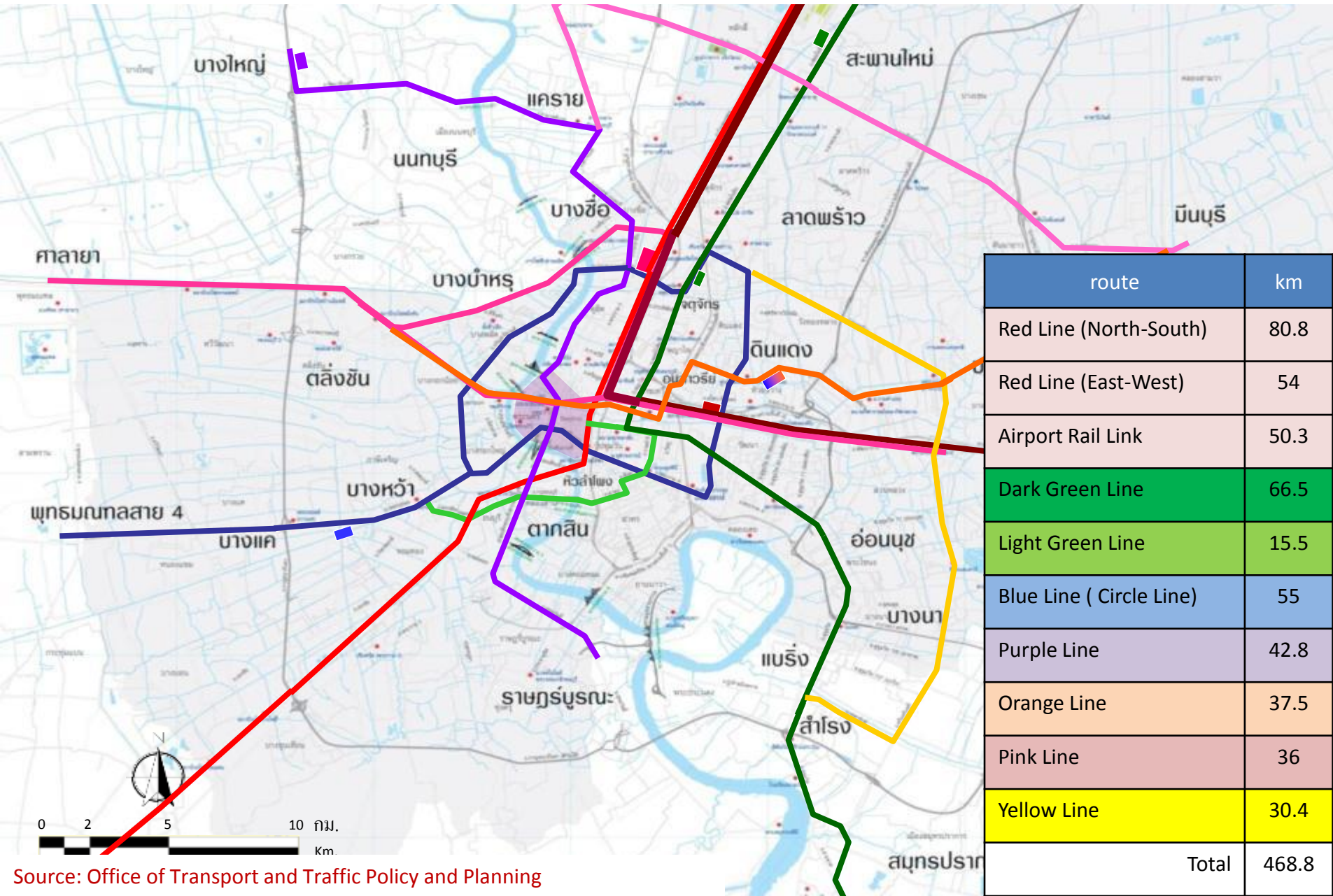


- คำอธิบายสัญลักษณ์
- ประตูกา
 - ผ่านการค
 - ⊕ ท่าเรือ
 - ⊕ สนามบิน
 - โครงข่าย

Mass Transit in Bangkok – current network 80 km



Mass Transit in Bangkok – MRT Master Plan (10 Lines)

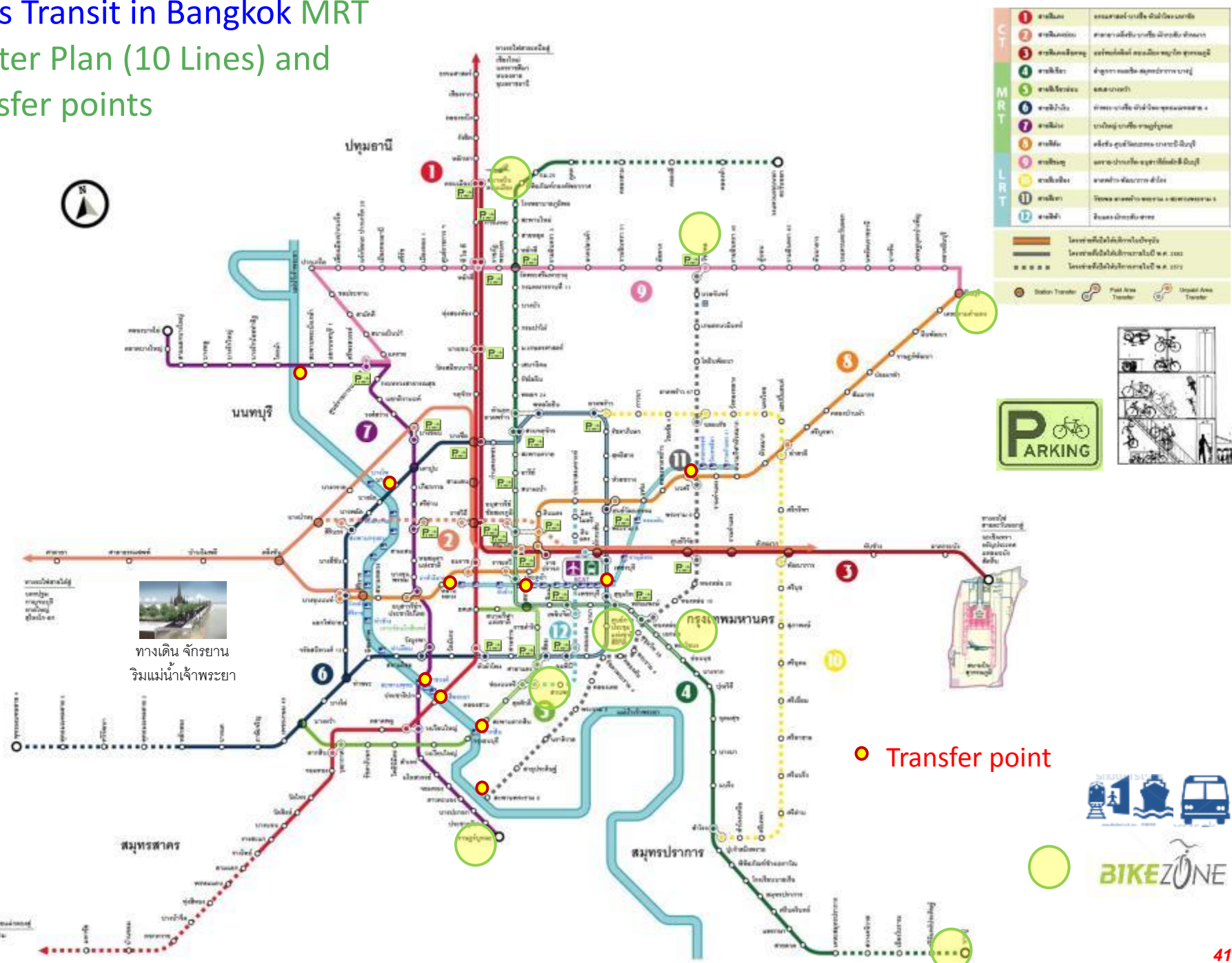


route	km
Red Line (North-South)	80.8
Red Line (East-West)	54
Airport Rail Link	50.3
Dark Green Line	66.5
Light Green Line	15.5
Blue Line (Circle Line)	55
Purple Line	42.8
Orange Line	37.5
Pink Line	36
Yellow Line	30.4
Total	468.8

Source: Office of Transport and Traffic Policy and Planning

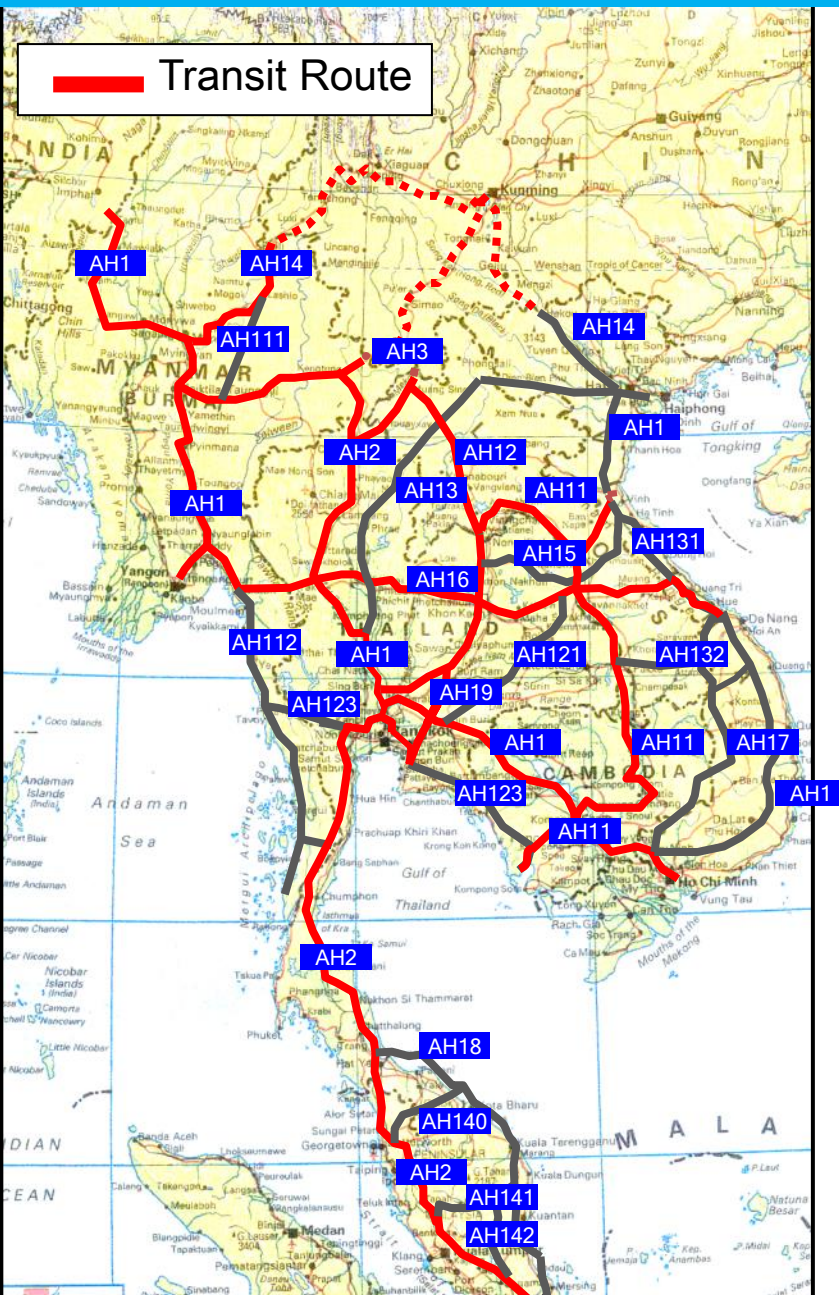
Mass Transit in Bangkok MRT

Master Plan (10 Lines) and transfer points



ทางเดิน จักรยาน
ริมแม่น้ำเจ้าพระยา

● Transfer point



AH in Thailand

12 Routes 6,669 km. :

- 1st class (4 lanes) 4,668 km. or 70%
- 2nd class (2 lanes) 2001 km. or 30%

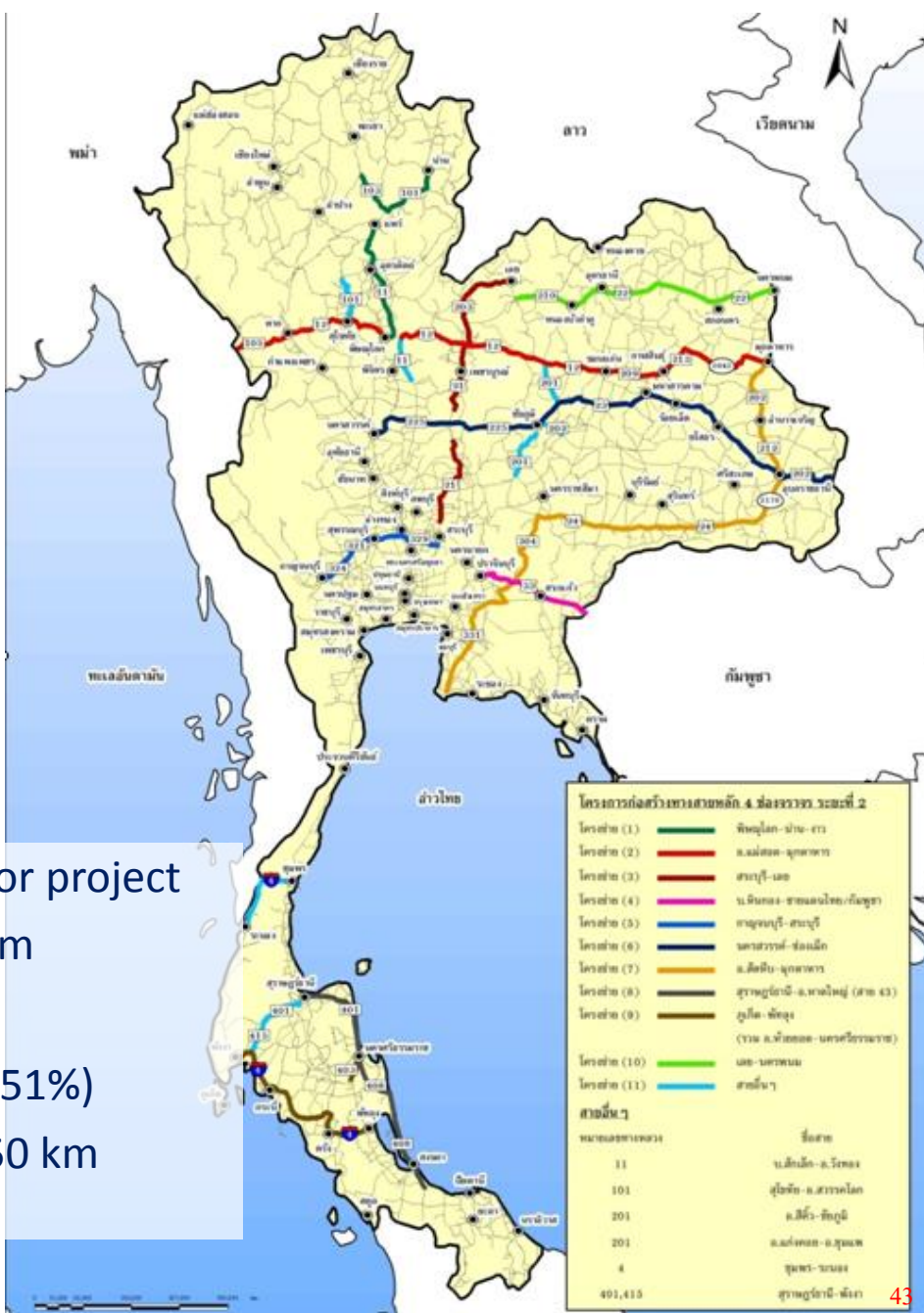
Transit Route in Thailand

AH	Origin / Destination
1	Mae Sod – Aranyaprathet
2	Chiangrai - Sadal
3	Chiangrai - Chiangkong
12	Saraburi – Nongkhi
16	Mae Sod – Mukdahan
19	LCB – Nakhon Ratchasima

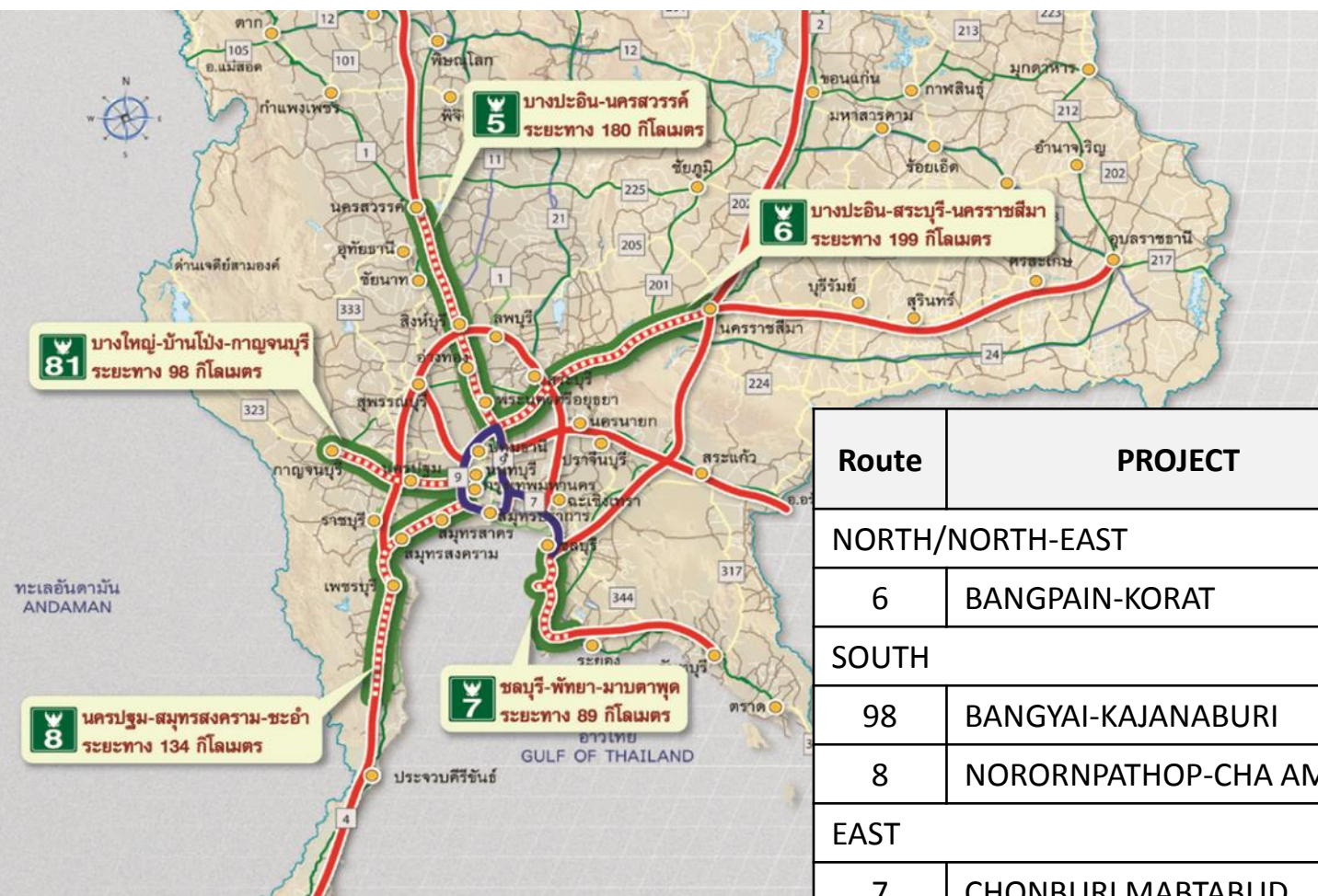
Key Projects: Road Network



- 4 lane on Major corridor project
- Cover 11 routes 5,400 km
- Fiscal budget & Loan
- Completed 2,750 km (51%)
- Under construction 850 km
- Planning 1,800 km

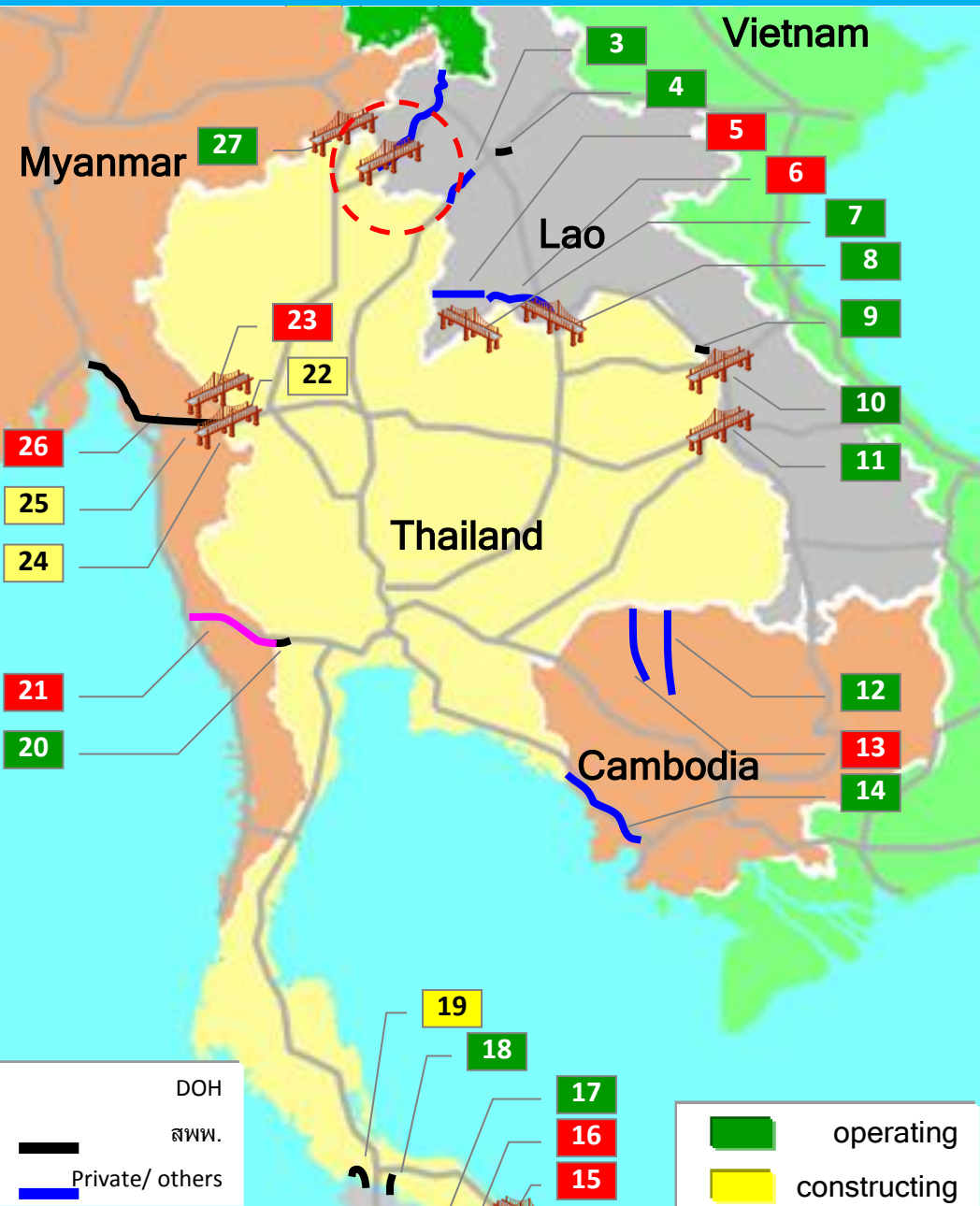


Source: Department of Highway



Route	PROJECT	KM	USD Million
NORTH/NORTH-EAST			
6	BANGPAIN-KORAT	196	1,777
SOUTH			
98	BANGYAI-KAJANABURI	98	792
8	NORORNPATOP-CHA AM	118	1,243
EAST			
7	CHONBURI MABTABUD	89	355
NORTH			
5	BANGPAIN - NAKORNSAWAN	206	1,080
TOTAL		707	5,247

Key Projects: Road Network



ASEAN Connectivity

Thailand - Lao PDR (11 projects)

1. Friendship Bridge 4 (Chiang Khong-Huay Sai)
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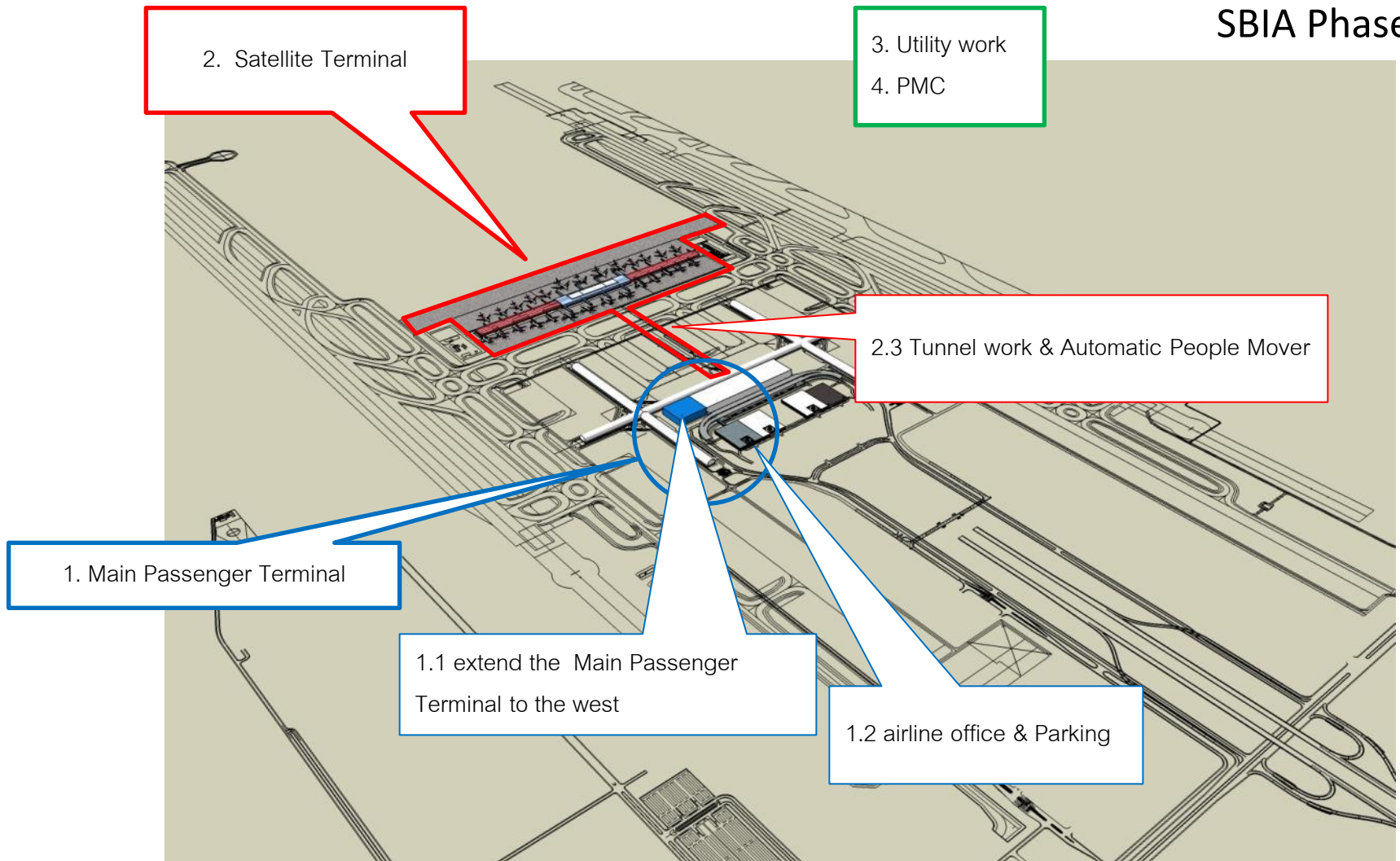
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24. Myawaddy - Dawna Foothill
25. Dwana foot print - Kawkareik
26. Kawkareik - Thaton
27. Friendship Bridge (Mae Sai)

Source: Department of Highway



Development duration : 6 years

Budget : 62,503 million baht (2,016 million USD)

Capacity : 45 MAP to 60 MAP

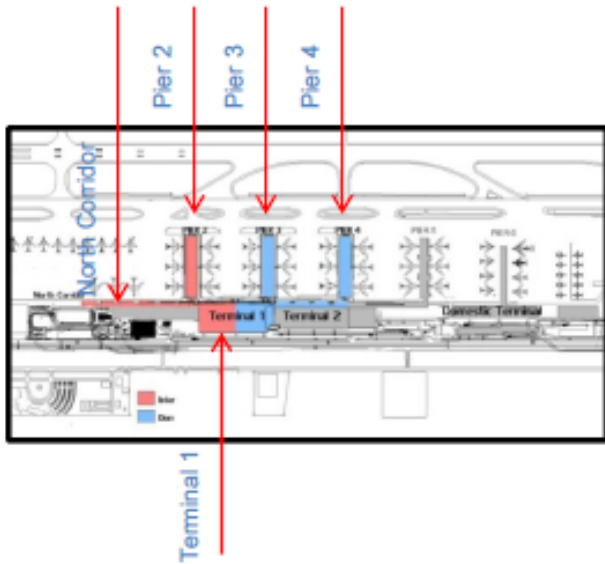
International 48 MAP (present 33 MAP)

2555

ขีดความสามารถ 18.5 MAP

21 Contact gates

- ปรับปรุงพื้นที่ Bus Gate ผู้โดยสารภายในประเทศ
- ปรับปรุงอาคารเทียบเครื่องบิน 4



การพัฒนาระยะที่ 1

ดำเนินการปรับปรุงระหว่างช่วงปี 55

ดำเนินการระหว่างปี 2556-59

ขีดความสามารถ 22.5 MAP

35 Contact gates

- ปรับปรุงอาคารผู้โดยสาร 2
- ปรับปรุงอาคารเทียบเครื่องบิน 5
- ปรับปรุงหลุมจอดประชิดอาคารเทียบเครื่องบิน 3/4 เป็น Code C



การพัฒนาระยะที่ 2

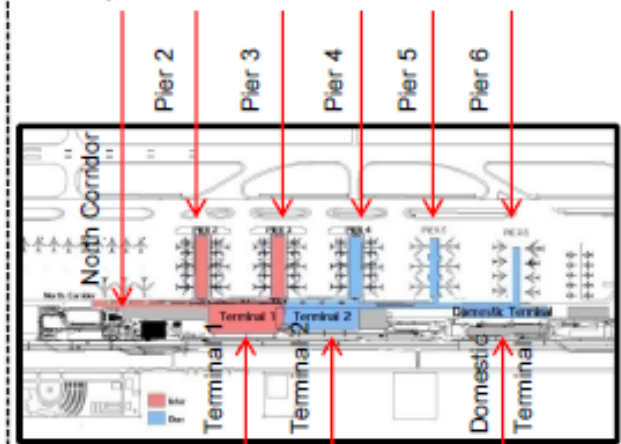
รองรับได้ถึงปี 65

ดำเนินการระหว่างปี 2561-65

ขีดความสามารถ 27.5 MAP

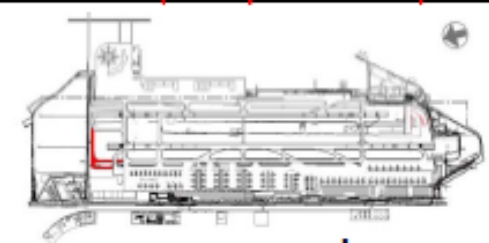
47 Contact gates

- ปรับปรุงอาคารผู้โดยสารผู้โดยสารภายในประเทศ
- ปรับปรุงอาคารเทียบเครื่องบิน 6
- ก่อสร้างทางเชื่อมระหว่างอาคารเทียบเครื่องบิน 5 และ 6
- ปรับปรุงหลุมจอดประชิดอาคารเทียบเครื่องบิน 2 เป็น Code C
- ปรับปรุงขีดความสามารถทางวิ่ง โดยการก่อสร้างทางขับเชื่อม



การพัฒนาระยะที่ 3

รองรับได้ถึงปี 70



- Present :
- Detailed Design
 - EIA Study
 - **Ready for Bidding**
 - 3.5 Yrs Construction
 - USD 1,066 Million

Airport Rail Link



Route Map



Phase 1 : 4.0 M.TEUs/year

Phase 2: 6.8 M.TEUs/year

Phase 3: 8.0 M.TEUs/year



Total Capacity (Phase I + Phase II + Phase III)

Container : 18.8 m.TEUs.

Vehicles : 1.95 m. Units

General Cargo : 2.568 m.Metric Tons

Key Projects: Dawei Port



Key Projects: Dawei Port

Effective Link for ASEAN Connectivity

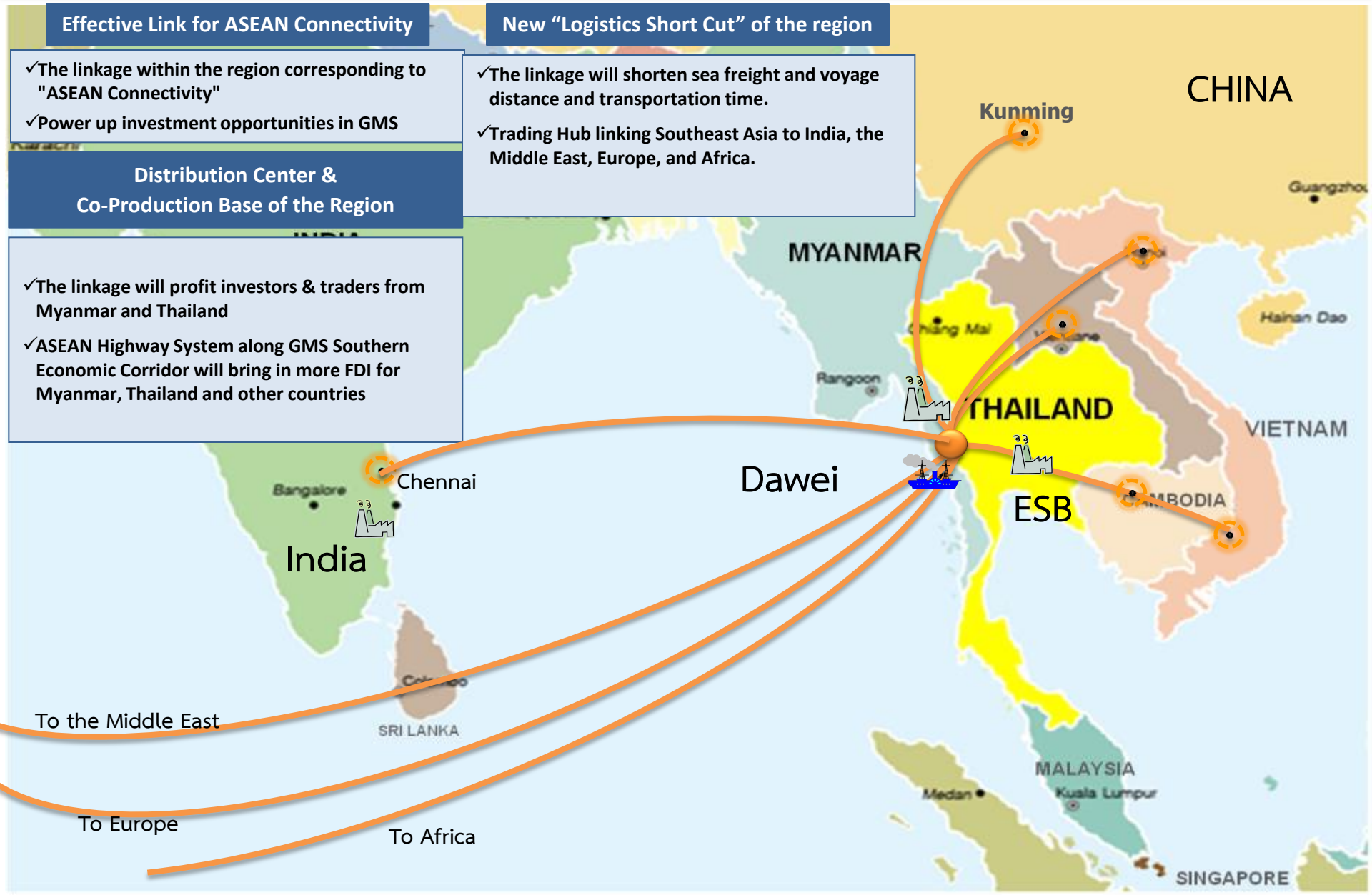
- ✓The linkage within the region corresponding to "ASEAN Connectivity"
- ✓Power up investment opportunities in GMS

New "Logistics Short Cut" of the region

- ✓The linkage will shorten sea freight and voyage distance and transportation time.
- ✓Trading Hub linking Southeast Asia to India, the Middle East, Europe, and Africa.

Distribution Center & Co-Production Base of the Region

- ✓The linkage will profit investors & traders from Myanmar and Thailand
- ✓ASEAN Highway System along GMS Southern Economic Corridor will bring in more FDI for Myanmar, Thailand and other countries



Key Projects: Pak Bara Port



To Africa, Middle East, Europe, USA

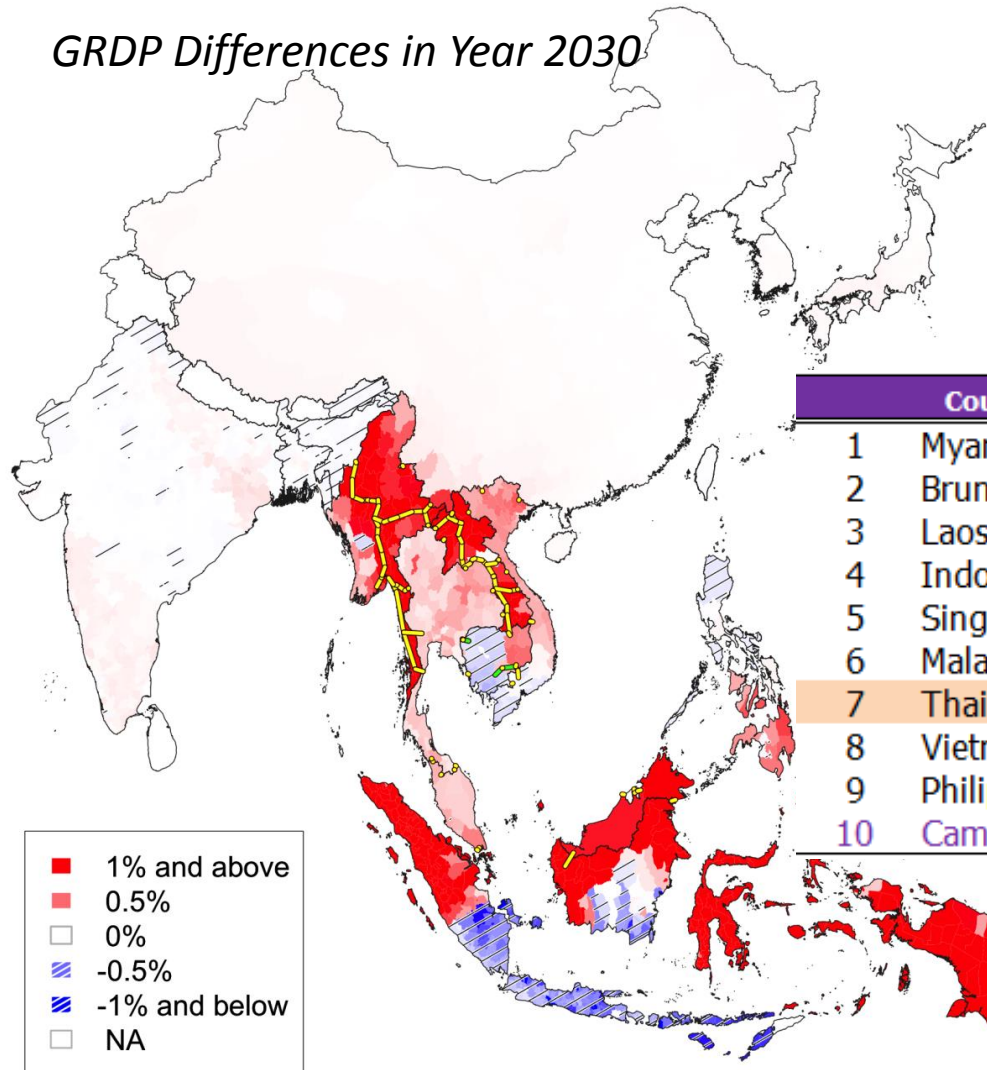
To China, Japan, America



Impact of the program to
the regional economy

Impact of the program to the regional economy

GRDP Differences in Year 2030



This scenario shows the economic impacts of **AEC comparing without AEC.**

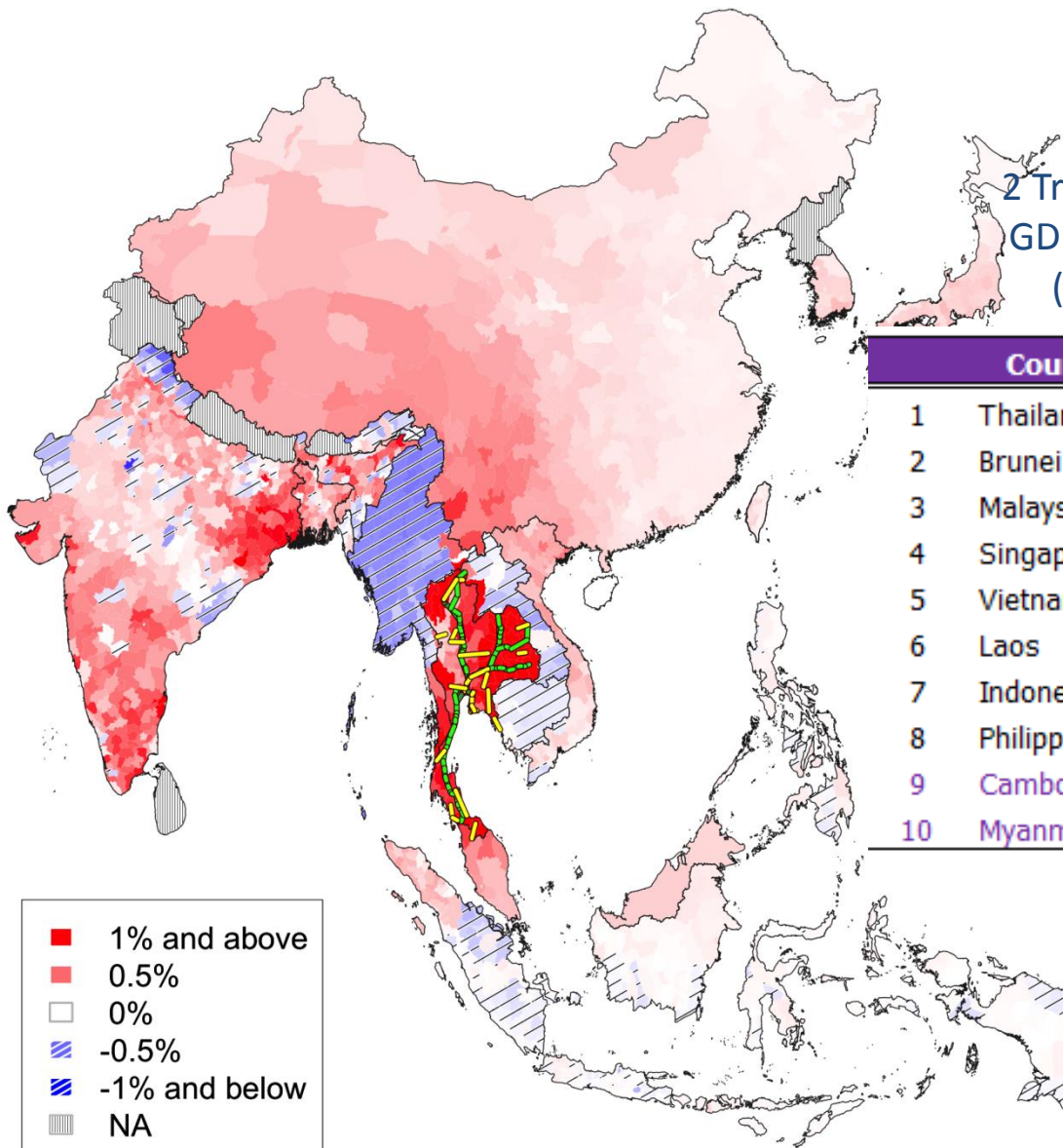
AEC impact on overall ASEAN members GDP about 26,298 Million USD or +0.32% GDP

Country			Country			
	Country	% GDP		GDP (M.USD)	%	
1	Myanmar	2.29%	1	Indonesia	12,582	47.8%
2	Brunei	2.12%	2	Myanmar	5,876	22.3%
3	Laos	1.16%	3	Malaysia	2,361	9.0%
4	Indonesia	0.39%	4	Singapore	2,189	8.3%
5	Singapore	0.36%	5	Thailand	1,806	6.9%
6	Malaysia	0.26%	6	Laos	654	2.5%
7	Thailand	0.05%	7	Brunei	500	1.9%
8	Vietnam	0.05%	8	Vietnam	316	1.2%
9	Philippines	0.01%	9	Philippines	60	0.2%
10	Cambodia	-0.02%	10	Cambodia	-45	

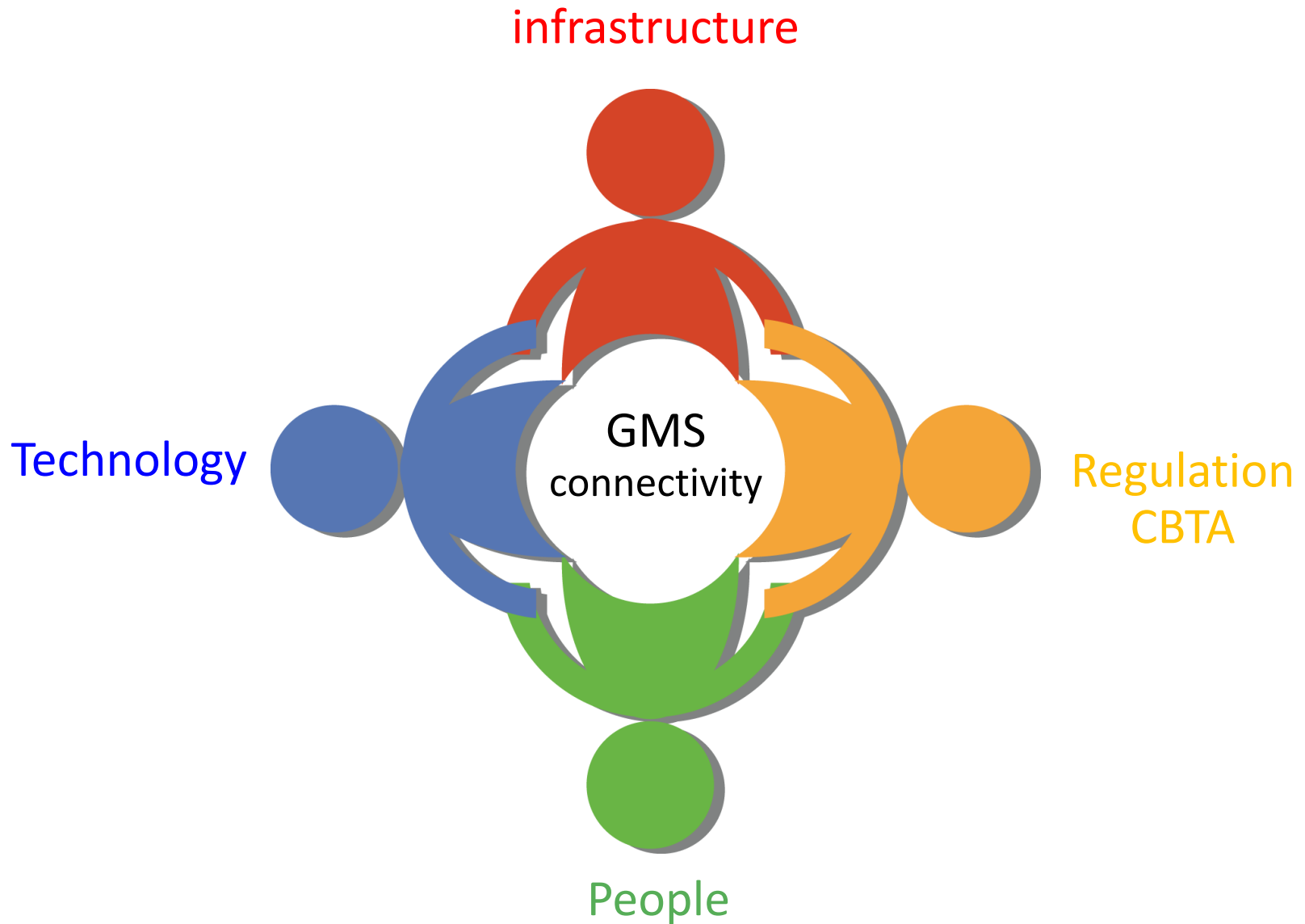
Impact of the program to the regional economy

This scenario shows the economic impacts of 2 Trillion Program after AEC
ASEAN Perspective

2 Trillion will impact on overall ASEAN members
GDP about **11,973 Million USD** or **+0.16% GDP**
(Note; AEC Impact +0.32% GDP of ASEAN)



	Country	% GDP		Country	GDP (M.USD)	%
1	Thailand	0.67%	1	Thailand	6,561	55%
2	Brunei	0.51%	2	Malaysia	2,447	20%
3	Malaysia	0.28%	3	Indonesia	1,182	10%
4	Singapore	0.18%	4	Singapore	1,060	9%
5	Vietnam	0.14%	5	Vietnam	1,005	8%
6	Laos	0.07%	6	Philippines	287	2%
7	Indonesia	0.04%	7	Brunei	117	1%
8	Philippines	0.04%	8	Laos	34	0%
9	Cambodia	-0.02%	9	Cambodia	-18	0%
10	Myanmar	-0.28%	10	Myanmar	-702	-6%





Thank you