



Government of the Republic of the
Union of Myanmar
Ministry of Construction



POTENTIAL ROAD INFRASTRUCTURE INVESTMENT IN MYANMAR

1ST ASEAN-ROK Infrastructure Ministers' Meeting
Global Infrastructure Cooperation Conference (GICC)

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Seoul



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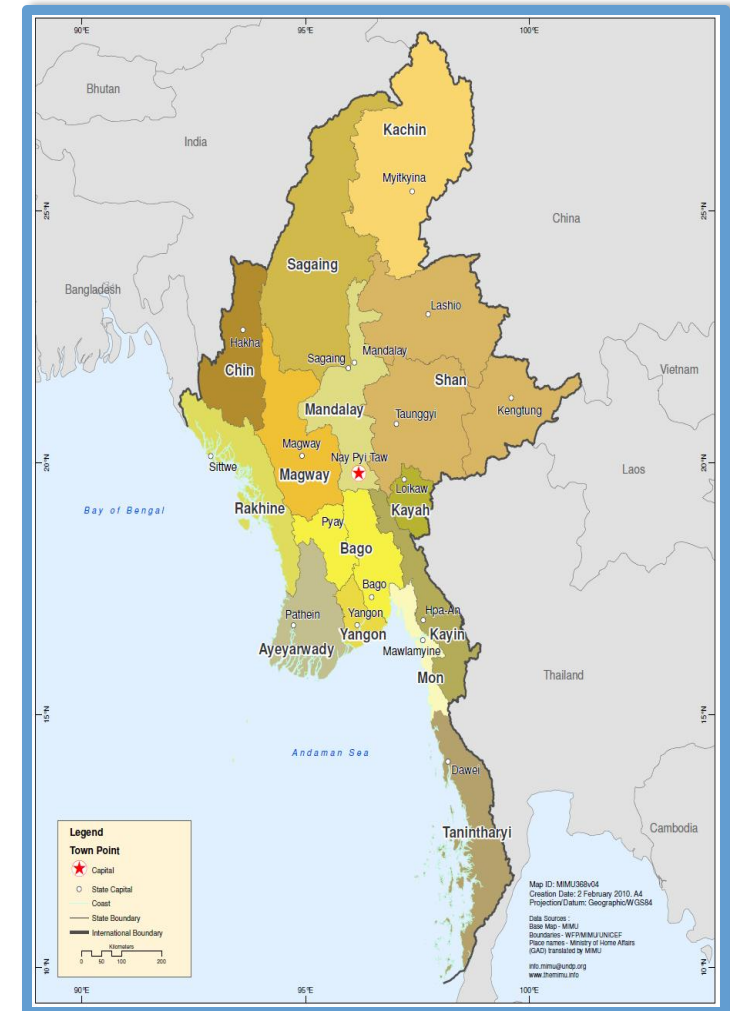
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- (2) Infrastructure Investment Needs in Myanmar
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- (3) Project Implementation Models
- (4) Potential Projects

1. Myanmar Background

Myanmar Background

- Population of 53 million (2016)
- GDP of US\$67 billion (2016) and growing at 6.5%
- GDP per capita of US\$1,275 (2016)
- Bordered by India, China, Thailand, Bangladesh, and Laos
- JICA study estimates US\$48 billion in investment in transport infrastructure is needed over the next decade



2. Infrastructure Investment Needs in Myanmar

- ❑ Demand and Supply Analysis
- ❑ Economic Analysis
- ❑ Standardization Analysis
- ❑ Sources of Fund

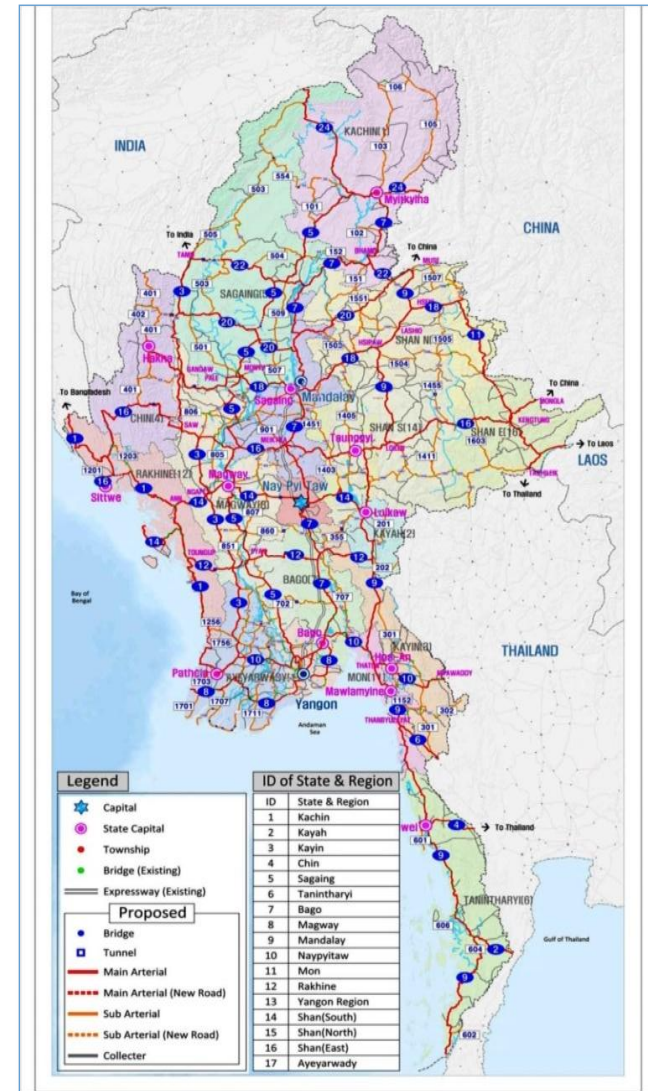
Demand & Supply Analysis

Arterial Road Networks Master Plan (2030)

- Arterial Road Networks Master Plan 2030 is drawn by Ministry of Construction and KOICA.
- US\$ 41,530 million ⇒ could be evaluated as ‘positive development’
 - Positive development: *Transport infrastructure is leading economic development*

Road Class	Total		20yrs (2016~2035)		P1 (2016~2020)		P2 (2021~2025)		P3 (2026~2030)	
	Length	Cost	Length	Cost	Length	Cost	Length	Cost	Length	Cost
Expressway	9,470 (597)	50,941 (1,172)	3,879 (597)	18,424 (1,172)	558	2,886	1,165 (364)	5,722 (871)	2,156 (233)	9,816 (301)
Main Arterial	13,224	27,617	9,029	18,282	2,794	5,784	2,062	3,455	4,173	9,043
Sub Arterial	11,684	25,461	2,429	4,824	347	525	694	1,091	1,388	3,208
Sum	34,378	104,019	15,337	41,530	3,699	9,195	3,921	10,268	7,717	22,067
Proper Investment based on GDP:				41,106		8,349		9,331		23,427

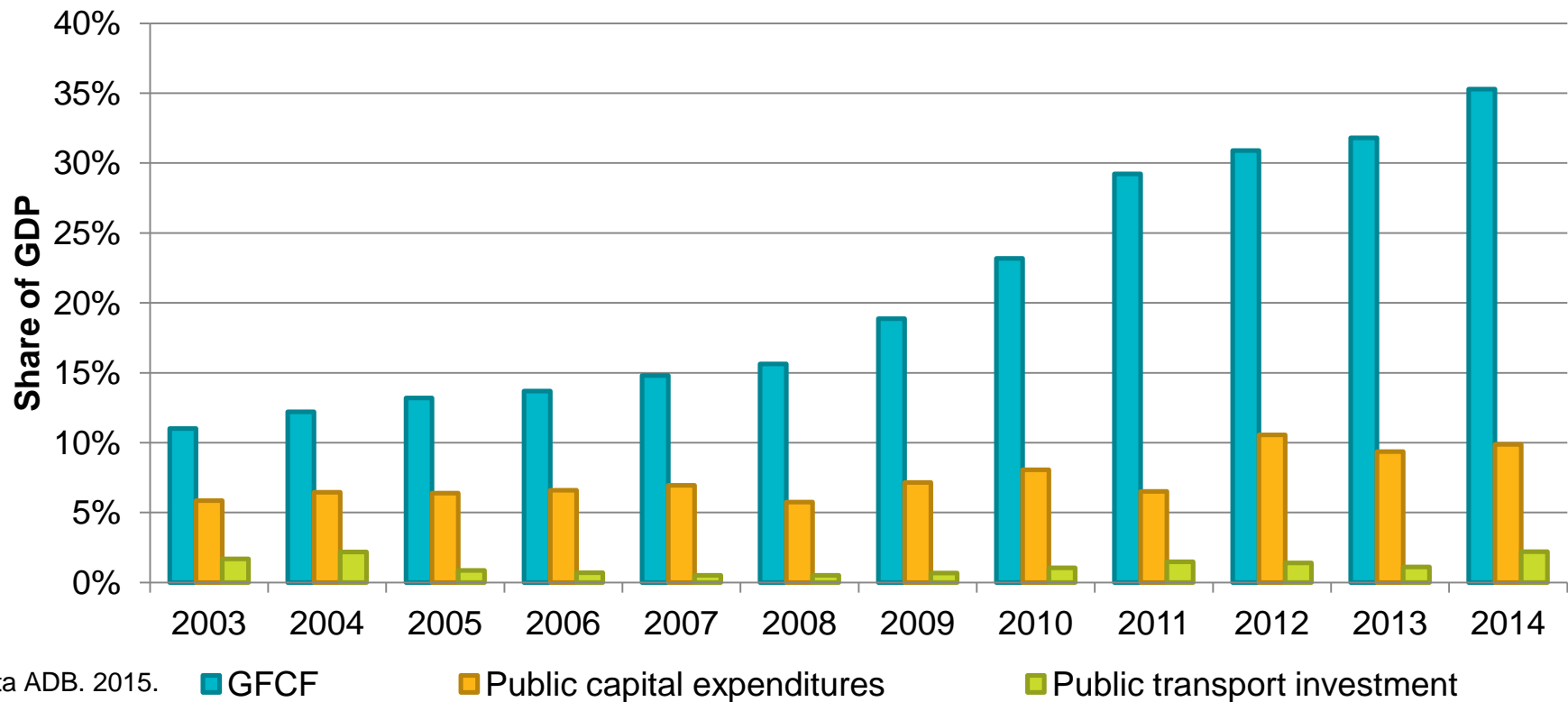
Note : () stands for the cost and the length for improvement of the existing expressway



Economic Analysis

GDP & Capital Investment

- 8% GDP growth rate requires Myanmar to invest (GFCF) 30%+ of its GDP
- Fast growing Asian countries dedicated 10-15% of GFCF to transport (3-4% of GDP)



Source: Data ADB. 2015.

■ GFCF

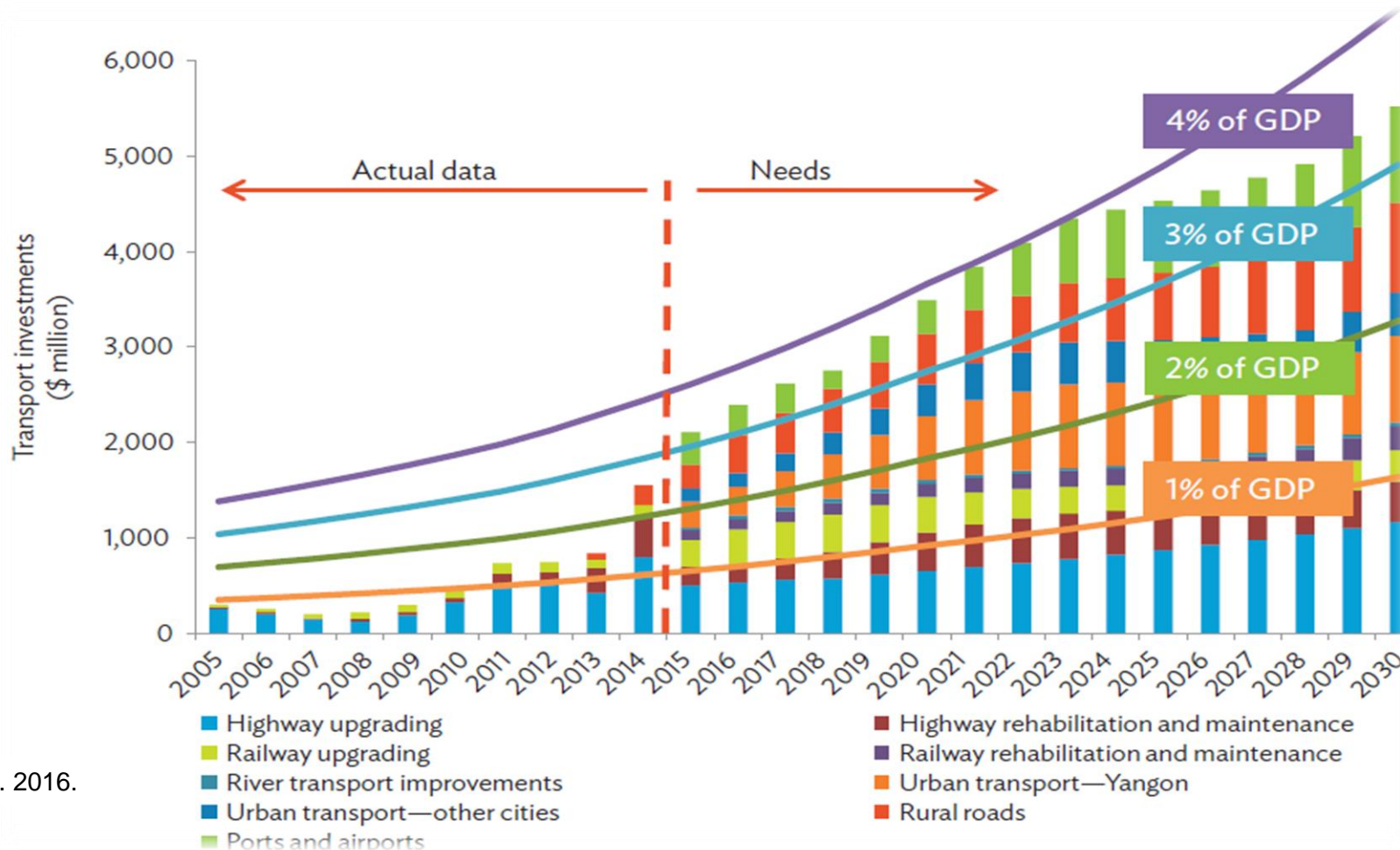
■ Public capital expenditures

■ Public transport investment

- Myanmar's GFCF has increased in last 10 years
- Transport spending has lagged behind and could soon limit growth potential.

Economic Analysis

GDP & Capital Investment



Source: Data ADB. 2016.

- Transport investments need to rise from 1–1.5% to 3–4% of GDP

Economic Analysis

Needs for Myanmar Infrastructure

Development

\$35 billion infrastructure investment requirement by 2025

- Highways : \$10.5 billion
- Rural roads : \$ 5.4 billion
- Urban transport : \$ 9.9 billion
- Railways : \$ 4.9 billion
- Ports & airports : \$ 4.6 billion

Maintenance and investment needs:
\$35.7 Billion
(2016–2025)

Source: Data ADB. 2016.

- River transport : \$ 0.4 billion

- \$45 to \$60 billion transport investment needs by 2030

Standardization Analysis

MOC's Vision 2030

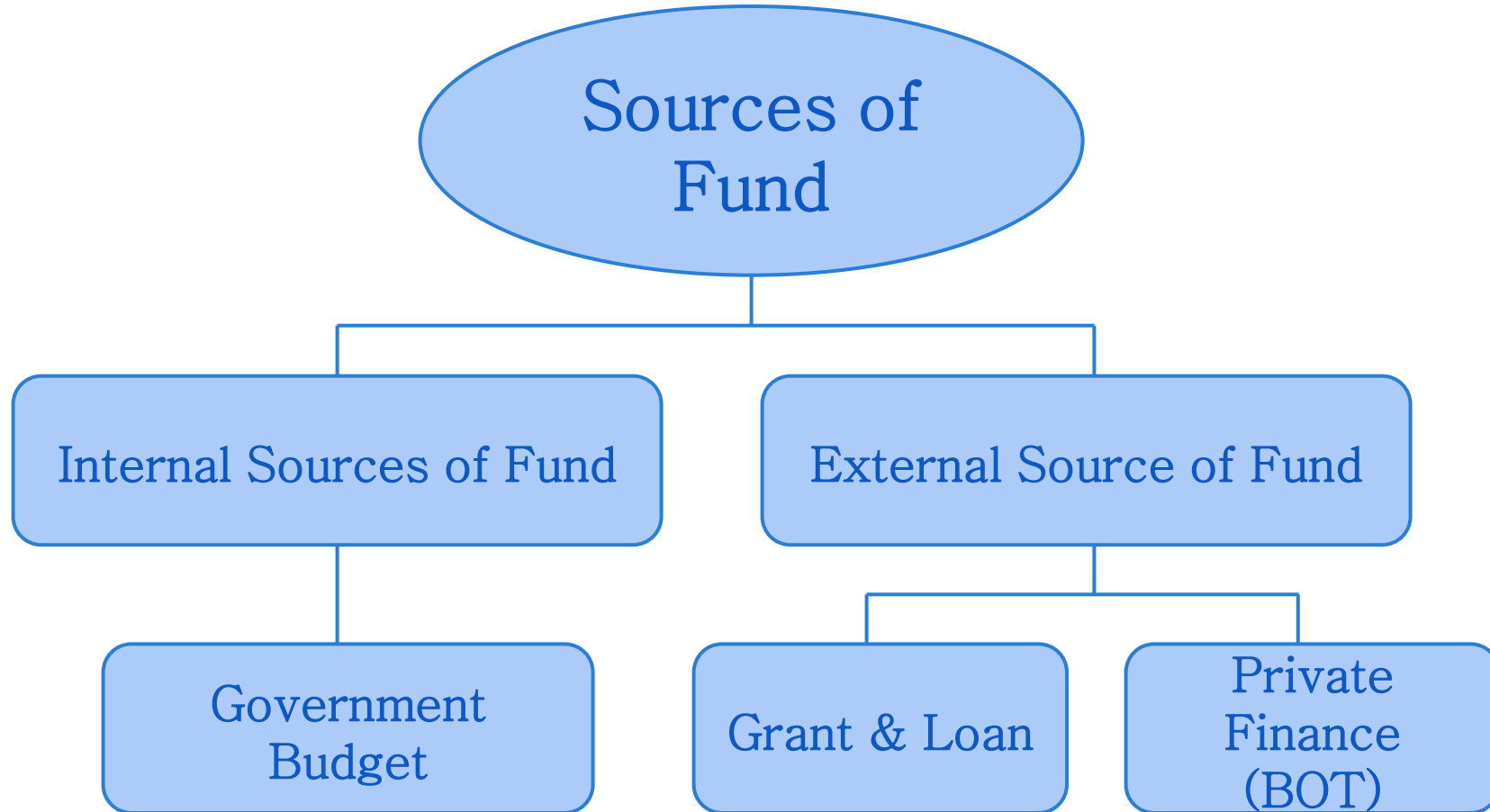
Road and Bridge Infrastructure Investment Plan

The purpose of MOC's Vision 2030 is to upgrade the Myanmar's Road Network to meet the ASEAN Class III Standard in 2030.

No	Department	Project Cost (Billion)			
		Phase I (2016-2020)	Phase II (2021-2015)	Phase III (2026-2030)	Total
1	Department of Highway	7870.025	8550.092	12297.816	28717.933
2	Department of Bridge	2370.00	1123.00	2057.00	5550.00
3	Department of Rural Road Development	2259.455	3431.675	3294.275	8985.405
	Total (MMK)	12499.48	13104.762	17649.091	43253.333
	Total (US\$)	9.26	9.71	13.07	32.04

Source : Integrated Master Plan, MOC

Sources of Fund

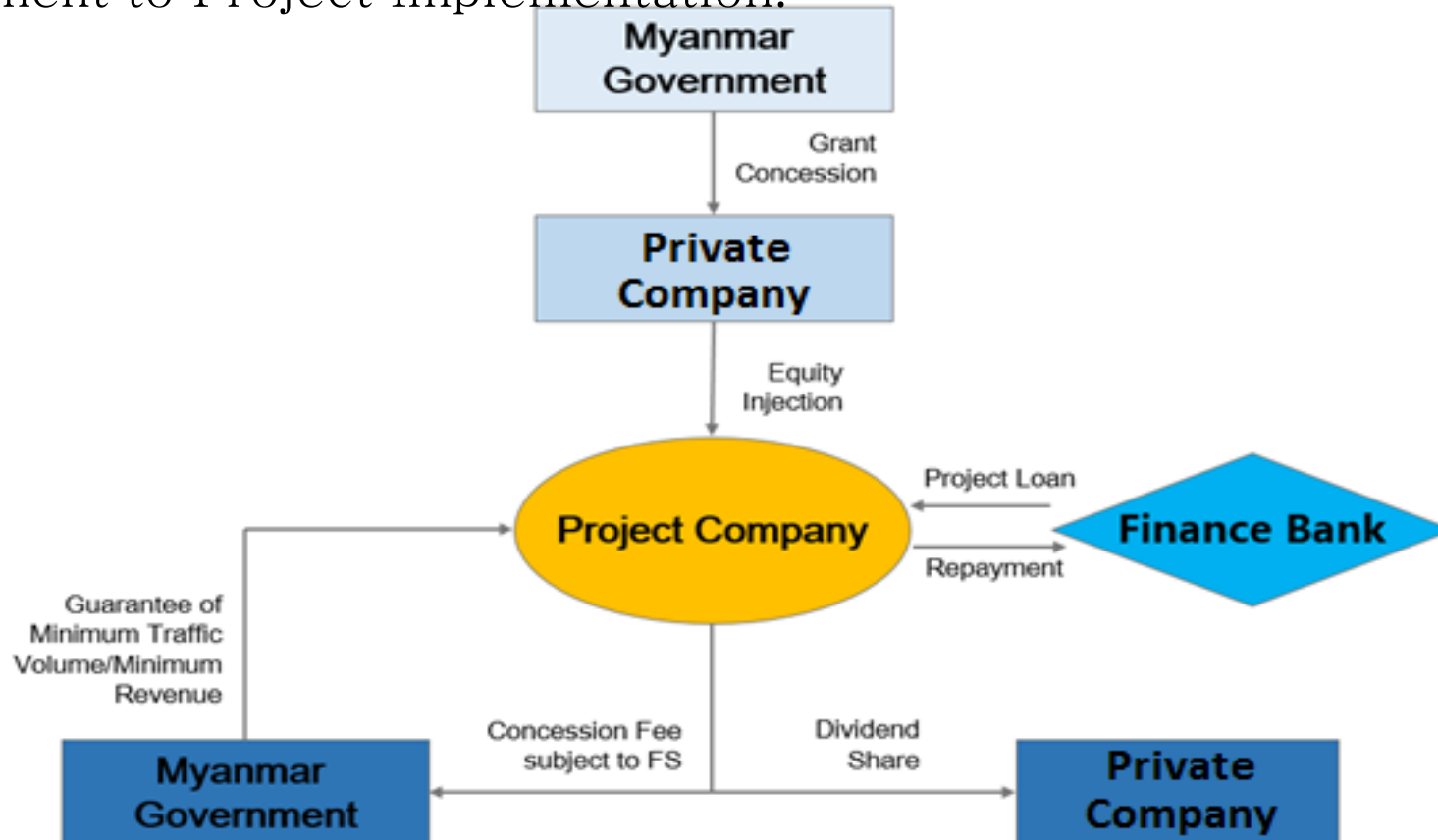


3. Project Implementation Models

- ❑ Pure BOT
- ❑ PPP
- ❑ G2G
- ❑ Mixed G2G + PPP

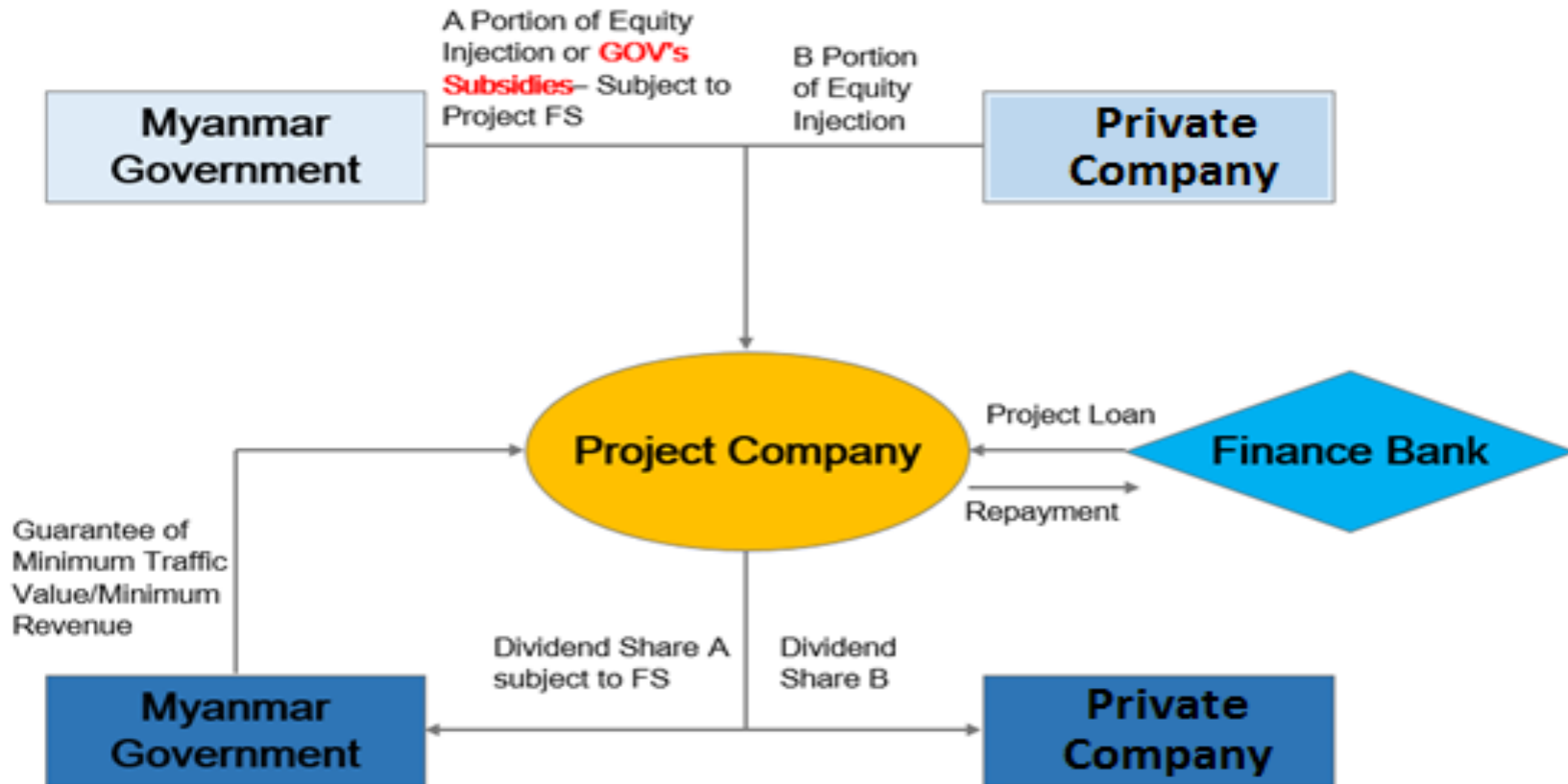
Pure BOT Model

Key Advantage: Government's Certain Subsidies Contribution to Make the Project Financially Viable to further attract Private Sector's Investment to Project Implementation.



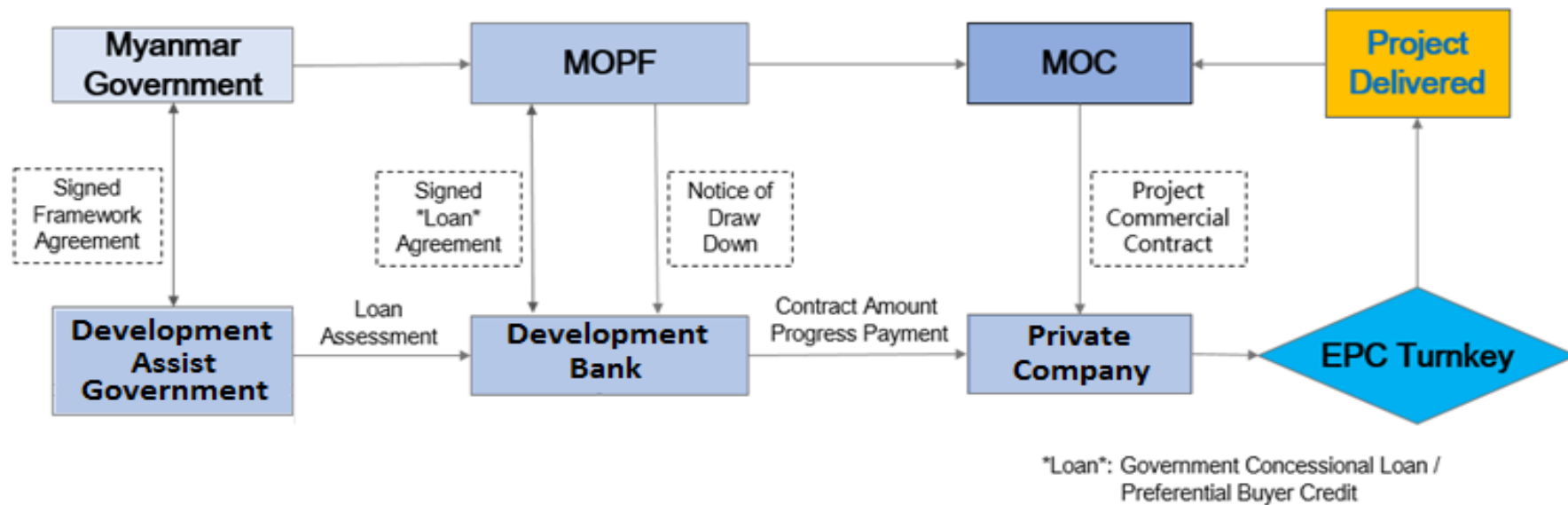
PPP Model

Key Advantage: Project itself is financially viable, Private Sector's Investment for Project Implementation which will reduce Government's Finance Overburden.



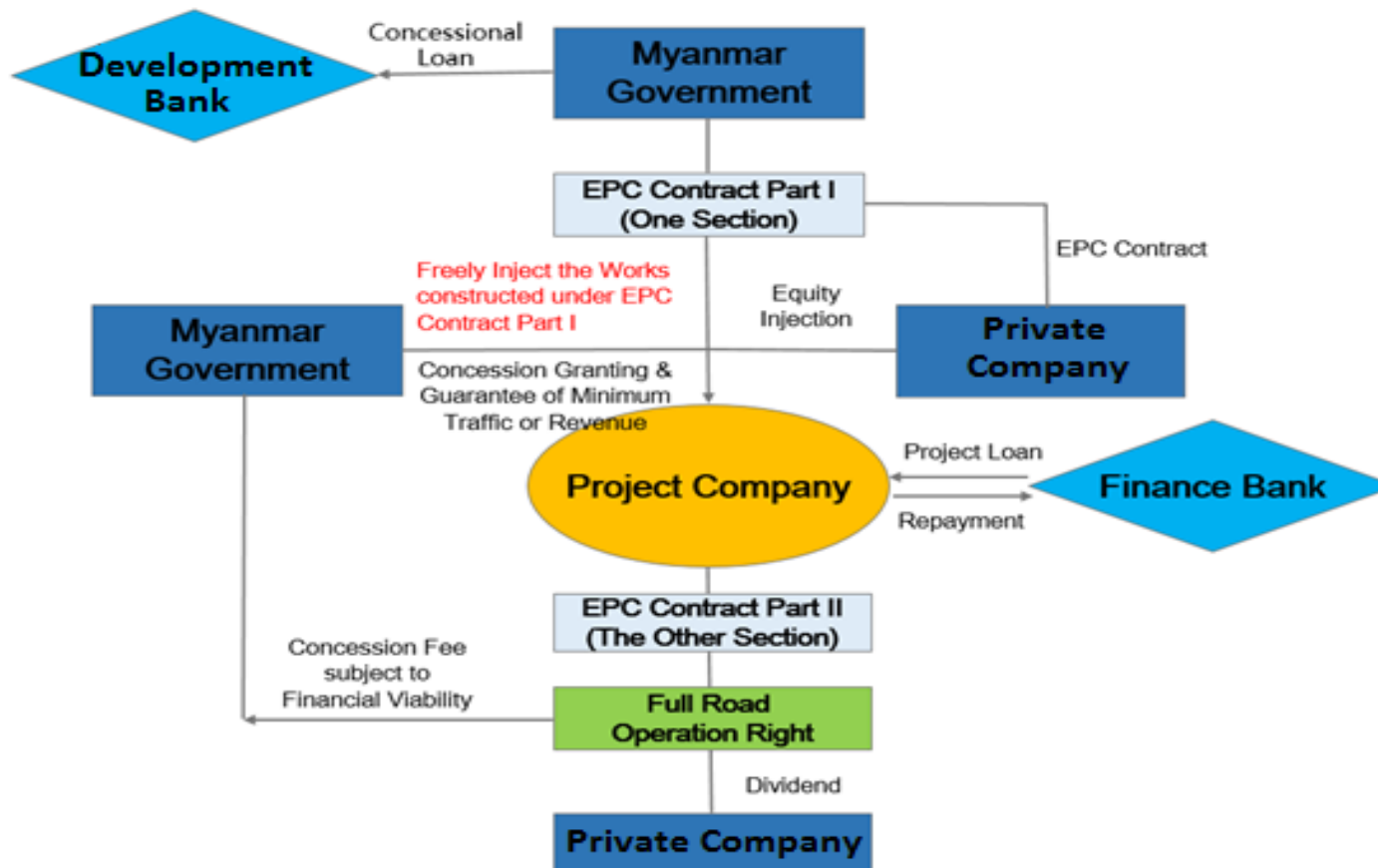
G2G Model

Key Advantage: Fast Process for Project Implementation by Government's Direct Loan from Development Partner. The development partner is giving Larger Scale of Concessional Loan/Preferential Buyer's Credit Facilities to Support the Project Implementation



Mixed G2G + PPP Model

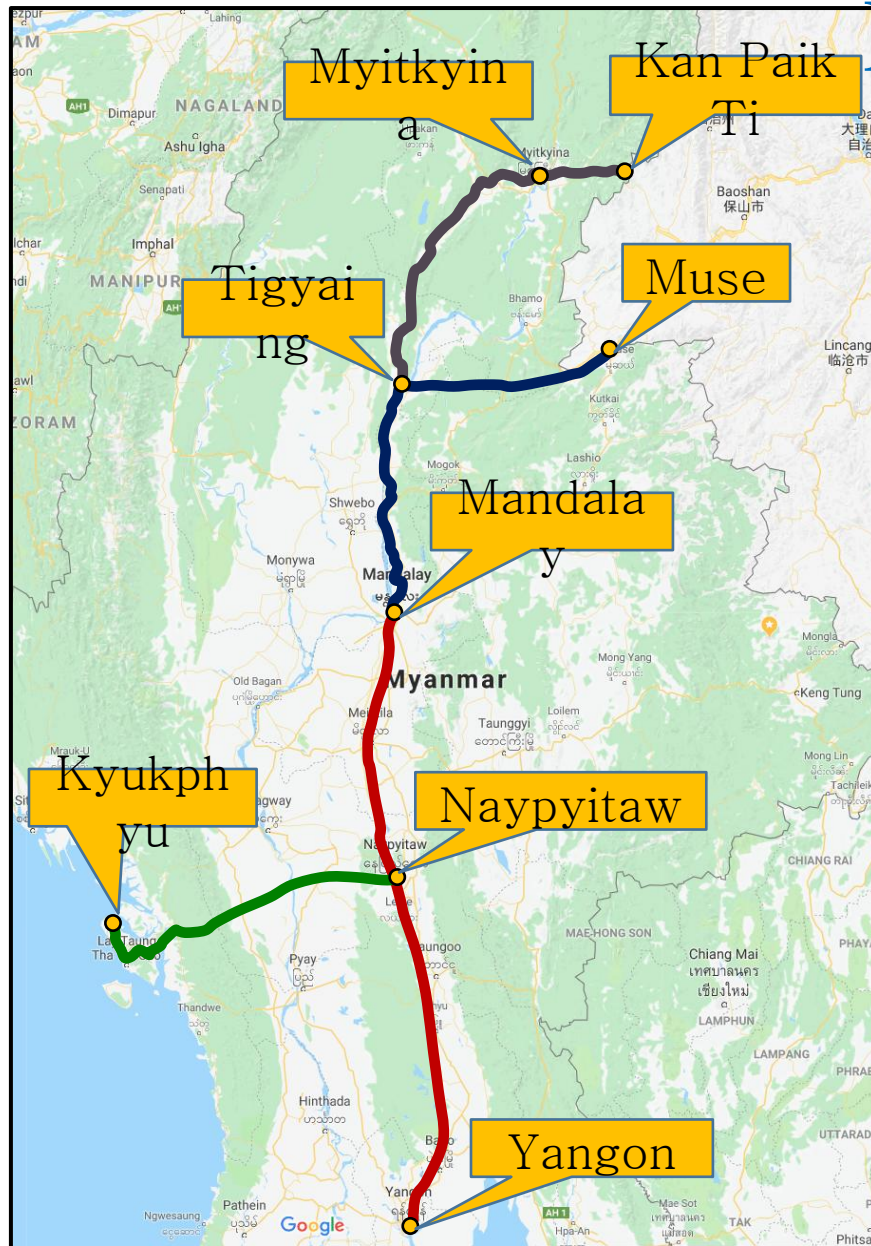
Key Advantage: Give the Solution for Government to Solve the Funding Source by G2G Model for Government's Subsidies and Further Implement the Full Project through PPP Model.



4. Potential Projects

- ❑ Myanmar Expressway Network
- ❑ Ring Roads in Yangon
- ❑ GMS Highway Modernization Project

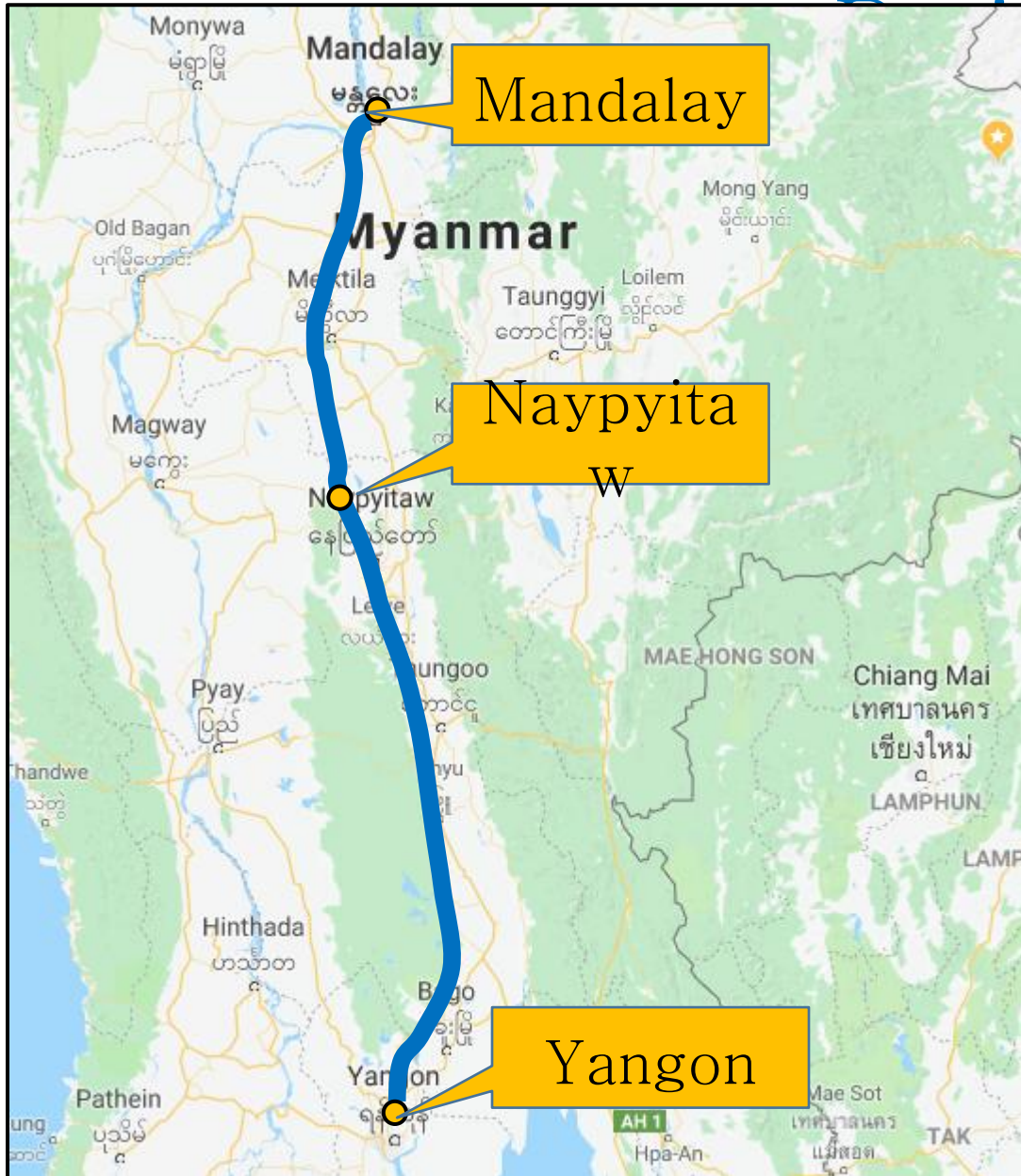
Strategy Map of Myanmar Expressway Network



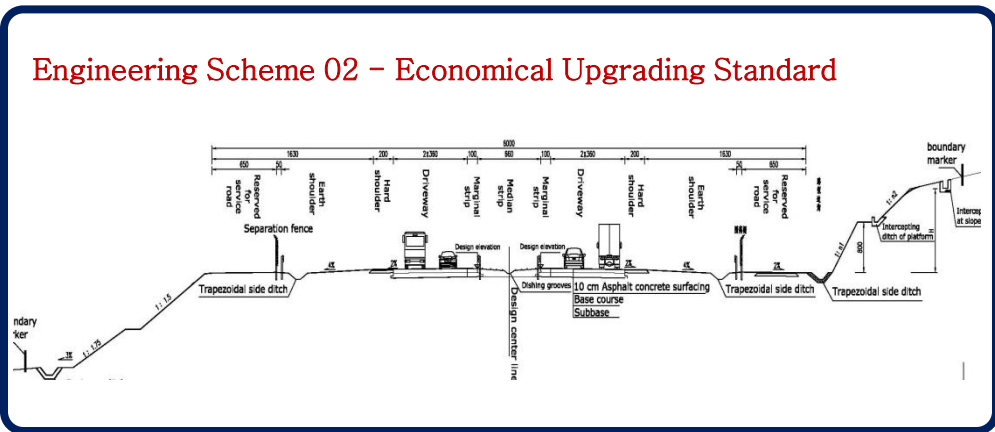
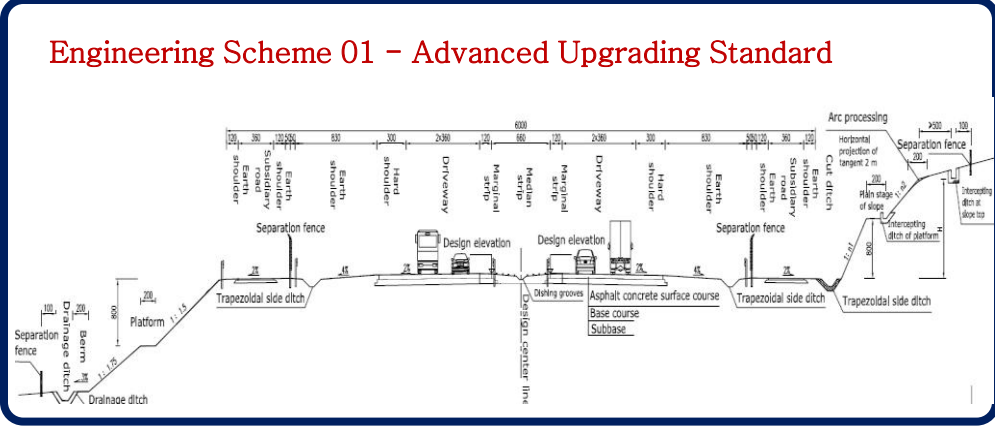
Network

- Yangon - Mandalay Expressway
- Mandalay - Tigyain - Muse
- Expressway
- Tigyain - Myitkyin - Kan Paik Ti Expressway
- Naypyitaw - Kyukphyu Expressway

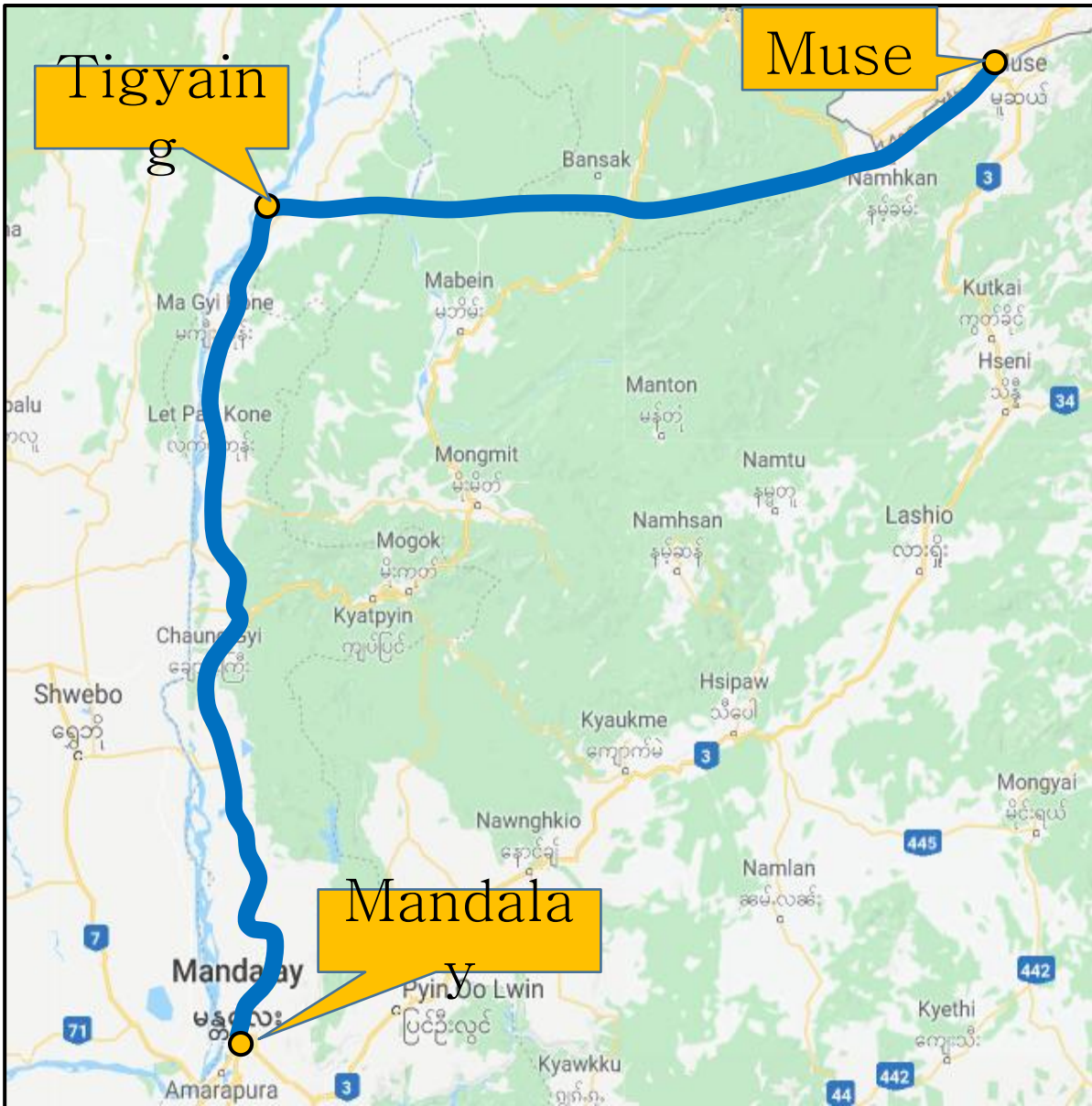
Yangon-Mandalay Expressway Upgrading



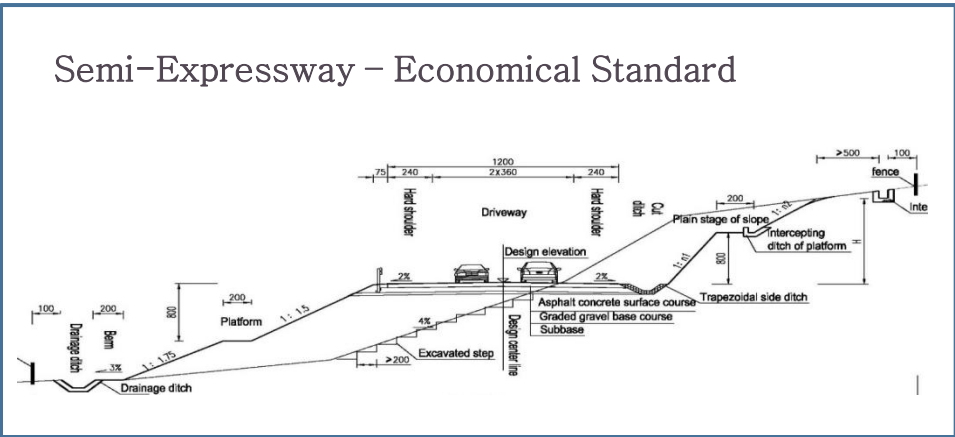
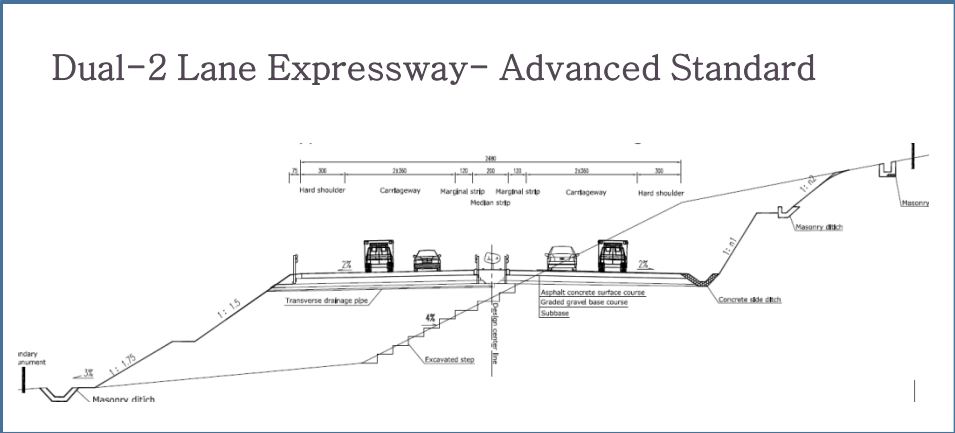
- Length - 589 km
- Standard - 4 Lane Expressway
- Current Situation - 4 Lane Concrete Highway.
Done Pre-F.S by KOICA, CRBC, CHEC.
Now doing detail F.S by KOICA
- Driving hours - 6 hrs
- Preparing to call the Investment by PPP (Pure BOT)



Mandalay- Tigyaing - Muse Expressway

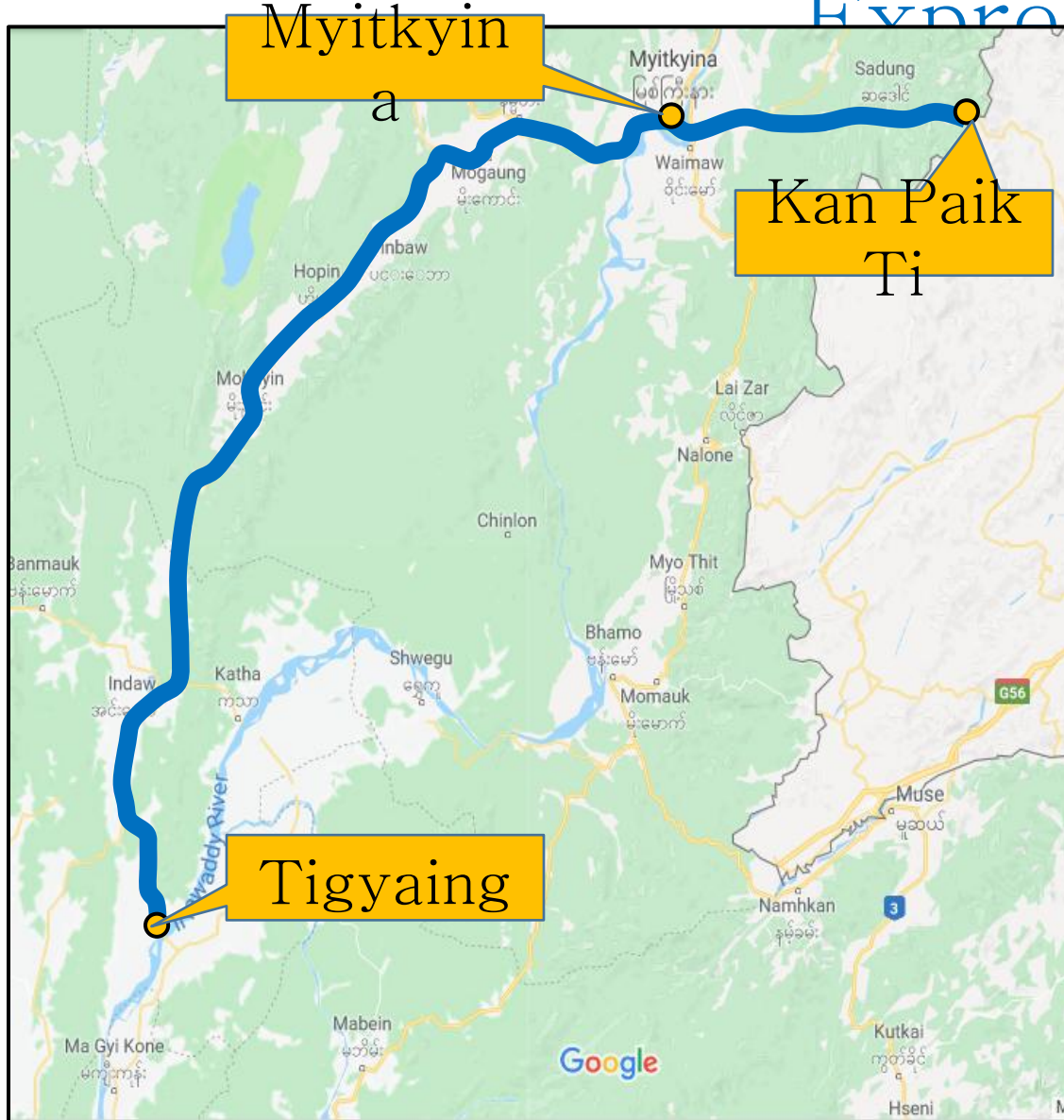


- Length - 408.3 km
- Standard - 4 Lane Via Duct Expressway,
- Current Situation - Doing the detail F.S by CHEC
- Driving hours - 4:30 hrs
- Business Model - Pure BOT or PPP or



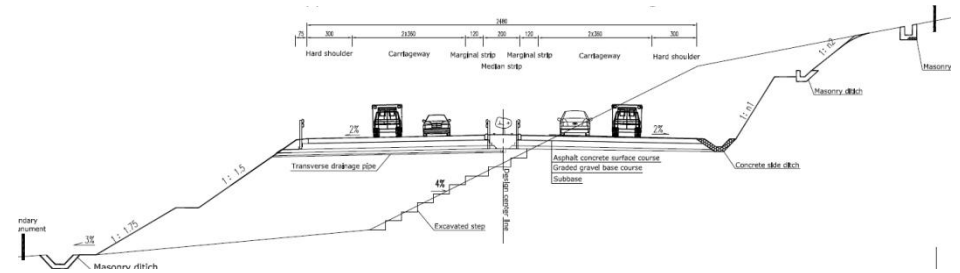
Tigyaing – Myitkyina – Kan Paik Ti

Expressway

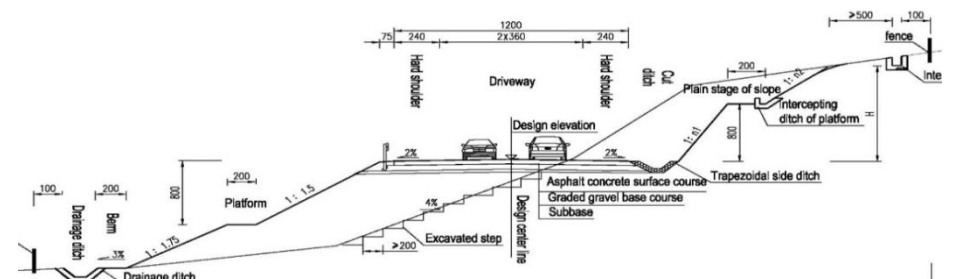


- Length – 420 km
- Standard – 4 Lane Via Duct Expressway
- Current Situation – Done Pre-F.S by CRBC
- Driving hours – 4:30 hrs
- Business Model – Pure BOT or PPP or G2G+ PPP

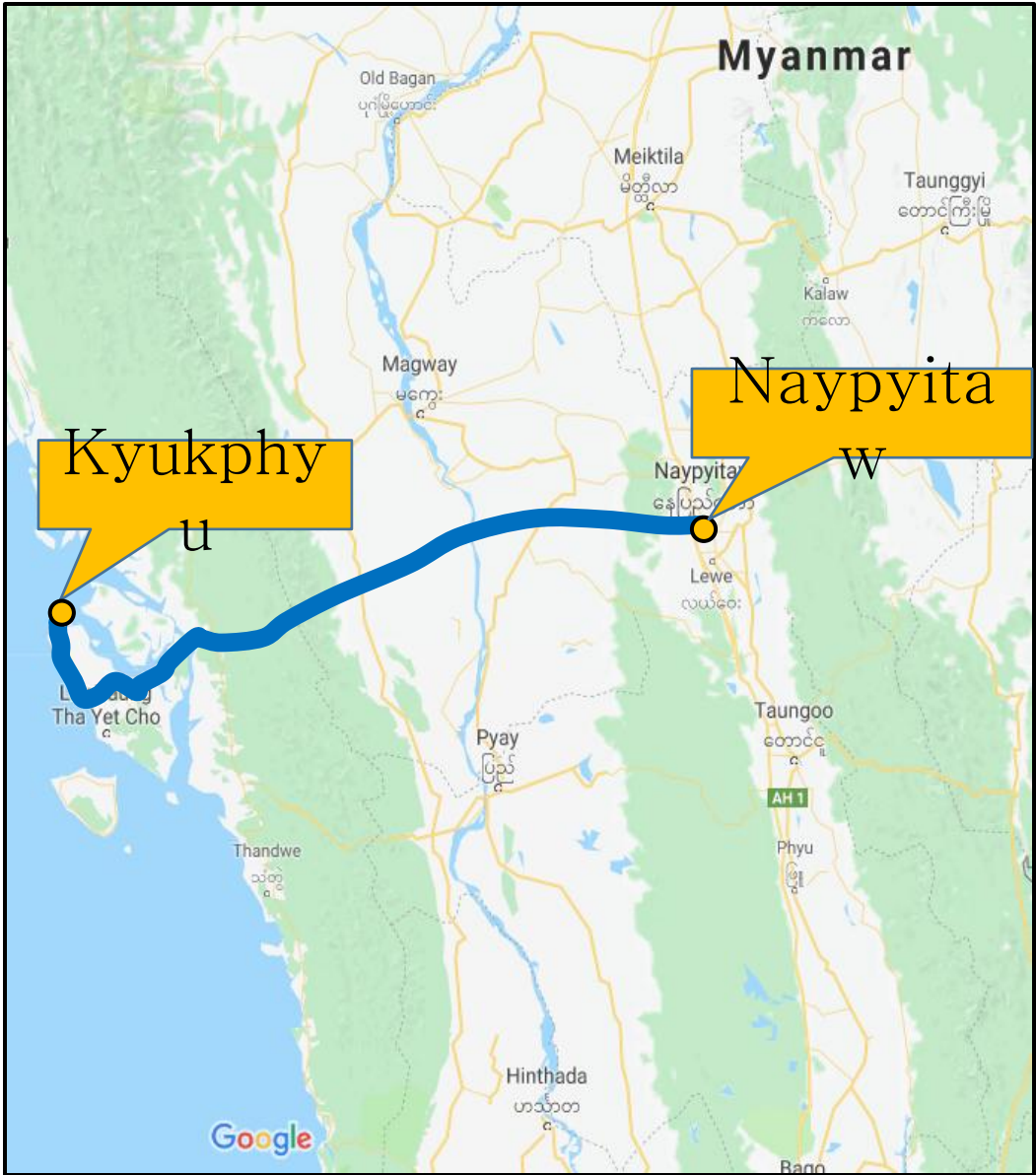
Dual-2 Lane Expressway- Advanced Standard



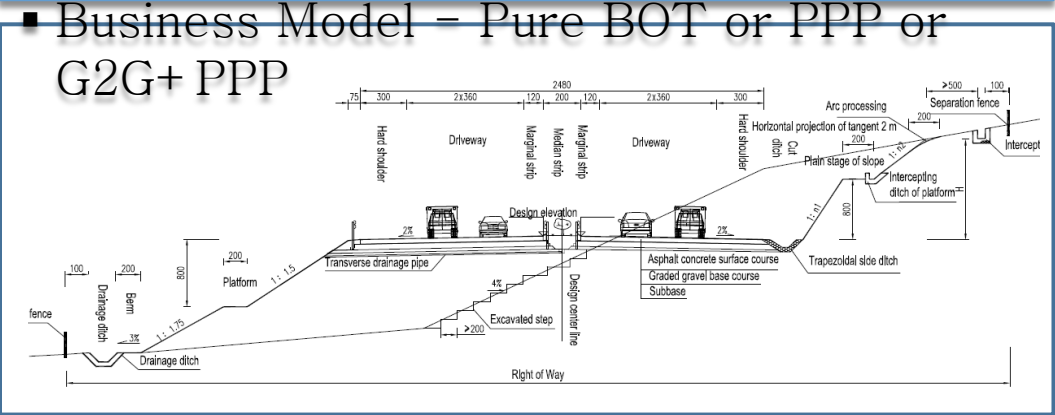
Semi-Expressway – Economical Standard



Napyitaw – Kyaukphyu Expressway



- Length – 256.1 km
- Standard – 4 Lane Via Duct Expressway
- Current Situation – Doing the detail F.S by CHEC
- Driving hours – 3 hrs



Could be an extra-long tunnel across Rakhaing Mountain (Around 16km)

Ring Roads in Yangon

Outer Ring Road

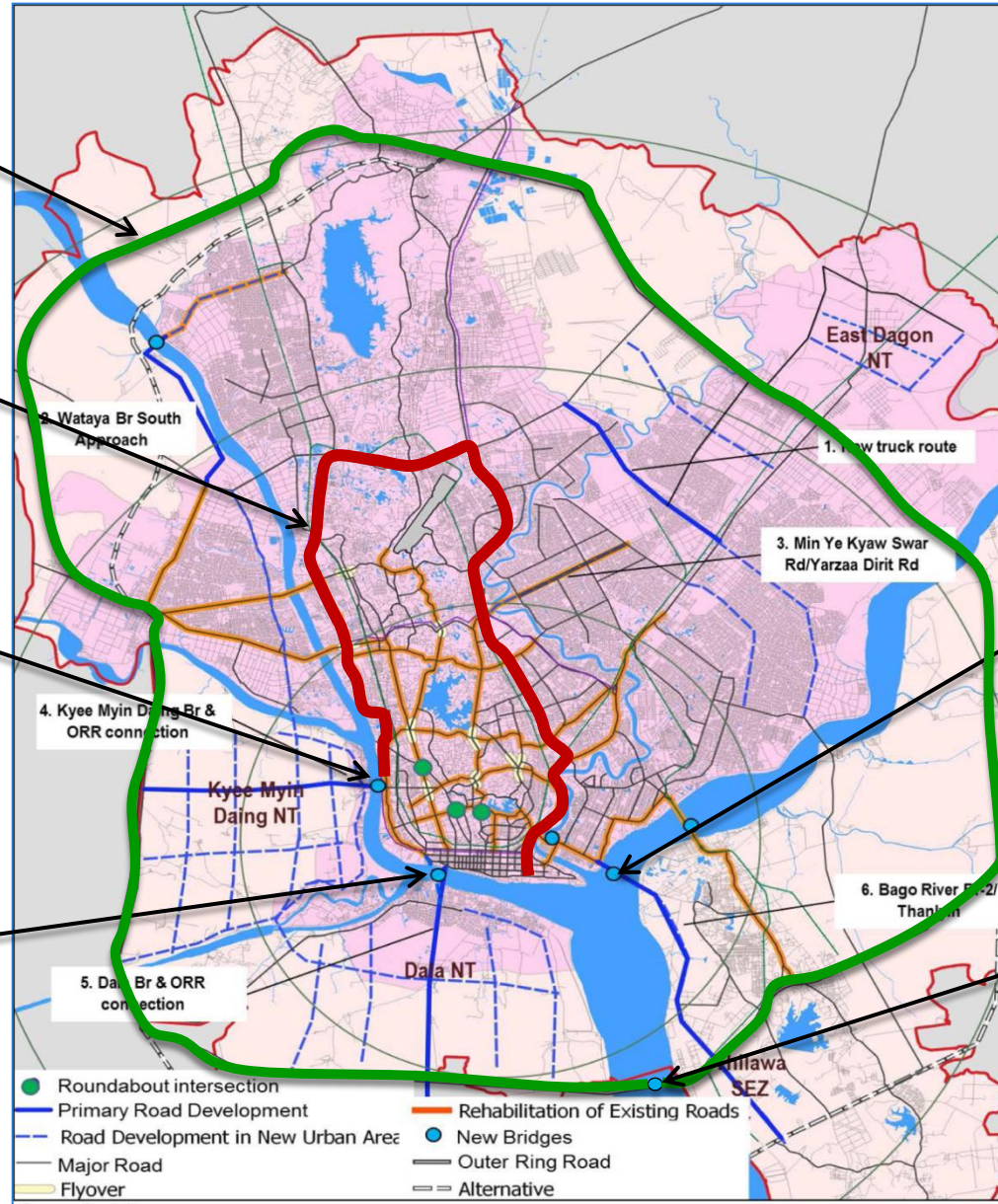
Inner Ring Road

Kyee Myin Daing Bridge

Dala Bridge

No.3 Bago River Bridge

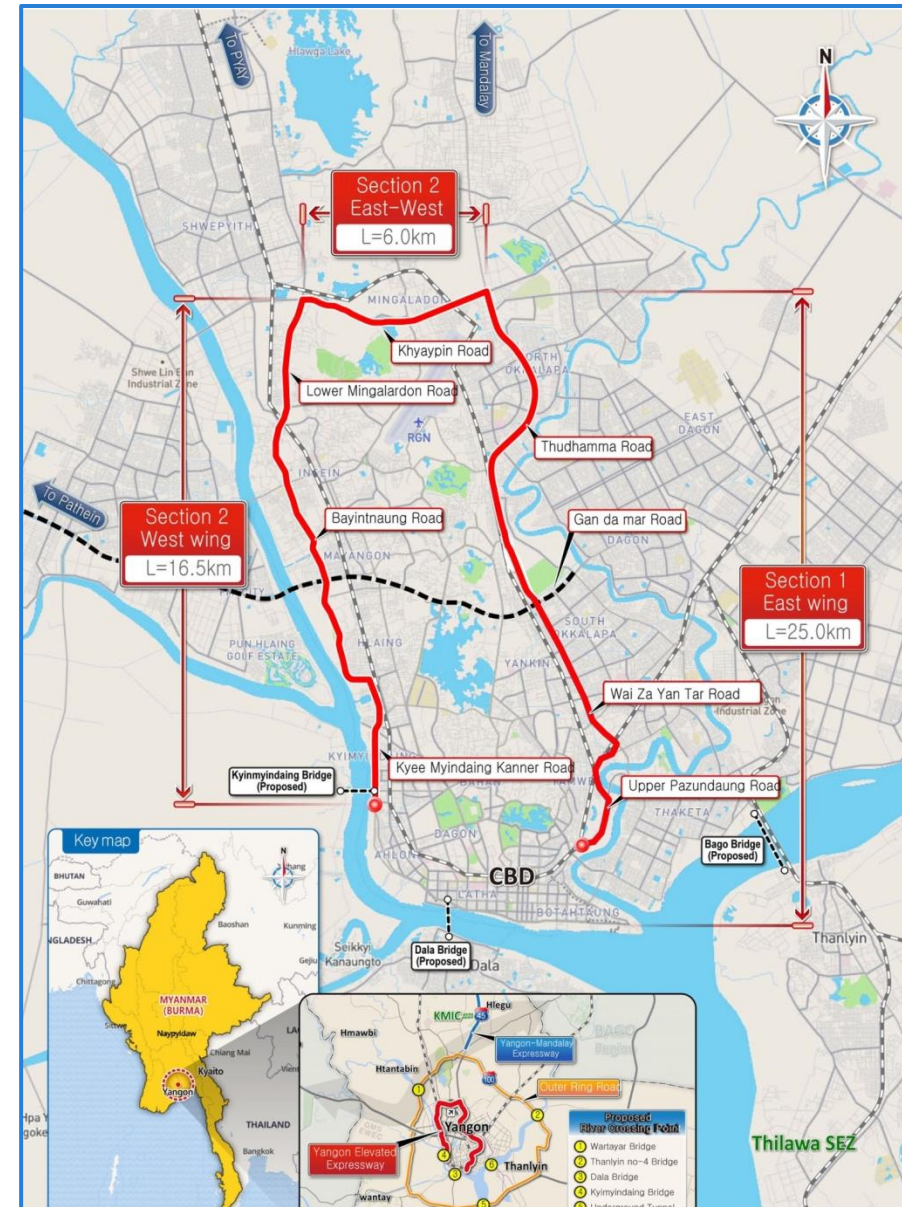
Thilawa Bridge



Yangon Inner Ring Road Project

Yangon Elevated Expressway

- JICA backed study (updated February 2018) has proposed a network of expressways for Yangon to be implemented over the coming decades
- Comprised of an inner ring road (elevated), outer ring road (at grade) and radial spokes
- Three elevated sections:
 - East Wing (25km)
 - East-West Wing (6km)
 - West Wing (16.5km)
- IFC and MOC signed a Financial Advisory Services Agreement
- Business Model : PPP Model (Pure BOT)



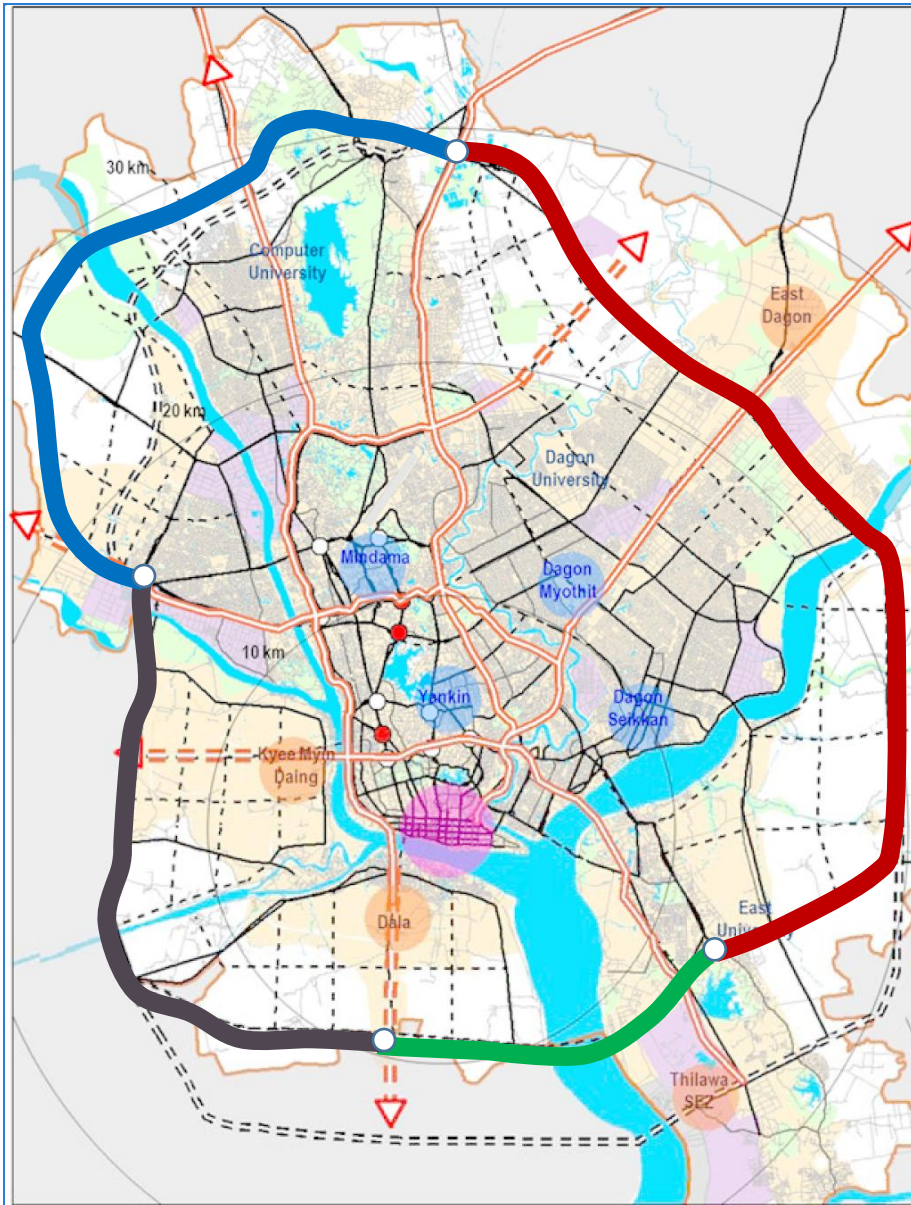
Yangon Elevated Expressway

Timetable of Tender Process

- May–Jun 2018 Expression of Interest
 - 53 Companies
- Sep 2018 Advertise & Notify RFQ
- Sep–Oct 2018 RFQ Submission
- Dec 2018 Investor due Diligence
 - RFP Evaluation
- Jan–Feb 2019 Bid Consultation
- Feb 2019 One-on-one Bid Negotiation
- Feb 2019 Send RFPs to Qualified Bidders
- Mar 2019 Bid Submission Deadline
- Apr 2019 Evaluation of Bids & Selection



Yangon Outer Ring Road Project



Outer Ring Road – 126.4 km

— Yangon-Mandalay Exp to Thilawa SEZ

— Thilawa SEZ to Dala

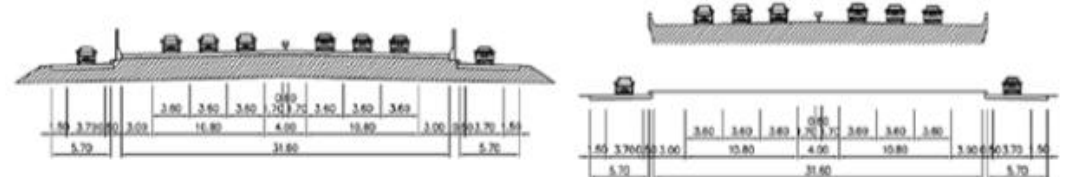
— Dala to Hlaingthayar

— Hlaingthayar to Yangon-Mandalay

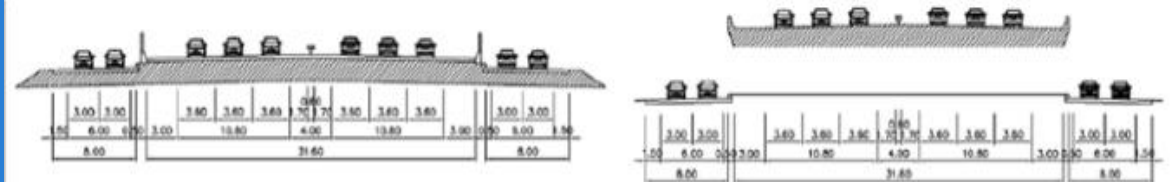
Business Model : PPP Model (Mixed or Pure BOT)

Estimated Outer Ring Road Cost: 1436 Million (US\$)

<Cross Section in Rural Area>



<Cross Section in Urban Area>



<Embankment>

<Bridge>

GMS Highway Modernization Projects

Objective

Improve transport conditions along GMS East–West and North–South corridors

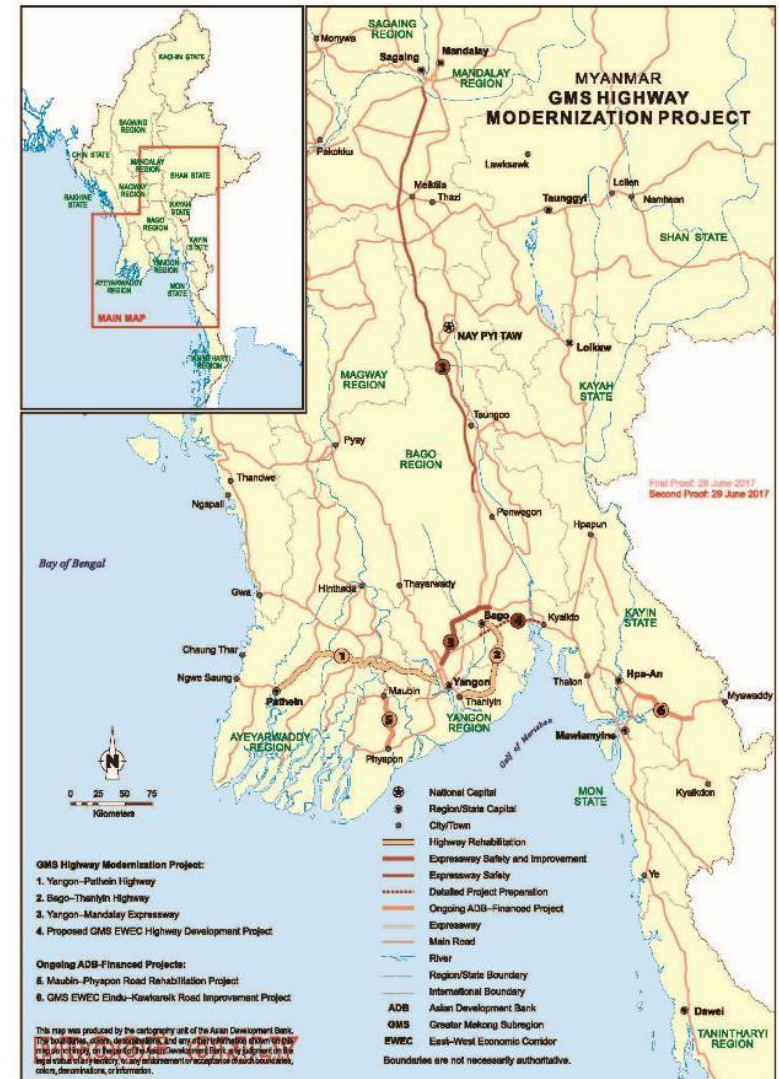
Subprojects

1. Yangon–Patheingyi Highway Improvement
2. Bago–Thanyin Highway Upgrading
3. Yangon–Mandalay Expressway Improvement and Safety
4. Highway periodic Maintenance Demonstration
5. New Bago–Kyaikto Highway (Detailed Design Only)

Costs and Financing

- Total Cost: \$372.5 million
- ADB Concessional Lending: \$340 million
- ASEAN Infrastructure Fund: \$20 million
- Government: \$12.5 million

Implementation Period: 2018–2022



Subproject (1): Yangon–Patheingyi Highway

Scope of Works

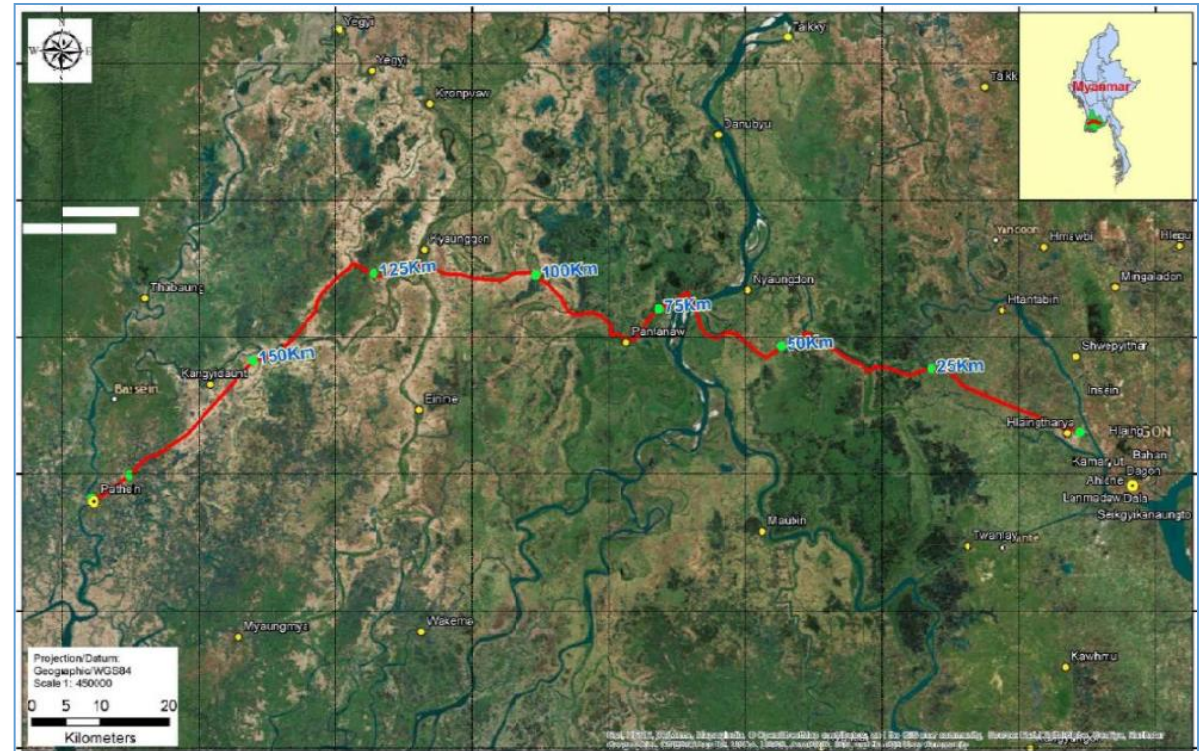
- Rehabilitate and improve pavement with asphalt concrete surfacing
- Widen pavement, with full-width paved shoulders
- Raise 20-km flood-prone section
- Total length: 177 km

Cost

- \$145.3 million
- Cost includes contingencies, supervision and IDC

Implementation

- Three contracts, procured through international competitive bidding
- 3-year implementation, 1-year defect liability period
- Contract commencement target: June 2018



Subproject (2): Bago–Thanlyin Highway

Scope of Works

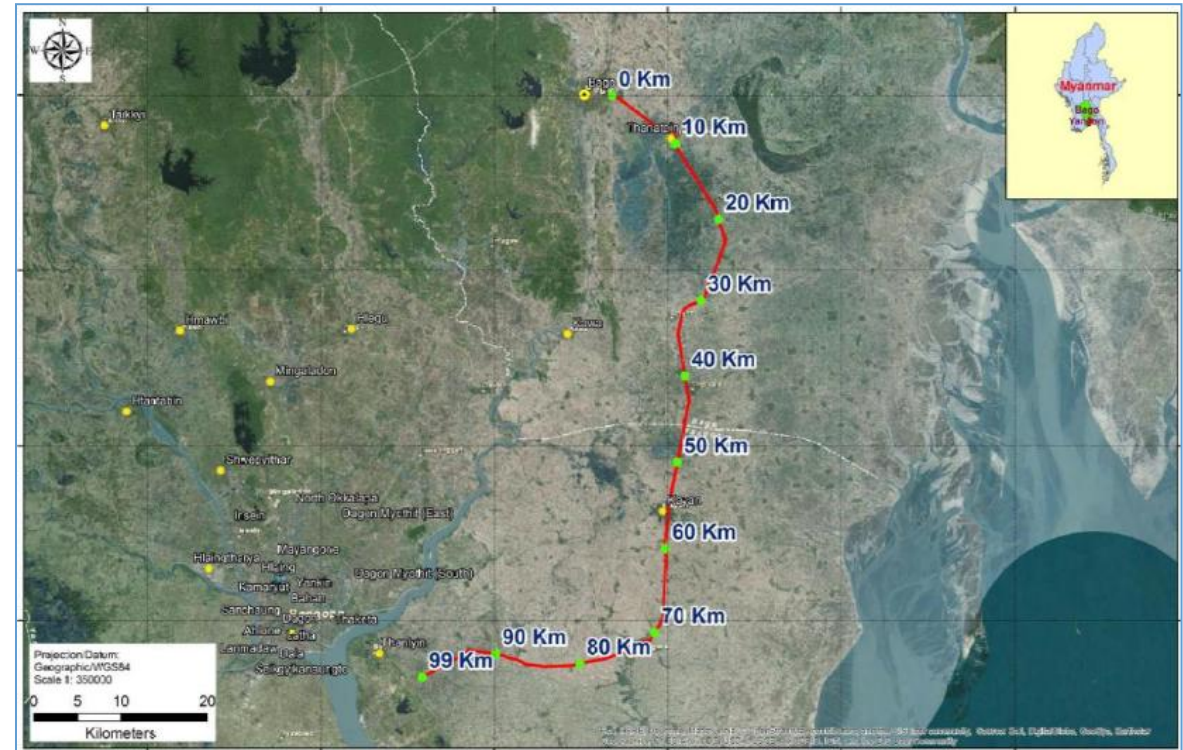
- Reconstruct the road with asphalt concrete surfacing, wide pavement, and full-width paved shoulders
- Resurfacing only in urbanized sections (e.g. Thongwa)
- Same cross-section as Yangon–Patheingyi highway, enable future use as international corridor
- Total length: 99 km

Cost

- \$112.2 million (all inclusive)

Implementation

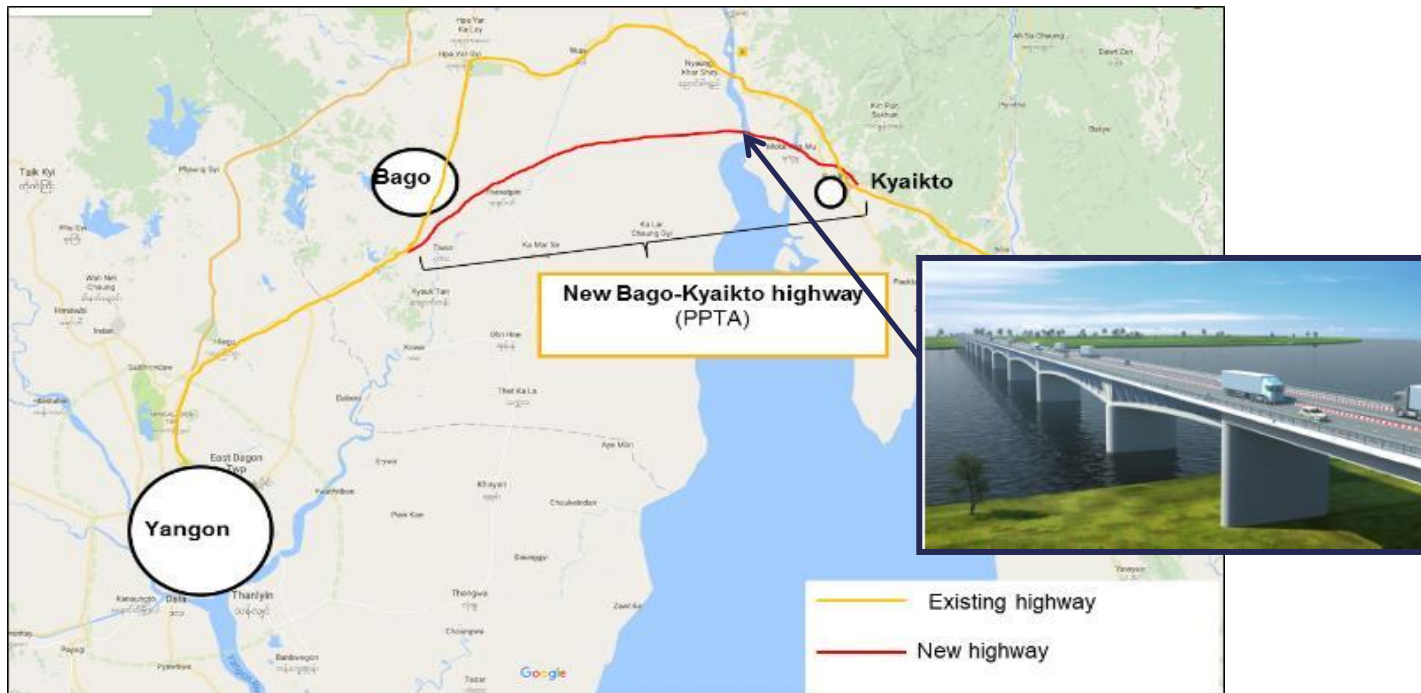
- Two contracts, procured through international competitive bidding
- 3-year implementation, 1-year defect liability period
- Contract commencement target: June 2018



Subproject (4) & Subproject (5)

Subproject 4: Road Periodic Maintenance Demonstration

- **Objective:** Pilot modern pavement maintenance techniques with local contractors. Works will extend road pavements life by 5–10 years.
- **Scope of works:** 80 km of pavement periodic maintenance works.



Subproject 5: Detailed technical preparation of GMS EWEC Highway Development Project

- New highway to be developed between Bago and Kyaikto with international expressway standards
- ADB and JICA are already financing the feasibility study under TA grant
- This loan will finance detailed design and procurement support
- ADB and JICA are considering financing later the project itself

Thank You

Kyi Zaw Myint

Deputy Director General
Ministry of Construction
Myanmar.

