

Session 2

Lessons Learned from Other Railway Connectivity Projects

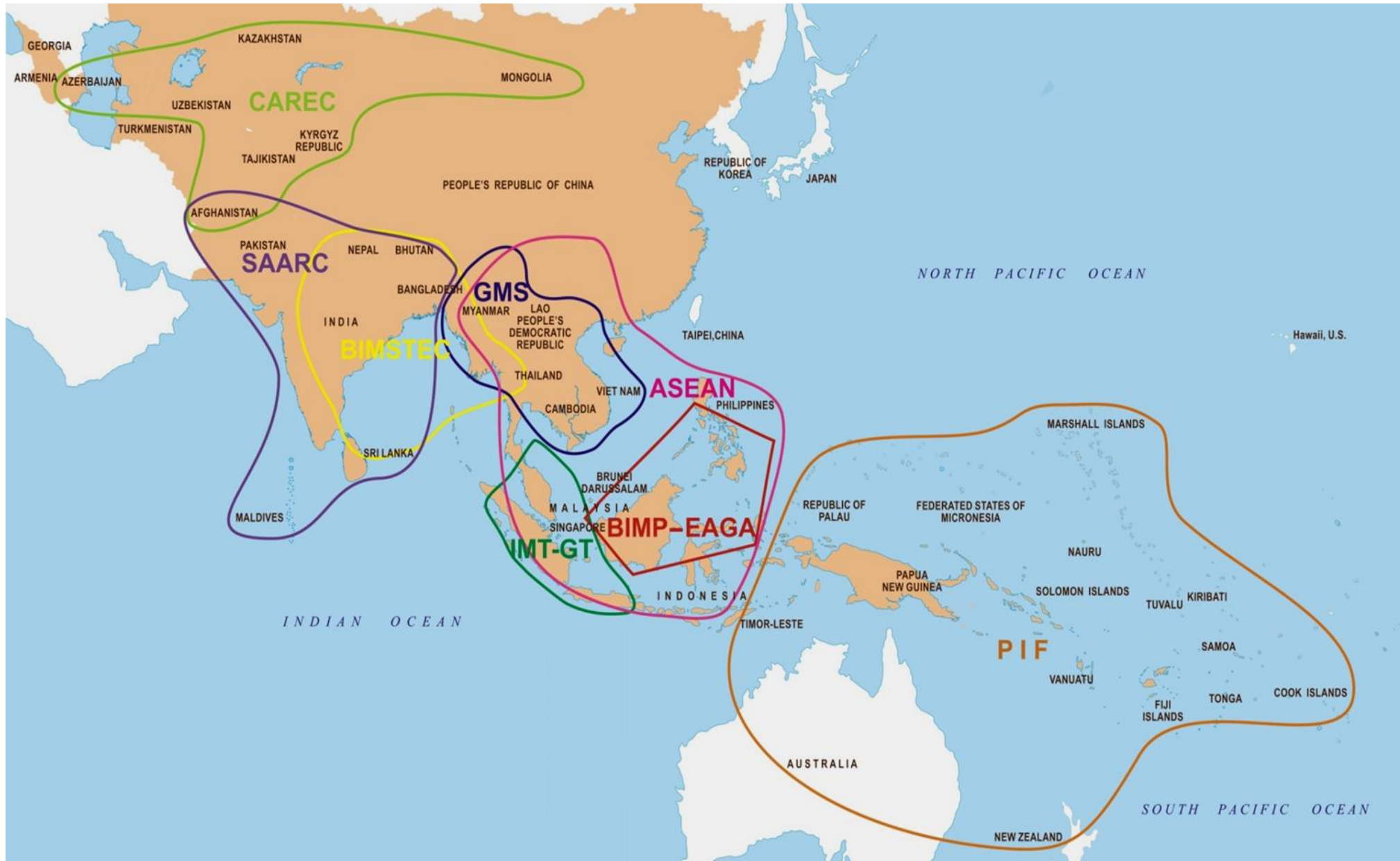
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- Comparison with ADB GMS strategy – Greater Mekong Railway Association
- Improving railway connectivity in Mongolia
- Railway development in PRC

GMS Program

- Since 1992, ADB's GMS Program has been an initiative similar to CAREC
- GMS is comprised of 6 countries – Cambodia, LAO PDR, Myanmar, Thailand and Vietnam and the provinces of Yunnan and Guangxi in China
- 5 Strategic thrusts:
 - strengthening infrastructure linkages
 - facilitating cross-border trade and investment and tourism
 - enhancing private sector participation and competitiveness
 - developing human resources and
 - protecting the environment and promoting the sustainable use of shared natural resources



Like CAREC, GMS follows the corridor concept - GMS has 9 Transport Corridors

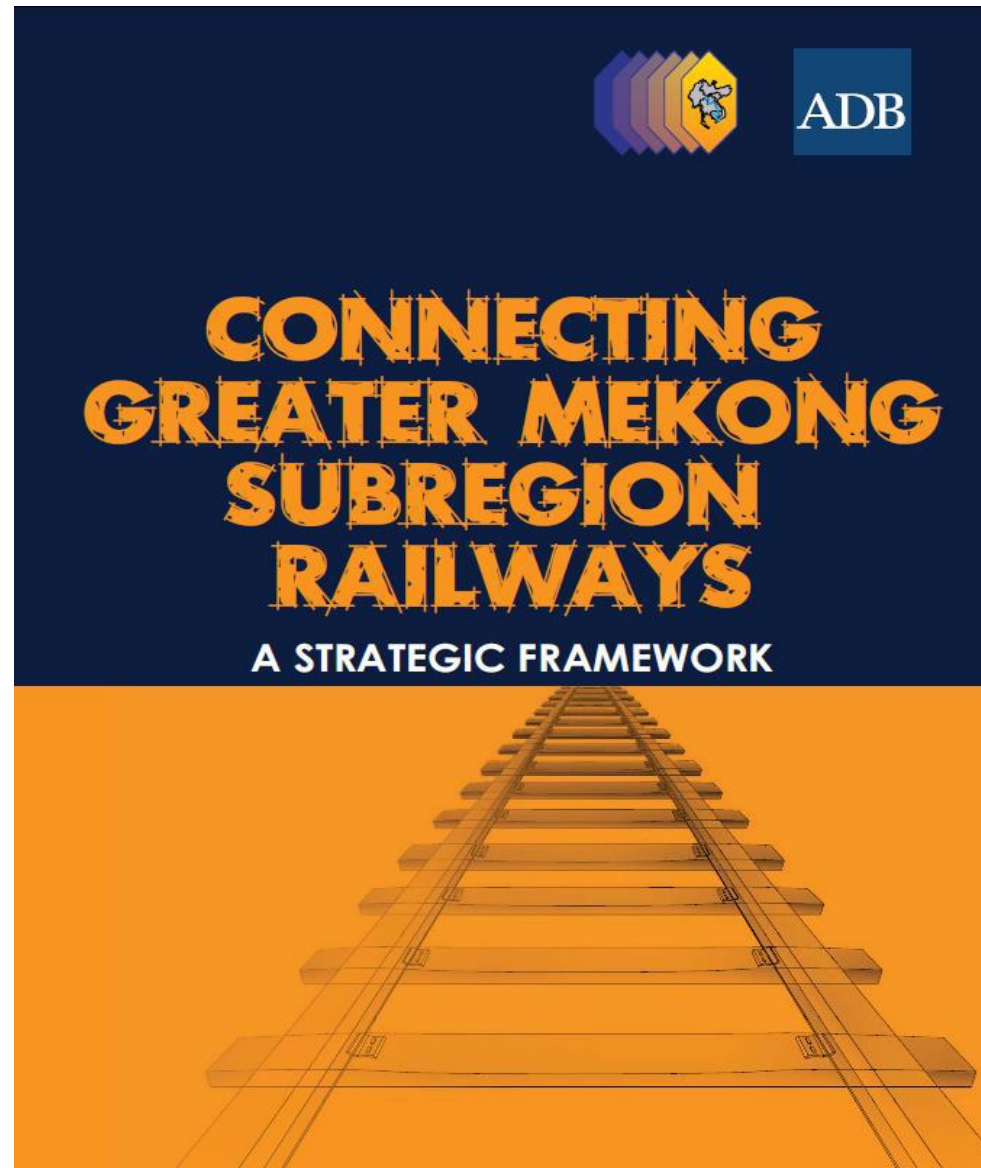


GMS Railway Connectivity

- Efforts to build a connected railway network in SE Asia began with the Singapore- Kunming Railway Link concept (**SKRL**) – late 1990's
- In 2006, the Trans-Asian Railway Network Agreement (TAR) designated the SKRL as one of the Trans Asian Railways
- SKRL is now a core ASEAN initiative – part of the Master Plan on ASEAN Connectivity
- Despite this support, progress on creating an integrated railway network has not been very successful – there are still only 2 connections
- In 2009, ADB commissioned the development of a strategy for connecting GMS railways

One of the key recommendations of the strategic framework was to form an association to develop the railway network

- Formation of the Greater Mekong Railway Association (GMRA) was ratified at the 18th GMS Ministerial Meeting, Nanning, PRC 12-13 December 2012.
- GMRA membership comprises the 6 GMS countries as the founding members.
- GMRA is a non-legal intergovernmental forum under the GMS Program.
- ADB serves as GMRA's initial Secretariat.



Missing Links

Features of GMS

Railways

- 1000mm gauge (except PRC)
- Only two countries are connected – PRC-VIE and THA-LAO
- Aged rolling stock; infrastructure needs upgrading (CAM, MYA, THA, VIE)
- Low market share (2-5% of freight market, 5-10% of passenger market)
- Railways are state-owned enterprises (not corporatized) except for Cambodia (operated by private concession)



Goals of GMRA

1. Ensure that all GMS countries are connected to a GMS rail network by 2020.
2. Promote the development of a seamless GMS rail network by:
 - Agreeing on technical standards of interoperability
 - Streamlining and harmonizing procedures for cross border movement of goods and people.
3. Develop the institutions and procedures to effectively integrate the national railways across the GMS.
3. Ensure that railways, rolling stock and equipment are modern and sufficient to meet the demand for rail services.
4. Involve the private sector, as required, in the planning and development of the GMS railway network.

Railway Connections to Bordering Countries

CAREC

	AFG	AZE	KAZ	KGZ	MON	PAK	PRC	TAJ	TKM	UZB
AFG						Red		Red	Red	Blue
AZE										
KAZ				Blue	Red		Blue		Blue	Blue
KGZ			Blue				Red	Red		Blue
MON			Red				Blue			
PAK	Red									
PRC			Blue	Red	Blue					
TAJ	Red			Red						Blue
TKM	Red		Blue							Blue
UZB	Blue			Blue				Blue	Blue	

Missing Links (6)

- AFG-PAK
- AFG-TAJ
- AFG-TKM
- KAZ-MON
- PRC-KGZ
- TAJ-KGZ



Railway connection



No Railway connection

GMRA

	CAM	LAO	MYA	PRC	THA	VIE
CAM		Red			Red	Red
LAO	Red		Red	Red	Blue	Red
MYA		Red		Red	Red	
PRC		Red	Red			Blue
THA	Red	Blue	Red			
VIE	Red	Red		Blue		

Missing Links (8)

- CAM-LAO
- CAM-THA
- CAM-VIE
- LAO-MYA
- LAO-PRC
- LAO-VIE
- MYA-PRC
- MYA-THA

Report Cards

Organization	Network Connectivity		Interoperability	Institutions		Harmonization of BC Procedures	Private Sector Participation	Investment Proposed	Corridor Performance Measurement
	Operating Through Corridors	Missing Links		International	National				
CAREC	PRC-KAZ-UZB-KGZ-TKM-TAJ-AFG (Corridors 1,2,3,6)	6	Yes, (Gauge change PRC-KAZ)	OSJD, OIC, TIR, Council Rail Transport CIS, Customs unions (several), TAR	PRC	In progress - slow	Marginal (KAZ private wagons)	\$10.5 B CAREC TTFS 2020	Active and producing useful indicators
	PRC-MON (Corridor 4)								
GMRA	PRC-VIE (Eastern Corridor)	8	In progress - helped by common gauge	TAR, ASEAN	PRC, CAM	Developing model agreement based on CBTA	None	Est \$40 B (for missing links)	Will be considered when network more connected
	LAO-THA (Central Corridor)								
	PRC (Northern Corridor)								

CAREC/GMRA

- CAREC is well ahead of GMRA in terms of network connectivity and interoperability
 - GMRA must first build railway connections to form a network
 - CAREC has some connections to build too but it can focus more on improving railway operations
- Both CAREC and GMRA experiencing how difficult it is to resolve “soft” issues - TTFS 2020: “implementing physical infrastructure projects is easier than implementing soft facilitation measures.
- For this reason GMRA is starting to work on these issues now. Some advantages GMRA has in this regard are:
 - Cross Border Transport Agreement (CBTA) which was developed for GMS road traffic and can be adapted to railways
 - Bi-lateral agreements are already in place between PRC and VIE and between THA and Lao

Mongolia

- Mongolia's UBTZ operates through CAREC corridor 4b and constitutes the the Trans-Siberian Mongolia route.
- UBTZ runs from the border with Russia (Naushki) to Zamyn-Uud near the border with PRC (Erenhot). Trains to/from Russia are interoperable but a gauge change is necessary at the PRC border
- The Trans-Sib Mongolia route competes for freight traffic directly with Trans-Sib Kazakh and Trans-Sib Manchuria routes
- Major problems on the corridor are:
 - transit time
 - delays at BCP
 - availability of wagons
 - administration and documentation requirements

Trans-Sib (Mongolia) Corridor Performance

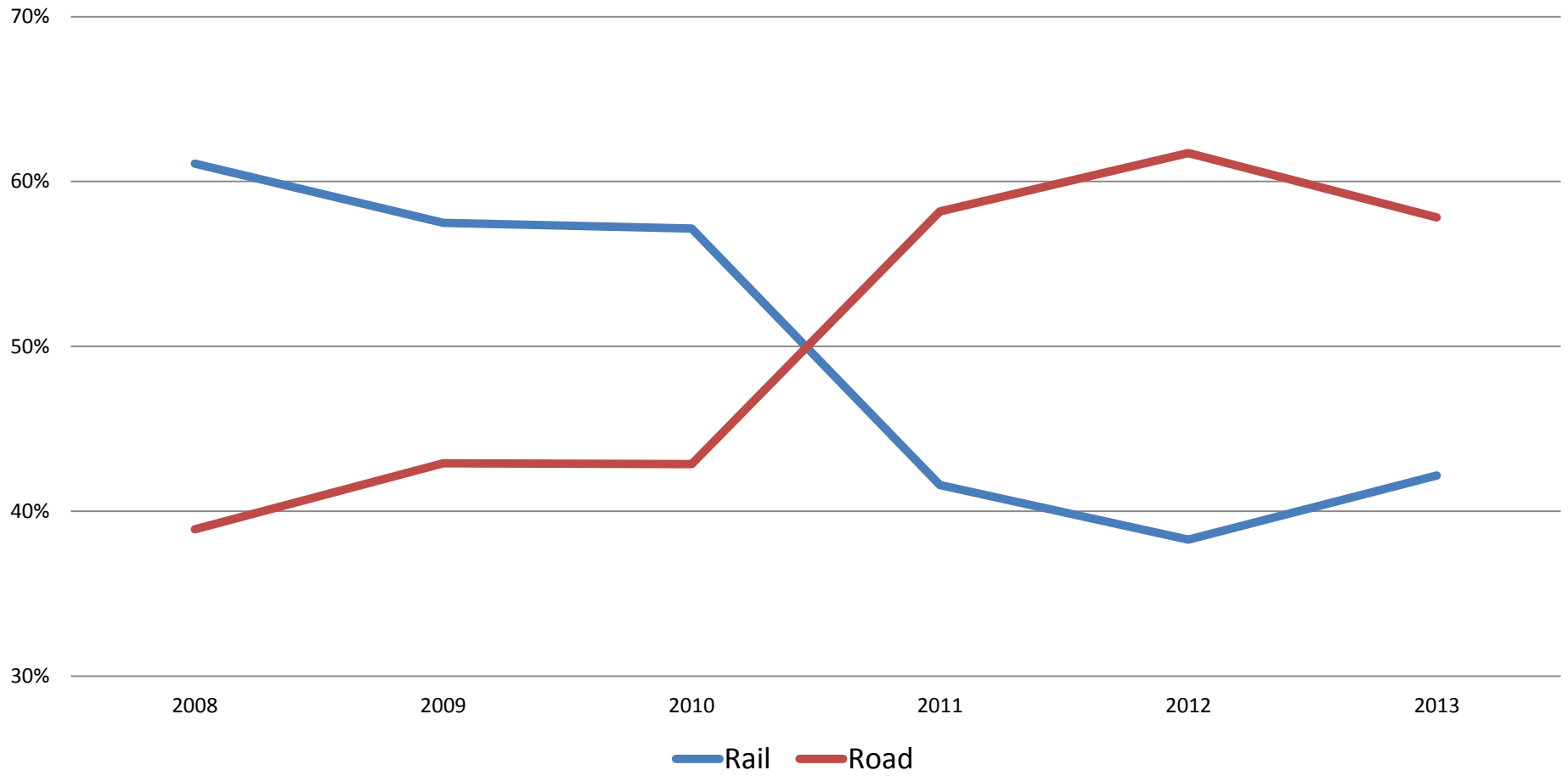
Route	Single Waggon Load		Block Train	
	USD	Days	USD	Days
TransSib-Kazakh route	6,730	28	3,200	18
TransSib-Mogolian route	6,705	38	4,700	22
TransSib -Manchurian route	6,705	39	4,600	20

Source: **retrack**, European Commission;
*Potential for Eurasia land bridge corridors
and logistics developments along the
corridors, 2012*

Mongolia – Logistics Performance

High Logistics Cost	<ul style="list-style-type: none"> - <i>Logistics cost estimated to be > 30% of GDP</i>
Low Logistics Performance	<ul style="list-style-type: none"> - <i>Mongolia's 2014 LPI rank is 135 of 160 countries surveyed by World Bank</i> - <i>Inadequate logistics competency</i> - <i>Insufficient professional training and skill development</i> - <i>Absence of modern logistics centers</i> - <i>Weak transport and logistics industry</i>
Poor infrastructure and old equipment	<ul style="list-style-type: none"> - <i>Severely deteriorated rail tracks</i> - <i>Inadequate logistics IT systems</i> - <i>Old, inefficient freight terminals</i> - <i>Old, unreliable, fuel guzzling and polluting railway rolling stock</i> - <i>Poor interconnection between transport modes</i> - <i>Inefficient and unreliable operations</i>
Laws and Regulations	<ul style="list-style-type: none"> - <i>Lack of well-crafted, laws and regulations governing transport and logistics</i> - <i>Roles and responsibility of freight forwarders and transport intermediaries not clearly defined</i>

Mongolia – dramatic change in market share



Actions in progress

- ADB funded improvements to cross border infrastructure at Zamy-Uud (PRC)
- CAREC supported single window customs/inspections project
- Planning for relocation of railway outside of Ulaanbaatar to reduce bottlenecks and improve line capacity and develop a logistics center (**Bogdkhan project**: MOU signed between GoM and ADB)
- National logistics strategy/master plan is being prepared
- Modernization of UBTZ (funded by owner governments, \$250 M)
- Planned development of railways in south Gobi to improve connectivity & to move coal for export and to a planned industrial development at Sainshand
- New lines in western Mongolia under study – possible connection to Kazakhstan

New Railway Lines in the South



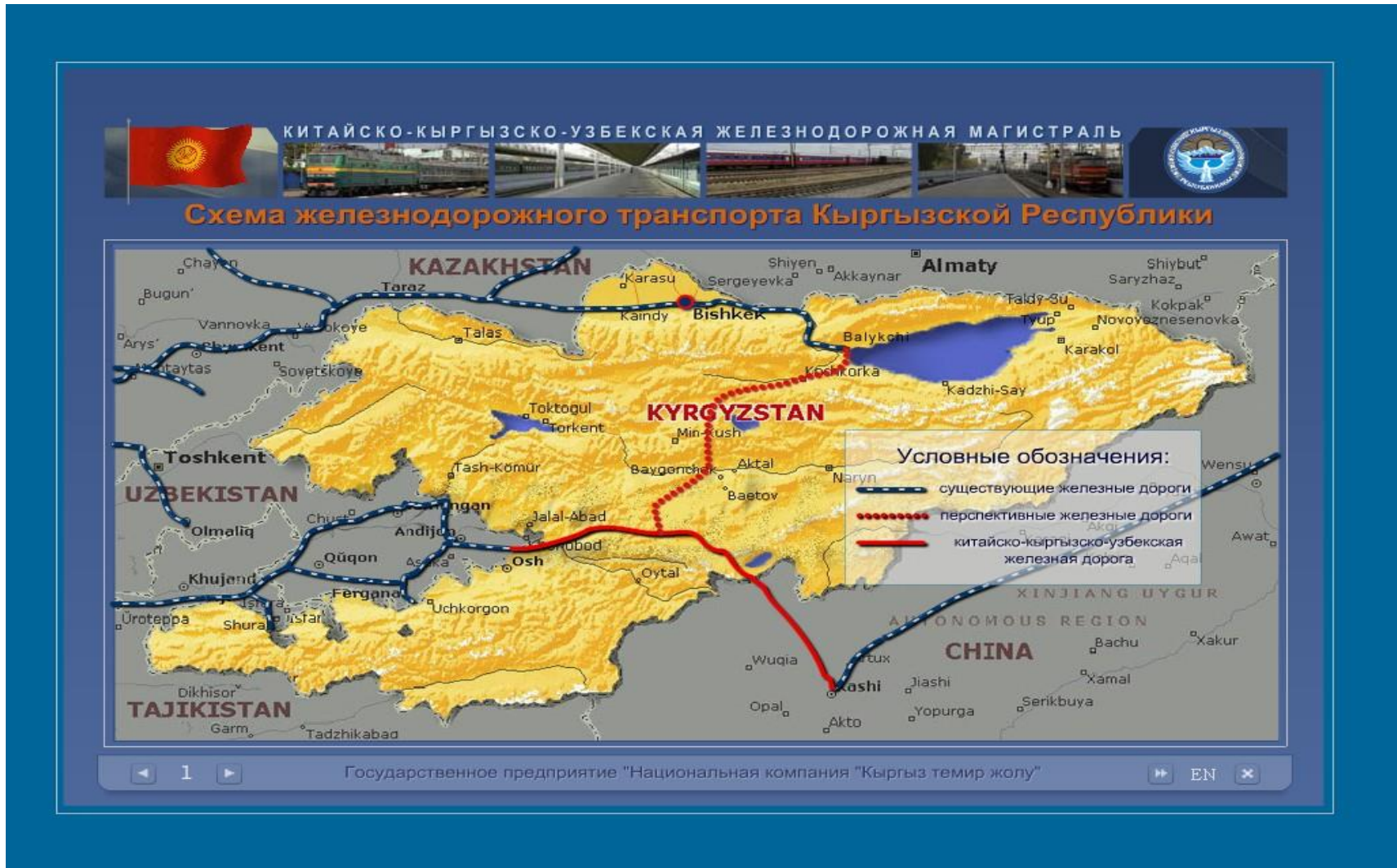
Lessons

- Railway market share is declining
- Mongolia needs to focus on improving railway **performance** in the corridor – more emphasis on
 - Developing container services and related facilities
 - Improving transit times
 - Improving overall logistics performance
 - Developing flexibility in responding to markets and customer needs
- **New lines in the south:** project structure is flawed – there has been little investor interest

China

- China is driving an increase in regional railway connectivity
 - it already has direct railway connections through Mongolia and Kazakhstan and has proposed another rail corridor through Kyrgyzstan connecting to Uzbekistan and possibly beyond (to TAJ & AFG)
 - It has recently commissioned a study to develop a railway connection to Pakistan
 - It is assisting TAJ to connect its central and southern railway lines

Possible PRC-KGZ-UZB Railway



China Railways

- China plans to increase the total rail network from 75,000 to 120,000 route-km
 - construction of 16,000 km of high-speed passenger train routes,
 - three new regional inter-city networks,
 - new dedicated coal lines
 - substantial double tracking and electrification
- Growth in China's freight transportation activity over past 15 years has been enormous – from 1998 and 2013, total freight tonne-kilometers grew **at an average annual rate of 10.4 percent**
- Unbalanced growth (Freight tonne-kilometers)
 - **Road:** 16.7% annual growth
 - **Rail:** 5.8% annual growth
- Rail share of the freight market **dropped** from 22.8% in 2008 to 17.4% in 2013.
- Containerization is not as extensive as it could be – under 3% of railway traffic compared to 37% in North America and 20% in Europe

Lessons

- Despite being a key driver of regional railway connectivity it has issues at home
 - Persistently low incidence of rail intermodal participation in domestic and international supply chains
 - Imbalance of shipments on Trans-Sib route – most goods are moving eastward
 - The regulatory and institutional environment, which regulates freight tariffs, provides little or no flexibility for China Railway Corporation (CRC) to tailor services to customer needs
- Challenges
 - Port/Rail interface is poor – on dock rail facilities are limited
 - More intermodal hubs need to be developed
 - Improvements in logistics performance is needed – more cooperation between modes and private shippers
 - Better institutional arrangements are needed – container movements are managed by China Railway Container Company (CRC)
 - needs to restructure it to become more market oriented rather than supply oriented