



Eastern Asia Society for Transportation Studies
 20th Anniversary International Symposium
Future of Transportation in Asia
 24 October 2014
 Tokyo

Transport in Asia: Challenges and Future



Haruya Koide
 Principal Regional Cooperation Specialist
 Office of Regional Economic Integration
 Asian Development Bank



Transport in Asia: Challenges and Future

- Recent Transport and Trade Developments and Challenges: An Overview
- Asia's 6 MEGA Challenges
- Transport Trends in Asia and the Pacific
- ADB's Sustainable Transport Initiative: Priority Areas
- Regional Connectivity: Linking Cities along Supply Chains through Regional Programs
- Transport Realities in Asia and EASTS
- EASTS Studies, Training and Forums: Future Topics for Officials and Students



Recent Transport and Trade Developments and Challenges: An Overview

Global trade transformation and the emergence of a new landscape

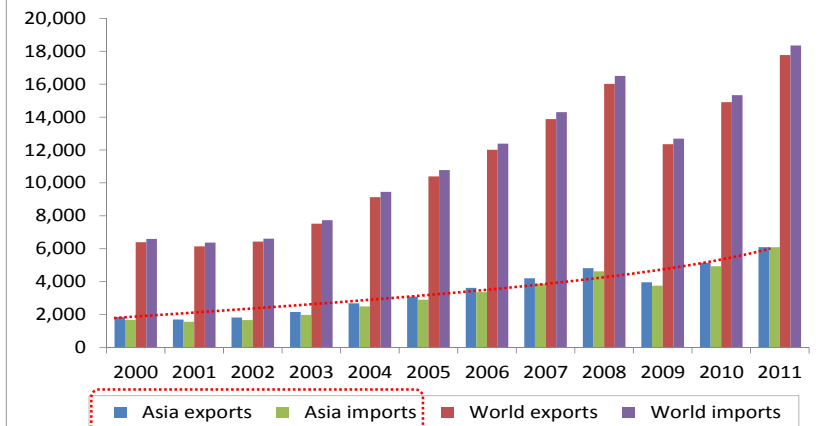
- **Substantial trade volume increase**
 - Vast improvements in maritime and air shipping brought about by technological advances
 - Business model = The world making things together (examples: automobiles, cellphones, aircraft, etc)
- **With the general decline in tariffs, increasing focus on costs of doing business including costs at the border**
- **Deepening trade complexity and increasing speed of services**
 - Just-in-time delivery
 - Low inventory retention
 - Multimodal logistics services
 - Increasing complexity of global supply chain networks
 - Security threats after the 9/11 attacks
 - Illicit trade



Recent Transport and Trade Developments and Challenges: An Overview

Substantial trade increase in Asia (12%)

Figure 1: Merchandise Trade: World and Asia (\$ billion)



Note: Asia refers to the 48 developing member countries of the ADB plus Australia, Japan, and New Zealand.
 Source: Direction of Trade Statistics, International Monetary Fund and CEIC for Taipei, China data.



Recent Transport and Trade Developments and Challenges: An Overview

Regional transport infrastructure to meet the trade volume increases

- 989 regional transport infrastructure projects totaling about **\$204 billion** in Asia (2010-2020)
- *Asian Highway Network (121 projects, \$43 billion)
- *Trans-Asian Railway Network (45 projects, \$83 billion)
- *Asian Container Ports (765 projects, \$51 billion)
- *58 regional road transport projects (\$27 billion) envisaged under the Greater Mekong Subregion (GMS), Central Asia Regional Economic Cooperation (CAREC), and South Asia Subregional Economic Cooperation (SASEC) programs

(Source: ADB and ADBI, 2009)

5



Recent Transport and Trade Developments and Challenges: An Overview

CAREC and GMS regional transport projects

Over the years, with strong leadership and support from government agencies and ADB, the GMS and CAREC programs have yielded fruitful outcomes.

By the end of 2011, 172 regional projects totaling \$34 billion had been carried out under the framework of the two programs, of which **regional transport projects constitute 81% (\$27 billion)**.

The two programs also provided numerous personnel training sessions for member countries.

6



Recent Transport and Trade Developments and Challenges: An Overview

Human resource constraints in customs, transport, and trade-related authorities

The Jordanian Transport Minister said “**capacity building is essential** in our **increasingly globalized world**,” during the First Session of the Capacity Building Committee of the World Customs Organization (WCO) held in Brussels on 27-29 September 2010.

He added, “[a]s **the private sector increases its investment in logistics, inventory and information systems, government agencies must keep pace or lose out in goodwill and real trade.**”

Customs, transport, and trade-related authorities are experiencing **knowledge- and skills-drain** as **many** experienced officials are **retiring**, while **new officials** require **time and training to gain the competency required for their services.**

Customs, transport, and trade-related administrations need to **build sustainable institutional capacity** through **active staff training.**



Recent Transport and Trade Developments and Challenges: An Overview

Challenges at borders in Asia

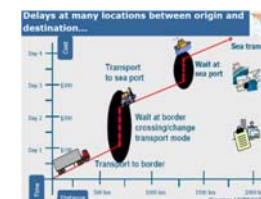
Efficiency gains in border operations in Asia have not kept pace with the increased trade volumes and complexities.

+

The level of accession to basic international conventions is lower than the international average (slow progress in policy and procedural modernization in Asia).

=

Trade flows are being constrained at the border in Asia.



8

Asia's 6 MEGA Challenges

Massive Urbanization <ul style="list-style-type: none"> Urban poverty Environmental stress and climate change Strain on urban mobility Need for livable cities 	Global Warming and Climate Change <ul style="list-style-type: none"> Climate change and resulting severe water shortages – mega challenge New growth model and much more eco-friendly and sustainable lifestyles
Avoiding the Middle Income Trap <ul style="list-style-type: none"> Inclusive growth and creation of large middle class Sound and efficient financial systems Technologically capable, skilled labor force Specialization to gain competitiveness Corruption under check 	Global Competition for Finite Resources <ul style="list-style-type: none"> Increasing affluence could lead to unsustainable pressure on finite natural resources Growth patterns and lifestyle must change dramatically
Addressing Inequities and Disparities <ul style="list-style-type: none"> Inequities within countries (e.g., across geographical regions, rural vs. urban) major risks to social stability Disparities across countries increase risks: migration; tensions and even conflict Regional cooperation necessary to mitigate such risks 	Disparities across Countries and Subregions <ul style="list-style-type: none"> Gap between region's advanced and least-developed economies larger than in any other region – region must find ways to spread prosperity Disparities left unaddressed will create significant risks

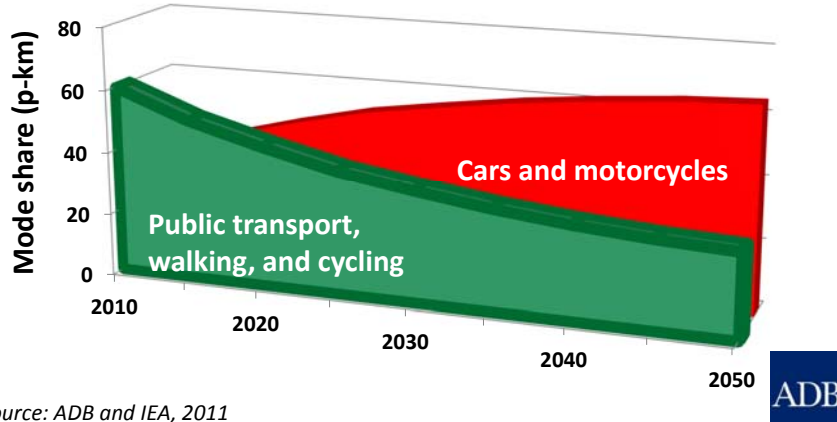
Massive urbanization

- Urban areas account for 84% of global GDP, while they cover about 3 % of the planet's surface
- Urbanization is expected to grow by 3% annually in Asia
- About 1.1 billion people will move to cities in the next 20 years
- 600 cities account for 60% of GDP (50% of these cities are in Asia)
- 23 megacities account for 14% of global GDP but will decline to 10% by 2025
- 577 second-tier cities to account for 50% of global GDP by 2025



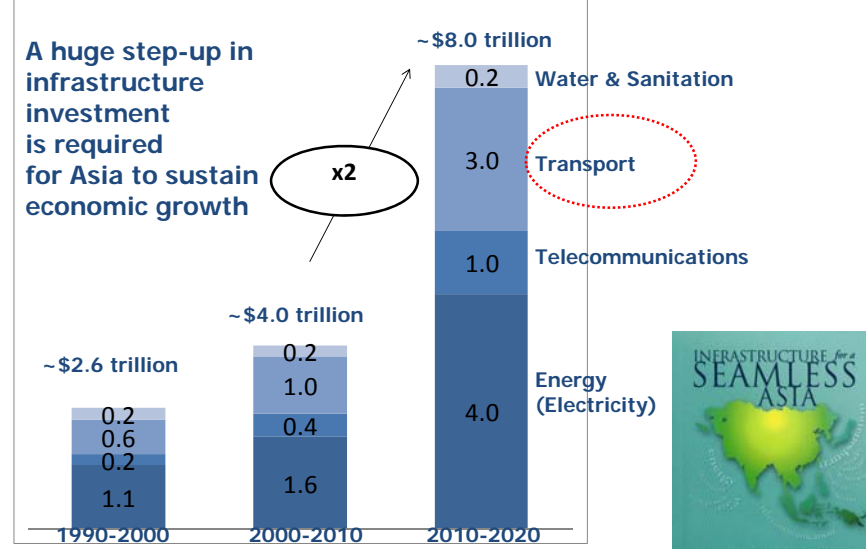
Source: McKinsey Global Institute, 2011. Urban world: Mapping of the economic power of cities. March
 Source: UNDESA, 2014. World Urbanization Prospects. 10

Transport trends for Asia and the Pacific

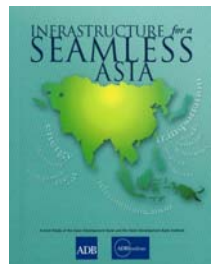


Source: ADB and IEA, 2011

Huge Need for Infrastructure Investment in Asia



Source: ADB, Infrastructure for a Seamless Asia, 2009; ADB's estimates (Asia ex-Japan, all data in 2008 US\$)



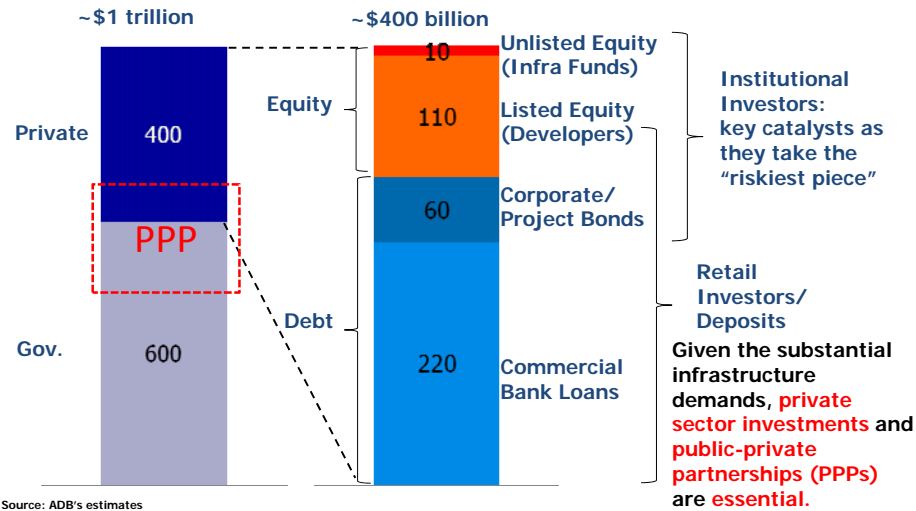


Private Sector is Expected to Contribute

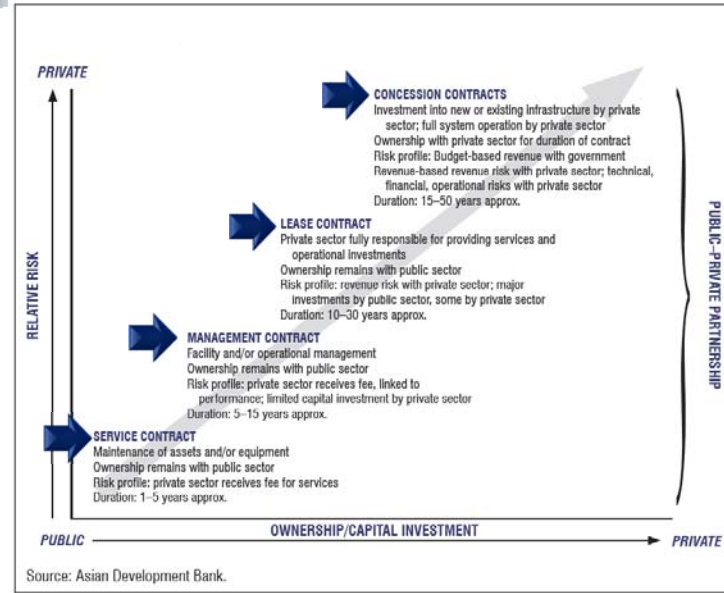
Annual Infrastructure Investments, 2010-20

Expected Private Sector Contribution by Type of Instruments (estimates)

Source of Funds



Public-Private Partnership Spectrum



Philippines: Northern Luzon Expressway Rehabilitation and Expansion Project



Source: Asian Development Bank



Chile: Connectivity Improvement with PPP



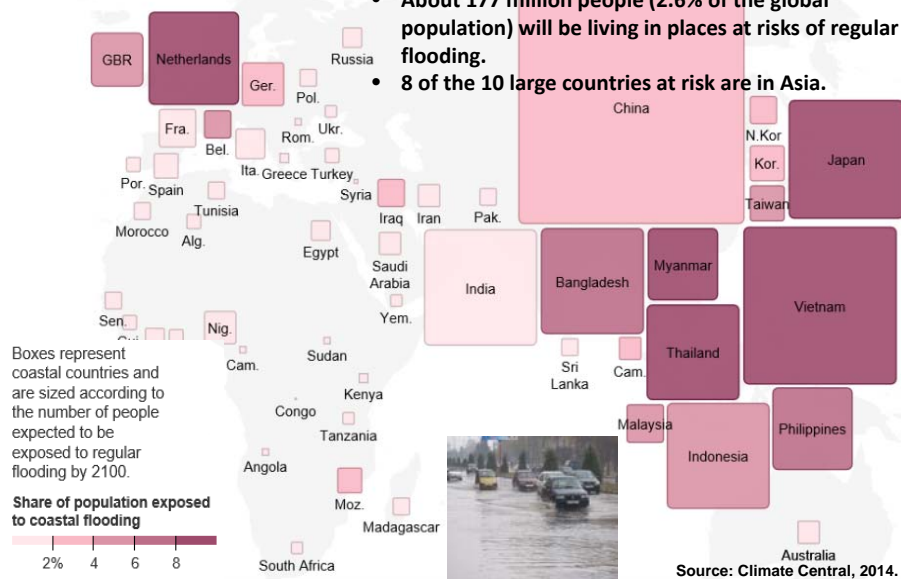
Source: Marcela Allue, COPSA, Chile 2014



Flooding Risk from Climate Change



- About 177 million people (2.6% of the global population) will be living in places at risks of regular flooding.
- 8 of the 10 large countries at risk are in Asia.

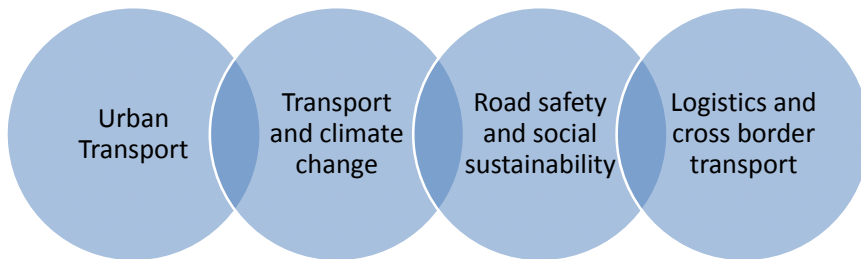


Disasters: Calls for better land use planning

19 million people (87.1% of the global total) displaced by disasters in 2013



ADB's Sustainable Transport Initiative: Priority Areas



ADB Strategy for Sustainable Transport



Avoid unnecessary vehicle kilometers

- Smart growth
- Zoning regulations
- Information and communications technologies (ICT)
- Transit-oriented development

Shift to the lowest-emitting modes

- Public transport
- Non-motorized transport
- Transportation demand management (TDM)
- Shift to rail freight

Improve vehicle/fuel technology towards cleaner and more efficient options

- Alternative fuels
- Fuel efficiency standards
- Vehicle maintenance
- Vehicle testing

ADB supports a wide range of investments



Nonmotorized transport



Inland waterways

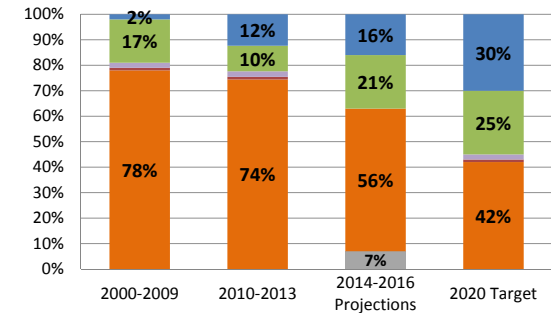


Urban public transport



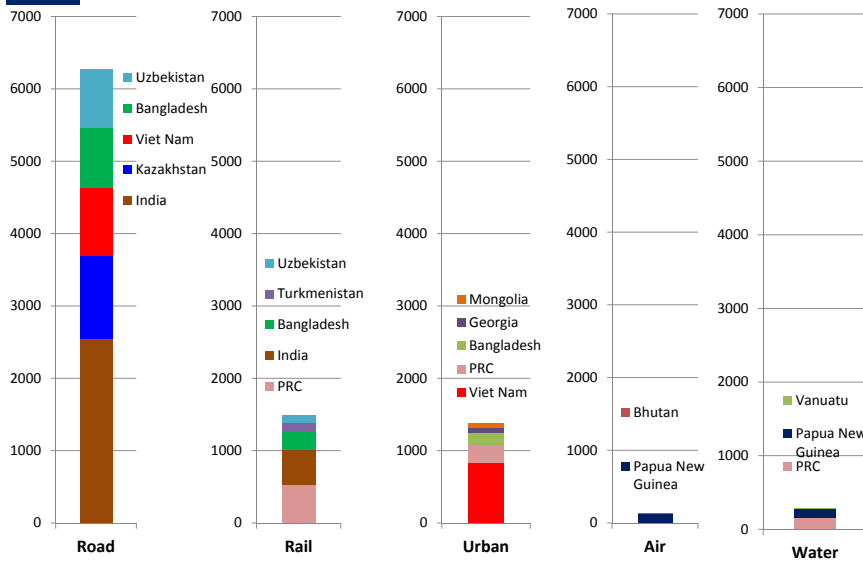
Railways

ADB's transport transformation



Subsector	2000-2009	2010-2013	2014-2016 Projections	2020 Target
Urban Transport (mainly public and nonmotorized)	2%	12%	16%	30%
Railways	17%	10%	21%	25%
Water Transport	2%	2%	2%	2%
Air Transport	1%	1%	1%	1%
Roads	78%	74%	56%	42%
Other/Undefined			7%	
Amount (annual average)	\$1.9bn	\$3.5bn	\$3.6bn	
% of total ADB investment	29%	32%	32%	

ADB Transport Lending (2010-2013): Top 5 recipients by subsector



Regional connectivity: Linking cities along supply chains through regional programs

Greater Mekong Subregion (GMS) Program





North-South Corridor

- Improvement of LAO section was funded by ADB, PRC, and THA.
- International Bridge funded by PRC and THA was completed in 2013.
- New rapid train system is planned by THA.
- Bangkok-Nakhon Sawan Motorway is planned by THA.



Eastern Corridor Kunming-Hai Phong

- Kunming-Hekou Expressway is in operation.
- Hekou-Lao Cai border has been modernized.
- Capacity increase of Yen Vien-Lao Cai Railway is funded by ADB.
- Noi Bai-Lao Cai Highway funded by ADB will be completed in 2014.
- Ha Noi-Hai Phong Expressway funded by Czech and private sector is under construction.



Eastern Corridor

- Nanning-Youyiguan Expressway funded by ADB is in operation.
- Construction of Ha Noi-Lang Son Expressway starts in 2014.
- Da Nang-Quang Ngai Expressway is funded by WB and JICA.
- HCMC-Long Thanh-Dau Giay Expressway and Ben Luc-Long Thanh Expressway are funded by ADB and JICA.



East-West Corridor

- Road in MYA section will be developed by ADB and other development partners.
- 4-laning of national highways funded by ADB will be completed in 2015.
- International bridge across Mekong River funded by JICA completed in 2007.
- ADB and JICA financed improvement of LAO and VIE sections.
- JICA financed Da Nang Port. Expansion of Da Nang Port is planned by VIE.



Southern Corridor

Dawei port and access roads to the port are being developed by THA private sector.

THA plans to construct Bangkok-Kanchanaburi Motorway.

4-laning of national highway funded by ADB will be completed in 2015.

Road construction is difficult due to many ruins.

Improvement of existing road is planned by VIE.



Southern Corridor

National highways in CAM have been improved by ADB, AusAID, JICA, and OPEC Fund.

Railway in CAM is being rehabilitated by ADB and AusAID.

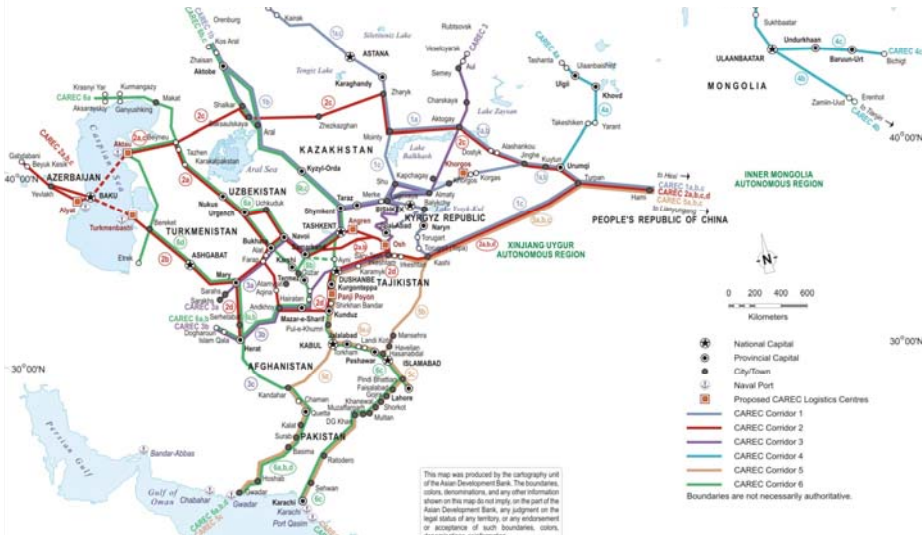
Neak Long Bridge across Mekong River in CAM is funded by JICA.

Expressways, ring roads, ports construction is ongoing around HCMC.



Regional connectivity: Linking cities along supply chains through regional programs

Central Asia Regional Economic Cooperation (CAREC) Program



Regional connectivity: Linking cities through regional programs



CAREC 3
KGZ: Bishkek-Osh



CAREC 3b & 5
TAJ: Dushanbe-Karamik



CAREC 5 & 6c
AFG-TAJ: Pianj River Bridge



THA-LAO: Second Mekong Int'l Bridge



VIE: Haivan Pass Tunnel



VIE: Da Nang Port



GMS East-West Corridor

This map was produced by the cartography unit of the Asian Development Bank. The boundaries, colors, denominations, and any other information shown on this map do not imply, on the part of the Asian Development Bank, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries, colors.

Container Block Trains: Linking East Asia to Europe

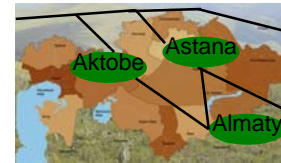


PRC Container Block Train Services

Container block train services linking PRC and Moscow, Russian Federation (started in October 2007) provide speedy, reliable, and punctual services between Lianyungang, PRC and Moscow.



Logistics as an important strategic business factor



Kazakhstan: High Tech Logistics (Aktobe, Almaty, and Astana)



Rail services between Moscow and Almaty HTL



Warehouse located next to the railway access



Warehouse

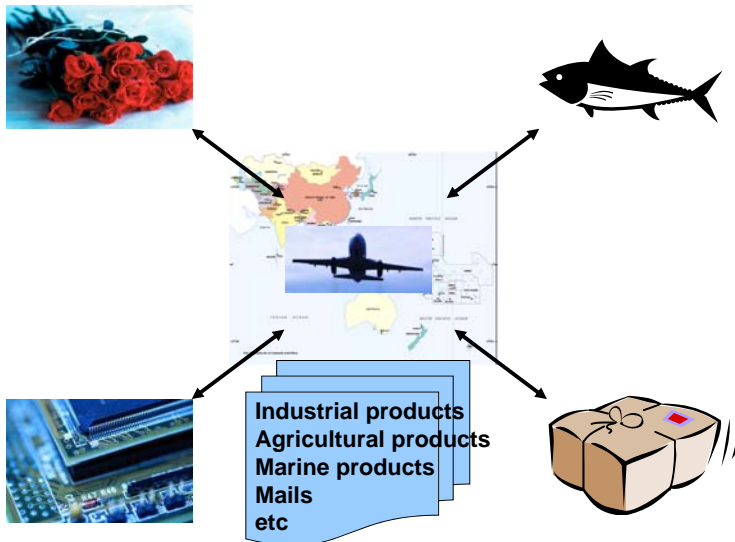


TIR truck to neighbouring countries



Trucks to other cities in Kazakhstan

Air Services: Linking Asia to the Rest of the World



Multi-modal transport systems

One aspect of **encouraging small-scale trade** is the expanding use of **roll-on/roll-off (Ro-Ro) vessels**.

These hold the potential to transform inter-island shipping.

Ro-Ro uses specially designed ferries to ship cars, trucks, and buses, eliminating the need for shifting cargo between vessels and saving on handling and other expenses.

Ro-Ro ports are multi-modal hubs that allow land cargo to be smoothly shipped across sea-lanes.

Recently, the Philippines developed a true nautical highway that allows small businesses to move goods and people more efficiently and reliably from island to island.

In some instances, transport costs have fallen by as much as 40%.

(Asia Foundation, 2010)





Transport Realities in Asia and EASTS

Realities = With **limited budgets** and **human resources**, **governments** have to **cope with the substantial challenges**.

How?

Work smart (deliver more with less resources)

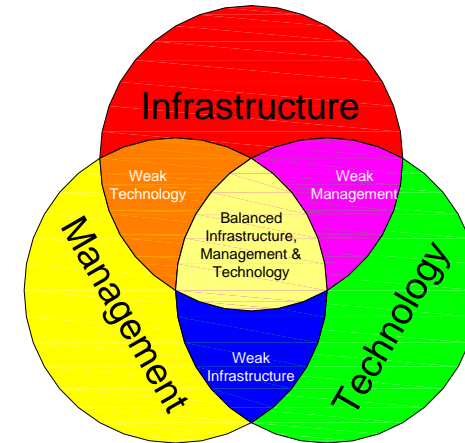
How?

- Capacity building (human capital efficiency gains)
- Practical studies (knowledge gains)
- Innovative financing and management gains
- Technology and ICT gains
- Partnerships (additional expertise gains)



Transport Realities in Asia and EASTS

How can EASTS help governments overcome the huge challenges?



EASTS Studies, Training and Forums: Future Topics for Officials and Students

- **Planning**
 - Sustainable transport and urban development requires government's **robust planning**, using **integrated and inclusive approaches**.
- **Good practices** for sustainable transport and urban project development
- **Project analysis, procurement and management**
- **Financing** for sustainable transport development
- **Sustainability and resilience**
 - Sustainability and resilience are real challenges for countries (cities in particular), with increasing occurrence of natural disasters and the negative impact of climate change having design implications.



Efficient and sustainable transport creates shared prosperity across Asia-Pacific





Thank you for your attention

ご清聴ありがとうございました

Transport in Asia: Challenges and Future

Transport in Asia: Challenges and Future



For More Information

Contact



Mr. Haruya Koide
Principal Regional Cooperation Specialist

Office of Regional Economic Integration
Asian Development Bank
E-mail: hkoide@adb.org
Phone: 63-2-632-6124
Fax: 63-2-636-2183



The views expressed in this presentation are the views of the author and do not necessarily reflect the views or policies of the Asian Development Bank (ADB), or its Board of Governors, or the governments they represent. Nor does the presentation reflect the official views of any specific department, division, or the Transport Community of Practice at ADB. ADB does not guarantee the accuracy of the data included in this presentation and accepts no responsibility for any consequence of their use. Terminology used may not necessarily be consistent with ADB official terms.



The Asian Development Bank

ADB was established by agreement of its member countries to foster economic growth and co-operation in the Asia and Pacific region, and to contribute to economic development of its developing member countries in the region, collectively and individually.

- Quick Facts**
- Established in 1966
 - Long-term ratings:
 - S&P: AAA
 - Moody's: Aaa
 - Fitch Ratings: AAA
 - HQs in the Philippines
 - 24 field offices in Asia
 - 5 representative offices in Australia, Germany, Japan, the Philippines, and the USA
 - Over 2,800 employees



ADB Operational Structure

Public sector funding and private sector funding operated under one corporate umbrella and strategy

