The Conceptual Framework for Transnational Transport Corridors

Port of Baku. Photo: Johan Woxenius.
The Team

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1. Background - objectives

To identify:
- basic concepts
- the role in enhancing trade
- factors affecting its success

To investigate:
- major and successful transport corridors outside the OIC to provide benchmarks

To describe:
- the general situation related to corridor studies in the OIC

To select and analyze:
- six transport corridors involving OIC Member Countries as case studies

To propose:
- recommendations for enhancing transnational transport corridors among OIC member states
1. Background - methodology

- Derivation of factors of influence
- Literature review
- Questionnaire survey
- Selection of six corridor examples
  - Field visits to OIC Corridors
  - Desktop research of non-OIC Corridors
- Multi-Criteria Analysis
1. Background – case studies

- **TRACECA** - Transport Corridor Europe-Caucasus-Asia (T19-T22, T24)
  Turkey, Azerbaijan, Armenia, Georgia, Turkmenistan, Uzbekistan

- **CAREC Corridor 3** - Central Asia Regional Economic Cooperation
  Russia, Kazakhstan, Kyrgyz Republic, Uzbekistan, Tajikistan

- **TAH1** - Trans-African Highway No 1
  Egypt, Libya, Tunisia, Algeria, Morocco, Mauritania, Western Sahara, Senegal

- **NTTC** - Northern Transit Transport Corridor
  Kenya, Uganda, Tanzania, Somalia, Burundi, Rwanda, Rep. of Congo

- **INSTC** - International North-South Transport Corridor
  Russia, Azerbaijan, Iran, India

- **MNSC** - Mashreq North-South Corridor
  Turkey, Syria, Jordan, Yemen, Saudi Arabia
1. Background – case studies (2)

- COMCEC
  - 30 countries, 15% of the world’s countries
  - Population = 2.2 billion
  - 29% of global population
- Case studies
  - Trade Value = 1.3 billion USD, 2% of global trade
  - Length of Roadway = 31,708 km
1. Background – management and reporting

- Project Managed by Fimotions of the Netherlands
- Team of 6: 3 x the Netherlands, one each from Sweden, Saudi Arabia and Botswana
- February to October 2017
- Reporting to COMCEC: 1st Draft, 2nd Draft and Final reports
- Presentations here in Ankara
2. Main concepts and definitions

Underlying hypothesis: “international trade and travel if organized in a systematic way along specific routes and networks will be more successful than a more random approach”
2. Main concepts and definitions

Transnational transport corridors are lines of concentration of socio-economic activity that connect two or more sovereign countries.

Corridors are viewed in a context of agreements between states facilitating trade through infrastructure investments and development of commercial services for moving freight.
2. Main concepts and definitions

A transport corridor

- Germany and Japan!
- Combines different kind of flows
- Demand for short stops
- Examples:
  - Japanese Shinkansen high-speed train
  - Inland waterways
  - US Class 1 and short-line railroads
2. Main concepts and definitions

2. Main concepts and definitions

- Financial flows
- Supply chains and trade
- Logistics services
- Transport services
- Physical transport resources
- Physical infrastructure
- Multi-lateral corridor agreements
- Multi-lateral trade agreements
3.1 General factors

- Corridors have a long history...
  - Silk road
  - Roman empire
  - Inca empire
- ...and newer examples:
  - Dwight D. Eisenhower National System of Interstate and Defense Highways (Interstate Highway System)
  - Trans-Siberian Railway
  - TEN-T in the European Union
- ...and ahead:
  - One Belt One Road initiative
  - OIC corridor system?
3.1 General factors - motives

- Economic reasons for establishing corridors
  - Facilitate trade
  - Stimulate economic development
  - Increase value of land and real estate
  - Connect land-locked countries to the ocean
  - Attract funding from international funding agencies
  - Attract foreign direct investments

- Military and security reasons
  - Moving troops and supplies
  - Bring home spoils, tributes and taxes
  - Cohesion between protagonists
  - Understanding each other

- Political reasons
  - Employment
  - Increase political and economic influence
3.2 Political and institutional factors

- Just building infrastructure is not enough
- ...but a transport corridor links places and can facilitate activities in a positive spiral, "circular and cumulative causation"
- Foreign direct investment
- An international treaty that commits governments to a range of economic, financial and legal obligations that require domestic ratification
- Creating a transport corridor coordinating entity
3.3 Economic factors

- Transport along a corridor is a derived demand
  - ...but transport demand can be stimulated!
  - Good proxy for economic activity

- Trade as a result of absolute and comparative advantage
  - Facilitates economy of scale
  - Increases productivity
  - Factor endowments of the production factors (labour, land, capital)

- Much trade in raw materials and consumer products throughout history
  - Fragmented supply chains implies increased focus on components
  - Chase for lowest labour costs

- The flying geese effect
  - Industrialisation spill-over to neighbouring countries
  - Japan => Republic of Korea, Singapore, Taiwan => Indonesia, Malaysia, Thailand => China, Vietnam =>...
Hypothesis (Schüermann et al., 2002):
“regions with better access to locations of input materials and markets will, *ceteris paribus*, be more productive, more competitive and hence more successful than more remote and isolated regions”.

i. “Economic corridors have always played a key role in integrating economies across a region” (Vickerman, 2002).

ii. “Economic corridors’ relation to welfare can be seen in both direct and indirect terms” (Venables, 2008).

iii. “Economic corridors have become important building blocks of regional economic integration in an era of globalization” (Kuroda et al., 2008).
3.3 Economic factors – transport cost savings

Truck freight rates in US$ cent/ton-kilometer

Source: Asian Development Bank, 2016
3.4 Trade facilitation

- **Hard measures**
  - Improved border infrastructure and communications

- **Soft measures**
  - Improvement and harmonization of customs procedures
  - Adoption of ASYCUDA, Risk analysis and Electronic Data Interchange (EDI)

Conventional two stop crossing and one stop border crossings

- Trade is **not** a zero-sum game!

3.5 Social factors

- Inclusive growth and poverty reduction
  - Not only for rich, old and male motorists!
- Migrating labour
- Congestion
- Land use
- Air quality health effects
- Ideas and culture migrate through transnational transport corridors!

Source: www.pixcove.com
3.6 Safety, security and legal liability factors

- Terrorism
- Organised crime
  - Drugs
  - Human trafficking
  - Counterfeit products
- Disease
- Invasive species
- Traffic accidents

- Lack of research and structured knowledge
- Mobile law enforcement
- International cooperation
  - Exchange of intelligence
- Harmonization of operational safety
3.7 Technical and operational factors

- Interoperability within and between modes
  - Infrastructure
  - Traffic regulation
  - Vehicle design
  - Modularisation/containerisation of goods
  - Information and communication systems
  - Intelligent traffic management systems

- Freight corridor governance
  - Non-discriminatory use
  - Harmonisation of taxes and fees
3.8 Environmental and energy factors

- Transport generates externalities
  - Global, regional and local effects
  - Emissions to air, soil and water
  - Traffic accidents
  - Noise
  - Land use and barrier effects
  - Biodiversity loss

- Tendency to deal with one externality at a time

- Much research on sustainability, but little in a corridor context

- Corridors in OIC countries often for moving energy carriers
3.8 Environmental and energy factors

Global energy use in transport sector in 2050 (%)

- Electricity: 15%
- Hydrogen: 8%
- Biofuels: 30%
- CNG & LPG: 26%
- Gasoline: 26%
- Diesel: 15%
- Jet Fuel: 2%
- Heavy fuel oil: 2%

Use of biofuels in different modes in 2050 (%)

- Road passenger: 37%
- Road freight: 26%
- Aviation: 11%
- Shipping: 26%

In total 27%

Source: IEA, 2010
3.9 Corridor performance evaluation

- Performance monitoring and management
- Continuous need, but often snap-shot views from individual projects
- Goal achievement and identification of areas to improve

The four dimensions of corridor performance

| Volumes | • By corridor components (Modes & Nodes)  
• By trade types (intra-regional, transit, international) |
| Time & Uncertainties | • Processing time, idle time  
• Distribution of delays and uncertainties |
| Prices & Costs | • Cost factors of operators  
• Total logistics costs to the trader / shipper |
| Services & Infrastructures | • Quality and capacity  
• Efficiency and capability |

Source: Hartmann, 2013
4. Conclusion - Corridor Evaluation Criteria

1. General factors
2. Political and institutional factors
3. Economic factors
4. Trade facilitation
5. Social factors
6. Safety, health, security and the legal liability
7. Technical and operational factors
8. Environmental and energy factors
9. Corridor performance monitoring
Thank you for listening

Any Questions?