



# Fourth Meeting of the Working Group on the Trans-Asian Railway Network

Increasing rail share:  
Leveraging multimodal hubs

RAGHU DAYAL  
Asian Institute of Transport Development

# Railways to reorient and redimension itself

## Big is beautiful, small is no less

**Recent history's most important change-agent, railways over time failed to adapt and grow.**

- Railways to be a leader in the world of logistics – with customer-centric marketing strategy
  - Besides handling its traditional core business of high volume dense cargo streams, it must devise innovative operational strategies to woo and win LTL/LWL/LCL freight.
- With an annual freight volume of about 100btkm, half of European cross-border rail freight moves as single wagon load demand.
- About 1500 m.t. of originating freight in India is non-bulk, most of which is transported by road, often over “long” sub-continental distances.
- Rail freight business needs be redimensioned.
  - It calls for integrated multimodal transport service.
  - It necessitates selected nodes/yards/terminals/sidings for aggregation/consolidation.
- Assistance by way of common user infrastructure of terminals will help.
  - IR to radically change its approach and incentivise CTOs, for example, in FAK pricing and guaranteed transits for substantial rail retail business to be won over.
  - Roads play a vital roles. Railways is a preferred mode, provided there be a minimum critical mass.
  - Railways need to create this critical mass in partnership with others.

# Increasing the rail share

- Take the truncated ASPA region – South Asia and South-east Asia
- Rail share in respective national freight market keeps falling. For example:
  - India now has less than one-third share
  - Bangladesh 7%
  - Myanmar 30%
  - Thailand 5%
  - Vietnam 2%
- There is little connectivity between South Asian and South-east Asian rail networks.
- Rail infrastructure in most countries is in dire need of resuscitation.
- No purposeful economic corridor can materialize without a vibrant transport corridor.
- Instead of intending to plan full corridor(s), it may be pragmatic to work along restrictive geographic areas, to begin with.
- Some ambitious rail connectivity projects have been envisaged – e.g., Singapore-Kunming Rail Link (SKRL)
  - A multimodal corridor has also been contemplated– to link Bengaluru and Chennai to Dawei, Laem Chabang and Saigon port.
  - Another corridor between Kolkata and Saigon port.

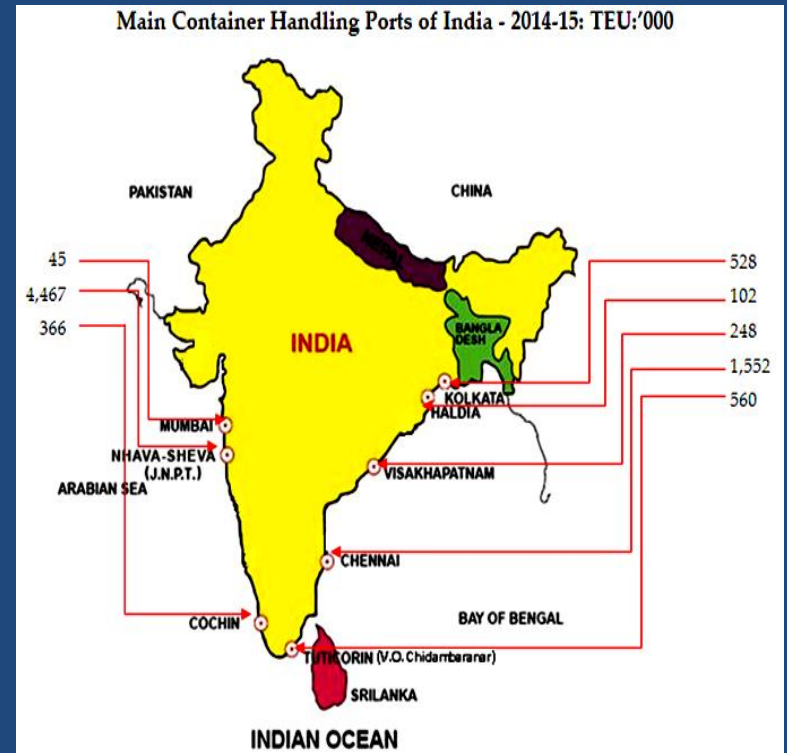
# Some examples – firstly, in South Asia

In **Bangladesh**, BR carries just about 10-12% of all containers handled at Chittagong port all to and from Dhaka ICD.

- There is capacity crunch on the rail corridor
- There is also need for augmentation of inland container terminal facilities.
- Containers from India for Bangladesh are routed via Mumbai to Singapore, to Chittagong, to Dhaka.
  - If moved on all rail route, within operational restrictions, the box for Bangladesh will save at least 1/3rd of the transit time and more than half the haulage and handling costs.
- Intermodal transit of goods over land route would be cheaper by 35%, faster by 70%.

## Traffic from/to Birgunj TCD in Nepal

- Notwithstanding the share of rail-carried containers between gateway Kolkata port in India and ICD at Birgunj in Nepal being over 60% of all export– import containers on the corridor, there remains a scope to maximize the rail share
- Two aspects need attention: one; overall transit time including dwell time at the gateway and, second, pricing.



Containers handled at all Central Government ports in 2014-15: 7,960m  
Containers handled by private sector at state ports: 3.53m

Share of rail-borne containers in and out of ports in India has steadily fallen – from a level of 32% of the total containers handled at Indian ports in 2000-2001 to 15% in 2014-15.

A 10% share or more is only in respect of containers at Pipava, Mundra, JNP and Visakhapatnam, all other ports recording less than 10%.

# Then, some examples in Southeast Asia

## Thailand

- The Lat Krabang ICD located about 27km east of Bangkok and 118km north of Laem Chabang port, has been handling increasing volumes.
- Although primarily designed with an emphasis on rail-based transport, road share outstrips the rail.
- The rail share is just about one-fourth of the traffic.

## The Malaysia – Thailand bridge

- KTMB operates a landbridge service in collaboration with SRT for cross border containers by rail between Malaysia and Thailand.
- Throughput on the corridor steadily improved until a few years ago, where after some operational problems started taking a toll.

# Poised for a transformation

- DFC-W enabling DSCT operation on flat rail cars under overhead electric wires is designed to embody state-of-the-art new technological and operational features.
- Container trains running between JN port near Mumbai and ICDs in the hinterland will carry 400 TEU each against 90 TEU hitherto.
- The hub-and-spoke system would come to life.
  - The rail infrastructure inside the port is being redesigned and the layout revamped for formation and handling of long and heavy container trains expeditiously and efficiently.
  - For inland locations in the hinterland, the operational plan envisages the development of three intermediate load centres along the rail corridor to serve as nodes for hub-and-spoke operations.
  - The long liner trains will be re-formed at these intermediate depots, which will deal also with streams coming from/going to important feeder points.
  - A node between Mumbai and Vadodara may deal with traffic from/to ports of Hazira and Dehej, etc. Another with the stream from/to ports of Mundra and Pipava, etc. Still another in Punjab for traffic from/to Ludhiana and other centres in the region.
- These intermediate load centres will receive and dispatch container trains of conventional size from/to various ICDs/CFSs in the respective zones.
- These nodes will handle both EXIM and domestic cargo, providing integrated logistics services end-to-end – in close cooperation with associate road operators and other agencies.
- Some important customers with pan-India presence including major FMCG companies have already been extended such integrated logistics services.

# DSCT... a game-changer

- Until lately, DSCT operation with diesel traction and well wagons an exclusive feature in North America since 1984.
- Chinese Railways adopted well wagon and pioneered DSCT operation on electrified rail routes in 2007.
- Well type wagons for DSCT enable increase of train capacity by about 50%.
  - Flat bed container carrying cars can yield 100% capacity increase.
- In India, pending DSCT on electrified DFC-W (Mumbai–Delhi) route, diesel locomotives haul DSCTs, for example, between Pipavav/Mundra ports and ICDs in the northern belt.



*Courtesy: Transportation Technology Centre, Inc. USA*



*The Inaugural DSCT on the Pipavav port – Kanakpura (Jaipur) route*

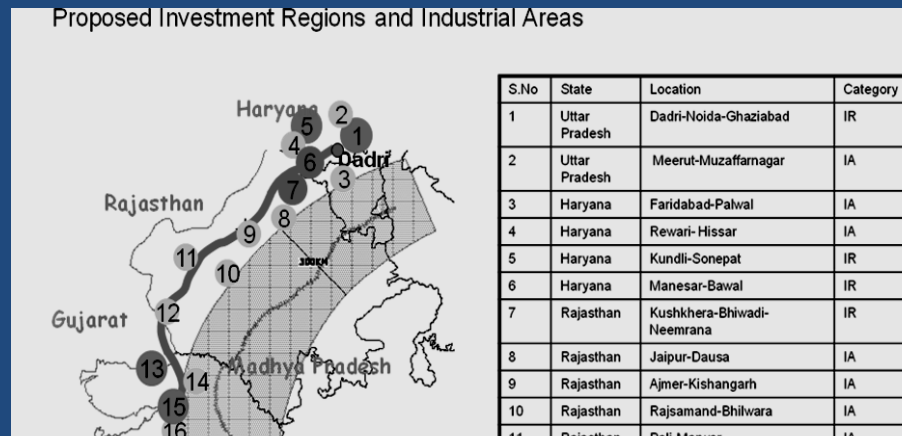


# Leveraging vast growth potential

- The DFC along the western corridor will traverse six of India's states: NCT, Uttar Pradesh, Haryana, Rajasthan, Gujarat and Maharashtra, which together constitute 39% of India's total population, contribute 60% of its exports, and more than 43% of national income.
- DFC-W envisages to serve, as a catalyst for the US\$90 billion Delhi Mumbai Industrial Corridor (DMIC).

## Industrial clusters- economic hubs

- NCT a major manufacturing and trading hub as well as a consumption centre
- Manesar-Bawal another cluster with great potential of large container volumes
  - DMIC- related NCT and Manesar-Bawal region estimated to generate annual container volumes of over 4m TEU by 2020



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