GCC REGIONAL RAILWAY CORRIDOR

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World Bank

Rail Corridors – Keys to Success
Vienna – Austria: Nov 11-13, 2015
TOPICS:

1. Description of the Project.
3. Regional Integration Perspective.
The GCC Railway Corridor

- Railway links GCC MS – Kuwait to Muscat and links Bahrain via a Proposed New Causeway with Saudi.

- Length estimated 2177 km single track mix use – passenger and freight transport.

- Total infrastructure capital cost is estimated at:
  - US$15.5 billion (200 km/hr. – Diesel Traction).
  - US$4.2 billion (Causeway Link Bahrain-Saudi with GCC RW- completed feasibility study). (2009 Figures)

- Adopted best International Standards: Speed for (220 km/hr.) passengers and (80-120km/hr.) freight.
The GCC Railway Project

- Intermodal with transport networks and links major Cities, ports, airports, industries, & metros.
- Model shift from truck road traffic is significant reducing pollution, maintenance costs, accidents.
- Project is well under implementation – mandated to be completed in 2018.

Project’s Impacts:

- Will Network with GCC National Railways – 12,000 Km with estimated investment of US$ 25,000 Billion.
- Creating about 100,000 skilled jobs.
- Will build a GCC national railway industry.
- Has limited social and environmental adverse impacts.
- Strengthen economic and social integration in GCC.
The GCC Railway Project

GCC Railway Alignment
## Standards and Specifications

<table>
<thead>
<tr>
<th>Standards and Specifications</th>
<th>Options Considered and Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Train Operating Speed</strong></td>
<td></td>
</tr>
<tr>
<td>Passenger</td>
<td>160 200 220 350</td>
</tr>
<tr>
<td>Freight</td>
<td>80 100</td>
</tr>
<tr>
<td><strong>Traction Power</strong></td>
<td></td>
</tr>
<tr>
<td>Diesel</td>
<td>Electric</td>
</tr>
<tr>
<td><strong>Track Configuration</strong></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>Double</td>
</tr>
<tr>
<td><strong>Clearance height</strong></td>
<td></td>
</tr>
<tr>
<td>double stack containers</td>
<td></td>
</tr>
<tr>
<td><strong>Axle Load (t)</strong></td>
<td>20 32.4</td>
</tr>
<tr>
<td><strong>Gauge</strong></td>
<td>1435 mm</td>
</tr>
</tbody>
</table>
## PROJECT'S COSTS AND LENGTHS

<table>
<thead>
<tr>
<th>Item</th>
<th>Length</th>
<th>Civil works</th>
<th>Signaling Telecom, power</th>
<th>Buildings and shops</th>
<th>Total excluding land</th>
<th>Land</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kuwait</td>
<td>145</td>
<td>960</td>
<td>42</td>
<td>50</td>
<td>1,052</td>
<td>212</td>
<td>1,264</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>663</td>
<td>1,602</td>
<td>225</td>
<td>130</td>
<td>1,958</td>
<td>672</td>
<td>2,630</td>
</tr>
<tr>
<td>Bahrain</td>
<td>36</td>
<td>95</td>
<td>8</td>
<td>85</td>
<td>188</td>
<td>36</td>
<td>224</td>
</tr>
<tr>
<td>Qatar</td>
<td>283</td>
<td>718</td>
<td>66</td>
<td>50</td>
<td>834</td>
<td>355</td>
<td>1,189</td>
</tr>
<tr>
<td>UAE</td>
<td>684</td>
<td>4,052</td>
<td>210</td>
<td>112</td>
<td>4,374</td>
<td>1,557</td>
<td>5,931</td>
</tr>
<tr>
<td>Oman</td>
<td>306</td>
<td>2,633</td>
<td>79</td>
<td>60</td>
<td>2,773</td>
<td>296</td>
<td>3,069</td>
</tr>
<tr>
<td>Total</td>
<td>2117</td>
<td>10,060</td>
<td>631</td>
<td>488</td>
<td>11,179</td>
<td>3,128</td>
<td>14,307</td>
</tr>
</tbody>
</table>

Costs per km vary between MS due country specific unit rates, different terrain, location and number of bridges and tunnels, double track, etc.
## FREIGHT TRAFFIC FORECAST

<table>
<thead>
<tr>
<th>Commodity</th>
<th>2004-2006 average</th>
<th>2016 forecast</th>
<th>2016 rail share</th>
<th>2016 KSA share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gravel, building stone, limestone, alumina</td>
<td>23.1</td>
<td>21.5</td>
<td>16.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Containers</td>
<td>4.4</td>
<td>9.5</td>
<td>4.1</td>
<td>2.0</td>
</tr>
<tr>
<td>others</td>
<td>12.5</td>
<td>24.0</td>
<td>9.0</td>
<td>5.7</td>
</tr>
<tr>
<td>Total</td>
<td>39.9</td>
<td>61.0</td>
<td>29.1</td>
<td>11.7</td>
</tr>
</tbody>
</table>

Total revenue about US$400 million/pa in 2016
Forecast passenger traffic (4 million - 2016-2020).

Passenger revenue ($240 m 2016 to $600 m 2045).

Train demands - (5) trains a day from Kuwait City to Dubai, (8) Manama /Doha to Muscat & (3) from Interchange (connection with SRO) to Doha.
KFCA Proposed New Causeway
- GCC SG has completed a feasibility study (2010) to link the GCC Railway to Yemen border.
- A 1200 km rail is now part of Oman rail network
Implementation Approach

➢ From Centralized to Decentralized.
➢ Formed GCC Railway Steering Committee.
  ▪ MoT, MoF, Customs, Immigrations, etc.
➢ Formed Railway Expert Working Group(s).
  ▪ Develops TSIs Common Guidelines for Implementation of Project.
➢ Focus on Sustainability - Building Institutional Capacity.
➢ Sign cooperation agreements with International Organizations (WB, OTIF now with , ERA, AAR, etc.).
Implementation Achievements

➢ Project is well under implementation:
  ▪ UAE – Completed 265 km.
  ▪ Saudi – Completed 200 km
  ▪ Qatar and Oman awarded DB contracts.

➢ 2012 Mandated the common guidelines for DED.

➢ Completed common guidelines for operations & institutional & regulatory requirements.

➢ Engineering maps for railway alignment.
Implementation Achievements

- Completed a Master Implementation schedule – on going updates.

- Significant Capacity Building - Formed:
  - Institutional reforms – PMUs, regulatory authorities.
  - Railway Infrastructure and Operation Companies – Vertically Integrated Model.
  - TT and Training Academies.

- Localizing GCC Railway Supporting Industries.
Way Forward – Challenges

- Several stakeholders involved: 6-MS’s MoT; MoF; Authorities; customs & immigration; consultants; Contractors & suppliers; etc.
- Approval process: A year cycle for key decisions on policy, strategy & implementation requirements.
- Unique complex mega regional railway integrating into the GCC National Railway Networks.
- Availability of resource – competing for resources – staffing, services, & material.
- Diverse views & Requirements – ability to achieve consensus on key development issues.
Way Forward - Interoperability


- MS agreed to concepts of:
  - origin-destination for passenger & freight for efficient operations.
  - Open Access - right of access for operating regional & integrated transport services.
  - Regional operational framework.
  - Adequate security measures to protect passengers & freight rail transport.
  - Adopt COTIF to develop the GCC uniform commercial rules for railway traffic.
Way Forward – Next steps

➢ Form the GCC Railway Authority – Agency – ongoing study to be completed 2016.

➢ Advance the Causeway Link between Saudi & Bahrain to Implementation.

➢ Develop A Railway Strategy integrated in the transport development Plan.

➢ Structured program for sustainability:
  ▪ Manufacturing – Supporting Rail-Metro Industries.
  ▪ Institutional Capacity Building – Structured Training, OJT, University Programs, R&D etc.
Is the GCC Railway Challenging Enough?

- Industry Conference (Kuwait – Nov 25-26, 2016) -
- Contacts: Transport@gccsg.org

GCC Rail Project Complexities

- Border Crossing
- Security
- Airports
- Stations
- Customs
- Portfolio Management
- Immigration
- Interoperability
- Risks
- Contractors
- Facilities
- Industrial Zones
- Constraints
- Sea Ports