Rail-Based Intermodal Transport in China
Current Status and Challenges

Transport Planning and Research Institute
Ministry of Transport, P. R. China
EGM, Bangkok, 30-31 August, 2016
Rail-Based Intermodal Transport Overview in China
Railway freight volume vs. GDP growth
Fast growth of railway infrastructure

Railway map of China
Colored lines showing CRH and other high speed rail services
Last update: 2016-05-15

- Railway
  121,000 km
- High-speed railway
  23,600 km
Market-oriented reform of railway freight transport

- More flexible pricing
- Optimize freight structure
- Marketing
- Diversification
- Intermodal
Six domestic rail–water intermodal corridor (2011)

Rail-water intermodal volume **1.54 million** TEU in 2015
68% growth since 2010
16 domestic cities has established its own railway container international express to Europe.
3 Railway crossings: Manzhouli, Alashankou (Khorgos), Erlianhaote

- 2013: 80
- 2014: 308
- 2015: 815
- 1-500: 4 y
- 501-1000: 7 m
- 1001-1500: 5 m

- 1800+ trains in sum, 39 routes;
- Connect 12 cities in 8 countries;
- From a native brand in China to international logistics brand;
- First half in 2016: outbound 619 trains, +150%; inbound 209 trains, +318%;
Number of trains through by ports

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manzhouli (Import)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>162</td>
</tr>
<tr>
<td>Manzhouli (Export)</td>
<td>70</td>
<td>108</td>
<td>173</td>
<td>308</td>
<td>442</td>
</tr>
<tr>
<td>Alashankou (Import)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>27</td>
<td>121</td>
</tr>
<tr>
<td>Alashankou (Export)</td>
<td>17</td>
<td>42</td>
<td>79</td>
<td>236</td>
<td>570</td>
</tr>
</tbody>
</table>
## Typical China Railway Express Routes

<table>
<thead>
<tr>
<th>Routes</th>
<th>Model</th>
<th>Time</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duisburg—Chongqing</td>
<td>Rail</td>
<td>18d</td>
<td>9,000 USD/TEU</td>
</tr>
<tr>
<td>Chongqing—Shenzhen—Hamburger (by Sea)</td>
<td>Sea-rail</td>
<td>35d</td>
<td>5,000 USD/TEU</td>
</tr>
<tr>
<td>Chongqing—Duisburg</td>
<td>Rail</td>
<td>20d</td>
<td>8,000 USD/TEU</td>
</tr>
<tr>
<td>Hamburger—Shanghai—(Yangzi River) Chongqing</td>
<td>Sea-river</td>
<td>50d</td>
<td>3,000 USD/TEU</td>
</tr>
<tr>
<td>Chengdu—Duisburg</td>
<td>Rail</td>
<td>14d</td>
<td>9,000 USD/10t</td>
</tr>
<tr>
<td>Chongqing—Shenzhen—Hamburger (by Sea)</td>
<td>Sea-rail</td>
<td>40d</td>
<td>6,000 USD/10t</td>
</tr>
<tr>
<td>Chengdu—Amsterdam (By Air)</td>
<td>air</td>
<td>5d</td>
<td>65,000 USD/10t</td>
</tr>
</tbody>
</table>
Social and economic benefits of CR express:

- Provide a new model and corridor from China to Europe
- Provide a reliable and high-efficient logistics service to decrease cost
- Accelerate the pace of inland Chinese cities to embrace the globalization, and enhance vitality of inland cities
- Benefit to the countries along the routes
Issues and Challenges
- Improper oversea network & nodes layout
- Inadequate capacity of infrastructure and equipment
  - Long distance transfer between seaport and railway container center
  - Capacity imbalance of border crossing
  - Insufficient sharing of Information
- Price is not competitive

<table>
<thead>
<tr>
<th>Model</th>
<th>Time</th>
<th>Price (40 ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR express</td>
<td>16</td>
<td>6000USD</td>
</tr>
<tr>
<td>Shipping</td>
<td>35~40</td>
<td>2000-2500USD</td>
</tr>
<tr>
<td>New Land Bridge</td>
<td></td>
<td>2400USD</td>
</tr>
</tbody>
</table>
Imbalance between inbound and outbound
Non-uniform of related transport documents along the routes

《国际铁路货物联运协定》（《国际货协》）
Agreement On International Railroad through Transport Of Goods

《国际铁路货物运送公约》（《国际货约》）
International Convention on the Carriage of Goods on Railway
<table>
<thead>
<tr>
<th>Origins</th>
<th>Destinations</th>
<th>No. of Trains</th>
<th>No. of Consignment note</th>
<th>Type of agreement</th>
<th>Percentage(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chongqing</td>
<td>Germany</td>
<td>145</td>
<td>6317</td>
<td>Either</td>
<td>32.6</td>
</tr>
<tr>
<td>Wuhan\Zhengzhou\Others</td>
<td>Germany</td>
<td>184</td>
<td>3938</td>
<td>Both (replace)</td>
<td>29.7</td>
</tr>
<tr>
<td>Yiwu</td>
<td>Spain</td>
<td>28</td>
<td>924</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wuhan</td>
<td>Czech</td>
<td>15</td>
<td>700</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wuhan</td>
<td>Hungary</td>
<td>1</td>
<td>54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kuming\Nanchang</td>
<td>Holland</td>
<td>2</td>
<td>148</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suzhou\Chengdu\Whan</td>
<td>Poland</td>
<td>158</td>
<td>7051</td>
<td>Agreement On International Railroad through Transport Of Goods</td>
<td>37.7</td>
</tr>
<tr>
<td>Chongqing</td>
<td>Wuhan\Shihezi</td>
<td>Russia</td>
<td>15</td>
<td>184</td>
<td></td>
</tr>
<tr>
<td>Wuhan</td>
<td>Belarus</td>
<td>2</td>
<td>83</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>550</strong></td>
<td><strong>19399</strong></td>
<td></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
Issues related

- Format is not uniform
- Non-electronically
- Claim term differs
- Letter of credit
Recent work and efforts in China
A huge opportunity for railway intermodal

- Economic strategy for the current China: constructing a new system of open economy
- Intermodal transport is the fundamental foundation of the open economy system
- Railway will play an important role in intermodal transport development
  - Economic structure optimization: bulk cargo decrease; container cargo increase
  - Regional coordinated development: intermodal transport as bond
  - Enterprise competitiveness enhancement: increase efficiency and decrease cost
  - Integrated transport administration system: under-building

‘The growth in rail intermodal is one of America’s best transportation-related success stories.’

John Gray, Association of American Railroads senior vice president of policy and economics
1) Improve policies and regulations

✓ “Medium and long term planning for logistics industry”
✓ “Notice on initiating national intermodal transport pilot project”
✓ “Guidance on promoting healthy development of China Railway express”
✓ Drafting “Measures on promoting intermodal transport development”
✓ Drafting “Recommendation on promoting intermodal transport development”
✓ Building techniques and standards system of intermodal
2) Special actions—“Action plan on building national logistics corridors”

7 directions for int’l corridors

- China-Mongolia-Russia
- New Land Bridge
- China-Central Asia-West Asia
- China-Pakistan
- China-Indochina Peninsula
- China-Bangladesh-India-Burma
- Maritime Silk Road in 21st Century

first batch of national intermodal pilot projects: 16
3) promoting healthy development of China Railway express

- Integrated planning on CR express
- Strengthen the collaboration among domestic government official
- Improve the connection among countries along the routes
- Improve facilitation of customs clearance for intermodal transport
- Build international rules for intermodal transport
A harmonious and inclusive globe

Develop seamless rail-based intermodal transport services in Northeast and Central Asia