PUTTING CHINA-EUROPE ON RAIL
Contact Group FIATA/UIC on Rail Transport
2nd Meeting ● Shenzhen, PRC ● 12-13 May 2016

CPMM
Corridor Performance Measurement and Monitoring
Monitoring of CAREC corridors – lessons for cross-border transport improvement

http://carecprogram.org/
TFI Trends 2010-2015
Rail Transport

TFI1
Time to Clear a BCP

TFI2
Cost Incurred at BCP

TFI3
Cost Incurred to Travel a Corridor Section

TFI4
Speed to Travel on CAREC Corridors (SWD)
Sample TCD: Urumqi (PRC)-Almaty (KAZ) *(above)*, Tianjin (PRC)-Ulaanbaatar (MON) *(below)*

**URUMQI**

ALASHANKOU-DOSTYK

ALMATY

**TIANJIN**

OSH

BATKEN

DUSHANBE

ERENHOT-ZAMYN UUD

ULAANBAATAR

**Distance**

<table>
<thead>
<tr>
<th>PRC-KAZ</th>
<th>PRC-MON</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,277 km</td>
<td>1,692 km</td>
</tr>
</tbody>
</table>

**Time**

<table>
<thead>
<tr>
<th></th>
<th>PRC-KAZ</th>
<th>PRC-MON</th>
</tr>
</thead>
<tbody>
<tr>
<td>152 hr</td>
<td>185 hr</td>
<td></td>
</tr>
</tbody>
</table>

**Cost**

<table>
<thead>
<tr>
<th></th>
<th>PRC-KAZ</th>
<th>PRC-MON</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5,733</td>
<td>$4,915</td>
<td></td>
</tr>
</tbody>
</table>

**SWOD**

<table>
<thead>
<tr>
<th></th>
<th>PRC-KAZ</th>
<th>PRC-MON</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 kph</td>
<td>14 kph</td>
<td></td>
</tr>
</tbody>
</table>

**SWD**

<table>
<thead>
<tr>
<th></th>
<th>PRC-KAZ</th>
<th>PRC-MON</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.4 kph</td>
<td>9.2 kph</td>
<td></td>
</tr>
</tbody>
</table>

- Steeper RED lines indicate faster rail speed from point A-B.
- Jumps indicate long delays (RED) or incurred cost (GREY) at that point.

ALASHANKOU-DOSTYK (PRC-KAZ) border

- PRC side
  - Waiting due to restriction on entry, 24h
  - Customs inspection, 3h, $65

- KAZ side
  - Waiting due to unavailability of wagons, 18h
  - Transloading at gauge change point, 3h, $350

ERENHOT-ZAMYN UUD (PRC-MON) border

- PRC side
  - Customs inspection, 1h
- MON side
  - Waiting due to busy reloading facilities, 10.5 h
  - Customs inspection, 2h, $80

**Methodology**
Aside from waiting in queue, delays due to **transloading at the break in gauge** are commonly encountered at BCPs during inbound border crossing.

- Erenhot (PRC), 33.6 hrs
- Dostyk (KAZ), 4.8 hrs
- Zamyn-Uud (MON), 1.3 hrs

**Waiting in queue** for rail transport is divided into several categories. In 2015, trains are delayed due to restriction on entry (24.5 hours) and unavailability of wagons (23.3 hours).
Delays at the border, automotive

Average duration of delays at BCPs

<table>
<thead>
<tr>
<th>Activity</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Border Security / Control</td>
<td>0.4</td>
</tr>
<tr>
<td>Customs Inspection</td>
<td>6.4</td>
</tr>
<tr>
<td>Health / Quarantine</td>
<td>0.4</td>
</tr>
<tr>
<td>Phytosanitary</td>
<td>0.3</td>
</tr>
<tr>
<td>Veterinary Inspection</td>
<td>0.3</td>
</tr>
<tr>
<td>Visa/Immigration</td>
<td>0.2</td>
</tr>
<tr>
<td>GAI/Traffic Inspection</td>
<td>0.2</td>
</tr>
<tr>
<td>Police Checkpoint / Stop</td>
<td>0.2</td>
</tr>
<tr>
<td>Transport Inspection</td>
<td>0.4</td>
</tr>
<tr>
<td>Weight/Standard Inspection</td>
<td>0.4</td>
</tr>
<tr>
<td>Vehicle Registration</td>
<td>0.4</td>
</tr>
<tr>
<td>Emergency Repair</td>
<td>1.3</td>
</tr>
<tr>
<td>Escort / Convoy</td>
<td>1.0</td>
</tr>
<tr>
<td>Loading / Unloading</td>
<td>2.2</td>
</tr>
<tr>
<td>Road Toll</td>
<td>0.4</td>
</tr>
<tr>
<td>Waiting/Queue</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Among activities with high duration, **customs inspection** stands out. In 2015, the average delay for customs inspection rose to 6.4 due to lengthy procedures at PAK-AFG BCPs for northbound shipments.

**Waiting in queues and loading/unloading** are very time-consuming, and are frequently experienced during shipments, specifically in these BCPs, when entering neighboring countries:

- Peshawar (PAK), 12 hrs
- Chaman (PAK), 12 hrs
- Irkeshtan (PRC), 14 hrs
# East-West Traffic (originating in PRC)

<table>
<thead>
<tr>
<th>Rail</th>
<th></th>
<th>Alataw Shankou</th>
<th></th>
<th>Dostyk</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Time*</td>
<td>Cost**</td>
<td>Time</td>
<td>Cost</td>
<td>Time</td>
</tr>
<tr>
<td>Containerized, 40 ft., Express</td>
<td>2015</td>
<td>n.a</td>
<td>n.a</td>
<td>46.0</td>
<td>293</td>
<td>46.0</td>
</tr>
<tr>
<td></td>
<td>2014</td>
<td>n.a</td>
<td>n.a</td>
<td>44.3</td>
<td>122</td>
<td>44.3</td>
</tr>
<tr>
<td>Containerized, 40 ft., conventional</td>
<td></td>
<td>33.6</td>
<td>113</td>
<td>45.4</td>
<td>404</td>
<td>79.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>42.0</td>
<td>138</td>
<td>60.4</td>
<td>232</td>
<td>102.4</td>
</tr>
<tr>
<td>Bulk chemicals</td>
<td></td>
<td>64.3</td>
<td>199</td>
<td>83.8</td>
<td>359</td>
<td>148.1</td>
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<tr>
<td></td>
<td></td>
<td>94.0</td>
<td>246</td>
<td>102.0</td>
<td>215</td>
<td>196</td>
</tr>
<tr>
<td>Industrial materials</td>
<td></td>
<td>30.0</td>
<td>84</td>
<td>41.0</td>
<td>395</td>
<td>71.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45.8</td>
<td>149</td>
<td>67.0</td>
<td>246</td>
<td>112.8</td>
</tr>
<tr>
<td>Korgas</td>
<td>2015</td>
<td>10.6</td>
<td>633</td>
<td>5.8</td>
<td>332</td>
<td>16.4</td>
</tr>
<tr>
<td>Khorgos</td>
<td>2014</td>
<td>19.3</td>
<td>644</td>
<td>6.8</td>
<td>308</td>
<td>26.1</td>
</tr>
</tbody>
</table>

* Average time, in hours, all activities, ** Average cost, in USD equivalent, all activities
Looking Ahead

Fine-tuning CPMM
- Expanding coverage of railway movements
- Examining how best to measure and monitor performance of trade logistics services
- Encouraging broader, more intensive use of CPMM data

Reducing Delays at BCPs

Improving Corridor Accessibility

http://cfcfa.net/cpmm/annual-and-quarterly-reports-cpmm