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Thailand’s Key Logistic and Transport System and Facilities along Asian Highway and Trans Asian Railway

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Land transport is the major domestic freight in Thailand. Road transport has the highest volume of 82.56% of the total domestic transport, while railway transport serves only 2.22%. Water transport serves 15.2% of the total domestic transport (inland waterway 9.49%, coastal transport 5.71%). Air transport has the smallest volume of 0.02%.
### Asian Highway and ASEAN Highway in Thailand

<table>
<thead>
<tr>
<th>Highway No.</th>
<th>Details of Route</th>
<th>Distance (km.)</th>
<th>Transit Transport Route (km.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH1</td>
<td>Aranyaprathet – Hin Kong – Pang Pa In – Nakhon Sawan – Tak – Mae Sot</td>
<td>715.5</td>
<td>702</td>
</tr>
<tr>
<td>AH2</td>
<td>Sadao – Hat Yai – Bangkok – Bang Pa In – Tak – LamPang – Chiang Rai – Mae Sai</td>
<td>1,913.5</td>
<td>1,923</td>
</tr>
<tr>
<td>AH3</td>
<td>Chiang Khong – Chiang Rai</td>
<td>121</td>
<td>115</td>
</tr>
<tr>
<td>AH12</td>
<td>Nong Khai – Nakhon Ratchasima – Hin Kong</td>
<td>571.5</td>
<td>533</td>
</tr>
<tr>
<td>AH13</td>
<td>Huai Kon – Denchai – Pitsanulok – Nakhon</td>
<td>550.5</td>
<td>-</td>
</tr>
<tr>
<td>AH15</td>
<td>Sakhorn Panom – Udon Thani</td>
<td>249</td>
<td>-</td>
</tr>
<tr>
<td>AH16</td>
<td>Mukdahan – Khon Kaen – Pitsanulok – Tak</td>
<td>703</td>
<td>713</td>
</tr>
<tr>
<td>AH18</td>
<td>Sungai Kolok – Pattani – Hat Yai</td>
<td>311</td>
<td>-</td>
</tr>
<tr>
<td>AH19</td>
<td>Nakhon Ratchasima – Laem Chabang – Bangkok</td>
<td>364</td>
<td>491</td>
</tr>
</tbody>
</table>

**Total Asian Highway in Thailand**

<table>
<thead>
<tr>
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<th>Transit Transport Route (km.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH112</td>
<td>Ban Khlong Loi – Bang Saphan</td>
<td>28</td>
<td>-</td>
</tr>
<tr>
<td>AH121</td>
<td>Mukdahan – Yasothon – Buriram – Sa Kaeo</td>
<td>508</td>
<td>-</td>
</tr>
<tr>
<td>AH123</td>
<td>Phu Nam Ron – Kanchanaburi – Bangkok – Laem Chabang – Map Ta Put – Trat – Hat Lek</td>
<td>634</td>
<td>-</td>
</tr>
</tbody>
</table>

**Total ASEAN Highway in Thailand**

Source: Department of Highways
AH improvement in Thailand

Shares of the Asian Highways in Thailand categorized by AH Design Standard

- Class I: 78%
- Class II: 16%
- Class III: 2%
- Missing Links: 0%
- Below Class III: 0%

Shares of Asian Highways in Thailand categorized by Surface Types

- Asphalt: 92%
- Concrete: 8%

Source: Department of Highways
Railroad & TAR in Thailand

- **Existing TAR routes in Thailand**: 3,583 km.
- **Proposed TAR routes**:
  - **Myanmar border**: Denchai – Chiang Rai – Mae Sai – Tachileik; Nakhon Sawan – Mae Sot – Myawaddy; Nam Tok – Three Pagodas Pass – Thanbyuzayat
  - **Laos border**: Bua Yai – Nakhon Phanom – Thakhek; Bua Yai – Mukdahan – Savannakhet; Ubon Ratchathani – Chong Mek – Pak Se
  - **Cambodia border**: Aranyapratet – Khlong Luk – Poipet

Total = 4,043 km.
Singapore-Kunming Rail Link (SKRL) :

ASEAN connectivity project to develop the rail linkage in the most potential TAR route.

Missing links in Thailand:
1. Aranyapratet – Khlong Luk (6 km.)
   Budget has been approved and the construction will be started in 2013.

2. Nam Tok – Three Pagodas Pass (153 km.)
   Project has been compared with Kanchanaburi – Dewei as a spur or alternative line.
Dry Ports in Thailand

- [Chiang Khong, Chaing Rai]
- [Natha, Nong Khai]
- Lat Krabang ICD, Bangkok
Lat Krabang Inland Container Depot, Bangkok

- Operated since 1996
- Connected with Bangkok – Chonburi Motorway (AH19 or AH123), and TAR (Thailand’s eastern railway line)
- Distance from LICD to LCP is 100 km. by motorway / 118 km. by rail.
- Reduce traffic congestion around Bangkok Port and promote the use of LCP
- 28 freight rails/day (LICD – LCP) by SRT / total time 3.5 hrs. / speed 30-35 km/hr.
Lat Krabang Inland Container Depot, Bangkok

- Total area 103.6 ha.
- Designed Capacity 1 mil. TEU/year
- Throughput 1.5 mil. TEU/year
- Functions: consolidation and distribution, handling, storage, inspection and customs clearance
- Cost 2,943.54 Mil. Baht (73.59 Mil. USD)
- State Railway of Thailand (SRT) appointed to be the Administrator
- Concessionaires: 6 Module Operators
- Mode share: Truck 74% Rail 26%
- Export: Import proportion = 55 : 45
- New ICD project has been reviewed for a suitable location.
Intermodal Facilities at Chiang Khong, Chaing Rai

**Administration:**
- The Department of Land Transport (DLT) has been assigned to construct Intermodal Facilities at Chiang Khong, Chaing Rai.
- The DLT has currently prepared for land expropriation and administrative studies.

**Location:** AH3 (Highway No.1020) near 4th Mekong River Crossing Bridge (Chiang Kong – Huai Sai)

**Objective:** Transfer goods from Laos and China trucks to Thai trucks or rails
Intermodal Facilities at Chiang Khong, Chaing Rai

- **Functions**: consolidation and distribution center, and one stop service for export and import cargo movement.

- **Facilities**: central administration, operation building, Container Freight Station (CFS), stacking area, maintenance, warehouse, control gate.

- **Total area**: 448 ha.

- **Development plan**: 2 phases
  - 1<sup>st</sup> phase (2013-2032) operate in 2017
    - capacity 270,000 TEU/year
    - costs 1,490 mil. Baht (48.06 mil.USD)
  - 2<sup>nd</sup> phase (2033-2041)
    - capacity 440,000 TEU/year
Container Terminal at Natha, Nong Khai

- **Location:** on AH12 (Highway No.2) and TAR (Northeastern railway line) 5 km. from the Friendship Bridge / 8.5 km. from Lao PDR’s Tanaleng Station

- **Functions:** handle agricultural and industrial goods in the Northeastern region of Thailand and transit goods from China and Laos.

- **Administration:** State Railway of Thailand is assigned to operate this project and currently prepare for the detailed design.
Container Terminal at Natha, Nong Khai

**Facilities:** consolidation and distribution center, intermodal facilities, one stop service center, and logistics and value added center.

**Total area:** 9.12 ha.

**Development plan:** 2 phases

1st phase (2014-2019)
- capacity 80,000 TEU/year
- costs 668 mil. Baht (21.54 mil. USD)

2nd phase (2020-2030)
- capacity 200,000 TEU/year
Existing Truck Terminals around Bangkok
- Phutthamonthon (West) 682 trucks/day
- Rom Klao (East) 613 trucks/day
- Khlong Luang (North) 375 trucks/day

Truck Terminal Projects at border towns
- Aranyaprathet, Sadao, Mae Sot

Proposed Truck Stops on TTR
- Nakhon Ratchasima, Khon Kaen, Lampang, Phitsanulok, Chumporn

Intermodal Facilities Project at Nakhon Panon
(ongoing feasibility studies)
SRTO Project at Laem Chabang Port

Single Rail Transfer Operator (SRTO)

- Enhance rail transfer capacity at LCP
- Reduce traffic by trucks
- Capacity 2 million TEU/year
- Distance 3.4 kms. / 6 tracks / Total area 960 ha.
- Public-Private Participation proposed by Port Authority of Thailand
- Cost = 2.02 Bil. Baht (65.16 Bil. USD)
- Operate in 2015
Conclusion

The success of logistics and transport system development is not only the project completion in each country, but also the cooperation among all countries.