Vision for Korea-Japan Economic Cooperation:
Busan-Fukuoka Cross-border Infrastructure Development as a Stepping Stone

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Financing for Regional Economic Integration in NEA: Infrastructure, Resources and Capital Mobilization
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1. Background
2. Survey on past research
3. Issues and basic scheme
4. Demand Forecasting
5. Spillover effect
6. Future tasks
1. Backgroud

- **Approach of the Empire Age**
  - Waterway investigation of Tsusima Strait, 1931
  - Iki Island-Tsusima

- Underwater Tunnel Construction
  - Plan of Tsusima Strait, 1917
  - by Army Headquarter, Japan
  - Railroad Tunnel, Construction
  - Period 21 Years. 800 million Yen
  - Three possible routes
日韓に海底トンネルを
金大統領が提唱

盧大統領が国会演説
日韓トンネルへも期待

韓国の金大中大統領は二
十三日夜、熱海市のホテル
でのセミナーで、朝鮮半島の南
北を結ぶ京義線連結後の構
想として一日韓間に海底ト
ンネルができたれば、北海道
から欧州までつながる。将
来の夢として考えてもあるべ
き問題だ」と述べ、日韓海
底トンネルの建設を提唱し
た。
- Chairman Moon Sun Myung of Unification Church (1981.10)
  - KJT under the scheme of International Highway
○ NEA Economic Cooperative Community Formation
  - KJT is a key project of the NEA Integrated Transportation Network
○ Trans-border Economic Area Formation
- Busan-Fukuoka JEA Agreement, 2008
- KJT is necessary for an infrastructure of Busan-Fukuoka TEA
2. Survey on past research

Research Activities

- **Japan-Korea Tunnel Study Group of Japan (1983~ present)**
  - Technology Aspect of KJT, K-J civilian cooperation promotion
  - Related reports: KJT Basic Scheme (1983), Economic Evaluation of KJT (1996), etc.
  → Recently suggested Busan-Tsusima portion co-study (Resource funded by participating institutes)

- **Korea Transportation Institute (2003)**
  - 2003 Research project commissioned by Ministry of Construction and Transportation following President Noh’s remark
  → Based on past Japanese study, economic impact and future task are discussed
○ **Busan Development Institute (2009)**
  - A research project for Busan-Fukuoka Cooperation Program
  - Related report: A basic research for KJT and Integrated transportation network
    → New route, technology and new engineering, socio-cultural approach, etc.

○ **Korea Transportation Institute (2010, ongoing)**
Internet Discussion

- **After BDI KJT research press release (2008.06.27~07.02)**
  - clicks: 410,166, internet comments: 488, reply: 8,112,

- **After BDI K-J seminar (2008.10.30~11.09)**
  - clicks: 148,142, internet comments: 212, reply: 2,209

- **Major comments on internet**
  - Fear of losing hub port function of Busan (Change to feed port?)
  - Absorption of Southeast Korean economy to Kyushu economy
  - Bridgehead function to Japan to the continent
  - Good opportunity for Busan’s economic revival and trans-border economic area
  - Lack of economic validity, etc.
Opinion survey

○ Bu-Fu <Year of Friendship> questionair (Busanilbo, 2008.12)
  - 500 Busan citizen on Korea-Japan exchange
  - KJT construction: yes 56.4%, no 24.0%, no response 19.6%

○ KJT Busan citizen survey (BDI, 2008.12)
  - To BDI internet members 379
  - KJT necessary?: yes 67.2%, no 32.8%

○ Survey on KJT passenger demand (BDI, 2008.10)
  - K-J tourists (Korean 735, Japanese 756) interview
    ※ place: Fukuoka several places, Busan international passenger terminal, Kimhae airport
  - Willingness to change to KJT from air and ferry: 63.2%
3. Issues and Basic Scheme

NEA Integrated Transportation Network (Passenger)

- One-day Living Env. - Access within 2 hours between major cities in NEA

2,000~1,000km range cities: Shuttle air flight
  ※ ex.: Busan – Haneda - Beijing etc.

1,000~500km range cities: Express train
  ※ ex.: Busan - Shenyang, Dandung, Osaka, Kobe etc.

500km range cities: Express train + Car train, AH
  ※ ex.: Busan - Fukuoka, SEK - Kyushu etc.
NEA Integrated Transportation Network (Cargo) Seamless ASIA concept (Kurishima, Akiyasu)
KJT Route: function and alternative

- **Function**
  - Establishment of NEA Express Train Network by connecting KTX and Shinkansen
  - Trans-continent railroad transportation of cargo and truck transport between Korea and Japan
  - Passenger transport network within 500km range by KJT
○ **Principle of Route Selection**
  - Shorter traffic time, connection between big cities
  - Connection with existing high speed train network and easiness of establishment of multiple transit terminal
  - Easier construction for under sea portion

○ **Route Alternatives (C-1: Busan-Fukuoka, B: Busan-Gojae- Karatsu)**
  - C-1: avoiding historic-cultural barrier, more demand, easier KTX connection and multi-terminal but need more consideration on under sea portion
  - B: Easier construction for under sea portion but need more connecting railroad and terminals
## Comparison of two alternatives

<table>
<thead>
<tr>
<th></th>
<th>KJT Study Group (Japan)</th>
<th>BDI (Korea)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Routes</strong></td>
<td>Karatsu<del>Iki</del>Tsusima<del>Gojedo</del>Gadukdo~Busan</td>
<td>Fukuoka<del>Iki</del>Tsusima~Busan</td>
</tr>
<tr>
<td><strong>Length</strong></td>
<td>220 km (+67.9km)</td>
<td>222.6 km</td>
</tr>
<tr>
<td><strong>Under-sea Length</strong></td>
<td>128 km</td>
<td>146.8 km</td>
</tr>
<tr>
<td><strong>Land Length</strong></td>
<td>92 km</td>
<td>75.8 km</td>
</tr>
<tr>
<td><strong>Depth</strong></td>
<td>160 m</td>
<td>190 m</td>
</tr>
<tr>
<td><strong>Transport mode</strong></td>
<td>![Images of various transport modes]</td>
<td>![Images of various transport modes]</td>
</tr>
<tr>
<td><strong>Construction Period</strong></td>
<td>15~20 years</td>
<td>10 years</td>
</tr>
<tr>
<td><strong>Expense</strong></td>
<td>100 Tril Won + 30 Tril Won (4.5 bil Won/km)</td>
<td>92 Tril Won (4.1 bil Won/km)</td>
</tr>
</tbody>
</table>
### Forecasting based on Busan-Kyushu
- 2010: 513 thousand TEU, 2025: 1.067 mil TEU, 2050: 2.708 mil TEU

### KJT demand (Status-Quo scenario)
- 2020: 57 tho TEU, 2040: 137 tho TEU, 2050: 184 tho TEU

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
<th>2035</th>
<th>2040</th>
<th>2045</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Busan-Kyushu cargo</td>
<td>513</td>
<td>655</td>
<td>836</td>
<td>1,067</td>
<td>1,361</td>
<td>1,656</td>
<td>2,015</td>
<td>2,336</td>
<td>2,708</td>
</tr>
<tr>
<td>Two Superpower Scenario (optimistic)</td>
<td>50</td>
<td>64</td>
<td>82</td>
<td>105</td>
<td>133</td>
<td>162</td>
<td>197</td>
<td>229</td>
<td>265</td>
</tr>
<tr>
<td>Status-Quo Scenario (neutral)</td>
<td>35</td>
<td>45</td>
<td>57</td>
<td>73</td>
<td>93</td>
<td>113</td>
<td>137</td>
<td>159</td>
<td>184</td>
</tr>
<tr>
<td>Two Hinterland Scenario (conservative)</td>
<td>24</td>
<td>30</td>
<td>38</td>
<td>49</td>
<td>63</td>
<td>76</td>
<td>93</td>
<td>107</td>
<td>125</td>
</tr>
</tbody>
</table>
5. Impact Estimate

- Establishment of NEA infrastructure network
  - stimulating intra-regional trade, NEA one-day living environment
- KJT investment (Korean side) 19.8 tri Won
  - production inducement effect 54.5 tri Won, employment 450 tho persons

<table>
<thead>
<tr>
<th></th>
<th>Investment (bil Won)</th>
<th>Production inducement</th>
<th>VA inducement (bil Won)</th>
<th>Employment inducement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Bil Won</td>
<td>Effect ratio</td>
<td>person</td>
</tr>
<tr>
<td>New Capital City</td>
<td>31,100.0</td>
<td>83,700.0</td>
<td>0.98</td>
<td>1,464,400</td>
</tr>
<tr>
<td>KJT</td>
<td>19,803.3</td>
<td>54,528.7</td>
<td>1.00</td>
<td>449,964</td>
</tr>
</tbody>
</table>
A New K-J Cooperation Project

- Making KJT a symbol of NEA co-prosperity and peace project

※ Agenda of K-J summit meeting

- KJT Institute (or graduate school) est.: technology, socioculture etc. education and research

- ※ K-J univ., research inst., related org., specialists

KJT Co-research by K-J or by Korean side

- major tasks: survey and research of K-J strait geology, routes, technology, and financing method, etc.

- org.: ‘NEA Transportation Research Ass.’ (participated by two countries)

- budget: 10 bil Won
Review on KJT, Korea-China Tunnel, Mokpo-Jeju Tunnel:

No economic benefit in the mid-term for three tunnel projects
Thank You