KOICA’s ITS Projects: Introduction

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(1) KOICA’s Midterm Sectoral Strategy: Transportation (2016-2020)
• In the transport sector alone, KOICA has been pushing ahead with ODA projects worth approximately 130 million USD from 1991 to 2015.

✓ We launched a total of 58 projects in different countries.

✓ Regionally, projects in Asia accounted for the majority of total project (75.9%) with the rest spread across the Middle East & Central Asia (8.6%), Latin America (6.9%), Africa (6.9%), and Europe (1.7%).

✓ By category, projects on road transport (60.4%) were the most, followed by others on railway (17.2%), aviation (17.2%), and marine transport (5.2%).
According to the UN report, many studies show that infrastructure, including transport, has made a large contribution to increasing market access and minimizing transaction costs in rural areas (MDG I), providing opportunities for employment and technology transfer, increasing girls’ enrollment rates (MDG II/III), improving access to health services (MDG IV/V/VI), and enabling trade and exports through enhanced regional and national linkages (MDG VIII).

For decades, transport infrastructure not only addressed the inequality of opportunities and benefits (education, healthcare, and social integration to name a few) that directly lead to an improved quality of life, but also contributed greatly to economic growth by incorporating rural and remote areas into development platforms.

However, its role and importance had not received enough attention until recently. Therefore, we need a tool to measure exactly how much our assistance in the transport sector contributes to the social and economic progress of the partner countries. In particular, we need to make sure our assistance in the transport sector leads to follow-up measures and projects in order to see it actually help reducing poverty by boosting development in rural regions.
KOICA has been pushing ahead with ODA projects worth approximately 130 million US dollars from 1991 to 2015.
KOICA’s Midterm Sectoral Strategy: Transportation (2016-2020)

**SO 1 Improving access to transport systems and assisting economic and industrial development**  
SDG 9.1, 11.2

- Ensuring equitable access to transport for all, supporting a well-balanced and decentralized form of national development, providing everyday transport services for disadvantaged people in the transport sector (the “transport disadvantaged”, including seniors, women, children, and the handicapped)
- Assisting partnered countries in laying a sustainable and resilient transport system between regions and countries in order to boost economic and industrial development

**Major programs**
- Improving existing roads (widening and rehabilitation)
- Devising a master plan for road/railway/aviation
- Performing a feasibility study on laying a public transport system
- Performing a feasibility study on improving/laying roads, laying trans-regional railways, modernizing airports, and building airport passenger terminals

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Main Indicators</th>
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| 6.1.1 (Development Experience Exchange Partnership (DEEP)) Implementation of follow-up actions | - Whether the government of the target country approved our project and follow-up actions or reflected it on its policies  
- Whether we/partner country arranged a public fund for potential investors to carry the project out (Number of consultation with related organizations) |
| 6.1.2 (Project & Pilot Project of DEEP) Improvement in access to transportation | - Number of people living within 2km of accessible transport facilities  
- Number of people living within 0.5km of accessible public transport |
| 6.1.3 (Project & Pilot Project of DEEP) Assistance to economic and industrial development | - Decrease of travel time (%) or vehicle operating costs (%)  
- Number of registered vehicles |
KOICA’s Midterm Sectoral Strategy: Transportation (2016-2020)

SO 2 Developing an environmentally-friendly and safe transport system

- Protecting precious lives and their properties from traffic accidents, increasing vehicle energy efficiency, cutting CO2 emissions to improve public health and respond to climate changes
- Easing traffic jams and providing assistance in improving urban/public transport systems in big cities to boost their competitiveness

**Major programs**
- Devising a master plan to improve an urban transport system
- Devising a master plan to ensure national traffic safety
- Performing a feasibility study on laying an urban transport system
- Capacity-building for traffic safety/improving safety in transport facilities
- Easing traffic jams in cities, laying an intelligent transport system

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<tr>
<td>6.2.1 (Development Experience Exchange Partnership (DEEP)) Implementation of follow-up actions</td>
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<tr>
<td>6.2.2 (Project &amp; Pilot Project of DEEP) Improvement in traffic safety</td>
<td>Whether we/partner country arranged a public fund for potential investors to carry the project out (Number of consultation with related organizations)</td>
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<tr>
<td>6.2.3 (Project &amp; Pilot Project of DEEP) Contribution to reduction in CO2 emissions</td>
<td>Rate of decrease in the number of traffic accidents and casualties(%)</td>
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<td>Rate of decrease in socio-economic loss and cost(%)</td>
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<td>Rate of decrease in CO2 emissions(%)</td>
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<td>Rate of increase in vehicle energy efficiency (%)</td>
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KOICA’s Midterm Sectoral Strategy: Transportation (2016-2020)

SO 3 Serving a more active role in development financing

- Serving a more active role as a catalyst in financing development projects through the following: identifying development projects with promising investment opportunities from the initial planning stage, attracting more investors, and devising other strategies to finance development projects
- Improving the overall quality of our consulting services (devising a master plan or performing a feasibility study)

Major activities
- Attracting potential investors to participate in the initial planning stage
- Improving the overall quality of technical cooperation
- Targeting countries’ capacity building for implementing follow-up projects
- Systematizing the follow-up management

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<tr>
<td>6.3.1 (Development Experience Exchange Partnership (DEEP)) Implementation of follow-up actions</td>
<td>- Whether we/partner country brought potential investors to participate in the initial planning stage or after (in devising a master plan or performing a feasibility study)</td>
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<tr>
<td>6.3.2 (Development Experience Exchange Partnership (DEEP)) Improvement in overall quality of technical cooperation</td>
<td>- Level of satisfaction on the standards and results of our project (%)</td>
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<td>- Whether we assisted the target country with capacity-building for the implementation follow-up actions of our project</td>
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(2) KOICA’s Support to Indonesia
### Country Partnership Strategy (CPS)

**Transport**
- Support improvement of transport infrastructure management capacity and policy development
- Support improvement of interregional and intermodal transport networks with a special focus on geographically isolated and disadvantaged areas and logistical strategic points

**Governance (Public Administration)**
- Support strengthening of IT-based e-government operation and development capacity
- Support expansion of e-government infrastructure and relevant institutional foundation
- Support promotion of relevant policy reform for e-government system development

**Environment Protection**
- Support improvement of access to renewable energy for greenhouse gas reduction and climate change response
- Support forest preservation for the implementation of greenhouse gas management policy and strategy

**Water Management**
- Support human resource development on comprehensive water management system
- Support improvement of infrastructure for water supply and sewerage system and water quality management
KOICA’s Support to Indonesia

Jakarta
- Development of Flood Forecasting and Warning System in the Citarum River Basin (2014-2017/$5.0 mil.)
- Pilot Project for Ciliwung River Restoration (2013-2017/$5.0 mil.)

East Kalimantan/Bandung

Bandung
- Establishment of Master Plan and Development of Pilot System for National Road Data Center Operation (2014-2017/$3.95 mil.)

Palembang
- Establishment of Master Plan, Feasibility Study and Basic Design for Drainage System in Palembang City (2012-2017/$2.6 mil.)

Cikarang
- IT Administrative Capacity Building (2013-2017/$3.7 mil.)
- Cyber Forensic Capacity Building for Indonesian National Police (2018-2021/$5.1 mil.)
KOICA’s Support to Indonesia

Total ODA budget to Indonesia (1991-2016): 207.61 mil. USD

- Governance: 30.0%
- Education: 7.0%
- Industry and energy (includes Transportation): 62.9%

Increasing demand on industry & energy (includes Transportation)

(as of 2016)
(3) KOICA ITS Project in Indonesia
KOICA ITS Project in Indonesia

- Project Title: A Project for the establishment of Intelligent Transport Systems (ITS) master plan and pilot system for Jakarta Metropolitan area
- Duration / Budget: 2019-2024 (5yrs) / 5.5 mil. USD
- Objective
  - To establish Intelligent Transport Systems (ITS) master plan for Jakarta Metropolitan area (JABODETABEK).
  - To implement ITS Systems for pilot corridor (Jakarta-Cikampek).
  - To provide guidelines of laws and regulations for Indonesian ITS.
  - To support capacity building for Indonesian ITS personnel through workshops, seminars, on-site and oversea (Korea) training programs.
- Recipient Party: the ministry of public works and housing of the Republic of Indonesia
- Project Venue: Jakarta ~ Cikampek corridor
KOICA ITS Project in Indonesia

• Background

✓ Jakarta has been infamous for its traffic congestion, and the situation is expected to get worse due to the increase of car supply; thus the public transportation is on high demand.

✓ The government of Indonesia has requested KOICA to establish the mid- and long-term masterplan and a pilot system to introduce ITS as to enhance the effectiveness of existing traffic system.

✓ KOICA will also deliver O&M for 2 years after the pilot system is implemented as to guarantee the system is handed over successfully.
Work Scope 1: Establishment of the Master plan

- Project Background, Objectives, Contents, Necessity, Process, etc.
- Concept and Methodology for ITS Master Plan of Jakarta Metropolitan Area
- Current Status of Transportation for Jakarta Metropolitan Area
- Survey and Analysis for Related Plan of Road, Transport and ITS
- Vision, Goals and Implementation Strategies for ITS Master Plan
- Selection of ITS Services and Systems for Jakarta Metropolitan Area
- System Implementation Plan including basic design for Selected Services and Systems
- ITS Center Configuration and Linkage Plan for Jakarta Metropolitan Area
- Promotion of ITS Projects for Jakarta Metropolitan Area
KOICA ITS Project in Indonesia

- **Work Scope 2: Implementation of Pilot System**
  - Introduction and general concept for pilot system area
  - Selection of alternative route for the most dispersion effect
  - Survey and analysis of current road and transport for pilot system
  - Identification of ITS technologies for pilot system
  - Detail design and linkage centers for pilot system
  - Material procurement for pilot system (Purchase, FAT, etc.)
  - Implementation, unit test, integrated test and test operation for pilot system
• Work Scope 3 : Providing Guideline for ITS Laws and Regulations of Indonesia

  ✓ Introduction and Concept for ITS Laws and Regulations
  ✓ Review and Analysis of Current Indonesia ITS Laws and Regulations
  ✓ Provision of Guideline for ITS Laws and Regulations of Indonesia

• Work Scope 4: Capacity Building

  ✓ Conduct overseas training for high level officers and working level in Korea
  ✓ Dispatch ITS experts for ITS policy and technology
  ✓ Carry out on-site workshops and training in Indonesia, periodically
(4) Lessons from Other Projects
Lessons from Other Projects

- Project Title: Project for the Establishment of Advanced Traffic Management System in Asunción, Paraguay

- Duration / Budget: 2013-2015 (3yrs) / 5.5 mil. USD

- Objective
  - Establishment of a comprehensive traffic management system strategy and implementation of an advanced traffic management system (ATMS) to improve the traffic handling capacity to achieve stagnation and reduction of environmental pollution.

- Recipient Party: Municipality of Asunción
Lessons from Other Projects

- Work Scope 1: System construction
  - Infrastructure: Traffic control center and field equipment (intelligent signal controller, VMS, CCTV, etc.)
  - System implementation design: TSM and consulting
  - Traffic signal DB design and optimization

- Work Scope 2: Capacity Building of Managers
  - Manager training course: Local training
  - Training of local manpower through dispatch of experts (lecturer)
• Recommendations

✓ Design considering harmony with old and new paradigm (i.e. confusion caused by new or old traffic lights)
✓ In case of investigating and planning of traffic projects, utilize experts from an organization with a high number of signal experts rather than general traffic experts. (i.e. road traffic corporation)
✓ Specified in Software Escrow* request for proposal

* Software escrow: A policy to pre-depositing the source code of software with a third party escrow agent. Escrow is typically requested by a party licensing software (the licensee), to ensure maintenance of the software. The software source code is released to the licensee if the licensor files for bankruptcy or otherwise fails to maintain and update the software as promised in the software license agreement.

✓ Module-based Project planning (i.e. building a full signaling system instead of ATMS)
Thank you