

해외출장복명서

기 간: 2016. 2. 1 ~ 2016. 2. 5

출장지: 스리랑카, 콜롬보시

출장자: 오성호 연구위원
박종일 연구원
정현지 연구원

I. 출장개요

1. 출 장 지 : 스리랑카 콜롬보시

2. 출장기간 : 2016. 2. 1 ~ 2. 5(2박 5일_기내 2박)

3. 출 장 자 : 총 3명

소속	직급	성명
국토인프라연구본부	연구위원	오성호
국토인프라연구본부	연구원	박종일
국토인프라연구본부	연구원	정현지

4. 출장 목적

- 시범대상국인 스리랑카 교통 유관기관의 담당자 면담을 통해 교통데이터 유무 및 특성 파악

5. 주요 수행 내용

- RDA(Road Development Authority;도로부) 업무협의
- DCS(Department of Census and Statistics; 통계청) 업무협의
- Central Bank 방문하여 관련 문헌 확보
- 현장조사(도로 등급별 시설 및 교통량)

II. 출장일정

날짜	출발지	도착지	방문기관/ 장소	주요 수행업무	관계자
2.1 (월)	인천			출발	
2.2 (화)		콜롬보		도착	
	콜롬보		RDA	도로부 실무자 업무협의	- Mr. Janitha 외
2.3 (수)	콜롬보		RDA	도로부 관계자 업무협의	- Mr. D.M.P.R.K.Bandara 외
			DCS	통계청 관계자 업무협의	- Mr. M.S.Perera 외
2.4 (목)	콜롬보		Central Bank	교통데이터 관련 도서 구매	- Mr. Trevine bastians 외
	콜롬보		콜롬보	콜롬보 도로 현장조사	
	콜롬보			출발	
2.5 (금)		인천		도착	

III. 수행사항

1. 도로부 실무자 업무협의

□ 일시 및 장소: 2016. 2. 2(화) 14:00

□ 참석자

- 국토연구원 : 오성호 연구위원, 박종일, 정현지 연구원
- 스리랑카 도로부 : Mr. Janitha 외

□ 주요사항

- (프로젝트 소개) 도로부 담당자에게 프로젝트 배경 및 목적에 대한 사업소개
- (도로부 업무) 스리랑카 도로 관련 업무 모두 도로부에서 하고 있음
 - 스리랑카 도로는 1등급은 Expressway, 2등급은 National Highway, Province Road, 3등급은 Local Road로 3등급으로 구분됨
 - 1등급과 2등급은 RDA에서 관할하며, 3등급은 Local 기관에서 관리함
 - OD관련 자료는 RDA에서 과거에 조사하여 구축한 경험이 있음
- (교통 DB관련 자료) 도로부 홈페이지에 도로 연장, 등급별 도로 연장이 공개되어 있으며, 필요한 자료를 요청하면 자료유무에 따라가 구득 가능함



2. 도로부 업무협의

- 일시 및 장소: 2016. 2. 3(수) 10:00 도로부
- 참석자
 - 국토연구원 : 오성호 연구위원, 박종일, 정현지 연구원
 - 스리랑카 교통부 : Mr. D.M.P.R.K.Bandara 외
- 주요사항
 - (프로젝트 소개) 교통부 담당자에게 프로젝트 배경 및 목적에 대한 사업소개
 - (교통관련 정부조직도) 스리랑카에는 교통 분야를 총괄하는 부처는 없으며, 세부 부처가 많이 존재하는 구조임
 - 도로업무는 RDA(Road Development Authority)에서 관할하며, 도로부문 지표 모두 조사하고 있음
 - 철도업무는 Railway Administration에서 관할
 - (교통 DB관련 자료) 교통부 홈페이지에 공개된 자료 외에 다른 자료를 원한다면 관련된 세부 부처에 요청하여 자료를 구득해야 함
 - 교통 DB관련 도서 발간하는 Central Bank 방문 권유



▲ 도로부 관계자 업무협의회 1

▲ 도로부 관계자 업무협의회 2

3. 통계청 업무협의

□ 일시 및 장소: 2016. 2. 3(수) 14:00 통계청

□ 참석자

- 국토연구원 : 오성호 연구위원, 박종일, 정현지 연구원
- 스리랑카 통계청 : Mr. M.S.Perera 외

□ 주요사항

- (프로젝트 소개) 통계청 담당자에게 프로젝트 배경 및 목적에 대한 사업소개
- (통계청 업무) 국민계정, 사회경제 분야 등의 지표를 조사하여 수집하며, 타 분야의 경우는 각 부처에서 수집된 조사자료를 취합하여 발간하는 업무 수행
- (통계청 자료) 토지면적, 주민등록인구, 경제활동 인구, 자동차 운전면허 보유자 수, 산업별 사업체수, 지역내 총생산 등 사회경제자료는 통계청 자료 협조
- (교통 DB관련 자료) 교통 관련 지표 및 조사는 관련 부서(Ministry of Highway, Sri Lanka Railways 등)에서 수행



▲ 통계청 관계자 업무협의회 1



▲ 통계청 관계자 업무협의회 2

4. Central Bank

□ 일시 및 장소: 2016. 2. 4(목) 10:00 Central Bank

□ 참석자

- 국토연구원 : 오성호 연구위원, 박종일, 정현지 연구원
- 스리랑카 센트럴 뱅크 : Mr. Trevine bastians(교통통계 담당자) 외

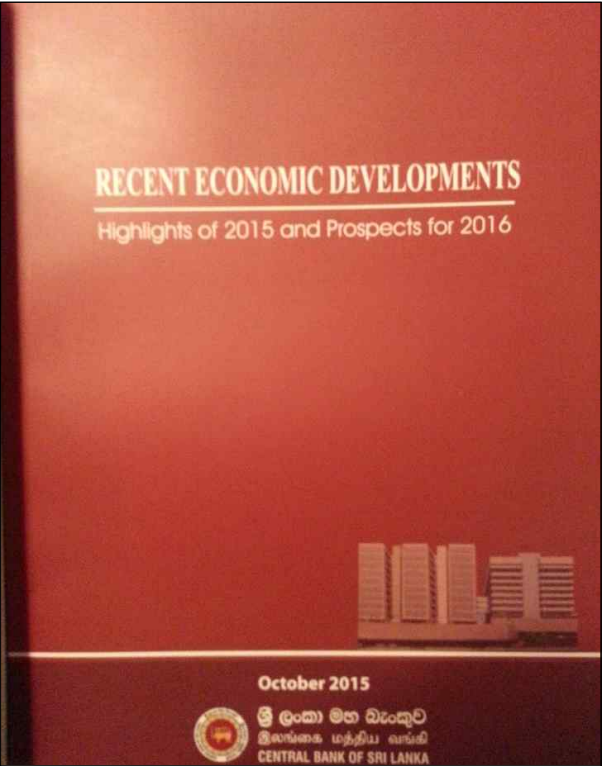
□ 주요사항

- (센트럴 뱅크 업무) 지형, 기후, 인구, 산업, 교통, 사회경제 등 여러 분야의 자료를 취합하여 발간하는 기능을 수행함
- (자료 구독 방법) 센트럴 뱅크 도서관에서 인쇄물을 구매할 수 있으며, 각 인쇄물은 PDF 형태로 센트럴 뱅크 홈페이지에서 제공됨
- (교통 DB관련 자료) 스리랑카 교통관련 데이터는 Economic and Social Statistics of Sri Lanka, Recent Economic Developments, Annual Report 등에 수록되어 있음

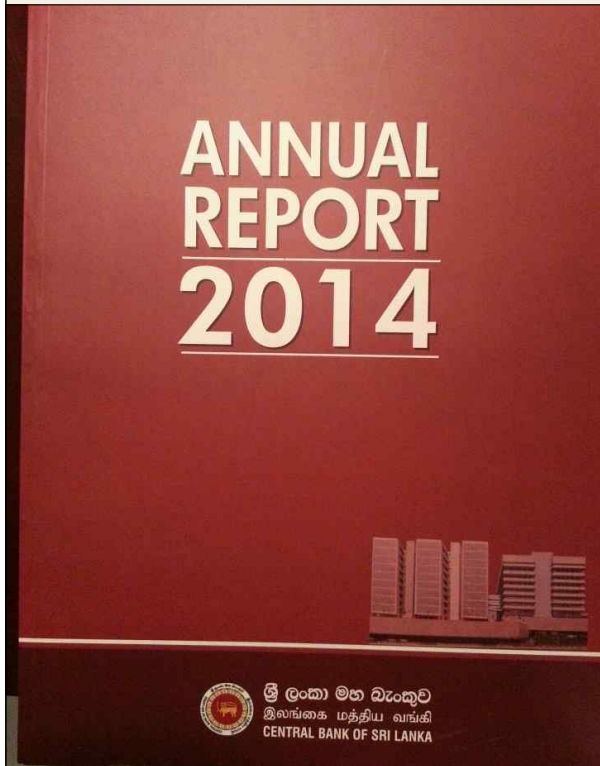




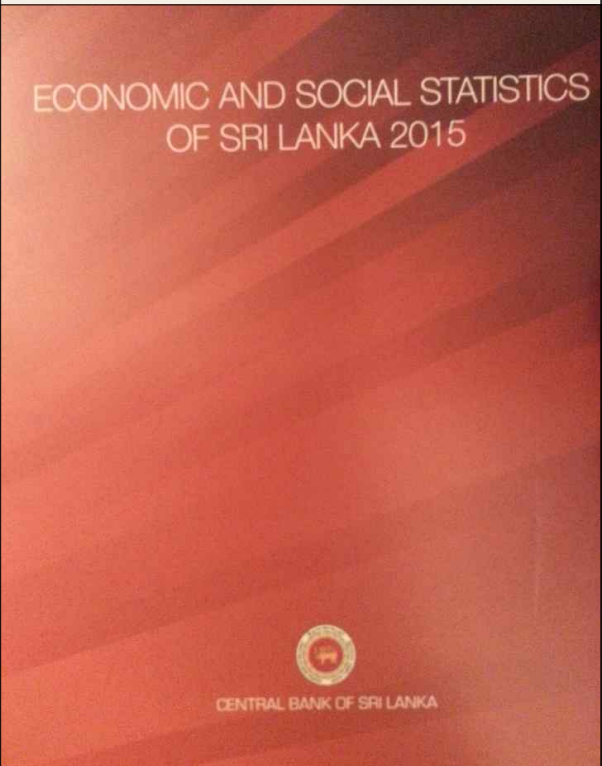
▲ Central Bank 방문 3



▲ Central Bank 방문 4



▲ Central Bank 방문 5



▲ Central Bank 방문 6

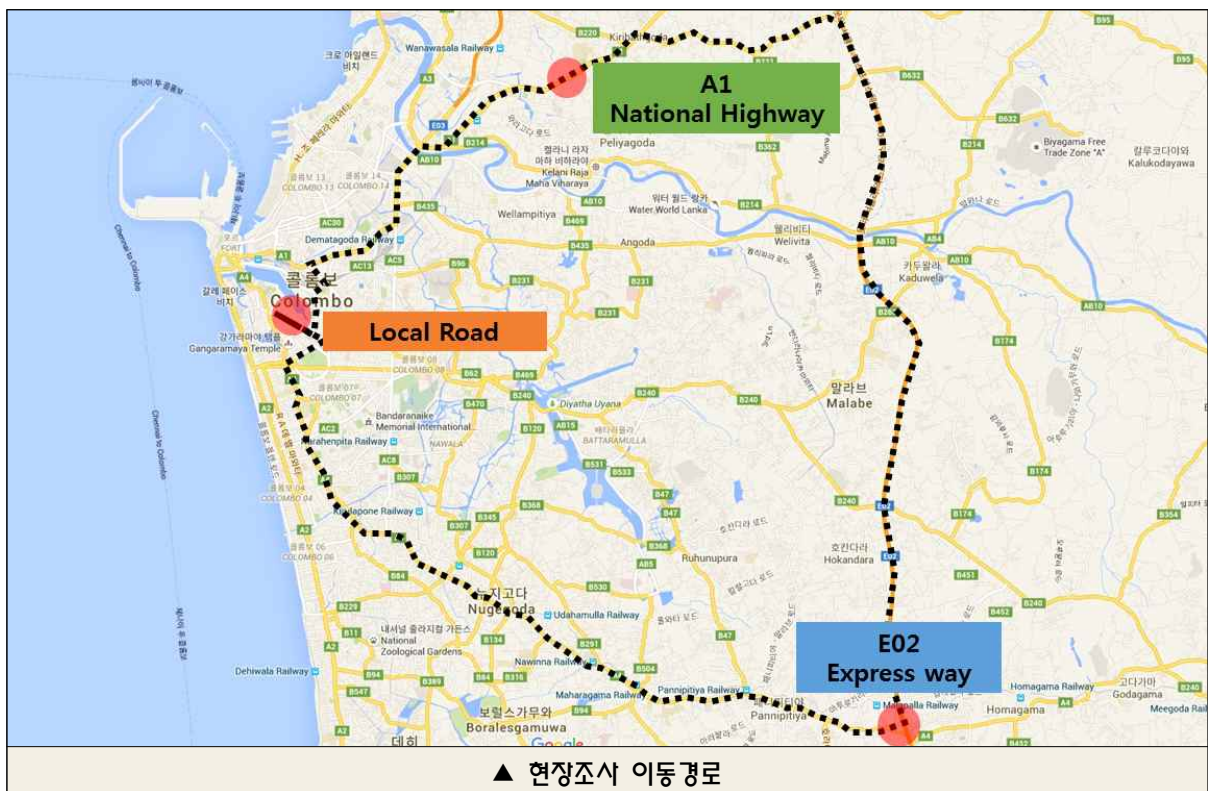
5. 현장조사

□ 일시 및 장소: 2016. 2. 4.(목) 11:00 콜롬보 일대

□ 참석자

- 국토연구원 : 오성호 연구위원, 박종일, 정현지 연구원

- 스리랑카의 도로등급은 3등급으로 구분되며 1등급(Expressway), 2등급(National Highway, Province Road), 3등급(Local Road)의 도로를 조사하였음
- 콜롬보시를 중심으로 각 지역을 연결하는 2등급 도로망 중심의 교통체계이며, 대부분의 도로 포장상태가 매우 양호함
- 콜롬보 시내는 항상 교통량이 많은 편이며, 특히 출퇴근 시에는 극심한 교통정체 발생
- 콜롬보 교차로에 회전교차로(Rondabout)를 많이 볼 수 있음
- 교통수단의 특징적인 사항은 승용차 택시는 거의 볼 수가 없고, 툽툽(삼륜차) 차량이 택시 기능을 하며 많은 툽툽이 운행중임





▲ 스리랑카 1등급 도로(Expressway) 톨게이트



▲ 스리랑카 1등급 도로(Expressway) -EO2



▲ 스리랑카 2등급 도로(National Highway)(지역간)- A1



▲ 스리랑카 2등급 도로(National Highway)(지역간)- A1



▲ 스리랑카 2등급 도로(National Highway)(지역간)-A1



▲ 콜롬보 3등급 도로(Local Road)(시내부)



▲ 콜롬보 3등급 도로(Local Road)(시내부)



▲ 콜롬보 3등급 도로(Local Road)(시내부)

6. 결론




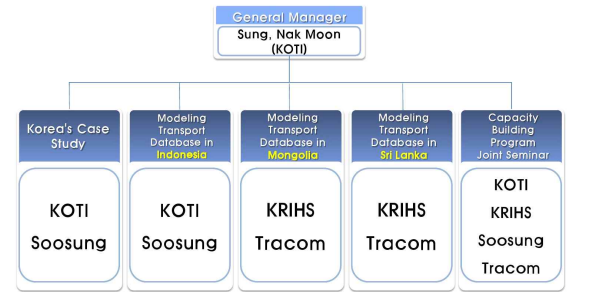
□ 구독 자료 리스트

- Road Network
 - Class A, B, C, D, Expressways
- Road Kilometerage by Province and District
 - Class A, B, C, D, Expressways
- Road Kilometerage by Province
 - Class A, B, C, D, Expressways
- Motor Vehicles by Province
 - Omnibuses, Private Coaches, Dual Purpose Vehicles, Private Cars, Land Vehicles, Goods Transport Vehicles, Moto Cycles, Threewheelers, Others
- New Registration of Motor Vehicles
 - Passenger Transport, Goods Transport, Land Vehicles, Others
- SLTB(Sri Lanka Transport Board)/Regional Bus Companies
 - Operational, Passenger Kilometers, Seat Kilometers, Average Passenger Journey, Load Factor, Average Vehicle Utilization, Revenue
- Sri Lanka Railways
 - Rolling Stock, Route, Main Stations, Sub Station, Passenger Journeys, Passenger Kilometers, Revenue from Passenger Traffic, Coaching Train Kilometer, Goods Hauled, Ton Kilometerage of Goods, Receipts from Goods Traffic, Goods Train Kilometers, Gross Receipts, Working Expenditure, Personnel Strength
- Aviation : Air Lanka/Sri Lanka Airlines
 - Kilometers Flown, Hours Flown, Passengers Carried, Freight Tons Carried, Passenger Kilometers Flown, Available Seat Kilometers, Passenger Load Factor, Total Tonne Kilometers Performed, Passengers(Including Excess Baggage), Freight & Mail, Available Tonne Kilometers, Weight Load Factor, Employment

- Port Services
 - Vessels Arrived, Cargo Discharged, Cargo Loaded, Total Cargo Handled(Port of Colombo), Container Throughput(Port of Colombo), Revenue, Employees
 - Selected Public Transport Indicators by Province
 - Sri Lanka Railways(Operated Kilometers, Passenger Kilometers, Freight Tonne Kilometers), Private Bus Services(Total Fleet, Buses Operated, Seating Capacity, Operated Kilometers, Passenger Kilometers), SLCTB/Regional Bus Companies(Buses Operated, Passenger Kilometer, Operated Kilometers)
- 회의 및 조사 결과
- 프로젝트 및 STDQ(KTDB를 기반으로 작성)에 대한 이해
 - 스리랑카 교통분야 총괄 정부기관이 없으며, 세부 부처로 구성됨
 - 해당 세부 부처의 홈페이지에 공개되어있는 교통DB 자료 있으며, 원하는 교통DB 자료는 해당 세부 부처에 문의해야함
 - 센트럴 बैं크에서 교통DB 관련 취합 자료 구독 가능함(인쇄물 발간)
 - 스리랑카의 도로는 3등급으로 구분되며, 콜롬보시를 중심으로 각 지역을 연결하는 2등급 도로망 중심의 교통체계
 - 1등급은 Expressway, 2등급은 National Highway, Province Road, 3등급은 Local Road로 3등급으로 구분
 - 1등급과 2등급은 RDA에서 관할하며, 3등급은 Local 기관에서 관리함
- 시사점
- 스리랑카 교통데이터 유무 및 특성 파악을 위해서 1회 출장만으로는 시간적으로 자료 구독의 어려움이 따름
 - 지속적으로 교통데이터 관련 기관과 연락하여 자료 구독 및 STDQ 작성을 위해 현지 코디네이터를 고용하여 수행

VI. 부록

□ 프로젝트 소개 자료(Inception Report)

 <p>(Joint Consulting Project with ADB) Better Transport Data for Sustainable Transport Policies and Investment Planning</p> <p>- Inception Report - 2015 . 12.</p> 	 <h3>Contents</h3> <ol style="list-style-type: none"> 1. KSP Consultants 2. Introduction of the Project 3. Main Tasks and Action Plans of the Project 4. Discussion Topics
<p>Brief Introduction of the Project</p> <ul style="list-style-type: none"> - KEXIM - ADB - KSP Consultants 	<h3>1. KSP Consultants</h3> 
<h3>2. Introduction of the Project</h3> <p>Outline of the Project</p> <ul style="list-style-type: none"> ✓ Duration : November 27, 2015 ~ April 20, 2016 (5 months) ✓ Budget (USD) : 250 thousand ✓ Research Organizations: Korea Transport Institute (KOTI), Korea Research Institute of Human and Settlements (KRIHS), Soosung Engineering Co., Ltd. and Tracom Co., Ltd. 	<h3>2. Introduction of the Project</h3> <p>Background and Purpose</p> <ul style="list-style-type: none"> ✓ Collecting, analyzing, and establishing accurate and systematic transport data, which makes impact on the whole area in the economic environment and society of a country, are one of the important factors to make the transport infrastructure and investment plans. ✓ Some Developing Member Countries (DMCs) of ADB have inefficient and unsystematic transport database system such as limitation of data scope and incoherence in collection, lack of standards in data format, no institutionalized mechanism among organization to exchange, etc. ✓ The project makes the governments of DMCs enhance their capacity to manage transport data with analysis techniques by sharing knowledge and experiences especially in collecting and analyzing transport data.
<h3>2. Introduction of the Project</h3> <p>Project Direction</p> <ul style="list-style-type: none"> ✓ Providing Korea's Case Studies (Korea Transport Database (KTDB)) fitted with the intention of the project ✓ Utilization as important data when making the transport policies and investment plans for each Partnership Country (PC) through suggesting the transport database models fitting with each PC ✓ Providing the opportunities to go abroad for Korea Export-Import Bank (KEXIM) and the companies in Korea through this project ✓ Enhancing exchange with Three Partnership Countries (TPCs) through the Capacity Building Program ✓ Inputting the best professionals and securing the systematic cooperation system among the KOTI Consortium 	<h3>2. Introduction of the Project</h3> <p>Main Contents</p> <ul style="list-style-type: none"> ✓ Korea's Exemplary Study ✓ Data Collection and Analysis in Transport for TPCs ✓ Collecting the Suitable Transport Data and Developing the Accumulation Models for TPCs ✓ Capacity Building Program in Korea ✓ Joint Seminar with ADB

2. Introduction of the Project

Expected Effects

TPCs	<ul style="list-style-type: none"> Establishing the participation of sustainable transport system Retaining knowledge and technique related to the transport database construction project
KEXIM and ADB	<ul style="list-style-type: none"> Strengthening the promotion and construction of the cooperation system in Associations of South East Asian Nations Continuing the cooperation with KEXIM and other related organizations
Domestic Aspects	<ul style="list-style-type: none"> Enhancing the international status by spreading KTDB Expanding the KTDB into international market Construction of Korea's network with DMCs which need the sustainable transport system

3. Main Tasks and Action Plans of the Project

Main Tasks of the Project

Korea's Exemplary Case	<ul style="list-style-type: none"> Reviewing the Applicability after Reviewing and Analyzing Basic Information, Data Collection, Operation and Success Factors Organizing and Suggesting the Standards such as Guidelines and/or Regulations Related to KTDB
Data Collection and Analysis in Transport for TPCs	<ul style="list-style-type: none"> Collecting and Analyzing the Transport Database in TPCs such as Transport Infrastructure, Human Resources in the Transport Sector, Application Status in International Transport Policies Complying with Standard Transport Data Questionnaire (STDQ) by ADB in 2015
Collecting the Suitable Transport Databases and Developing the Accumulation Models	<ul style="list-style-type: none"> Developing Transport DB Construction System Models for TPCs with the Capacity of Constructing Databases, Estimated Budget and Accumulation Techniques Suggesting the Methods to Apply to the Models of the Transport DB Construction System for TPCs
Capacity Building Program in Korea	<ul style="list-style-type: none"> Conducting Capacity Building Program by Inviting Practitioners and Professionals of the Transport-related Sectors to Korea in TPCs Sharing the Results and Evaluations with ADB Officials
Holding ADB-KEXIM Joint Seminar	<ul style="list-style-type: none"> Sharing the Results of Modelling the Transport DB and Discussing the Future Plans Holding ADB-KEXIM Joint Seminar by Inviting International and Domestic experts

3. Main Tasks and Action Plans of the Project

Project Schedule

Duration: November 27, 2015 ~ April 20, 2016 (5 months)

Year	Month	Event / Milestone
2015	11	Contract (2015.11.27)
2015	12	Inception Report (2015.12. Analysis of KTDB Kick-off Meeting)
2016	01	1st Field Trip (2016.01. Data collection and analysis of the transport sector)
2016	02	Interim Report (2016.02. Developing applicable models, Submitting the interim report)
2016	03	2nd Field Trip (2016.03. Capacity Building Program in Korea)
2016	04	Project Completion (2016.04. Joint Seminar with ADB, Submitting the final report)

3. Main Tasks and Action Plans of the Project

Performance Plans by Step

Step 1: Collecting the Basic Transport Data and Analyzing the Transport Status	<ul style="list-style-type: none"> Sending official letters for requesting the transport data collection Collecting data/information and doing literature reviews
Step 2: Case Study by Sharing Korea's Case	<ul style="list-style-type: none"> KTDB National Logistics Information Center Related regulations (Transportation Safety Laws, National Transport System Efficiency Act, Basic Logistics Policy Act) Korea Transport Emission Management System International trends of the transport DB

3. Main Tasks and Action Plans of the Project

Performance Plans by Step (cont'd)

Step 3: Field Trip (interview) to Indonesia, Mongolia and Sri Lanka	<ul style="list-style-type: none"> Twice in January 2016 and March 2016 <ul style="list-style-type: none"> 1st: field study and data collection 2nd: Capacity Building Program promotion and data survey supplementation Sending the official letters in advance and conducting field trips after approvals from ADB Enhancing understandings of each PC through meeting or consultation with experts in each PC
Step 4: Modelling as Research Results	<ul style="list-style-type: none"> Step 1: Reviewing standards, analyzing ADB STDQ and KTDB Step 2: Making alternatives for improvement <ul style="list-style-type: none"> Making the practical improvements (draft) after analyzing major problems Collecting opinions from the related organizations in TPCs and reflecting them to the project Step 3: Suggesting the methods to construct DB <ul style="list-style-type: none"> Reviewing the suitable DB standards Reviewing the data collection systems Reviewing the hardware section (centers and construction capacities) Reviewing the operation section (data processing, data supply and data operation) Reviewing the sustainable operation method (acts and guidelines) Calculating of the estimated budget

3. Main Tasks and Action Plans of the Project

Performance Plans by Step (cont'd)

Step 5: Capacity Building Program in Korea	<ul style="list-style-type: none"> Sharing the KTDB and how to make the transport DB system by customized Capacity Building Program Establishing the supportive system after the project
Step 6: Final Briefing and ADB-KEXIM Joint Seminar	<ul style="list-style-type: none"> Briefing the final report Reflecting the opinions from officials and experts through the preliminary review

3. Main Tasks and Action Plans of the Project

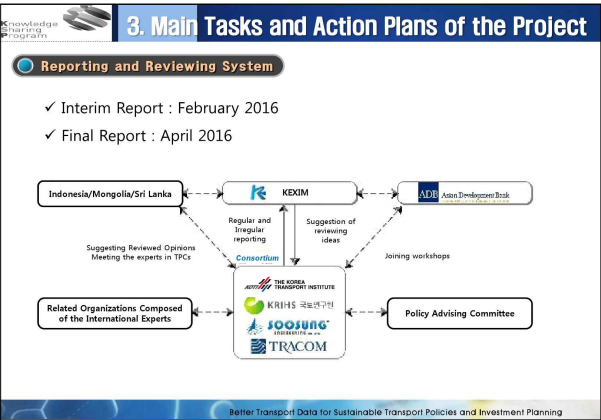
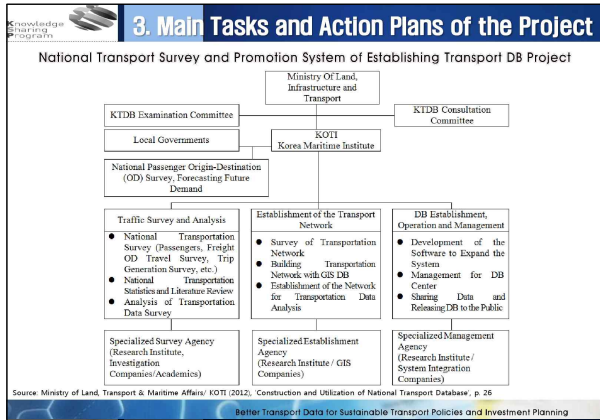
Plans to Utilize the Cooperation Organizations in TPCs and Korea

Cooperation Organizations in TPCs	<ul style="list-style-type: none"> Collection of the related data and information Meetings with the project-related organizations
Cooperation Organizations in Korea	<ul style="list-style-type: none"> Cooperation with the organizations in Korea: KTDB, Gyeonggi Transport DB Center, Seoul Transport Operation and Information Service

3. Main Tasks and Action Plans of the Project

Introduction of KTDB

Purpose of the Establishment	<ul style="list-style-type: none"> Collecting and analyzing the basic transport datasets by conducting the national-level survey about the operation patterns and transport infrastructure Making the database system with the survey and analysis results Providing databases to the institutions, academics and industries for the practical usage
Legal Basis	<ul style="list-style-type: none"> Article 12 and Article 17 of National Transport System Efficiency Act Doing "Establishment of KTDB Project" since 1998
Contents	<ul style="list-style-type: none"> Demand Investigation and Analysis by Passengers Demand Investigation and Analysis by Freight Establishment and Analysis of National Transport Network Survey and Analysis of National Transport Statistics Establishment and Operation of the DB System Project Operation and Management



- ### 4. Discussion Topics
- ✓ Check the Schedule and Contents of the Project with ADB
 - ✓ Ascertain the Availability of Using ADB STDQ
 - If unavailable, we will use our own standards (KTDB standards)
 - ✓ Discuss How to Connect the ADB Branch to the Contact Points
 - The ADB headquarter, as a hub, should play a key role in contacting each branch office in TPCs
 - ADB will supply contact points of voicemail and electronic-mail accounts in TPCs with KSP Consultants
 - ✓ Discuss Capacity Building Program and Joint Seminar with ADB

Thank you!