Chapter 1

Introduction

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CHAPTER 1
Introduction

1. Background and Objective

In a series of studies since fiscal year (FY) 2012, the study team has conducted analyses on how to improve traffic flow, and thus energy efficiency in the transport sector, in major cities in East Asia Summit (EAS) region. We selected Jakarta in Indonesia as the subject for a case study. One of the key findings of our two-year study is that appropriate forward-looking investment is required in the initial stage of urban development. For instance, in Jakarta, traffic congestion has deteriorated considerably, and measures to improve such a situation are limited. It also requires greater change in the existing system and massive short-term investment.

The EAS region has many other mid- to small-sized cities that are about to launch or have just launched explosive urbanisation and motorisation. From the initial development stage of the city, appropriate measures must be implemented gradually to allow these cities to develop sound urban transport systems.

In this light, as a continuation the study conducted in FY2014, our case study in FY2015 targets a mid- to small-sized city in its initial development stage, and analyses policy and infrastructure measures for improving traffic and consequently energy efficiency. From this analysis, we aim to derive policy recommendations applicable to many similar cities in the EAS region.

2. Rationale

The rationale of this study is derived from the 17th meeting of the Energy Cooperation Task Force, held in Phnom Penh, Cambodia on 5 July 2012. At this meeting, the Economic Research Institute for ASEAN and East Asia (ERIA) proposed and explained new ideas and initiatives for EAS energy cooperation, including strategic use of coal, optimum electric power infrastructure, nuclear power safety management, and smart urban traffic.

The participants of the meeting exchanged views and agreed to commence proposed new studies. As a result, the ERIA formulated a working group for the 'Study on energy efficiency improvement in the transport sector through transport improvement and smart community development in the urban area'. Members from Indonesia, Japan, the Philippines, and Viet Nam are represented in the working group, and the Institute of Energy Economics, Japan (IEEJ) acts as the group's secretariat.

3. Work Stream

In FY2014, we undertook the following five steps.

(i) Selection of the model city:

We selected Da Nang City in Viet Nam as the subject of the case study in view of the condition of the city's road traffic and transport infrastructure conditions, and data availability for the analysis.

(ii) Analysis of policy implementation in accordance with a development stage:

While various policies can be effective at improving traffic (and saving energy consumption), appropriate policies differ depending on the stage of urban and transport system development. Therefore, we analysed the suitability of policies for the development stage in the model city.

(iii) Preliminary simulation analysis for traffic improvement and its effect:

We analysed quantitatively any increase in energy efficiency through the improvement in traffic. In this phase, we focused on developing a new model that can simulate an effect of feeder-line bus development.

Based on the achievements in FY2014, in FY2015 we expanded and deepened the study on energy efficiency improvement in the transport sector as follows.

(iv) In-depth simulation analysis for traffic improvement and its impact:

We conducted in-depth simulation analysis using the model mentioned in step (iii). The analysis was expected to identify possible improvements in traffic flow and quantify their effect on reducing oil demand.

(v) Derive policy recommendations:

Based on the analysis, we derived policy recommendations while paying particular attention to urban and traffic system development stages.