

Country Name	Project for Comprehensive Urban Transport Planning in Phnom Penh Capital City
Kingdom of Cambodia	

I. Project Outline

Background	Traffic condition in Phnom Penh Capital City (PPCC) had been deteriorating due to rapid increase of vehicles mainly spurred by the country's vital economic growth. Through JICA's "The Study on the Transport Master Plan of the Phnom Penh Metropolitan Area in the Kingdom of Cambodia" (2001), the Master Plan with the target year of 2015 was developed in 2001 ("2001 MP") and the "Project for Traffic Improvement in Phnom Penh City in the Kingdom of Cambodia" (2007-2010) was implemented under 2001 MP. However, traffic congestion and traffic accidents increased due to rapid increase of vehicular traffic and lack of public transport. In order to solve the transport problems in PPCC, it was necessary to update 2001MP and to develop a comprehensive urban transport plan.								
Objectives of the Project	This project aims to formulate a comprehensive urban transport plan of PPCC, of which the target year is 2035, and its short- and mid-term action plans, to select priority projects and implement pre-feasibility study (pre-F/S), and to transfer techniques regarding survey methods and planning in PPCC, thereby improving traffic condition in PPCC, by way of institutionalization or implementation of the proposed comprehensive urban transport plan as a development plan of transport sector of PPCC and implementation of the selected priority projects.								
	<ol style="list-style-type: none"> Expected Goals through the proposed plan¹: Traffic condition is improved in Phnom Penh Capital City (PPCC) through implementation of projects according to the plan proposed by the project. Expected utilization of the proposed plan : Institutionalization or implementation of the proposed comprehensive urban transport plan as a development plan of transport sector of PPCC and implementation of the selected priority projects. 								
Activities of the Project	<ol style="list-style-type: none"> Project Site : The whole administrative area of PPCC Main Activities: <ul style="list-style-type: none"> -1) Survey on current situation of urban transportation and traffic demand forecast, formulation of urban transport master plan, including selection of priority projects, formulation of implementation plan and short-term and mid-term action plans, pre-FS on priority project(s); 2) Formulation of capacity development plan for promotion of the plan and technical transfer to the relevant staff regarding survey methods and planning Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Cambodian Side</td> </tr> <tr> <td>1) Members of Study Team: 16 persons</td> <td>1) Staff Allocated: 8 persons from Department of Public Works and Transport</td> </tr> <tr> <td>2) Trainees Received: 15 persons</td> <td></td> </tr> </table> 			Japanese Side	Cambodian Side	1) Members of Study Team: 16 persons	1) Staff Allocated: 8 persons from Department of Public Works and Transport	2) Trainees Received: 15 persons	
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Project Period	March 2012 – December 2014 (Extended period: April - December 2014)	Project Cost	(ex-ante) 380 million yen (actual) 287 million yen						
Implementing Agency	Department of Public Works and Transport, Phnom Penh Capital City (DPWT)								
Cooperation Agency in Japan	METS Research & Planning, Inc.; International Development Center of Japan, INC.; Oriental Consultant Co. Ltd.; Tonichi Engineering Consultants, INC.								

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

- As per the Ex-Ante Evaluation Sheet, ex-post evaluation was planned after the fifth year from the completion of the project. Therefore, the target year for the expected utilization of the proposed plan shall be set to be 2019 (the fifth year from the completion of the project).
- Indicator 1 ("The number of cases of institutionalization or implementation of the proposed comprehensive urban transport plan as a development plan of transport sector of PPCC"): "The number of cases of institutionalization or implementation" shall be modified into "Institutionalization or implementation" since only one "comprehensive urban transport plan" was proposed as a development plan of transport sector in PPCC. "Institutionalization" shall be defined as the official approval of the plan by Phnom Penh Capital Hall (PPCH), and subsequently by the Government of Cambodia as part of Phnom Penh's 2035 Comprehensive Urban Master Plan, which was planned to be submitted by PPCH at the time of project completion. Indicator 1 shall be evaluated to be achieved if either "institutionalization" or "implementation" is achieved.
- Indicator 2 ("The number of the selected priority projects implemented"): "Priority projects" in this Indicator shall be defined as 3 "urgent programs" of the proposed comprehensive urban transport plan, for which short- and mid-term action plans were prepared (i.e. city bus operation program phase 1

¹ The degree of achievement of expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan ("output" of the project).

& phase 2 and 100 signalized intersections upgrading program), and F/S for “the highest priority program” of the proposed plan (i.e. development of rail transit system), recommended by the project. Considering that the target year is set to be 2019, the evaluation shall be judged mainly on the achievement status of the priority projects with short-term goal (i.e. city bus operation program phase 1) and F/S for rail transit system. In view of the above, the target number shall be set to be at least 2.

- Institutional, Technical, and Financial Aspects of Sustainability shall be judged mainly on the implementation of the “priority projects” defined above.

1 Relevance

<Consistency with the Development Policy of Cambodia at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with the development policy of Cambodia both at the time of ex-ante evaluation and project completion, as development and improvement of transportation in PPCC was regarded as a priority action issue from the viewpoint of improving the investment environment in the "Rectangular Strategy for Growth, Employment, Equity and Efficiency" Phase II (2009-2013) and Phase III (2014-2018) of the Royal Kingdom of Cambodia.

<Consistency with the Development Needs of Cambodia at the Time of Ex-Ante Evaluation and Project Completion >

The Project was consistent with the development needs of Cambodia to improve traffic conditions in PPCC as mentioned in the “Background” above at the time of ex-ante evaluation. The continuity of the needs at the time of project completion was confirmed by DPWT through the questionnaire for the ex-post evaluation.

<Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation>

The Project was consistent with Japan’s Country Assistance Program for the Kingdom of Cambodia (2002), which includes “promotion of development of socio-economic infrastructure” under one of the four priority areas (“Sustainable economic growth and realization of a stable society”).

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Objectives at the time of Project Completion>

The objectives were achieved at the time of project completion. A comprehensive urban transport plan with the target year of 2035 (i.e. the Phnom Penh Urban Transport Master Plan 2035 (PPUTMP 2035)), including short-term and mid-term action plans², was developed. Four priority projects were selected (i.e. city bus operation program phase 1 & 2, 100 signalized intersections upgrading program, and F/S for development of rail transit system) and a Pre- F/S for development of rail transit system was implemented. Techniques of survey methods and planning were transferred to the relevant C/Ps during the cooperation period. The Final Report of this project was received/accepted as the project output in the final meeting of Joint Coordinating Committee (JCC) .

<Utilization Status of the Proposed Plan at the time of Ex-post Evaluation>

The Proposed Plan is utilized at the time of ex-post evaluation. Although PPUTMP 2035 has not been approved by PPCH³, it has been implemented as a development plan of transport sector of PPCC because all of its short- and mid-term action plans have been or are being implemented. Some other programs proposed by PPUTMP 2035 have been or are being implemented, too (Indicator 1). One priority project (i.e. city bus operation program phase 1) has been already completed and the other 3 are ongoing (Indicator 2).

<Status of Expected Goal through the Proposed Plan at the time of Ex-post Evaluation>

According to DPWT and City Bus Authority (CBA), the traffic congestion in PPCC has been already reduced to some extent through implementation of 3 priority projects i.e. city bus operation program phase 1 & phase 2 and 100 signalized intersections upgrading program. Especially, introduction and expansion of city bus service has contributed to the reduction of private transport modes that cause the traffic congestion in the city. The number of bus users has increased by around 30-40% every year and amounted to be about 3.2 million in 2017.

<Other Impacts at the time of Ex-post Evaluation>

No negative impacts have been observed.

<Evaluation Result>

In light of the above, through the project, the Objectives were achieved at the time of project completion. The Proposed Plan is utilized, and the Expected Goal through the proposed plan was already partially achieved at the time of ex-post evaluation. Therefore, the effectiveness/impact of the project is high.

Status of Achievement of Utilization Status of the Proposed Plan and Expected Goals through the Proposed Plan

Aim	Indicators	Results
(Utilization of Proposed Plan) Institutionalization or implementation of the proposed comprehensive urban transport plan as a development plan of transport sector of PPCC and implementation of the selected priority projects	Indicator 1 Institutionalization or implementation of the proposed comprehensive urban transport plan as a development plan of transport sector of PPCC	(Ex-post Evaluation) achieved -PPUTMP 2035 has not been officially approved by PPCH. -All of the short- term and mid- term action plans of PPUTMP 2035 have been or are being implemented. In addition, some other programs proposed by PPUTMP 2035 have been or are being implemented, including road expansion and ring road development projects (RR2 and RR3) by PPCH and operation of water taxi and expansion of commuter train services to the Phnom Penh international airport by MPWT.
	Indicator 2 The number of the selected priority	(Ex-post Evaluation) achieved <Utilization status of the priority projects selected by the project >

² Short-term and mid-term action plans includes city bus operation phase 1&2, 100 signalized intersection upgrading, improvement of parking and sidewalk, and introduction of one-way road.

³ According to DPWT, it is under review and discussion among the relevant authorities.

projects implemented or being implemented (at least 2)	Priority Project	Progress/Plan
	City bus operation program phase 1 (2014-2016)	(Completed) -City Bus Authority set up in 2014. Three bus routes with 57 bus fleets became operational. (One-month public experiment of city bus operation supported by the project)
	City bus operation program phase 2 (2017-2020)	(Ongoing) -Bus routes expanded to 8 in 2017. Total of 157 bus fleets in operation at the time of ex-post evaluation. -80 more bus fleets planned to be in operation by the end of 2018. Bus routes to be expanded to 10 by 2020. (The program supported by JICA's technical cooperation for "Project for Improvement of Public Bus Operation In Phnom Penh" (2017-2020)). Procurement of 80 bus fleets supported by Japanese grant aid for "Project for Improvement of City Bus Operation in Phnom Penh" (2016-2018))
	100 signalized intersection upgrading program (2015-2018)	(Ongoing) -115 new signals and a Traffic Control Center with central control system of traffic signal system are being installed -Central control system planned to be launched in September 2018 (The program supported by Japanese grant aid for "Project for Development of Traffic Management System in Phnom Penh" (2016-2018))
F/S for development of rail transit system (2017-2018)	(Ongoing) - F/S is being conducted. The final report planned to be submitted by January 2019. (F/S supported by JICA's "Preparatory Survey for Phnom Penh Urban Railway Development Project" (2017-2019)).	

Source : DPWT

3 Efficiency

While the project cost was within the plan (ratio against the plan: 76%), the project period exceeded the plan (ratio against the plan: 138%) because of implementation of an additional activity (i.e. stated preference survey) for verification of the target public transport modal share, which was set during formulation of PPUTMP 2035. Therefore, the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

Development and improvement of transportation in PPCC is consistent with the "Rectangular Strategy for Growth, Employment, Equity and Efficiency" Phase III (2014-2018)⁴ as stated in "Relevance". However, PPUTMP 2035 has not been approved by PPCH yet. According to DPWT, it is under review and discussion among the relevant authorities.

<Institutional Aspect>

City bus operation program phase 2 (2017-2020) is supported by JICA's technical cooperation, "Project for Improvement of Public Bus Operation in Phnom Penh" (2017-2020), and implemented by CBA, which was established for operation and management of city bus under phase 1 of the program. There are 46 staff members at CBA headquarters, including 5-6 persons in charge of the program. The number of staff is considered appropriate as the program has been implemented as planned and the city bus service has been operated without a serious problem. According to CBA, the current number of staff at the headquarters is sufficient for expansion of the bus routes until 10, targeted by the program and additional drivers and mechanics will be hired for 80 more bus fleets expected to be operational by the end of 2018.

One-hundred signalized intersection upgrading program (2015-2018) is supported by a Japanese grant aid, "Project for Development of Traffic Management System in Phnom Penh" (2016-2018), and DPWT is the Implementing Agency. Although the number of allocated staff is not available, it is considered appropriate as the program has been implemented without a serious problem. Under the program, Traffic Control Center (TCC) is planned to be established in September 2018 to operate and manage a new traffic control system being installed. According to DPWT, 11 staff members from DPWT, PPCH and traffic police are planned to be assigned to TCC; however, the number of staff would not be sufficient to operate the system smoothly so that it is necessary to hire contract staff from private sector who has related skills necessary for management, operation and maintenance.

The F/S for development of rail transit system is conducted through JICA's "Preparatory Survey for Phnom Penh Urban Railway Development Project" (2017-2019), and Road Infrastructure Division (RID) of MPWT is the main Implementing Agency to work with the survey team. There are more than 100 staff members at RID and around 3-4, including the Director, are assigned as C/Ps to coordinate with other concerned government organization, including preparation and hosting JCC, which is a very significant platform for decision making. JCC is chaired by Secretary of State of MPWT. Organizational structure for urban railway would be formed up based on the recommendation of the F/S.

<Technical Aspect>

CBA, DPWT, and MPWT have basic capacity to implement the respective priority projects, considering that the projects have been implemented without a serious problem. As for city bus operation program, capacity of CBA for bus operation and maintenance and bus business management is expected to be further enhanced through on-going JICA's technical cooperation ("Project for Improvement of Public Bus Operation in Phnom Penh" (2017-2020)). Regarding 100 signalized intersection upgrading program, the staff to be assigned to TCC has acquired basic skills and knowledge to operate the traffic control system through training provided under the grant aid project. However, according to DPWT, the staff does not have sufficient skills and knowledge to fully utilize the system, including the ones for

⁴ Draft of "Rectangular Strategy" Phase IV (2019-2023) was not available at the time of ex-post evaluation.

traffic management, traffic safety planning, application of data/information obtained from the system to actual traffic management and safety administration, which are urgently needed for them to deal with serious traffic congestion and accidents⁵.

<Financial Aspect>

Regarding city bus operation program, the total budget is not disclosed, but necessary amount is considered to be secured as the program has been implemented as planned. Although city bus operation has not made profit, PPCH has provided subsidy of approximately 50,000 US\$ per month to CBA to maintain the service since 2014. As for the required investment, it has been partly supported by another Japanese grant aid (“Project for Improvement of City Bus Operation in Phnom Penh” (2016-2018)), for which Japan agreed to provide 1,369 million yen for the procurement of 80 bus fleets (20 bus fleets already procured). Although detailed information is not available, PPCH has secured the specific amount of budget necessary for implementation of the grant aid project, including construction cost for a new bus depot. It has also secured the budget to employ additional drivers and mechanics to operate 80 bus fleets to be provided by the grant. In view of the above, the budget is likely to be secured for implementation of the city bus operation program even for the remaining period.

As for 100 signalized intersections upgrading program, budget is supported by the Japanese grant aid (“Project for Development of Traffic Management System in Phnom Penh”), for which Japan agreed to provide 1,727 million yen. According to PPCH, it will secure necessary budget to operate 100 traffic signal system, including operation cost of TCC, after completion of the program in December 2018.

Budget for the F/S for development of rail transit system is supported by JICA through the Preparatory Survey. The planned budget is approximately 3 million US\$. As for the proposed rail transit system development program, cost estimation would be presented in the Final Report.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the policy, institutional, and technical aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

This project achieved its objectives at the time of project completion since PPUTMP 2035 was proposed, 4 priority projects were selected, and a pre- F/S of a priority project was implemented. The proposed plan has been utilized by the time of ex-post evaluation: all of the short-term and mid-term action plans of PPUTMP 2035 and all of the selected priority project have been or are being implemented. Regarding sustainability, slight problems have been observed in the policy aspect (i.e. pending of approval process of PPUTMP 2035) institutional aspect (i.e. lack of skillful staff for management, operation, and maintenance of the TCC system), and technical aspect (i.e. insufficient skills of personnel of DPWT to fully utilize traffic control system to be launched in September 2018). Nevertheless, no major problem has been observed in the financial aspect. As for efficiency, the project period exceeded the plan. Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- Urban transport development is a new sector for Cambodia. Therefore, to sustain the effect of the priority projects, human resource allocation and capacity building to improve technical skills and knowledge of the staff members is very important. In view of the above, it is recommended that PPCH/DPWT allocate the sufficient number of technically qualified staff at new TCC, including contract staff with related skills for management, operation, and maintenance of the traffic control system to be launched and train the staff to enable full utilization of the system before completion of 100 signalized intersection upgrading program in December 2018.

Lessons Learned for JICA:

- One of the Indicators of the project included “institutionalization” of the proposed master plan (PPUTMP 2035). Although the PPUTMP 2035 has been utilized, it has not been institutionalized/approved by PPCH. The implementing agency has not effectively followed up for approval of the PPUTMP.
 - At the project planning stage, a time frame for approval of the master plan prepared by a development study project should be mentioned in the official document shared by both sides (i.e. the implementing agency and JICA) such as R/D, especially when approval of the proposed master plan after project completion is included in the Indicators.
 - The project should also have a strong monitoring tool/system in order to follow up the progress of approval and implementation of the master plan. A particular Working Group to review the master plan approval process by the Government of Cambodia should be established before or at the time of the completion of the project. At the project planning stage, establishment of such a working group should be agreed in the official document shared by both sides.
 - Furthermore, basically, official or legal documents should be drafted in Khmer language in Cambodia. Therefore, the master plan related documents should be in Khmer as well as English, if the documents aim at official approval. In this project, however, only English documents were prepared. After the project completion, Khmer translation of the Final Report (Executive Summary) was prepared by JICA Cambodia Office and provided to PPCH upon their request. Preparation of critical PPUTMP 2035 related documents in Khmer language should have been added in M/M and/or terms of reference for the consultants at the project planning stage. As the integration with other Phnom Penh master plans is essential for the PPUTMP 2035 to be approved, the project should have needed more involvement of urban design/planning division of the implementing agency. This could have made the PPUTMP 2035 added in the same process of the approval of the Phnom Penh Land Use Master Plan 2035, which was approved in 2016.

⁵ Recognizing the need for further capacity development, DPWT has officially requested for a technical assistance to JICA for capacity development for traffic management planning and TCC.



Installation of new traffic light system at one of intersections in Phnom Penh



One of the bus fleets provided under Japanese grant aid project (Test-Drive)