

ANNEX11-4: 4th JCC Meeting

Minutes of the 4th Joint Coordinating Committee Meeting

of

The Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City (PPTMTC)

The 4th Joint Coordinating Committee (JCC) meeting between Phnom Penh Capital Administration (PPCA), Department of Public Works and Transport of Phnom Penh (DPWT), Japan International Cooperation Agency (JICA), and the concerned members of the Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City (PPTMTC) was held in a hybrid format, on-line and face-to-face at Phnom Penh Capital Administration (PPCA) on 23rd of July, 2024. The comments and the discussions were made on several items as described below.

1. Opening remarks by PPCA and JICA:

Ms. Miura Yoshiko, Senior Representative of JICA Cambodia office, welcomed all the participants and expressed her deepest appreciation to H.E. Ek Khundoeurn and Mr. Kong Sopha for presiding over this meeting. She continued that the rapid urbanization and economic growth of Cambodia lead to face with many challenges, one of those major challenges is the increased number of vehicles in Phnom Penh which causes traffic congestion, traffic accidents and environmental impacts. This project was designed with the purpose of improving traffic management and enhance safety in Phnom Penh by strengthening the capacity of operation, maintenance and management of traffic control system established by Japanese Grant Aid project. To achieve these, this project has been implementing many measures such as installation of new traffic signals at specific locations to optimize traffic flow, and also effective parking management plan to ensure smooth traffic and safety in Phnom Penh. Before concluding her remarks, she expressed her sincere appreciation to the colleagues from DPWT, PPCA and JICA expert team for the continuous cooperation, unwavering support and active collaboration which will achieve outstanding outcomes align with the project schedule. She wished that this meeting will bring a productive discussion and establishment of a strategic plan for future implementation stages.

H.E. Ek Khundoeurn, Vice Governor of PPCA and Vice-Chair of JCC, on behalf of the PPCA Governor, welcomed all the participants and expressed his sincere thanks to the Government of Japan for extending support through JICA, as well as to JICA expert team for the implementation of the PPTMTC project. He mentioned that this project is the technical cooperation project to sustain the Traffic Control Center (TCC) operation, which was proposed by the Phnom Penh Urban Transport Master Plan in 2014 and implemented in 2018 by the Japanese Grant Aid. He continued stating that this PPTMTC project composed of the following 5 outputs which will be explained by JICA Experts Team later, and today mainly present and discuss about Output 3 (Conduct Pilot Project), Output 4 (Traffic Control System Expansion Plan), Output 5 (Traffic Management Plan) including training in Japan and the PPTMTC Seminar proposed on August 8th, 2024. He further added this 4th JCC meeting is held almost one year after the third JCC meeting and the presentations cover many activities that TCC staff and JICA expert team have carried out during that time. Before closing his remarks, he expressed his sincere thanks to JICA and people of Japan for continuous support to Phnom Penh and people of Cambodia. He hoped that this collaboration would be retained and wished this JCC meeting a successful and fruitful discussion.

2. Contents of Presentations:

Mr. Chou Kimtry, Deputy Director of the Department of Public Works and Transport of Phnom Penh (DPWT), briefly explained about the PPTMTC project and purposes of the 4th Joint Coordinating Committee meeting. He finally expressed his sincere thanks to JICA for unwavering support on the grant aid project and also the technical cooperation project to Phnom Penh.

Mr. Masato Koto, team leader of the project, made a presentation on the PPTMTC project covering outline of the project, progress of PPTMTC project, evaluation of pilot project, training in Japan, traffic signal system expansion plan, traffic management plan and pilot project seminar. For the details, please refer to the presentation material.

3. Main Points of Discussion:

No.	Comments/Questions	Answers
(1)	Mr. Moeung Sophan, advisor of DPWT, raised some points as follows: 1. Request to the project team to prepare the technical specification of the expansion plan for the possibility of future implementation. 2. Suggest project team to consider some intersections located at the section between inner-ringroad to city center for the expansion plan. 3. Request to project team to provide the evaluation report for the effectiveness of wireless connection work and as well as the comparative evaluation between wireless connection and optical fiber cable network. 4. Current Traffic Control System life time is expected by 2035, so what is the next plan after 2035? 5. Suggest PPCA to consider of road marking painting along the main road at suburban areas (along with the public bus routes).	Mr. Koto responded as follows: 1. This technical cooperation project (TCP) is only the planning stage for expansion traffic signal to suburban area which mean this TCP does not include the preparation of technical specification. 2. DPWT should suggest the location between inner-ring road into the city center where prioritize to install traffic signal. 3. The wireless connection status is still in the monitoring stage. The evaluation report of wireless connection work and comparative evaluation between wireless connection and optical fiber cable (OFC) will be prepared by expert team, probably by October 2024. 4. Basically, Sumiden's traffic control system lifetime is expected to be around 15 years. In the case of Japan, the system is replaced every 5-7 years. For the TCC system, there should be further discussion on this matter.
(2)	Mr. Sam Phalla mentioned that PPCA has an existing OFC network which is currently being used with CCTV security cameras at or near the locations where the project team has installed traffic signals and the proposed locations within the expansion plan. In this case, the traffic signals at those locations can be used with OFC and can be connected to TCC at PPCA. He added that the traffic signals at most of the projects do not have CCTV security cameras, so to be more efficient for management work and easily for monitoring the traffic situation in those areas if there is an integration between traffic signals and CCTV security cameras together in those areas.	Mr. Koto responded that the project team also considered about the existing OFC networks at suburban areas, but some sections are not available with OFC networks. He continued that project team will bring idea of alternative study for communication system. He further added that for CCTV camera which is helpful for monitoring the traffic condition at those areas, but CCTV camera for monitoring traffic condition should be more specific and separated.
(3)	Dr. Phun Vengkheang, Head of Transport and Infrastructure Engineering Department from Institute of Technology of Cambodia (ITC), raised about the concern of road user related violation such as motorcycle user and paratransit driver. He continued that the project team should consider not only improvement of the intersection and traffic control system, but should also include the road user behavior. He suggested project team to consider putting "Road User Behavior" as issue No.7 into the presentation material and also involving the traffic police for participating in the technical aspect for preparation of comprehensive expansion plan of	Mr. Koto mentioned that most of the violators are motorcycle users, of which 80% of them have no driving license. He added that the expert team received some ideas from H.E. Ek Khundoeurn that considered for the alternative way of involving the motorcycle user to understand traffic safety and rules. This alternative raised that before applying for a plate number, the motorcycle user should be required to take the questionnaire test related to traffic safety and rules in order to get the plate number in case they pass the test.

	traffic signal in the future.	
(4)	Ms. Tema Vichekal , Deputy Director of Phnom Penh Capital Administration, expressed her appreciation for the project team for continuous supporting and working to reduce the traffic congestion and accident in Phnom Penh city which is aligned with government policy and global warming action. She agreed with the proposed idea from Dr. Phun Vengkheang that road user behavior should be taken into consideration including the classification and characteristics for effective study and planning in the future.	Mr. Koto mentioned that the project team will arrange a small-scale traffic safety campaign before Phcum Ben or Water Festival. He continued that after this small-scale campaign, Road Safety Section in DPWT can arrange it by themselves later. He also added that in the case of Japan, the traffic safety campaign has been conducted twice a year, in April and October annually.
(5)	Mr. Kong Sophal , Deputy Director General of General Department of Land Transport, Ministry of Public Works and Transport (MPWT), on behalf of MPWT, expressed his appreciation to JICA and the project team for continuous support to improve the traffic condition in the city. He raised few points as follows: 1. He suggested the project team to maintain the traffic data generated from the traffic survey under this project as baseline data such as travel speed and traffic volume for further comparison study in the future. 2. He mentioned that tricycle driver for commercial purpose, they are required to get the driving license. 3. He further asked about the effectiveness of the wireless connection work?	Ms. Pheng Pharinet , Chief of Traffic Control Center (TCC), stated that after the pilot project under PPTMTC, there are 118 signalized intersections connected to TCC where 112 intersections using optical fiber cable network (OFC), and remaining 6 intersections along national road No.1 that using wireless connection under pilot project (still under monitoring stage). She continued that the wireless connection is not regularly stable for communicating from local controller to TCC currently. She further added that the project team needs more comprehensive study in order to evaluate the effectiveness of wireless connection versus optical fiber cable network.

4. Closing and Conclusion:

Before closing, **H.E Ek Khundocurn** summarized and concluded the main points of discussion among the participants during the 4th JCC meeting as the followings:

(1) The meeting agreed with the followings:

- 1) Revised Project Design Matrix
- 2) Completion of Activities Output 1, 2 and 3.

(2) The remaining activities that should be completed by end of 2024

- 1) PPTMTC Seminar for Phnom Penh citizens will hold in 8th August 2024 (First Seminar) and in mid of December 2024 (Final Seminar)
- 2) Small-scale Traffic Safety Campaign before Pchum Ben or Water Festival
- 3) Conduct the Final Traffic Survey in October 2024
- 4) Materials will get approval from DPWT Director:
 1. Maintenance Management Manual
 2. Pilot Project Handbook
 3. Traffic Control System Expansion Plan
 4. Traffic Management Plan
 5. Traffic Enforcement and Traffic Safety Education Manual

Suggestions:

- Suggest DPWT prepare a proposal for road marking painting along the main roads in the city.
- Suggest DPWT and the project team work closely together to define the signalized intersection's name appropriately and consider the installation of the direction sign. 

The meeting was adjourned at **11:45 AM**.

CONFIRMED BY:

H.E. EK KHUNDOEURN
Vice Governor
Phnom Penh Capital Administration

Ms. MIURA YOSHIKO
Senior Representative
JICA Cambodia Office

Mr. MASATO KOTO
Team Leader
JICA Expert Team

1. Agenda

AGENDA

4th Joint Coordinating Committee Meeting for Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City (PPTMTC)

Venue: PPCA and Online Zoom Meeting

Date: 23rd July, 2024

Time: 09:00 to 11:00 Cambodia Time

Time: 11:00 to 13:00 Japan Time

09:00 – 09:20		Opening Keynotes
Representative of JICA		
Ms. Miura Yoshiko		10
Senior Representative of JICA Cambodia Office		min
Representative of the Governor		
H.E. Ek Khundoeurn		10
Vice Governor, PPCA		min
09:20 – 10:15		Presentation of the PPTMTC Project
Mr. Sam Piseth, Director, DPWT, PPCC, Project Manager of the PPTMTC Project		10
(Introduction)		min
Mr. Masato Koto, Chief Consultant, JICA PPTMTC Project Team		45
1. Progress of the PPTMTC Project		min
2. Overall Evaluation of the Pilot Project		
3. Training in Japan		
4. Traffic Signal System Expansion Plan		
5. Traffic Management Plan		
6. PPTMTC Seminar		
7. Conclusion		
10:15 – 10:45		Discussion
10:45 – 11:00		Closing Remarks
Representative of the Governor		
H.E. EK Khundoeurn		
Vice Governor, PPCA		

2. Proposed Participant List to be invited for the 4th JCC meeting

1. PPTMTC's JCC Members (based on PPCA's Decision No.183/23 អនុសាសន៍ ទី៧ dated 31 October 2023)

1	H.E. Khuong Sreng	Governor, PPCA	Chairperson of JCC
2	H.E Nuon Pharat	Vice Governor, PPCA	Project Director of PPTMTC project and Vice Chairperson of JCC
3	H.E. EK Khundoeurn	Vice Governor, PPCA	Vice Chairperson of JCC
4	Mr. Sam Piseth	Director, DPWT	Project Manager of PPTMTC project and Member of JCC
5	Mr. Sem Ratana	Deputy Commissioner, PPTP	Member of JCC
6	Mr. Seng Vannak	Director of Administration, PPCA	Member of JCC
7	Ms. Tema Vichekal	Deputy Director of Administration, PPCA	Member of JCC
8	Mr. Long Sokhom	Deputy Director of Administration, PPCA	Member of JCC
9	Mr. Chhean Vuthy	Director of IRIC Division, PPCA	Member of JCC
10	Mr. Chou Kimtry	Deputy Director, DPWT	Member of JCC
11	Mr. Man Kimchhuon	Deputy Director of IRIC Division, PPCA	Member of JCC
12	Mr. Sor Phara	Deputy Director of Urban Management Division, PPCA	Member of JCC
13	Mr. De Mao	Chief of Traffic Police Office, PPTP	Member of JCC
14	Mr. Chea Sovan	Chief of Public Lighting and Traffic Signal, DPWT	Member of JCC
15	Ms. Som Sreyleak	Chief of IR Office, PPCA	Member of JCC
16	Mr. Prom Kampoul	Chief of Traffic Safety Office, DPWT	Member of JCC
17	Mrs. Pheng Pharinet	Chief of Traffic Control Center, DPWT	Member of JCC
18	Mrs. Theam Ridthydeka	Deputy Chief of IR Office, PPCA	Member of JCC
19	Mr. Ouch Sansothy	Deputy Chief of Traffic Signal, TCC	Member of JCC

20	Mr. Moeung Sophan	Advisor, DPWT	Member of JCC
21	Mr. Sam Phalla	Technical Staff, TCC	Member of JCC
22	Ms. Kosal Nita	Officer of IRIC Office, PPCA	Member of JCC
23	Mr. Kheang Khy	Officer of IRIC Office, PPCA	Member of JCC
24	Mr. Takanori Kuribayashi	First Secretary, Japan Embassy	Member of JCC
25	Mr. Kazumasa Sanui	Chief Representative, JICA Cambodia	Member of JCC
26	Mr. Shota Okuno	JICA Headquarter	Member of JCC
27	JICA PPTMTC Experts	-	Member of JCC

2. Stakeholders/Counterparts

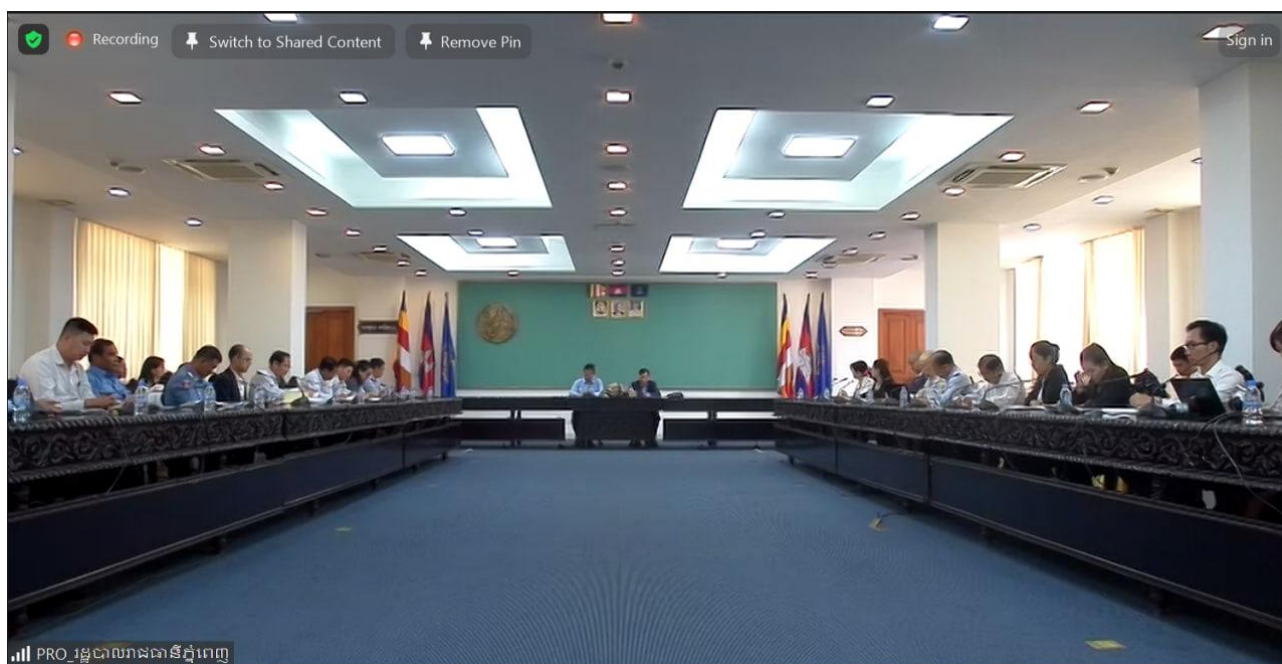
1. Mr. Kong Sophal (Deputy Director General, Land Transport Division, MPWT)
2. Mr. Ryuji Yamasaki (JICA Transport Policy Advisor, MPWT)
3. Dr. Phun Veng Kheang (Head of Transport and Infrastructure Engineering Department, ITC)
4. Ms. Lak Sivcheng (Officer, Public Lighting and Traffic Signal Office, DPWT)
5. Mr. Chea Vandeth (Technical Staff, TCC)
6. Mr. Keo Channarith (Governor, CBA)

4. Photos



H.E. Ek Khundoeurn, Vice-Governor of PPCA (Left)

Mr. Kong Sophal, Deputy Director General of General Department of Land Transport, MPWT(Right)





The screenshot shows a Zoom meeting in progress. The main window displays a presentation slide titled "Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City (PPTMTC)". The slide content includes the title, the meeting name "4th Joint Coordinating Committee Meeting", a list of seven agenda items, the date "23 July 2024", and the names of the organizing organizations: "METS RESEARCH & PLANNING, INC.", "INTERNATIONAL DEVELOPMENT CENTER OF JAPAN", and "ORIENTAL CONSULTANTS GLOBAL Co., Ltd.". On the right side of the Zoom interface, there is a grid of participant video thumbnails. The participants listed are Vanda CHHIEV, JICA_Okuno, MK, MOCHIZUKI, Yamada, and michiko.kondou. The bottom of the screen shows the Zoom toolbar with icons for Unmute, Start Video, Participants, Chat, Share Screen, Summary, AI Companion, Reactions, Apps, Whiteboards, Notes, More, and a red Leave button.

Participants of 4th JCC meeting

5. Presentation Material

Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City (PPTMTC) **4th Joint Coordinating Committee Meeting**

- I. Progress of the PPTMTC Project
- II. Overall Evaluation of the Pilot Project
- III. Training in Japan
- IV. Traffic Signal System Expansion Plan
- V. Traffic Management Plan
- VI. Pilot Project Seminar
- VII. Conclusion

23 July 2024

METS RESEARCH & PLANNING, INC.
 INTERNATIONAL DEVELOPMENT CENTER OF JAPAN
 ORIENTAL CONSULTANTS GLOBAL Co., Ltd.

1

I. Progress of the PPTMTC Project

Project Name	Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City
Project Period	January 2022 to February 2025
Overall Goal	Sustainable Urban Transport Environment is Formed
Project Purpose	Traffic Management Measures Including Traffic Safety Measures in Phnom Penh is Improved
Expected Output	Output 1: Maintenance Management System of Traffic Control System is Established Output 2: Capacity of TCC Staff on the Operation of Traffic Control System is Strengthened Output 3: Capacity to Design Traffic Signals is Strengthened through the Implementation of Pilot Projects for Traffic Signal Improvement Output 4: Capacity of the Relevant Staff to Traffic Control in PPCA, DPWT and TCC Staff to Develop the Expansion Plan of Traffic Control System is Strengthened Output 5: Capacity of Urban Transport Related Organizations on Traffic Management Measures is Strengthened towards Enhancement of the Project Sustainability
Counterpart Institution	Implementing Agencies: Phnom Penh Capital Administration (PPCA), Department of Public Works and Transport (DPWT), Traffic Control Center (TCC) and Phnom Penh Traffic Police (PPTP)
Project Area	Whole Area of Phnom Penh

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Progress of the PPTMTC Project (1)

Project Design Matrix			
Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Progress as of 23 July 2024
Overall Goal Sustainable urban transport environment is formed through effective operation of the traffic control system.	1. Travel speed of the main road after the project increases by 5%(*1) compared to before the project. Note: Target corridors are selected before the Pilot Project.	1. Travel speed survey (Daily Average along 3 Major Corridors in the Phnom Penh Central Area)	Before Pilot Project: 15.38km/h. After Pilot Project: 15.33km/h. (Increased by 0.0%)
	2. Number of interviewees who understand traffic rules/regulations increases. Note: Interviewees are selected from the participants in the Final Seminar of the Project.	2. Interviews with government agencies and citizens	Not yet During the Final Project Seminar expected mid-December 2024.
Project Purpose Traffic management measures including traffic safety measures in Phnom Penh is improved through strengthening capacity of operation and maintenance of traffic control system.	1. Availability of the Traffic Control System (Key Performance Indicator: KPI) is increased by 15% compare to before PPTMTC Training. (*2) 2. Results of the traffic data analysis at major intersections are summarized in the monthly report. 3. Number of traffic violators decrease by 10% (*1). * Target major intersections was determined before the Pilot Project.	1. TCC Monthly/Annual report	Before PPTMTC Training: 83.24% After PPTMTC Training: 94.37% (Increased by 11.13%)
		2. Traffic Volume Monitoring Report in Evening Peak (17:30 - 18:00)	Summarized in Dashboard Data: CCTV Camera Video Image Analysis:DataFromSky
		3. Pilot Project Traffic Survey on the number of traffic offenders of Traffic Rules at Pilot Project Intersections	Before Pilot Project: 944 Persons After Pilot Project: 689 Persons (Decreased by 27.0%)
Outputs Output 1: Maintenance management system of traffic control system is established.	1-1. A trouble list that occurred after the traffic control system started operation is developed. 1-2. Proposed maintenance system is approved by DPWT Director. 1-3. Developed manual by counterparts is approved by the DPWT Director.	1-1 Responses to Accidents to the Traffic Signal System (2018 - 2023)	Top 3 problems 1. OFC related: 29.48% 2. Site Survey: 19.19% 3. Local Controller related: 18.81%
		1-2 Maintenance Management Manual	Explain in the Maintenance Management Manual
		1-3 Maintenance Management Manual	Expected to get Approval by the DPWT Director by October 2024

Progress of the PPTMTC Project (2)

Output 2: Capacity of TCC staff on the operation of traffic control system is strengthened.	2-1. Through the training, TCC staff are able to analyze / design / repair problematic intersections by themselves. 2-2. Target score of the evaluation test for TCC staff (55 points) is achieved (*3). Note: Target score was decided by experts and counterparts before Pilot Project. 2-3. TCC staff can repair quickly at cutting OFC by themselves	2-1 TCC Monthly Report and Pilot Project Handbook	Perform TCC Staff's Activities through PPTMTC Training and Pilot Project
		2-2 Evaluation test results of PPTMTC Training (before and after).	Before Training: 21.0 points After Training: 57.2 Points (Target Score is 55 points)
		2-3 TCC Monthly Report	Processing of Procurement of Fusion Splicer, Optical Time Domain Reflectometer and Light Truck
Output 3: Capacity to design traffic signals is strengthened through the implementation of pilot projects for traffic signal improvement.	3-1. TCC staff can select the intersections which need revision of traffic control system design by using evaluation criteria developed by themselves. 3-2. A pilot project is implemented and the queue length at the target major intersections are reduced by 10% (*1). 3-3. The counterparts take the lead in compiling pilot project handbook, which explains the procedure from planning to project evaluation.	3-1 Pilot project Work at Site and Pilot Project Handbook	Completed
		3-2 Intersection queue length survey results (Total Queue Length/Intersection)	Before Pilot Project: 567m After Pilot Project: 447m (Decreased by 21.2%)
		3-3 Pilot Project Handbook	On-going Completion of the Pilot Project Handbook is expected in October
Output 4: Capacity of the relevant staff to traffic control in PPCA, DPWT and TCC staff to develop the expansion plan of traffic control system is strengthened.	4-1. Counterparts can analyze the base data for the development of traffic control system extension plan such as urbanization in Phnom Penh and traffic situation at intersections where traffic signals are needed. 4-2. Traffic control system expansion plan is approved by the DPWT Director.	4-1 Pilot Project Work and Traffic Control System Expansion Plan	Completed
		4-2 Expected to approve by the DPWT Director by November 2024	On-going
Output 5: Capacity of urban transport related organizations on traffic management measures is strengthened towards enhancement of the project sustainability.	5-1. Implementation training on traffic control is carried out 2 times or more. 5-2. Traffic safety enforcement and a traffic safety education manual are developed and approved by the traffic police. 5-3. Workshops / seminars are held 2 times or more.	5-1 Training	Completed 1st Training: October 2022 from PPTMTC Experts and SUMIDEN Engineers 2nd Training: January 2024 from SUMIDEN Engineers
		5-2 Traffic Enforcement and Traffic Safety Education Manual	On-going Expected completion of the report is October 2024
		5-3 Workshops/Seminars	Not yet 1st Seminar: Hold in 8th August 2024 2nd Seminar: Hold in mid-December 2024

Revision of Project Design Matrix (PDM)

- (1) **OVERALL GOAL:** 1. Travel speed of the main road after the project increases by 5.0%. (*1) compared to before/after the project ➡ Before: 15.38 km/h. and After: 15.33 km/h., Increased by 0.0%
- (2) **PROJECT PURPOSE:** 1. Availability of the Traffic Control System (Key Performance Indicator: KPI) is increased by 15% compare to before PPTMTC Training. (*2) ➡ Before PPTMTC Training: 83.24% and After PPTMTC Training: 94.37%, Increased by 11.13%
- (3) **PROJECT PURPOSE:** 3. Number of traffic violators decrease by 10% (*1). Note: Target score was decided by experts and counterparts before Pilot Project. ➡ Before Pilot Project: 944 Persons and After Pilot Project: 689 Persons, Decreased by 27.0%
- (4) **OUTPUT 2:** 2-2. Target score of the evaluation test for TCC staff (55 points) is achieved (*3). Note: Target score was decided by experts and counterparts before Pilot Project. ➡ Before Training: 21.0 points and After Training: 57.2 Points
- (5) **OUTPUT 3:** 3-2. A pilot project is implemented and the queue length at the target major intersections are reduced by 10% (*1). ➡ Before Pilot Project: 567m and After Pilot Project: 447m, Decreased by 21.2%

II. Overall Evaluation of the Pilot Project

Intersection List			
No.	Intersection Name	Intersection ID	Location
1	R3	#165	St. 70 corner Old Railway (St. 100)
2	2004	#167	St. 371 - St. 2004
3	Neakvoan Pagoda	#28	Russia Blvd. - St.132 - St.221
4	Rongvong Moul Tuol Kouk	#166	St.289 - St.608 - St.592
5	Be Ka Se	#25	Preah Monivong Blvd. - Russia Blvd.
6	Kdan Pi	#126	Czech Republic Blvd. (St. 169) - Jok Dimitrov Blvd.

1. Location of the Pilot Project

(1) #165: To cope with City Center development (**new signal**)

(2) #166: To improve the signalized intersection from roundabout (**new signal**)

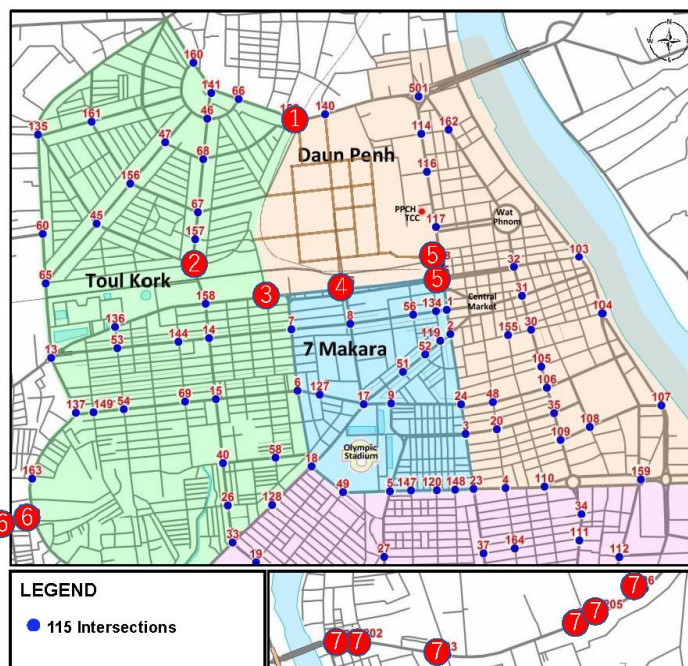
(3) #28: Additional left-turn arrow (**revision of the phasing + left-turn arrow + revision of road marking**)

(4) #126: To cope with intersection improvement, mainly revision of the signal phasing/timing (**revision of the phasing**)

(5) #25 and #118: Coordination of two intersections in the CBD (**introduction of 3Es**)

(6) #59 (**revision of phasing**) and #167 (**new signal**): Coordination of two intersections at the CBD fringe

(7) #201 - #206: Wireless connection between TCC and 6 intersections along NR No.1 and #167 (**wireless connection**)

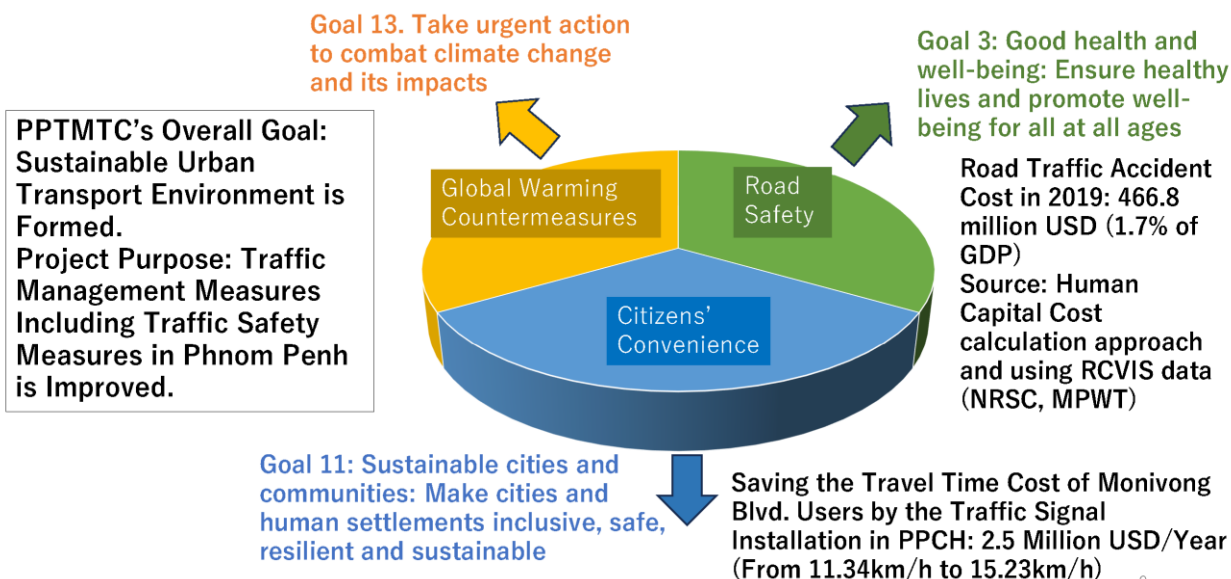


2. PPTMTC Project Schedule (January - September 2024)

Output 3, Output 4 and Output 5		2024								
		January	February	March	April	May	June	July	August	September
3-4 To implement the Pilot Project construction, etc.	(1) Manufacturing & transport of Equipment (Signal Latern & Controller)		Controller Arriving at Norak (10 Feb. 2024)	Equipment Procurement						
			Signal Lantern, Arriving at Norak (25 Jan. 2024)							
	(2) Civil works and Wiring Work			Final Inspection in 18 March 2024						
	(3) Wireless Connection		Completed in 11 January 2024	Installation Work						
5-1 To conduct of traffic education and enforcement measures		Traffic Safety Campaign with 3Es 26 - 28 March 2024			Traffic Survey after Campaign		Traffic Safety Campaign with 3Es			
3-5 To evaluate the impact of traffic signal design modification					Evaluation					
3-6 To summarize the implementation for traffic signal improvement in a handbook					Development of Pilot Project Handbook			Draft Report, 1st Edition		
4-1 To examine the area of the traffic control system expansion, considering the urbanization trend, the traffic conditions and the traffic control system					Development of Traffic Signal System Expansion Plan					
4-2 To develop the expansion plan of the traffic control system										
Other Activities		Training in Japan			4th JCC Meeting (July 2024)			Pilot Project Seminar (August)		
Training in Japan										

Training in Japan

3. PPTMTC Pilot Project and Its Project Design Matrix, and SDGs



SUSTAINABLE DEVELOPMENT GOALS (SDGs)

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs) with 169 Targets, which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

PPTMTC Project contributes SDGs' Goal 3, Goal 11 and GOAL 13.

Target 3.6: By 2020, halve the number of global deaths and injuries from road traffic accidents

Target 11.2: By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning



4. How to Implement the Signalized Intersection for Pilot Project

1. Implementation of Pilot Project based on the 3Es with stakeholders' collaboration
2. Developing an intersection with safely and smoothly traffic flow. To achieve this, 1) consider pedestrian safety and convenience, 2) design the intersection compact, and 3) eliminate conflict traffic flows within the intersection
3. In order to ensure the sustainability of the traffic signal system and its costs, we actively purchased equipment from neighboring countries

Phnom Penh Traffic Police and JICA Experts



TCC Staff and JICA Experts

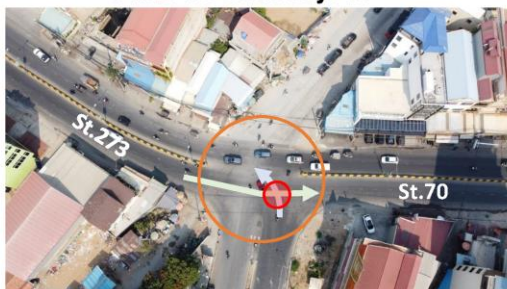


DPWT, TCC Staff and JICA Experts



5. #165 R3 (St.70 corner Old Railway)

Before Pilot Project



- 3-leg intersection (No northern road)
- No traffic signal
- Invisible road marking
- Many traffic flow conflict in the intersection

After Pilot Project



- 4-leg intersection (Northern road is partially open)
- Installation of traffic signal
- Visible road marking
- There are no conflicts in the intersection

Engineering (Install new traffic signal)



Enforcement (Traffic Police)



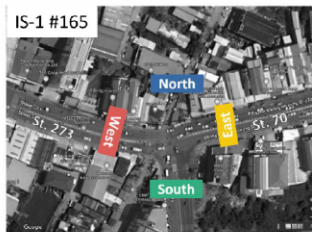
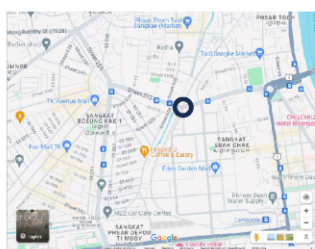
Engineering (Road Marking)



Safety Education



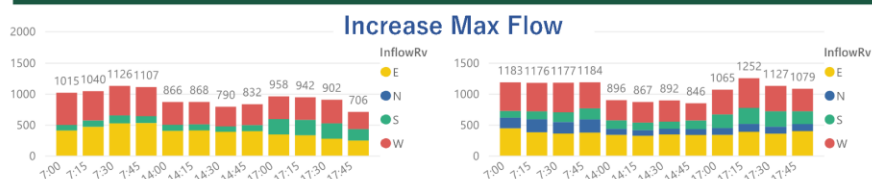
5. #165 R3 (St.70 corner Old Railway)



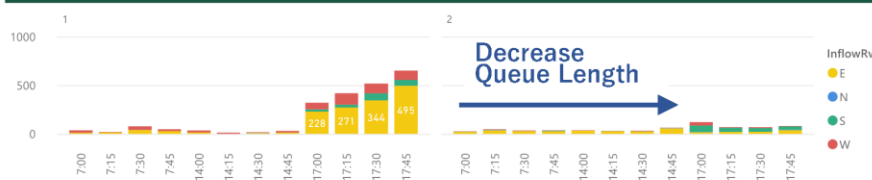
Phase 1 (Apr. 2023)

Phase 2 (Apr. 2024)

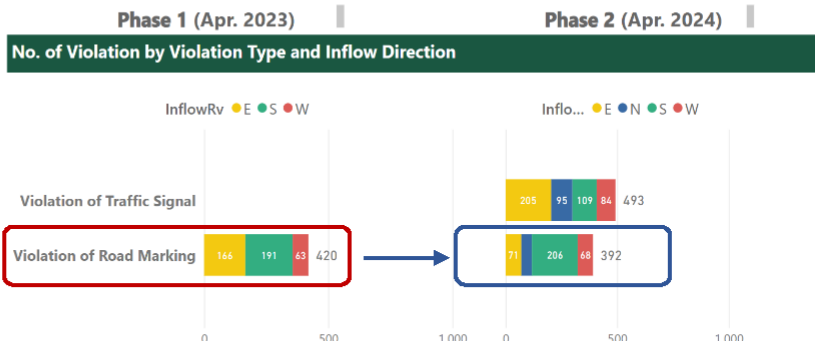
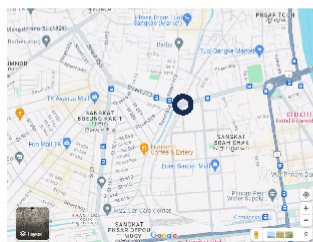
15 min. Traffic by Inflow (PCU)



Queue Length by Inflow (m)



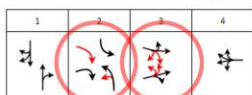
5. #165 R3 (St.70 corner Old Railway)



- There was no northern access road and nor traffic signal at #165
- Road marking was also invisible.

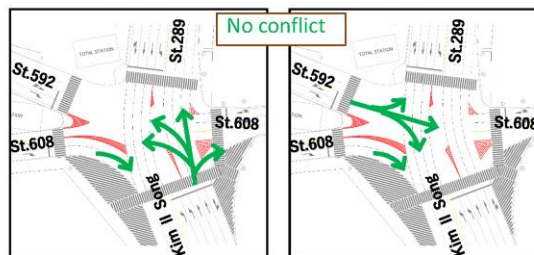
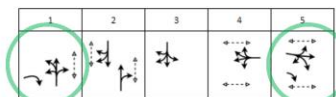
6. #166 Rongvong Moul Tuol Kouk (St. 289/St. 608/St. 592)

Before Pilot Project



- Large intersection area
- Many traffic flow conflict even with traffic signal

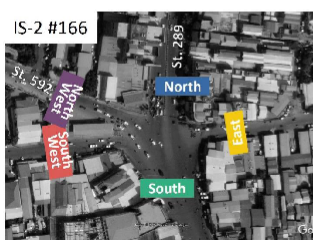
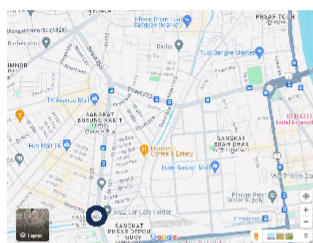
After Pilot Project



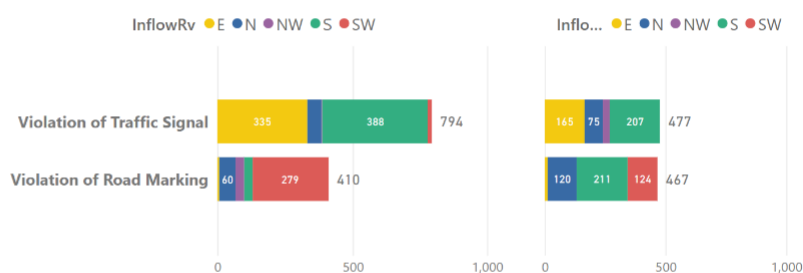
- Compact intersection area
- No traffic flow conflict after installation of traffic signal by the Pilot Project



6. #166 Rongvong Moul Tuol Kouk (St. 289/St. 608/St. 592)



No. of Violation by Violation Type and Inflow Direction



- Due to VIP traffic, major roads were often closed or traffic was restricted by traffic police.

7. #28 Neakvoan Pagoda (Russia/St. 132)

Before Pilot Project



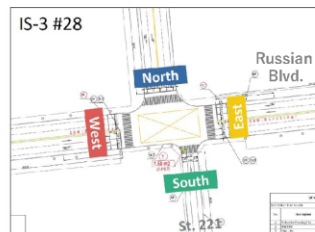
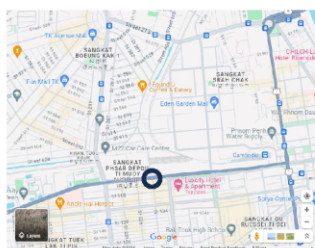
- Left turns prohibited, no left turn arrow
- There were many illegal left-turn traffic from Russian Blvd to St.132

After Pilot Project



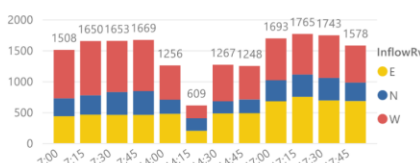
- Installation of Left-turn Arrow.
- It is object that the conjection quele from east to west along Russian Blvd but shorter than Kdan Pi intersection

7. #28 Neakvoan Pagoda (Russia/St. 132)



Phase 1 (Apr. 2023)

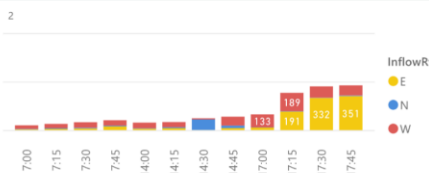
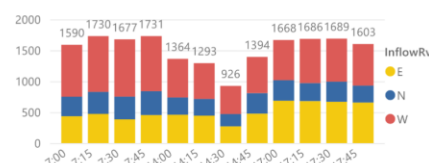
15 min. Traffic by Inflow (PCU)



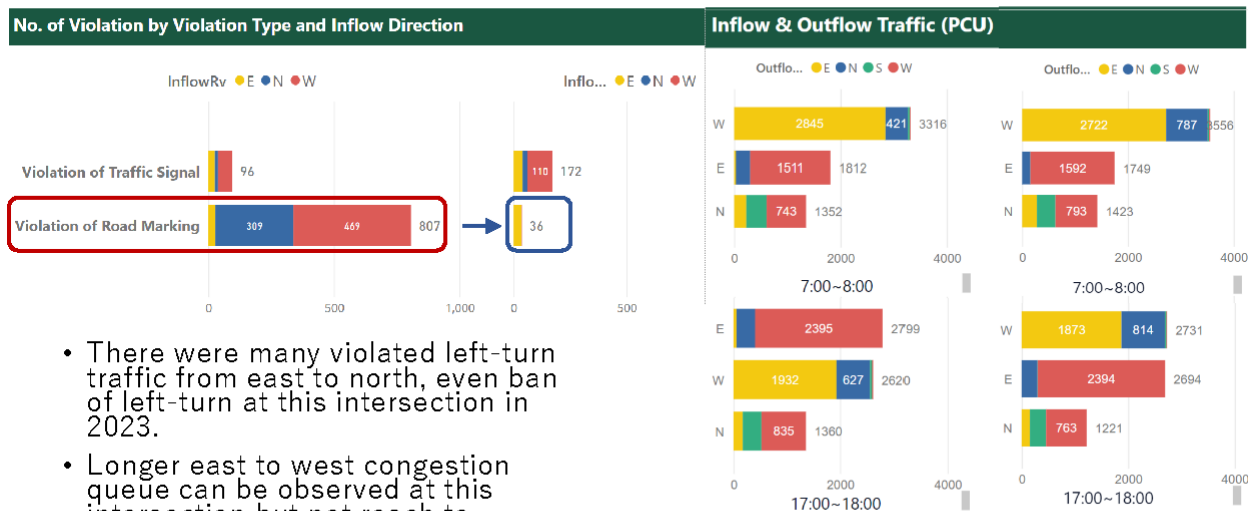
Queue Length by Inflow (m)



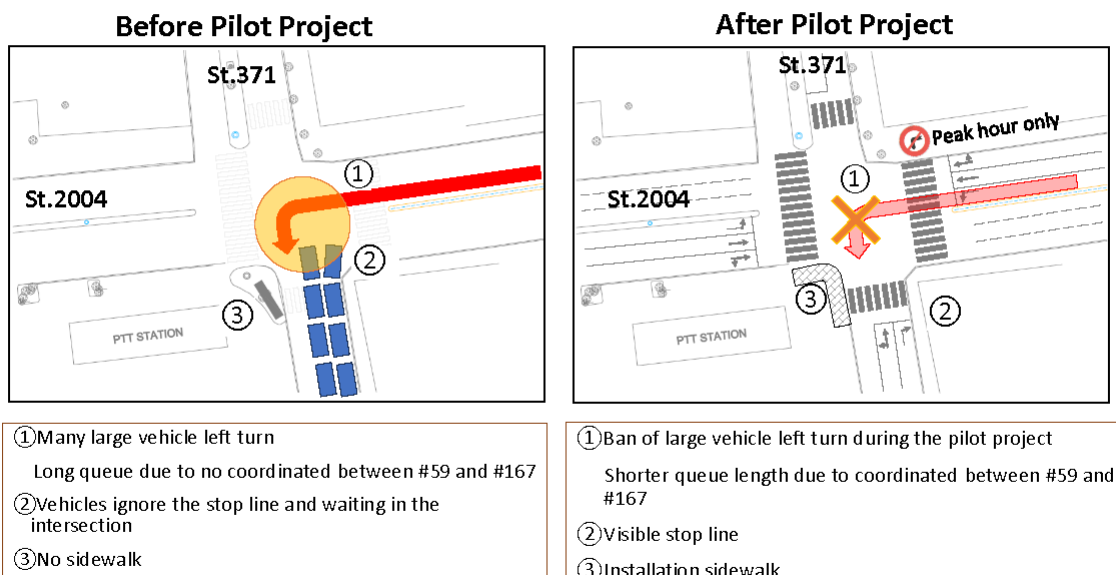
Phase 2 (Apr. 2024)



7. #28 Neakvoan Pagoda (Russia/St. 132)



8. #167 2004 (St.371/St.2004)

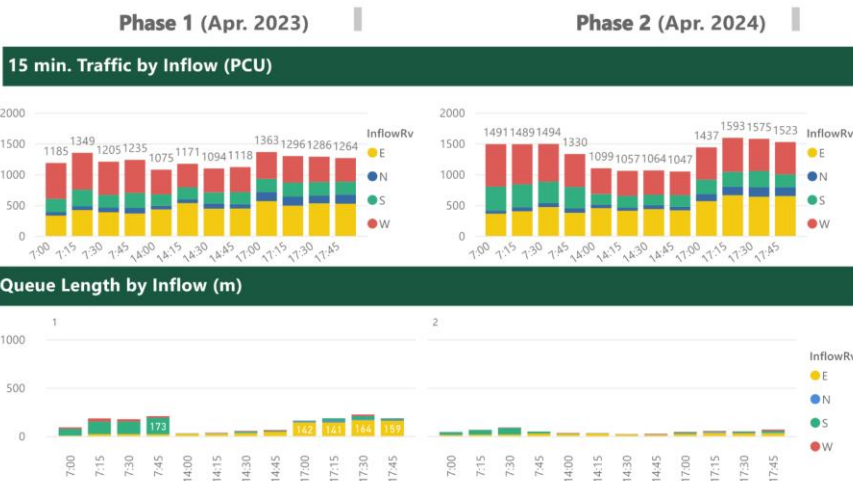


8. #167 2004 (St.371/St.2004)

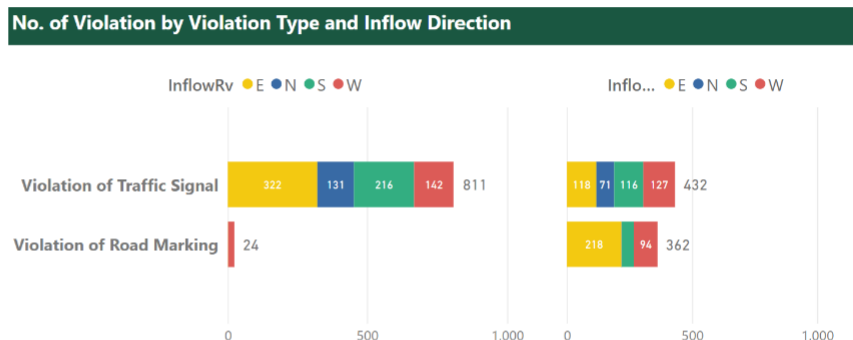
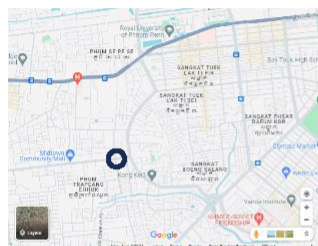
- Traffic signal #59 networked with TCC, and #59 West developed by DPWT as stand alone (distance between both is about 200m).
- Between the two intersections, serious traffic jams occur during peak hours.
- Factors are (1) there is no road marking or it is not clear. (2) traffic rules such as traffic signals are not obeyed, and (3) large buses and trucks enter the local road of St. 371
- TCC plans to adopt a wireless connection system (between #59 and #59 West).



8. #167 2004 (St.371/St.2004)

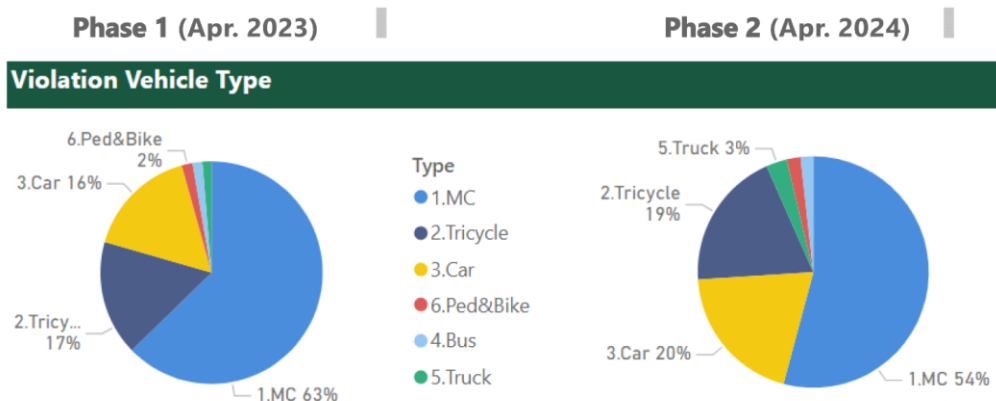


8. #167 2004 (St.371/St.2004)

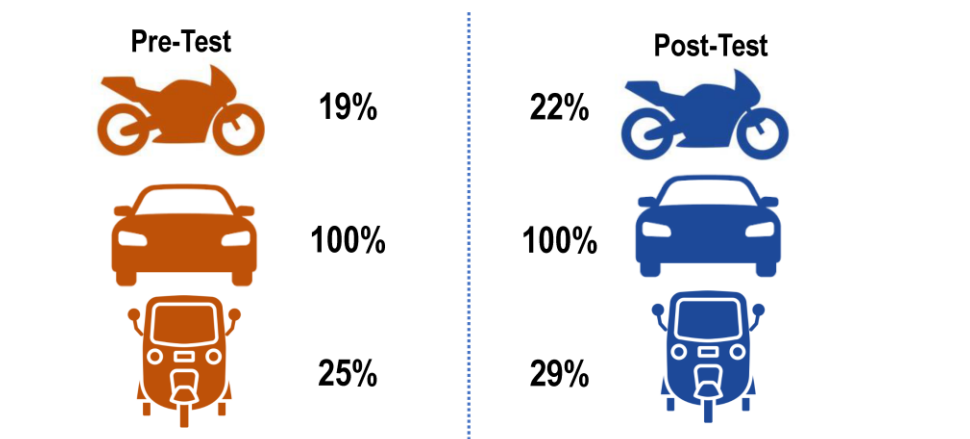


- At #167 intersection on the fringe of the Central Area, parameter settings and road markings were insufficient.
- After the intersection improvement, congestion queue length improved.

9. Vehicle Type of Traffic Rule Violation at 6 Intersections



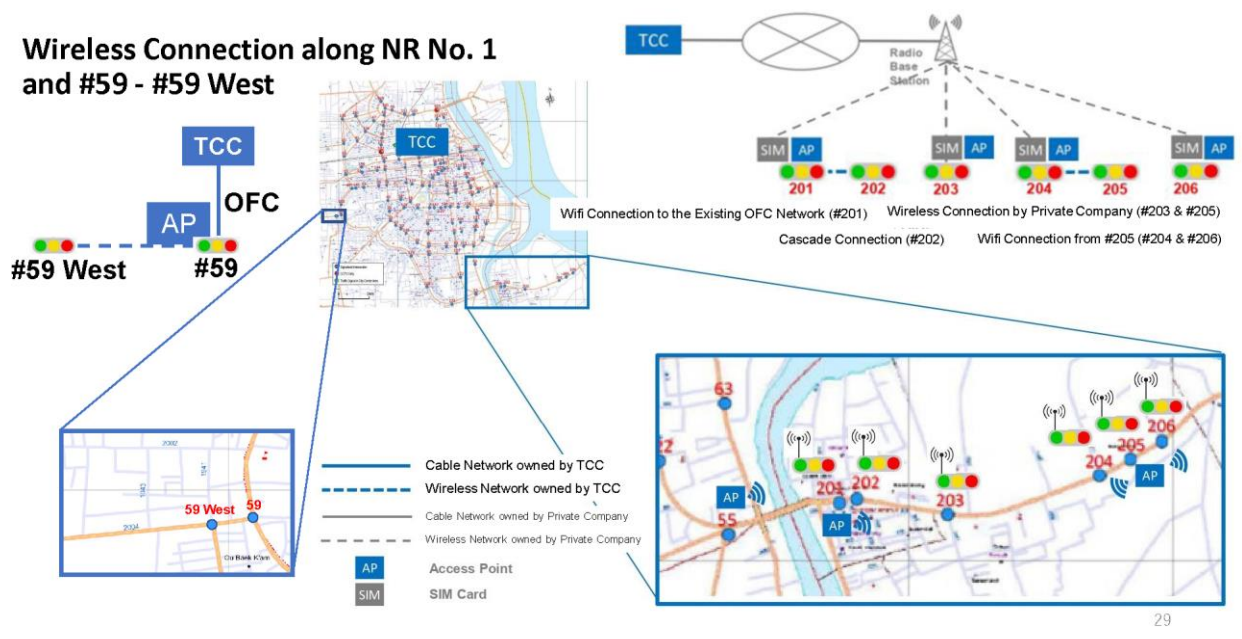
10. Type of Vehicle with Driving License



Among all motorbike drivers, ONLY 19% hold a valid driving license, while 100% of car drivers have a driving license and 25% of Tuk Tuk or Remork drivers have a driving license at pre-test and this number is similar at the post-test.

11. Wireless Connection

Wireless Connection along NR No. 1 and #59 - #59 West



11. Evaluation of the Wireless Connection of 6 intersections along NR No. 1 and #167

Local controller malfunction monthly report

Month of report: 2024/06

Date of print: 2024/07/01 (Mon) 09:10

Area: Phnom Penh

Objective dates: 30

Seq.	Jurisdiction No.	ID	Name	(Upper rows : Count of all error (Lower rows : Count of communication line error)								Total Time (HH:MM)	Ratio/month
				Down	Controller error	Status error	Step error	Unexpected error	Failure	Status error	Step error		
113	1	201	201;NR_No1-St363	220	0	0	220	0	644	0	644	139:32	19%
				10	0	0	10	0	0	0	0		
114	1	202	202;NR_No1-St628	107	0	0	107	0	277	0	277	66:51	9%
				4	0	0	4	0	0	0	0		
115	1	203	203;NR_No1-St351	54	0	0	54	0	132	0	132	21:54	3%
				2	0	0	2	0	0	0	0		
116	1	204	204;NR_No1-Bayon_TV	365	0	0	365	0	1035	0	1035	131:11	18%
				29	0	0	29	0	0	0	0		
117	1	205	205;NR_No1-GDI	247	0	0	247	0	569	0	569	72:22	10%
				31	0	0	31	0	0	0	0		
118	1	206	206;NR_No1-Cho_Ray_PP_Hospital	20	0	0	20	0	60	0	60	5:11	1%
				0	0	0	0	0	0	0	0		

Observation

The number of disconnections was less than expected.

Even #204 and #205, which have high frequently disconnection, are only around once a day.

However, the total monthly breakdown time at many intersections accounts for 20% of the total.

Results of the Analysis

The connection is unstable, so it seems that normal information communication is not possible.

The log data received by email in 15 February 2024 showed numerous errors such as the following:

Remote control error	Remote control status of local controller has been different from center.
Behavior status reception error	Center has not received behavior status data from local controller.
Actual step reception error	Center has not received actual step data from local controller.

This is thought to be an error caused by the inability to send and receive normal information between the TCC and local controllers.

Minor Problem
Moderate Problem
Serious Problem

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III. Training in Japan

- What was particularly memorable about this training in Japan was being able to see and hear about Hiroshima City's efforts in urban transportation by TCC staff themselves. Hiroshima City has a population of 1.2 million, and 600,000 people use public transportation daily. The city has developed a number of public transport systems, including buses, JR, private railways, LRT and AGT, in line with the characteristics and development of the urbanization in the city, and has maintained this system for a long time. The trainees learned that a balanced development of roads and public transportation is essential for urban development.

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1. Training Organization/Place

Target	Training Organization/Place	Contents of Training, etc.
Policy and Plan of Traffic Management in Japan	Otemachi-Marunouchi-Yurakucho (Dai-Maru-Yu) Urban Planning Council	Urban Planning and Parking Measures around Tokyo Station (Central Station in Japan)
	Tokyo Metropolitan Hall	Visit to Capital Hall in Japan (Same as Phnom Penh as the Capital Hall)
Learn Traffic Management Measures including Urban Planning in Japan	Institute for Traffic Accident Research and Data Analysis (ITARDA)	Role and Outline of ITARDA
	Traffic Control Center in Tokyo Metropolitan Police Department	Visit to Traffic Control Center
	Hiroshima City	Lecture of Public Transport System Planning, Visit to Redevelopment in Southern Hiroshima Station Plaza and Visit to Hiroshima Bus Center
	Kyoto City	Lecture for Urban Transport Planning in Kyoto City
	Basta Shinjuku	Largest Bus Terminal in Japan
Learn Japan's Cutting-edge ITS Technology	Professor OZAKI, Toyo University	Lecture on Japanese ITS technology
	Sumitomo Electric Company	Lecture for Repair of Optic Fiber Cable Cutting
Learn Japanese Culture	Tokyo Tower	Second tallest Radio Tower
	Odaiba (Commercial center in Tokyo Bay Reclamation Area)	The central commercial district of Tokyo Waterfront New City in the reclaimed land area of Tokyo Bay
	Kinkaku-ji Shrine	Japanese Shrine in Kyoto, Designated a World Heritage Site
	Hiroshima Peace Memorial Park	Hiroshima Peace Memorial Park is a Urban Planning Park established to commemorate the victims of the atomic bomb and to pray for lasting world peace.

2. Trainees by Group

GROUP 1: January 31st to February 10th, 2024 Course Number: 201903196-J001				
No.	Name	Sex	From	Position
1	CHOU KIMTRY	M	DPWT	Deputy Director, DPWT
2	PHENG PHARINET	F	DPWT	Chief of TCC
3	PROM KAMPOUL	M	DPWT	Chief of Road Safety Office
4	KUN SOKHIM	F	PPCA's Contracted Staff	Technical Staff at TCC
5	HENG VENGLIM	M	PPCA's Contracted Staff	Technical Staff at TCC
6	KEM RAVY	M	PPCA's Contracted Staff	Technical Staff at TCC
7	UY LYSIN	M	PPCA's Contracted Staff	Technical Staff at TCC
Group 2: February 14th to February 27th, 2024 Course Number: 201903196-J002				
1	MAN KIMCHUON	M	PPCA	Technical Staff of TCC
2	SAM PHALLA	M	PPCA	Technical Staff at TCC
3	CHEA VANDETH	M	PPCA's Contracted Staff	Technical Staff at TCC
4	PHOK UY	M	PPCA's Contracted Staff	Technical Staff at TCC
5	IM SETHA	M	PPCA's Contracted Staff	Technical Staff at TCC
6	LAK SIVCHENG	F	DPWT	Officer, DPWT



Learn about "Administrative management using data-based road planning and ITS" from Professor Ozaki of Toyo University



Visit to the Traffic Control Center (TCC) in Tokyo Metropolitan Police Department's

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3. Photos



Mr. Miyaura, Hiroshima City Hall and Mr. Matsuda, a former professor at Hiroshima University, gave a lecture on "Hiroshima City's public transportation initiatives"



Final Presentation by Group 1 as summary of the training in Japan



Visit to the construction site for the LRT terminal at South Hiroshima Station Plaza



Final Presentation by Group 2 as summary of the training in Japan

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IV. Traffic Signal System Expansion Plan

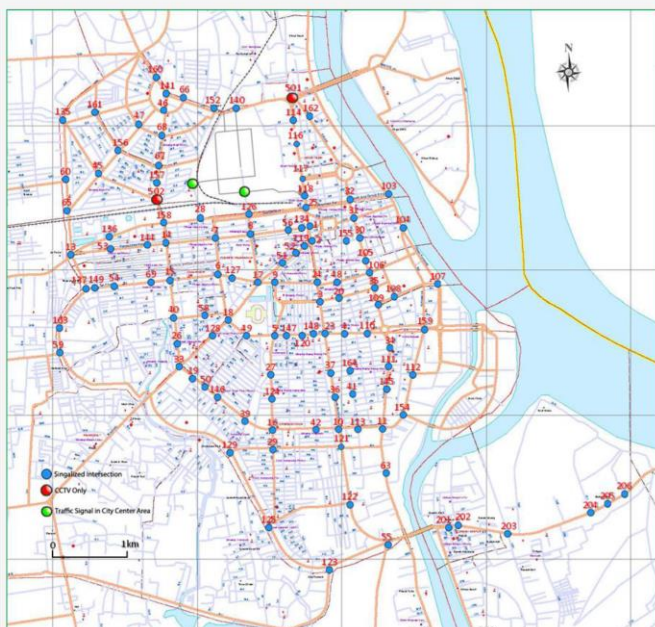
By covering not only central Phnom Penh but also the rapid urbanized suburbs with the traffic control system, safer and smoother traffic flow will be ensured. And, this contribute to the revitalization of Phnom Penh and the improvement of the urban environment. Preconditions for considering the expansion area of the traffic control system.

(1) Urbanization has spread to 216.6ha in the suburban areas, and if a traffic control system were to be established in these urbanized suburban areas, it would need to cover an area 7.6 times larger than the 28.4ha in the central Phnom Penh (PP) where the current traffic control system is in place.

(2) On the other hand, the road network in suburban areas is less dense but more varied than in the central PP.

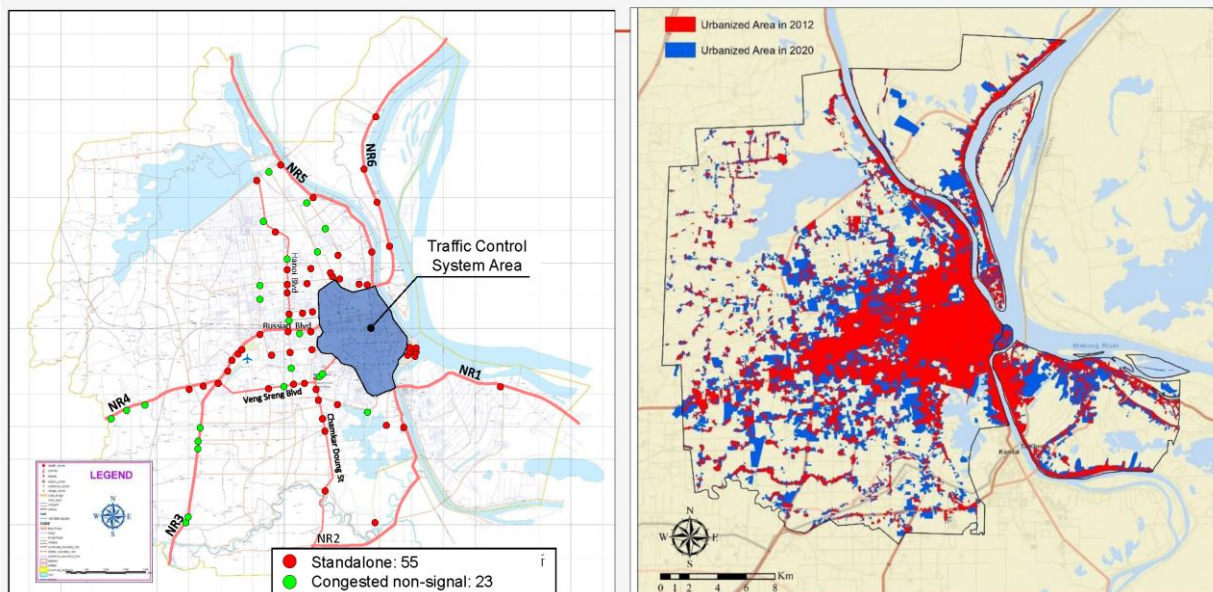
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1. Current Conditions in Central Phnom Penh (1)



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1. Current Conditions in Phnom Penh Suburban Area (2)



1. Current Conditions in Phnom Penh Suburban Area (3)

Different signal lantern/poles

Inconsistent traffic signals confuse drivers



Problematic roadside traffic sign/markings

Conflicting traffic rules and disappearing lane marking cause traffic congestion



Malfunctioning of Roadside Equipment

Leaving deterioration of equipment will lead to increase in accidents and a decline in reliability of signals.



City bus operation in the suburban area

There are many bus routes in the suburban area



In suburban area, there are traffic management related problems, such as deterioration of equipment, and inconsistent road signs and markings, etc. On the other hand, since there are many bus routes for residents, improving the traffic environment is also an issue.

2. Issues of Traffic Signal System Expansion Plan

ISSUE 1: Number and Location of Signalized Intersections in the Suburban Area (As of January 2024)

ISSUE 2: Traffic Control System

ISSUE 3: Communication System

ISSUE 4: Intersection Improvement

ISSUE 5: Maintenance Management System

ISSUE 6: Organization

Integration of the current TCC and the Traffic Signal Section in Public Lighting Division of the DPWT (become an official organization of PPCH/DPWT)

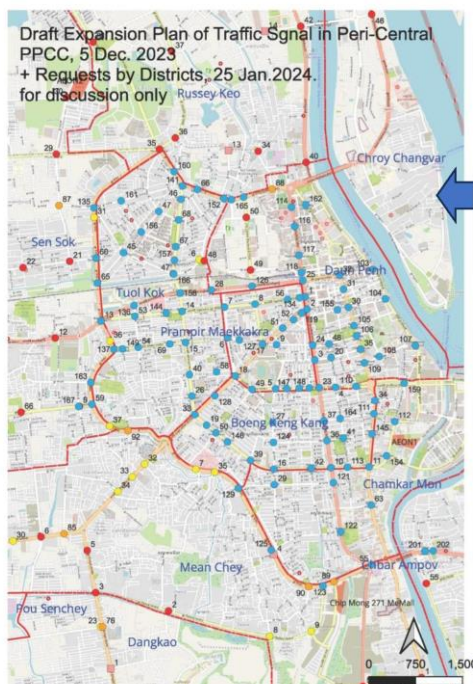
39

ISSUE 1: Signalized Intersections in the Suburban Area (As of January 2024)

As of January 2024, there are 186 signalized intersections in Phnom Penh, of which 118 are in the central PP and 68 are in suburban areas. DPWT plans to build 25 new signalized intersections in suburban areas where urbanization is progressing. The PPTMTC project, a JICA-TCP project that began in 2022, proposed 38 new signalized intersections. The above plans and proposals were consulted at a coordination meeting (held on January 25, 2024) inviting representatives from Khans, mainly from suburban areas, and 19 additional signalized intersections were requested. In light of the above, the PPTMTC project decided to focus on 268 signalized intersections as part of the suburban expansion of the traffic control system.

Table 1: No. of Signalized Intersections by Type

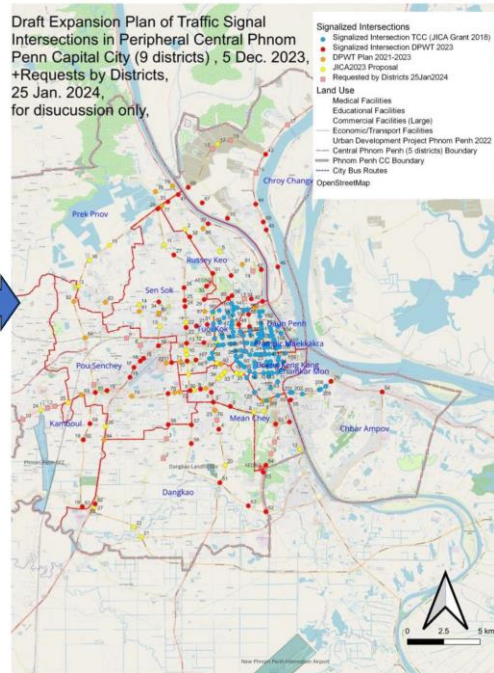
Control System		Management Body	No. of Intersections	Remarks
Existing	Centrally Control	TCC/DPWT	118	109 (Central Area) 6 (Along NR No. 1) 3 (Pilot Project)
	Pre-time Setting	Public Lighting/DPWT Standalone	68	70 (Existing) 2 Relpaced by PPTMTC PP
	Sub Total		186	
Plan	DPWT		25	2021 - 2023
	JICA-PPTMTC		38	Proposed
	Requested by Khan		19	By Coordination Meeting held in 25 Jan. 2024
	Sub Total		82	
Grand Total			268	40



1. Location of Signalized Intersections of PPTMTC PLAN

(Central Phnom Penh)

(Suburban Area)



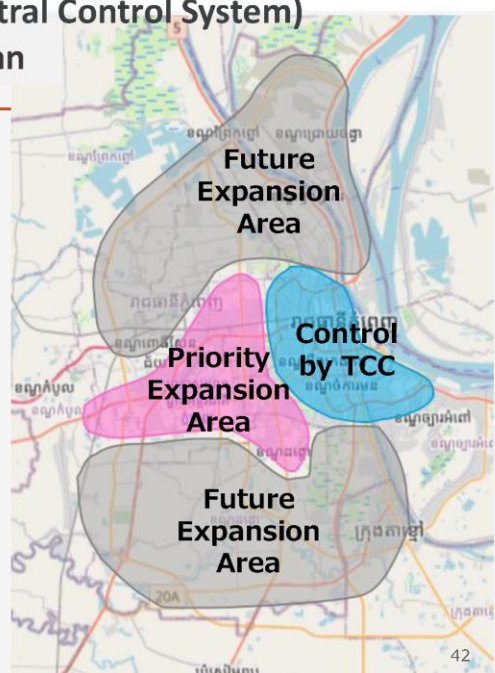
Issue 2: Suburban Traffic Control System (Central Control System)

1. Planning Directions of Signal Expansion Plan

Priority will be given to the expansion to the Russia and Veng Sreng Corridor Area, located on the west side of the central area where urbanization is most active in the suburbs, and it is desirable to apply a system that is consistent with the central area.

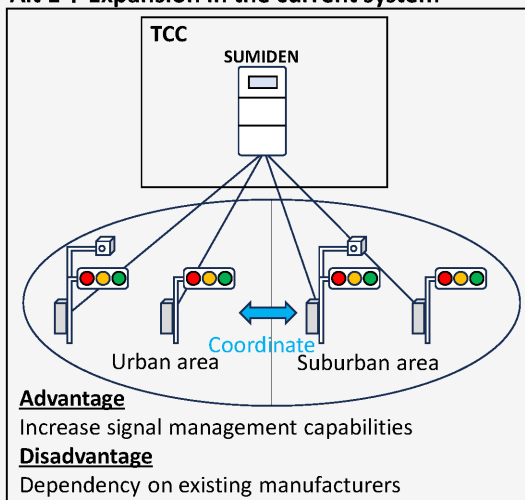
- This is the suburban area where population growth is most rapidly,
- As the population increases, traffic congestion occurs on many roads,
- The density of standalone signals is already high, and
- There are many public transport (bus) routes and convenience is expected to improve by realizing smooth traffic

The aim is to expand in other areas in line with the area characteristics of the suburban area, but due to the spacing of signal intersections and the current conditions of urbanization, standalone systems will be used for the time being.

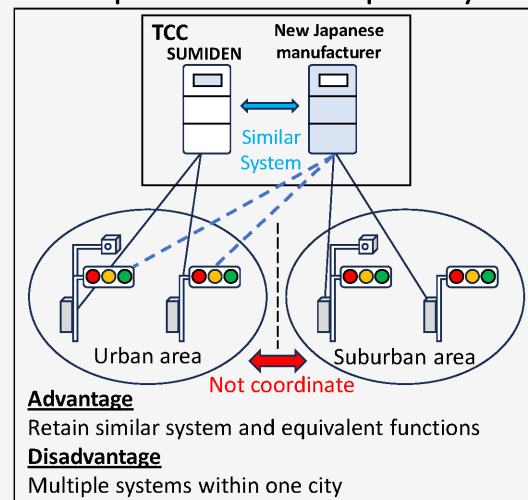


2. Alternatives of Suburban Area System Configuration (1)

Alt 1 : Expansion in the current system



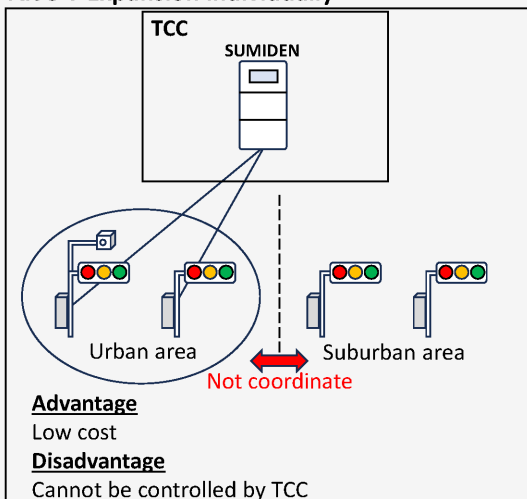
Alt 2 : Expansion in the other Japanese system



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2. Alternatives of Suburban Area System Configuration (2)

Alt 3 : Expansion individually



Alt. 1: The existing system will also accommodate suburban area

TCC can utilize the skills acquired in the current system as is.

Alt. 2: Build a new traffic control system that is different from the existing system (made in Japan with high compatibility with the existing system)

Although the user interface and operation method will be different, it will have the same functions as the existing system and will have a similar system configuration.

Alt. 3: Signalized intersections in suburban areas will not be incorporated into the traffic control system

Even if they are not under the control of the traffic control system, the traffic environment can be improved by renewing the current infrastructure and applying system control functions and traffic-responsive control.

3. Preferable functions and measures

Standardization of signal lantern

It is preferable for the signal system to be unified with the same standard in the city. In suburban area, the signal lantern of neighboring traffic lights are different, and they are also different from the traffic signals in the central area connected to the traffic control system. It is desirable to develop a signal system that is unified with the central area.

Systemized control and control optimization

Each traffic signal in suburban areas is controlled independently, and coordinated control at multiple intersections is not possible. A consistent signal system and coordinated control on the same route and in the same area will improve the deteriorated traffic conditions.

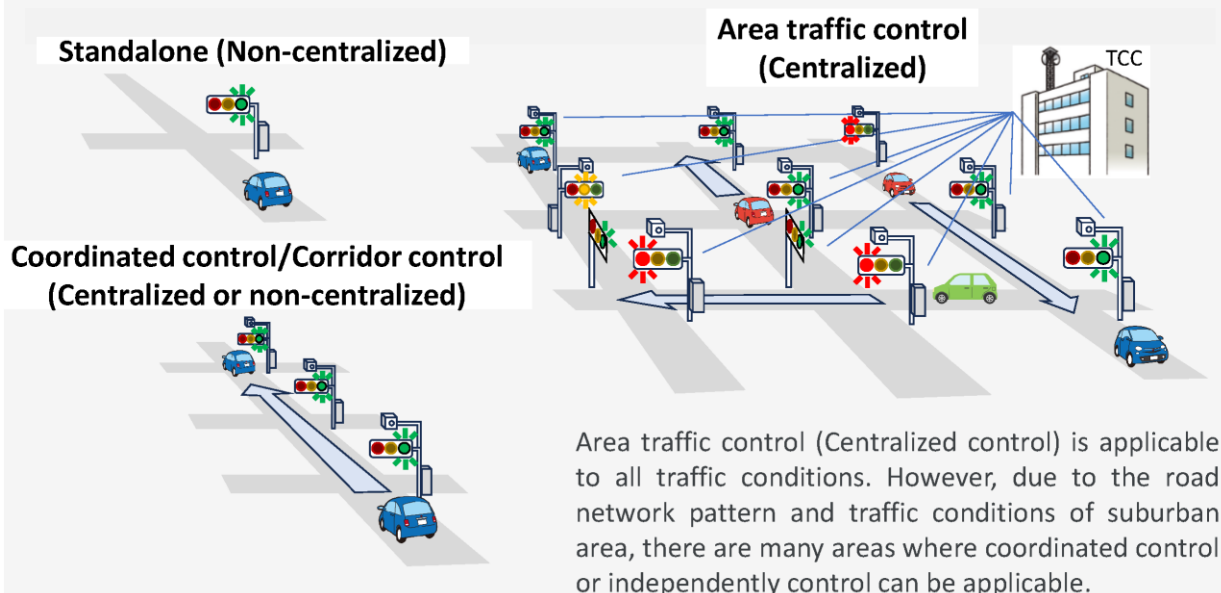
Intersection Improvement

Most of intersections in suburban areas lack clear road signs and markings, and are poorly equipped with traffic signals. Intersection improvements combined with traffic signal installations are recommended.

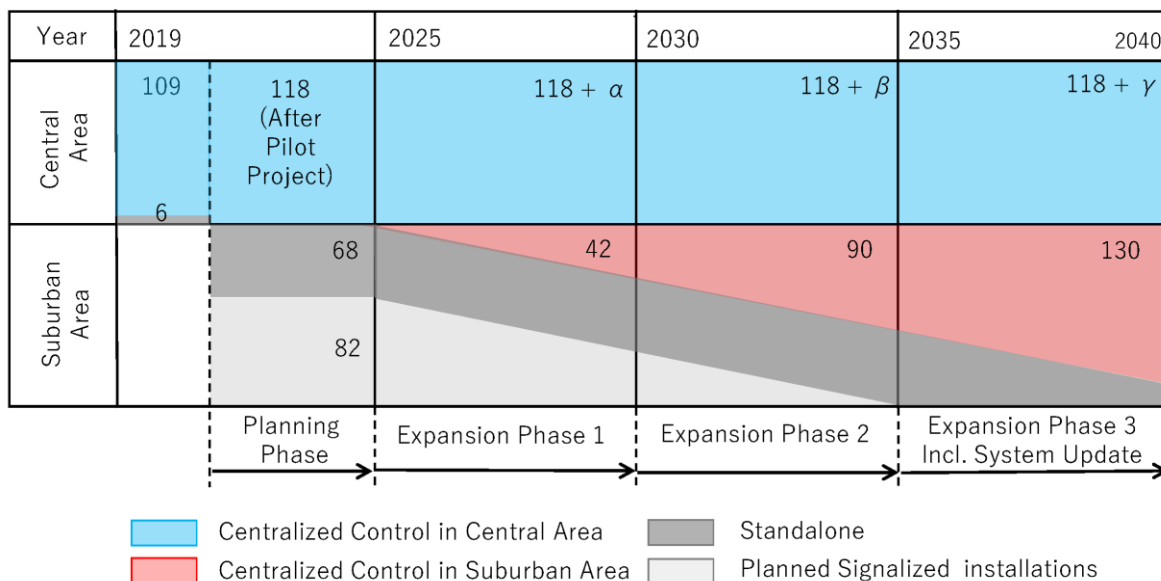
Expansion of maintenance management

In suburban areas, there are cases where equipment that has broken down due to aging is left unattended. The scope of maintenance will be expanded by implementing monitoring and regular inspections using the traffic management system, just as in urban areas.

Signal Control Method

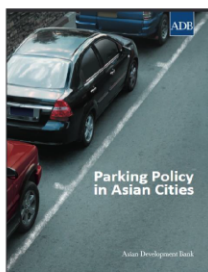


4. Staging of Traffic Signal System Development in Phnom Penh (1)



V. Traffic Management Plan

1. Parking management plan



- Using parking survey result by JICA Study (2023), the parking management plan prepared and justified by feasibility analysis

- Draft parking management plan presented to PPCA/MPWT and recommendation made to MPWT to draft Parking Prakas to define the parking type/responsibilities for management.

Step 1: Designation of Parking Improvement Zones

Step 2: Baseline surveys & demand/supply analysis

Step 3: Development of goals and parking strategy

Step 4: Feasibility analysis

- Parking development plan and cost estimate
- Institutional responsibility and parking management entity
- Contract model and specification
- Level of parking charges/levy
- Economic analysis and financial model

2. Paratransit management

- Learning lessons from paratransit management in African countries, paratransit management scheme prepared with multiple stakeholders tasked among MPWT, PPCA, Khan, Informal workers association (IDEA) and RHS App operator(s).
- Draft scheme presented to MPWT, DPWT, IDEA and PassApp and fine-tuned.



Step 1: Identification of stakeholders and target groups

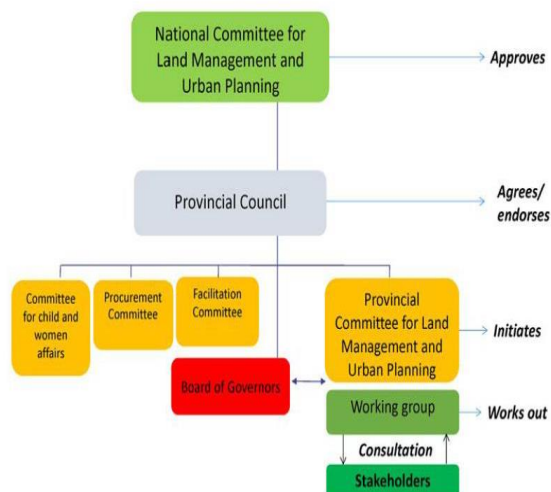
Step 2: BRT design and operation with integration of informal transport

Step 3: Conduct Environmental and Social Impact Assessment for informal transport workforces

Step 4: Formalization of informal transport

3. Support to MPWT's Land Transport Law

- As part of drafting Parking Management Plan, concept of Parking Law prepared and presented to MPWT. Parking Law in Japan also shared with MPWT.
- A separate meeting with MPWT discussed draft Land Transport Law and recommendations made: Inclusion of (i) parking and para-transit management and (ii) overall institutional arrangement including establishment of Public Transport Authority and Public Administrative Enterprise and (iii) overall financial arrangement and subsidy policy, in the said law.



4. Revitalization of CBA

- CBA successfully improved ridership at 26,000 pax per day by May 2024 and reached to the similar number recorded before COVID-19.
- Multiple efforts made by CBA contributed to this increased ridership, including improved network and service, PR activities, fleet and driver management.
- CBA also generated significant revenue from non-passenger business including advertisement and bus wrapping.
- CBA continue to seek for other business opportunities following JICA's recommendation including shuttle services for company and school.



VI. PPTMTC Pilot Project Seminar

1. Purpose of the Seminar

Through the presentation of the Pilot Project and the signal system future expansion plan, implemented in the PPTMTC project, this Seminar will help city and government officials and citizens understand the current state and future of Phnom Penh's signal system. The Seminar will also help government officials and citizens to understand how TCC and the Public Lighting Department are working on a daily basis to alleviate serious traffic congestion in Phnom Penh.

2. Date and Venue

- 08 August 2024
- Cambodia & Japan Cooperation Center (CJCC)

3. Agenda

- Opening and Closing Speech from PPCC Vice Governors
- Outline of the Pilot Project and Traffic Signal System Expansion Plan
- Daily Activities of TCC and Public Lighting Division, DPWT
- Activities of Road Safety Division, DPWT
- Q & A

4. Expected Attendees

- PPCH, Khan, DPWT, PPTP, MPWT, MEF, NRSC, MLMUPC, University Students and JICA etc.

VII. Conclusion of the 4th JCC Meeting

1. Completed Activities

- Revised Project Design Matrix (PDM)
- Output 1, 2 and 3.

2. Remaining Activities but should Completed by November 2024

Following activities of Output 4 and 5

- Seminars (First: 8th August 2024 and Second: Final Project Seminar, mid- December 2024)
- Small-scale Traffic Safety Campaign (Before Pchun Ben or Before Water Festival)
- Final Traffic Survey in October 2024
- Approval by the DPWT Director
- (1) Maintenance Management Manual (Completed and Waiting for approval)
- (2) Pilot Project Handbook (On-going)
- (3) Traffic Control System Expansion Plan (On-going)
- (4) Traffic Management Plan (Almost completed)
- (5) Traffic Enforcement and Traffic Safety Education Manual (On-going)

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ANNEX11-5: 5th JCC Meeting
(Final)

Minutes of the 5th Joint Coordinating Committee Meeting

of

The Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City (PPTMTC)

The 5th Joint Coordinating Committee (JCC) meeting between Phnom Penh Capital Administration (PPCA), Department of Public Works and Transport of Phnom Penh (DPWT), Japan International Cooperation Agency (JICA), and the concerned members of the Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City (PPTMTC) was held in a hybrid format, on-line and face-to-face at Phnom Penh Capital Administration (PPCA) on 8th of January, 2025. The comments and the discussions were made on several items as described below.

1. Opening remarks by PPCA and JICA:

H.E. Ek Khundoeurn, Vice Governor of PPCA and Vice-Chair of JCC, on behalf of the PPCA Governor, welcomed all the participants and expressed his sincere thanks to the Government of Japan for extending support through JICA, as well as to JICA expert team for the implementation of the PPTMTC project. He mentioned that the strong cooperation between the government of Cambodia and Japan for continuously strengthening and expanding the comprehensive partnerships strategy allows both countries to strengthen the cooperation in all sectors. He continued stating that PPCA and JICA has been working closely and continuously to improve the infrastructure of transport system in Phnom Penh capital city. He added that this project is the technical cooperation project to sustain the Traffic Control Center (TCC) operation, which was proposed by the Phnom Penh Urban Transport Master Plan in 2014 and subsequently implemented as a Japanese Grant Aid project in 2018 which connected 109 intersections with a traffic control center and contributing to the improvement of urban transport conditions in central Phnom Penh. From 2022, this PPTMTC technical cooperation project was launched so that TCC staff can operate and maintain the traffic control system themselves, and today's final JCC meeting is held. He underscored that the development of the traffic control system has achieved for improving Phnom Penh's urban traffic environment, but there are still several issues in the field of urban traffic management planning, such as sidewalks for pedestrians, not for illegal on sidewalk parking, and progress must be made in the future in order to become a high-income country by 2050, as set out in the government's current national development strategy, the "Pentagonal Strategy," and to become a smart city in Phnom Penh. Fortunately, a technical cooperation project aimed at revising the urban transport master plan has also begun in 2024, and it would be even better for the improvement of the urban transport system in Phnom Penh capital city. Before closing his remarks, on behalf of the PPCA Governor, he expressed his sincere thanks to all the participants of this 5th JCC meeting.

Ms. Miura Yoshiko, Senior Representative of JICA Cambodia office, welcomed all the participants and expressed her deepest appreciation to H.E. Ek Khundoeurn and Mr. Kong Sopha for presiding over this meeting, thank all the representatives from the relevant ministries and departments, as well as JICA project team for participating this meeting. She mentioned that Phnom Penh is experiencing with a rapid increase of traffic volume, which continues to cause significant challenges, including severe traffic congestion, traffic accidents and environmental impacts. She continued that this project has been implemented since January 2022, aiming to improve the traffic management and enhance safety in Phnom Penh. To achieve this, the project activities include installing new advanced traffic signal at key intersections, validating surveillance systems, strengthening the operation, maintenance, including management of traffic control system, and implementing car parking management measures. Furthermore, traffic safety campaigns and training activities, include those conducted in Japan, have played an important role in building local capacity. As approach the crucial final stages, with the technical cooperation set to end in February 2025, she is looking forward to a productive discussion for future implementation stages, as this is now a critical moment for the project to continue operating sustainably after the project's completion. Before concluding her remarks, she expressed her sincere appreciation to PPCA, DPWT and the JICA project team for their continuous cooperation, unwavering support, and contribution to the project.

2. Contents of Presentations:

Mr. Chou Kimtry, Deputy Director of the Department of Public Works and Transport of Phnom Penh (DPWT), briefly explained the background of the PPTMTC project and the purposes of the 5th Joint Coordinating Committee meeting. He added that PPCA, DPWT, and TCC have cooperated and worked closely with the JICA project team during the project implementation in order to exchange experiences and gain knowledge for capacity building on the traffic control system in Phnom Penh. He finally expressed his sincere thanks to JICA for unwavering support on the urban transport sector, and drainage and sewage system to Phnom Penh Capital City.

Mr. Masato Koto, team leader of the PPTMTC project and **Mrs. Pheng Pharinet**, chief of traffic control center, jointly made a presentation on the PPTMTC project covering project design matrix, activities by output and PPTMTC's conclusion and way forward. For the details, please refer to the presentation material.

3. Main Points of Discussion:

No.	Comments/Questions	Answers
(1)	Mr. Chou Kimtry , deputy director of DPWT, raised about some challenges after the handover of Japan grant aid project and during this project implementation including electricity unstable/cut-off, optical fiber cable (OFC) cutting, traffic accident, problem caused by private construction and surrounding resident, and lack of spare parts. He underscored that for the management of traffic signals, DPWT is in charge principally for the whole area of Phnom Penh for both traffic control system under TCC and signalized intersections under public lighting and traffic signal office (PLTSO). He continued that the way forward of traffic control expansion plan for 2025-2030, it should be considered to integrate TCC and PLSTO as one organization to manage all the traffic signals in the whole city. He further added that PPCA should consider and strongly support for the allocation of budget plan for the additional 10 intersections as the next first phase between 2025-2030.	Mr. Koto responded that OFC cutting is reduced after there is a good collaboration between the technical teams. He agreed that TCC, and public lighting and traffic signal office both sections play very important role for the management of the traffic control system, and should be integrated as one organization to operate the whole traffic signals in Phnom Penh for the future plan.
(2)	Dr. Phun Vengkheang , Head of Transport and Infrastructure Engineering Department from Institute of Technology of Cambodia (ITC), asked about the management of signalized intersections whether it should be only one TCC to control all traffic signals in the city or separating the management of those traffic signals by zone, in order to manage and maintain this system efficiently since the number of signalized intersections will be increased from day to day in the future?	Mr. Koto responded that today's presentation is based on 268 intersections as January 2024. He continued that for the future expansion plan should be discussed and adjusted based on the land use plan and road development plan, which is prepared by the urban planning office, PPCA and DPWT. He further added that the future TCC system is basically the same as it is, but will incorporate advanced technology to keep up with the times. And the number of staff and their functions will be adjusted in response to the demand in the future.
(3)	Mr. Sor Phara , deputy director of urban management division, raised about the concern the traffic situation around intersection #118 in front of the train station, after the completion of the new bridge connecting from night market at riverside to Areiy Ksatr area whether the project team has also included this into the consideration or not?	Mr. Koto responded that project team did not include this concern into the consideration. He continued that project team also conducted the signal improvement at this intersection, but driving behavior is also a main problem causing the traffic congestion at this area. Mr. Chou Kimtry added that this intersection

		has not much traffic volume previously, but later there is increasing of traffic volume from other roads to this intersection, and also the drivers did not obey to traffic rules such as yellow box which is not allowed the vehicle stopped inside that area. He continued that traffic education should be mainly encourage in parallel with the intersection improvement.
(4)	Mr. Moeung Sophan, advisor of DPWT, raised about some concern points as follows: 1) Wireless connection work, is it possible to connect the signalized intersections along national road No.1 to TCC using the method as implemented at intersection #59 (Nokia intersection) and #167 (2004 intersection) or using corridor coordination management? 2) Traffic control area expansion plan, he suggested JICA and technical project team to consider about the study or design on how to integrate all traffic signals inside urban area and suburban area into TCC system for the future management, and also including the consideration of the area along to the new international airport. 3) Request to TCP team to consider on preparation of work plan which covering of the necessary activities for the next phase between 2025-2035.	Mr. Koto responded that: 1) Intersection #59 and #167 was connected using access point and from #59 to TCC using OFC connection, so it works well since the distance between these two intersections is just 200m. For corridor management, the distance should be less than 500m. But the distance between those intersections along national road No.1 are not suitable for using corridor management. Otherwise, the western area should be considered for implementing this corridor management. 2) The current traffic control system capacity at TCC is capable of covering around 500 intersections. For the new technology in the future, it should be considered to use the system which is accessible with the current system at TCC. For the new international airport area, project team did not include this area into consideration. 3) Project team try to consider preliminary work plan in this period in the Traffic Control System Expansion Plan. He further suggested that PPCA and DPWT should work together on how to allocate the budget plan and resource for maintenance and expansion of the traffic control system.

4. Closing and Conclusion:

Before closing, **H.E Ek Khundoeurn** summarized and concluded the main points of discussion among the participants during the 5th JCC meeting as the followings:

- 1) This project (PPTMTC) is a JICA technical cooperation project carried out for about three years from 2022 to 2025 with the aim of enabling TCC staff to operate and maintain Phnom Penh's traffic control system themselves. The project details are as follows:
 - (1) Operation and maintenance of the traffic control system
 - (2) Organizational challenges
 - (3) A wide range of lectures from signal systems to traffic management plans
 - (4) Fixed-point observation of traffic volume etc. using the latest AI technology
 - (5) Installation of a new signal intersection as a pilot project to put the training into practice
 - (6) Implementation of a 3Es road safety campaign during the pilot project
 - (7) Future traffic control system expansion plans were implemented, and TCC staff themselves achieved above.

- 2) The technical cooperation project has been completed, but as a next step, as explained in the presentation, it is necessary to transition to a new next-generation traffic control system within the next 10 years. The next 10 years will be divided into two phases:
- (1) Phase 1 (2025 – 2030), Preparation period: This is a preparation period for the next-generation traffic control system, that is, the system concept, implementation method, costs, etc. will be considered, and current issues will be addressed. The current issue is to improve problematic standalone signalized intersections in the western suburban area adjacent to central Phnom Penh.
 - (2) Phase 2 (2030 – 2035), Transition period: Construction of the next system will begin by around 2030, and the transition will be complete by around 2035.

Suggestions:

- Suggest DPWT should continuously cooperate and work closely with the JICA project team on how to allocate the budget plan for maintenance and expansion work of the traffic control system into the 5-year development plan and 3-year rolling investment program of Phnom Penh Capital City. *km* *ky*

CONFIRMED BY:



H.E. EK KHUNDOEURN
Vice Governor
Phnom Penh Capital Administration



Ms. MIURA YOSHIKO
Senior Representative
JICA Cambodia Office



Mr. MASATO KOTO
Team Leader
JICA Expert Team

1. Agenda

AGENDA

5th Joint Coordinating Committee Meeting for Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City (PPTMTC)

Venue: PPCA and Online Zoom Meeting

Date: 8th January, 2025

Time: 09:00 to 11:15 Cambodia Time

Time: 11:00 to 13:15 Japan Time

09:00 – 09:30 Opening Keynotes and Handover Ceremony of JICA-PPTMTC's Deliverables

Representative of JICA

Ms. Miura Yoshiko **10 min**

Senior Representative of JICA Cambodia Office

Representative of the Governor

H.E. Ek Khundoeurn **10 min**

Vice Governor, PPCA

Exchange of signatures on Deed of Donation **10 min**

09:30 – 10:30 Presentation of the PPTMTC Project

Mr. Sam Piseth, Director, DPWT, PPCC, Project Manager of the PPTMTC Project **10 min**
 (Introduction)

Mr. Masato Koto, Chief Consultant, JICA PPTMTC Project Team **50 min**

Ms. Pheng Pharinet, Chief of Traffic Control Center

I. Project Design Matrix

II. Activities by Output

III. PPTMTC's Conclusion and Way Forward

10:30 – 11:00 Discussion

30 min

11:00 – 11:15 Closing Remarks

Representative of the Governor **15 min**

H.E. Ek Khundoeurn

Vice Governor, PPCA

2. Proposed participant List to be invited for the 5th JCC

1. PPTMTC's JCC Members

1	H.E. Khuong Sreng	Governor, PPCA	Chairperson of JCC
2	H.E. Seng Vannak	Vice Governor, PPCA	Project Director of PPTMTC project and Vice Chairperson of JCC
3	H.E. EK Khundoeurn	Vice Governor, PPCA	Vice Chairperson of JCC
4	Mr. Sam Piseth	Director, DPWT	Project Manager of PPTMTC project and Member of JCC
5	Mr. Sem Ratana	Deputy Commissioner, PPTP	Member of JCC
6	Mr. Long Sokhom	Deputy Director of Administration, PPCA	Member of JCC
7	Mr. Chhean Vuthy	Director of IRIC Division, PPCA	Member of JCC
8	Mr. Chou Kimtry	Deputy Director, DPWT	Member of JCC
9	Mr. Man Kimchhuon	Deputy Director of IRIC Division, PPCA	Member of JCC
10	Mr. Sor Phara	Deputy Director of Urban Management Division, PPCA	Member of JCC
11	Mr. Khan Saroeun	Chief of Traffic Police Office, PPTP	Member of JCC
12	Mr. Chea Sovan	Chief of Public Lighting and Traffic Signal, DPWT	Member of JCC
13	Ms. Som Sreyleak	Chief of IR Office, PPCA	Member of JCC
14	Mr. Prom Kampoul	Chief of Traffic Safety Office, DPWT	Member of JCC
15	Mrs. Pheng Pharinet	Chief of Traffic Control Center, DPWT	Member of JCC
16	Mrs. Theam Ridthydeka	Deputy Chief of IR Office, PPCA	Member of JCC
17	Mr. Ouch Sansothy	Deputy Chief of Traffic Signal, TCC	Member of JCC
18	Mr. Moeung Sophan	Advisor, DPWT	Member of JCC
19	Mr. Sam Phalla	Technical Staff, TCC	Member of JCC
20	Ms. Kosal Nita	Officer of IRIC Office, PPCA	Member of JCC
21	Mr. Kheang Khy	Officer of IRIC Office, PPCA	Member of JCC
22	Mr. Takanori Kuribayashi	First Secretary, Japan Embassy	Member of JCC

23	Mr. Kazumasa Sanui	Chief Representative, JICA Cambodia	Member of JCC
24	Mr. Shota Okuno	JICA Headquarter	Member of JCC
25	JICA PPTMTC Experts	-	Member of JCC

2. Stakeholders/Counterparts

1. Mr. Kong Sophal (Deputy Director General, General Department of Land Transport, MPWT)
2. Mr. Kyosuke Korematsu (JICA Transport Policy Advisor, MPWT)
3. Dr. Phun Veng Kheang (Head of Transport and Infrastructure Engineering Department, ITC)
4. Ms. Lak Sivcheng (Officer, Public Lighting and Traffic Signal Office, DPWT)
5. Mr. Chea Vandeth (Technical Staff, TCC)
6. Mr. Keo Channarith (Governor, CBA)

4. Photos



Exchange of Signatures on Deed of Donation







zoom Workplace Meeting MK's screen Sign in Recording View

Vanda CHHIEV 01- វង្សបាណាម... MK

PRO_វង្សបាណាម... Vanda CHHIEV 01- វង្សបាណាម... MK

Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City (PPTMTC)

5th Joint Coordinating Committee Meeting

- Project Design Matrix
- Activities by Output
- PPTMTC's Conclusion and Way Forward

08 January 2025

METS
IDC

METS RESEARCH & PLANNING, INC.
INTERNATIONAL DEVELOPMENT CENTER OF JAPAN
ORIENTAL CONSULTANTS GLOBAL Co., Ltd.

Participants (12)

Find a participant

Initials	Name	Role	Audio	Video
VC	Vanda CHHIEV (Me)		☒	☒
01	01- វង្សបាណាម... (Host)		☒	☒
M	MK		☒	☒
P	PRO_វង្សបាណាម...		☐	☐
G	GC_Michiko_KONDO		☒	☒
J	JICA_Okuno		☒	☒
MH	Maeda Hideo		☒	☒
M	METS		☒	☒
MT	Mitsue Tamagake		☒	☒
M	MOCHIZUKI		☒	☒
S	SETデータサービス 菅沼		☒	☒
SH	Sungjoon HONG (PCKK)		☒	☒

Audio Video Participants Chat React Share AI Companion More Leave

Participants of 5th JCC meeting

5. Presentation Material



Phnom Penh
Capital City



Department of
Public Works
and Transport



Japan
International
Cooperation
Agency

**Project for Capacity Development on
Comprehensive Traffic Management Planning
and Traffic Control Center Operation and Maintenance
in Phnom Penh Capital City (PPTMTC)**

5th Joint Coordinating Committee Meeting

I. Project Design Matrix
II. Activities by Output
III. PPTMTC's Conclusion and Way Forward

08 January 2025

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Exchange of Signature on Deed of Donations

1. Reports

- (1) Project Completion Report
- (2) Maintenance Management Manual
- (3) Pilot Project Handbook
- (4) Traffic Control System Expansion Plan
- (5) Traffic Enforcement & Traffic Safety Education Manual

2. Equipment

- (1) Pick-up Truck
- (2) Fusion Splicer and OTDR
- (3) Signal Controllers, Signal Lanterns and Signal Poles
- (4) Others

I. Project Design Matrix of PPTMTC Project

Project Name	Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City
Project Period	January 2022 to February 2025
Overall Goal	Sustainable Urban Transport Environment is Formed
Project Purpose	Traffic Management Measures Including Traffic Safety Measures in Phnom Penh is Improved
Expected Output	Output 1: Maintenance Management System of Traffic Control System is Established Output 2: Capacity of TCC Staff on the Operation of Traffic Control System is Strengthened Output 3: Capacity to Design Traffic Signals is Strengthened through the Implementation of Pilot Projects for Traffic Signal Improvement Output 4: Capacity of the Relevant Staff to Traffic Control in PPCA, DPWT and TCC Staff to Develop the Expansion Plan of Traffic Control System is Strengthened Output 5: Capacity of Urban Transport-Related Organizations on Traffic Management Measures is Strengthened towards Enhancement of the Project Sustainability
Counterpart Institution	Implementing Agencies: Phnom Penh Capital Administration (PPCA), Department of Public Works and Transport (DPWT), Traffic Control Center (TCC) and Phnom Penh Traffic Police (PPTP)
Project Area	Whole Area of Phnom Penh

3

Overall Progress of the Project

Project Schedule

January 2022 – February 2025
(38 months)

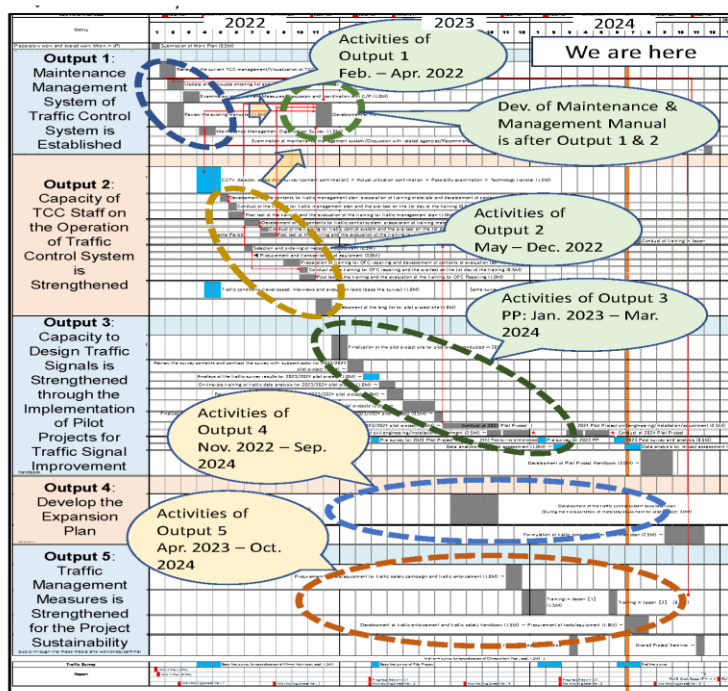
Pilot Project (PP)

January 2023 – March 2024
(including Preparation, Procurement and Transport)

Traffic Survey: 3 times

Training in Japan: February 2024

Seminar: 1st, August 2024
2nd, December 2024



II. Activities by Output

Output 1: Maintenance Management System of Traffic Control System is Established

1. Analysis of the Problems of Traffic Control System

After the completion of the traffic control system, from 2019 onwards, the project has been analyzing the daily and monthly reports by TCC staff. As a result, problems were properly analyzed and produced the following data:

OFC troubleshooting/maintenance: 38%

Local controller problem/replace broken parts: 19%

Damage lantern or must-arm: 12%

2. Key Performance Index (KPI) of the Traffic Control System: Availability Rate of Traffic Control System

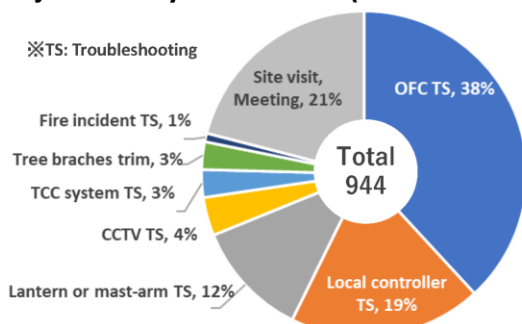
Availability Rate of the Traffic Control System (Key Performance Indicator: KPI) is increased by 15% compare to before PPTMTC Training.

Before PPTMTC Training: 83.24%

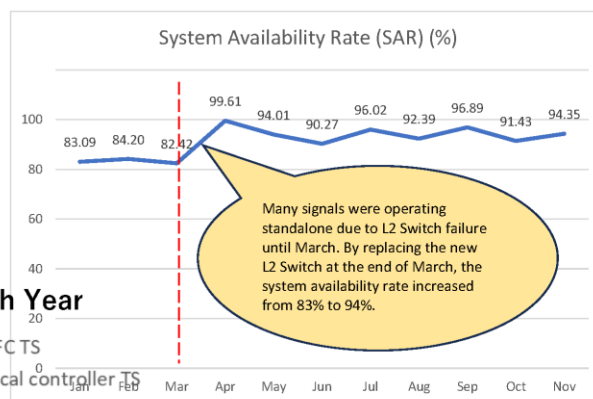
After PPTMTC Training: 94.37%, Increased by 11.13%

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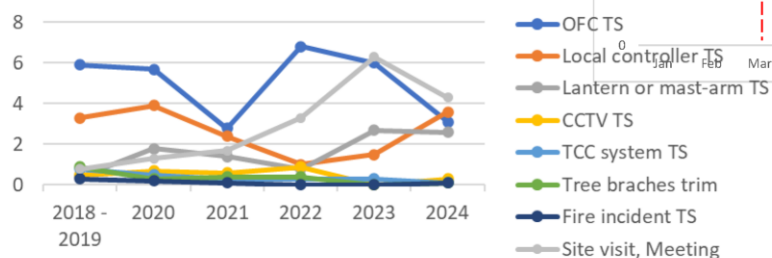
Major Activity of TCC Staff (Dec. 2018~Sep. 2024)



Traffic Control System Availability Rate (%)



Average Number of Activities per Month in each Year



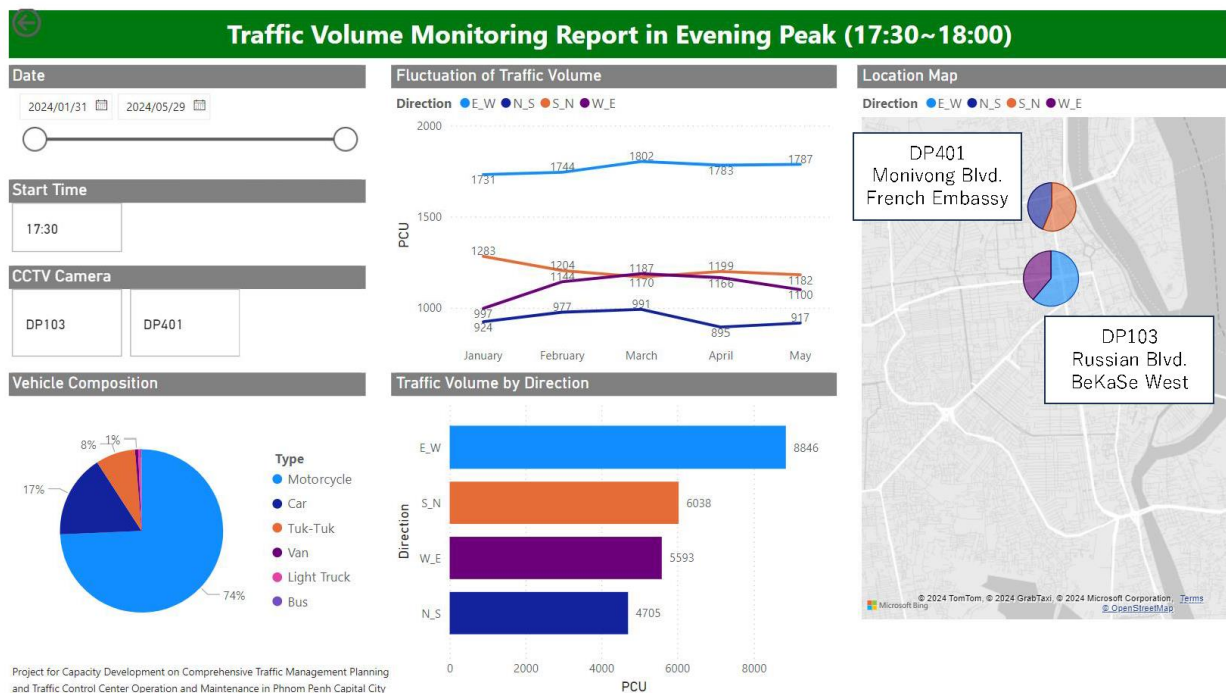
Output 2: Capacity of TCC Staff on the Operation of Traffic Control System is Strengthened

1. Unutilized valuable traffic information collected from CCTV cameras

CCTV cameras installed at 26 intersections are monitored at the traffic control center. TCC staff examine camera image when they intervene in traffic signal parameters, and further advanced uses are expected.

On the other hand, the advent of Deep Learning has led to technological innovation in the field of image analysis, increasing the number of image analysis-related businesses and advancing the application of image analysis to automatic traffic volume counting. Based on the above, demonstration experiment of automatic traffic counters using CCTV camera image and image analysis was conducted. Using DataFromSky which is an automatic traffic counting service using image analysis AI, TCC will have a traffic volume monitoring function and will use it to operate the traffic control system.

7



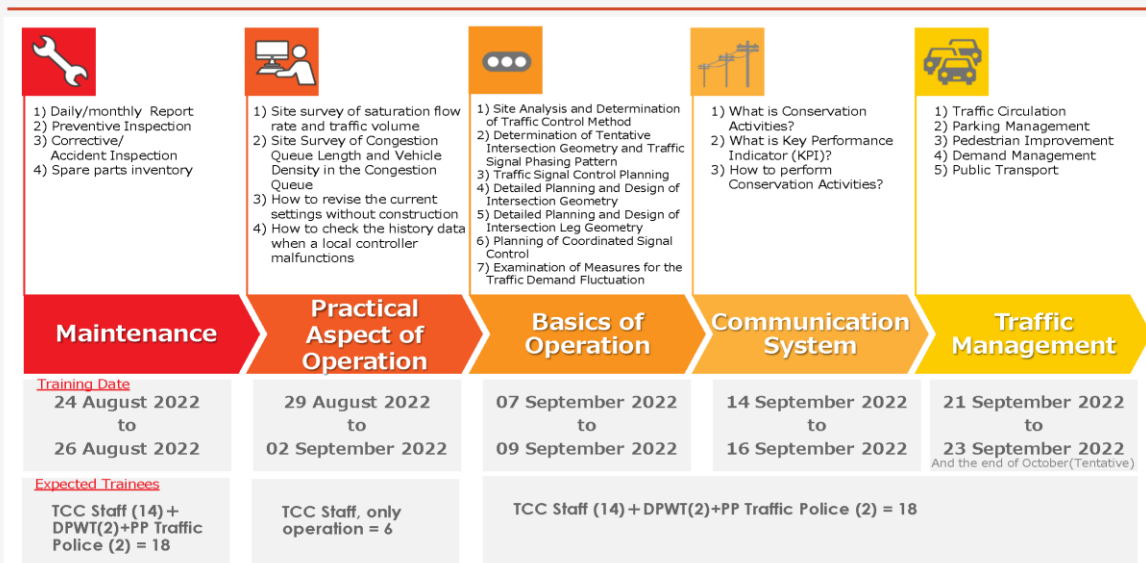
2. PPTMTC Training 2.1 Outline of the PPTMTC Training

The soft components of the Grant Aid made possible the capacity building of TCC staff. With the strong support of PPCH and DPWT, TCC has been operating sustainably from 2019 when the signal system was handed over to Phnom Penh to the present, but it is hard to say that the current system is fully used.

In order to minimize the occurrence of signal system accidents by maximum use of current signal system, conduct of training will be implemented in line with Phnom Penh's traffic control system and traffic conditions.

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2.2 PPTMTC Training Program and Timeline



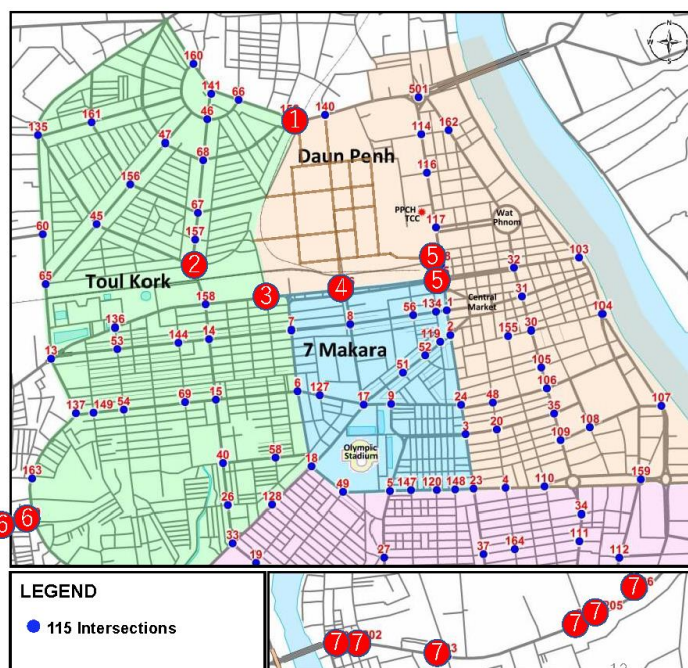
Output 3: Pilot Project

Intersection List			
No.	Intersection Name	Intersection ID	Location
1	R3	#165	St. 70 corner Old Railway (St. 100)
2	2004	#167	St. 371 - St. 2004
3	Neakvoan Pagoda	#28	Russia Blvd. - St.132 - St.221
4	Rongvong Moul Tuol Kouk	#166	St.289 - St.608 - St.592
5	Be Ka Se	#25	Preah Monivong Blvd. - Russia Blvd.
6	Kdan Pi	#126	Czech Republic Blvd. (St. 169) - Jok Dimitrov Blvd.

11

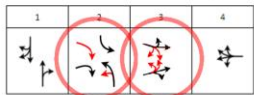
1. Location of the Pilot Project

- (1) #165: To cope with City Center development (**new signal**)
- (2) #166: To improve the signalized intersection from roundabout (**new signal**)
- (3) #28: Additional left-turn arrow (**revision of the phasing + left-turn arrow + revision of road marking**)
- (4) #126: To cope with intersection improvement, mainly revision of the signal phasing/timing (**revision of the phasing**)
- (5) #25 and #118: Coordination of two intersections in the CBD (**introduction of 3Es**)
- (6) #59 (**revision of phasing**) and #167 (**new signal**): Coordination of two intersections at the CBD fringe
- (7) #201 - #206: Wireless connection between TCC and 6 intersections along NR No.1 and #167 (**wireless connection**)



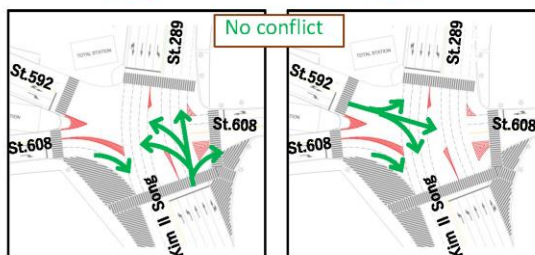
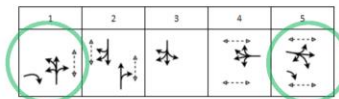
2.1 #166 Rongvong Moul Tuol Kouk (St. 289/St. 608/St. 592)

Before Pilot Project



- Large intersection area
- Many traffic flow conflict even with traffic signal

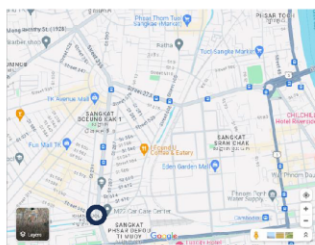
After Pilot Project



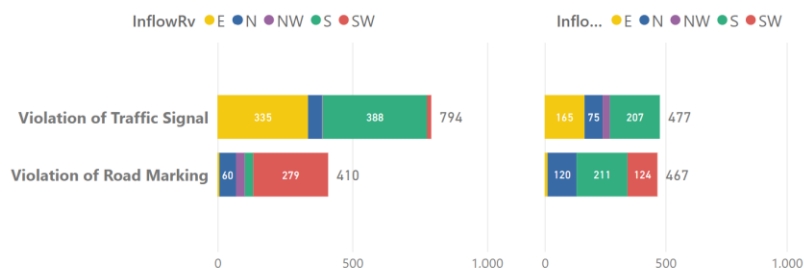
- Compact intersection area
- No traffic flow conflict after installation of traffic signal by the Pilot Project



#166 Rongvong Moul Tuol Kouk (St. 289/St. 608/St. 592)



No. of Violation by Violation Type and Inflow Direction



- Due to VIP traffic, major roads were often closed or traffic was restricted by traffic police.

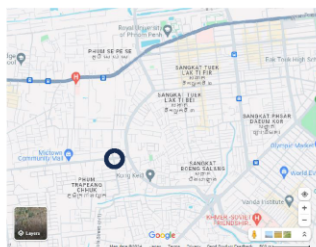
2.2 #167 2004 (St.371/St.2004)

- Traffic signal #59 networked with TCC, and #59 West developed by DPWT as stand alone (the distance between them is about 200m).
- Between the two intersections, serious traffic jams occur during peak hours.
- Factors are (1) there is no road marking or it is not clear. (2) traffic rules such as traffic signals are not obeyed, and (3) large buses and trucks enter the local road of St. 371
- TCC plans to adopt a wireless connection system (between #59 and #59 West).

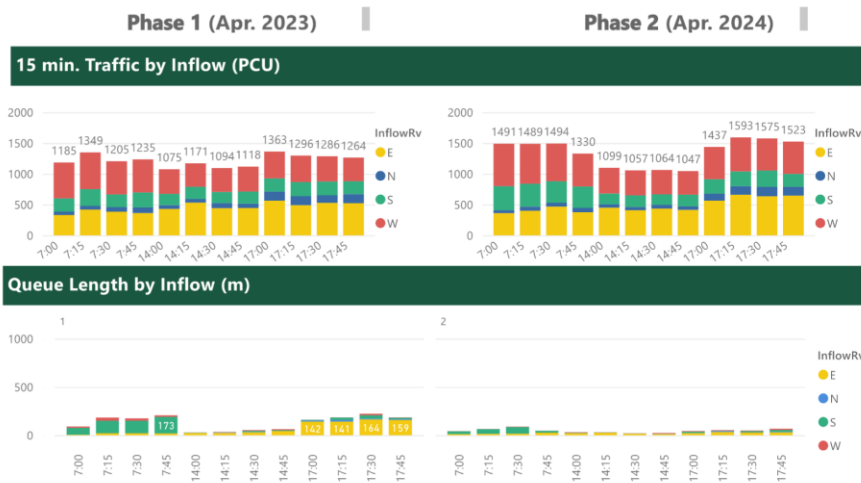




#167 2004 (St.371/St.2004)



IS-7 #167



2.3 Conduct of 1st Pilot Project Traffic Safety Campaign

2.3.1 Outline of the Campaign

- (1) Age Group: 15 – 39 Years Old
- (2) Vehicle: Motorcycle, Tuktuk, Car and Pedestrian
- (3) Catchphrase: FOLLOW ROAD TRAFFIC RULES AT SIGNALIZED INTERSECTION FOR YOUR SAFE AND SMOOTH DRIVE
- (4) Date: 26 – 28 March 2024
- (5) Location: 6 Pilot Project Intersections
- (6) Tools: Banner, Flyer, Video clips, Participation of Student Volunteers from CRC and Phnom Penh Traffic Police
- (7) Hopefully 2 times a year done by Cambodian themselves
For example: Before Khmer New Year (End of March) and Before Pchum Ben (End of September)

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2.3.2 Target Age Group and Vehicles

- (1) Age Group: Mainly 15 – 39 Years Old (Car, Tuk-tuk and Motorcycle Drivers)

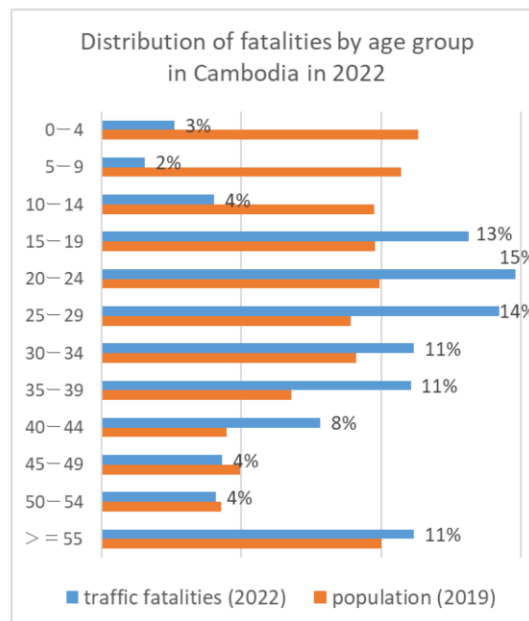
Primarily, the target age group is young people (aged 15 to 39), who have a high traffic-related death rate.

- (2) Vehicles, etc.: Motorcycles, Cars and Tuk-tuk including Pedestrian

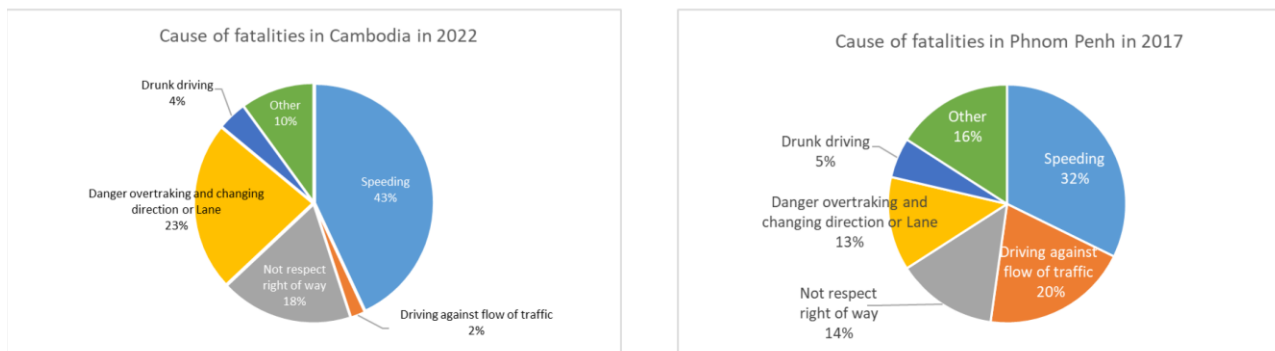
The target vehicle types will mainly be motorcycles, which account for approximately 80% of traffic accidents, and private cars, which account for 5%; however, consideration will also be given to pedestrians (which account for around 8% of accidents).

Source: RCVIS (Cambodia) and PPTP (Phnom Penh)

Figure A Fatalities by Age Group in 2022



Causes of Traffic Fatalities (2017 and 2022)



The most common cause of accidents in Phnom Penh is speeding, but accidents caused by ignoring traffic rules, such as driving the wrong way, reckless overtaking, and not staying in one's lane, account for about half of all accidents.

Source: RCVIS (Cambodia) and PPTP (Phnom Penh)

2.3.3 Campaign Tools

Tool 1: Banner, Flyer and Education Materials

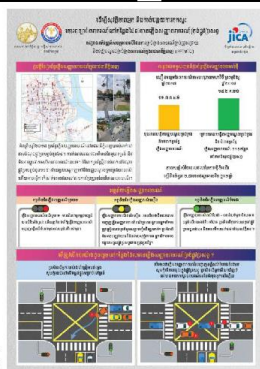
Tool 2: Design of Video Clips for SNS (facebook of Phnom Penh Capital Hall)

Banner (Installed by CRC Youth Volunteers)



Flyer (A5 size)

Front

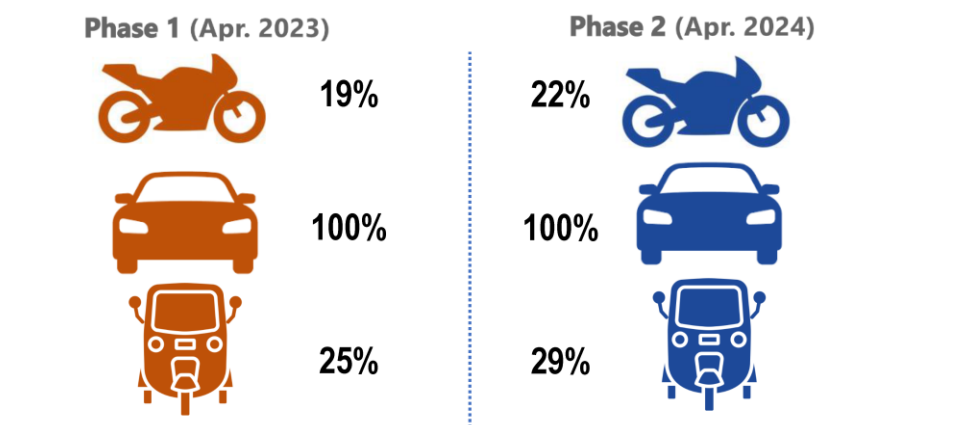


Back



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2.3.4 TYPE OF VEHICLE WITH DRIVING LICENSE



Among all motorbike drivers, ONLY 19% hold a valid driving license, while 100% of car drivers have a driving license and 25% of Tuk Tuk or Remork drivers have a driving license at pre-test and this number is similar at the post-test.

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2.4 Conduct of 2nd Pilot Project Traffic Safety Campaign

- In order to sustainably conduct traffic safety campaigns twice a year in the future, PPTMTC carried out a second traffic safety campaign from September 26th to 28th, 2024 (just before Pchun Ben).
- The concept is basically the same as the first traffic safety campaign, but the participation of the traffic police and CRC student volunteers was reduced, and the tools in the first campaign were effectively utilized, which minimized costs.
- The two video clips developed and posted on PPCH's Facebook page. Phnom Penh City Hall had about 500,000 Facebook followers; and there were 75,000 views of PPTMTC's Video 1 and 46,000 views for Video 2.

Note: Video 1:

<https://www.facebook.com/share/v/1BDefkc6jW/?mibextid=WC7FNe>

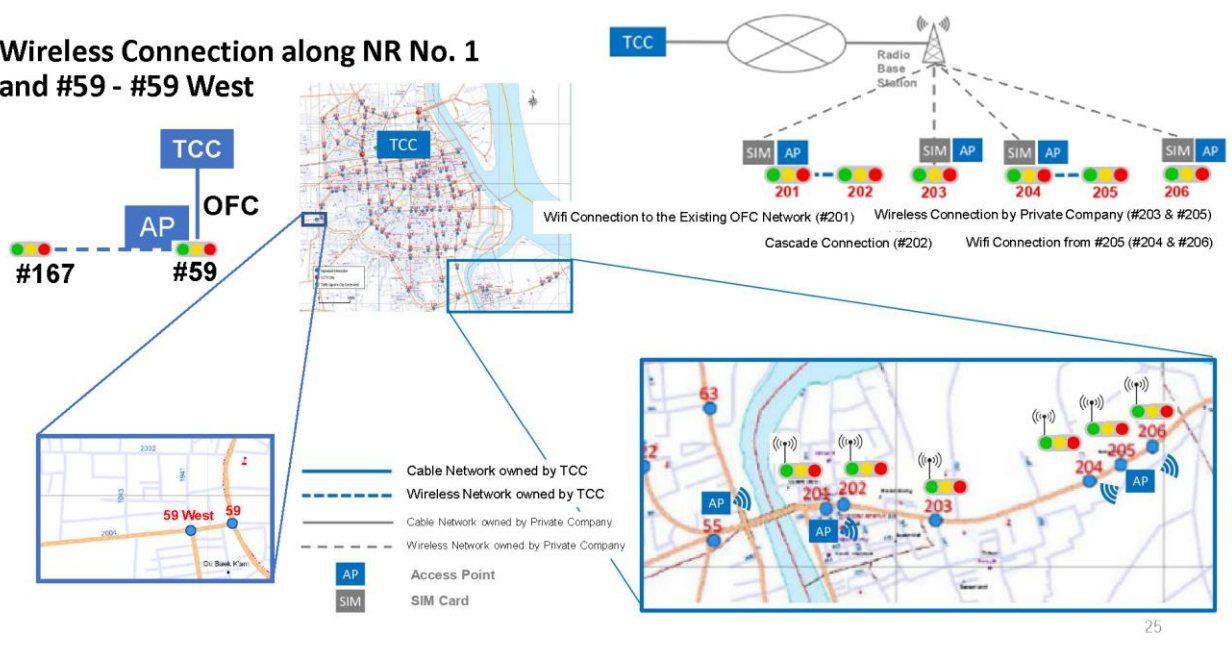
Video :2

<https://www.facebook.com/share/v/1Ep7eSBUBX/?mibextid=WC7FNe>

24

2.5 Wireless Connection

Wireless Connection along NR No. 1 and #59 - #59 West



3. Training in Japan

What was particularly memorable about this training in Japan was being able to see and hear about Hiroshima City's efforts in urban transportation by TCC staff themselves. Hiroshima City has a population of 1.2 million, and 800,000 people use public transportation daily. The city has developed a number of public transport systems, including buses, JR, private railways, LRT and AGT, in line with the characteristics and development of the urbanization in the city, and has maintained this system for a long time. The trainees learned that a balanced development of roads and public transportation is essential for urban development.

3.1 Trainees by Group

GROUP 1: January 31st to February 10th, 2024 Course Number: 201903196-J001				
No.	Name	Sex	From	Position
1	CHOU KIMTRY	M	DPWT	Deputy Director, DPWT
2	PHENG PHARINET	F	DPWT	Chief of TCC
3	PROM KAMPOUL	M	DPWT	Chief of Road Safety Office
4	KUN SOKHIM	F	PPCA's Contracted Staff	Technical Staff at TCC
5	HENG VENGLIM	M	PPCA's Contracted Staff	Technical Staff at TCC
6	KEM RAVY	M	PPCA's Contracted Staff	Technical Staff at TCC
7	UY LYSIN	M	PPCA's Contracted Staff	Technical Staff at TCC
Group 2: February 14th to February 27th, 2024 Course Number: 201903196-J002				
1	MAN KIMCHHUON	M	PPCA	Technical Staff of TCC
2	SAM PHALLA	M	PPCA	Technical Staff at TCC
3	CHEA VANDETH	M	PPCA's Contracted Staff	Technical Staff at TCC
4	PHOK UY	M	PPCA's Contracted Staff	Technical Staff at TCC
5	IM SETHA	M	PPCA's Contracted Staff	Technical Staff at TCC
6	LAK SIVCHENG	F	DPWT	Officer, DPWT ²⁶

3.1 Training Organization/Place

Target	Training Organization/Place	Contents of Training, etc.
Policy and Plan of Traffic Management in Japan	Otemachi-Marunouchi-Yurakucho (Dai-Maru-Yu) Urban Planning Council	Urban Planning and Parking Measures around Tokyo Station (Central Station in Japan)
	Tokyo Metropolitan Hall	Visit to Capital Hall in Japan (Same as Phnom Penh as the Capital Hall)
Learn Traffic Management Measures including Urban Planning in Japan	Institute for Traffic Accident Research and Data Analysis (ITARDA)	Role and Outline of ITARDA
	Traffic Control Center in Tokyo Metropolitan Police Department	Visit to Traffic Control Center
	Hiroshima City	Lecture of Public Transport System Planning, Visit to Redevelopment in Southern Hiroshima Station Plaza and Visit to Hiroshima Bus Center
	Kyoto City	Lecture for Urban Transport Planning in Kyoto City
	Basta Shinjuku	Largest Bus Terminal in Japan
Learn Japan's Cutting-edge ITS Technology	Professor OZAKI, Toyo University	Lecture on Japanese ITS technology
	Sumitomo Electric Company	Lecture for Repair of Optic Fiber Cable Cutting
Learn Japanese Culture	Tokyo Tower	Second tallest Radio Tower
	Odaiba (Commercial center in Tokyo Bay Reclamation Area)	The central commercial district of Tokyo Waterfront New City in the reclaimed land area of Tokyo Bay
	Kinkaku-ji Shrine	Japanese Shrine in Kyoto, Designated a World Heritage Site
	Hiroshima Peace Memorial Park	Hiroshima Peace Memorial Park is a Urban Planning Park established to commemorate the victims of the atomic bomb and to pray for lasting world peace.

3.2 Photos



Mr. Miyaura, Hiroshima City Hall and Mr. Matsuda, a former professor at Hiroshima University, gave a lecture on "Hiroshima City's public transportation initiatives"



Final Presentation by Group 1 as summary of the training in Japan



Visit to the construction site for the LRT terminal at South Hiroshima Station Plaza

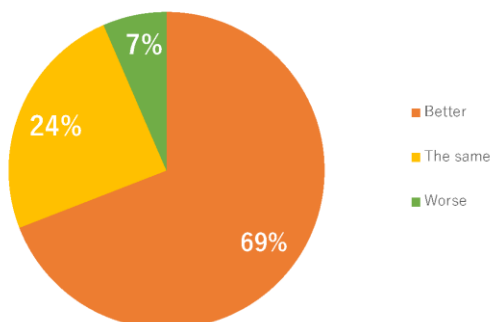


Final Presentation by Group 2 as summary of the training in Japan

4. PPTMTC Pilot Project Seminar on 08 August 2024

Changes in traffic condition in Phnom Penh between 2023 and 2024

How has the traffic condition in Phnom Penh changed between 2023 and 2024? ($N=123$)



- Reasons of “Better”
Improvement of urban transport related hard and soft components such as “Installation of infrastructure (signal, flyover, road marking or sidewalk.)” and “Conduct of traffic safety education”.

About 70% of participants said the traffic situation has improved.

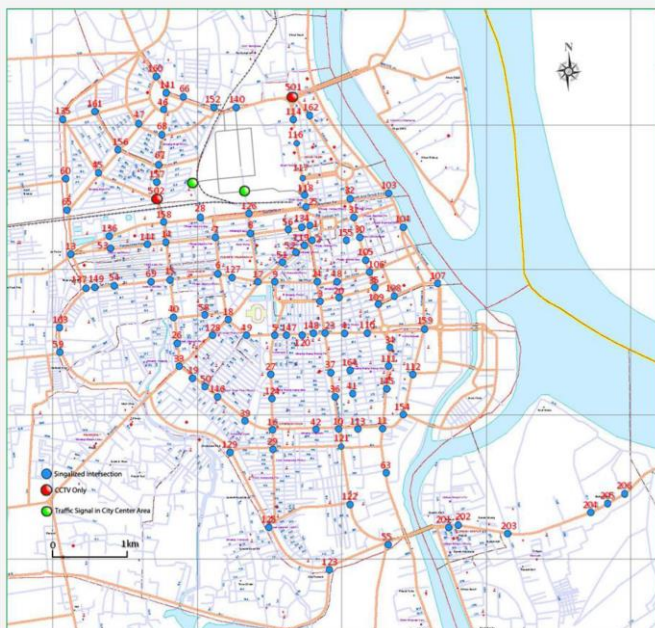
Output 4. Traffic Control System Expansion Plan

1. Introduction

By covering not only central Phnom Penh but also the rapid urbanized suburbs with the traffic control system, a safer and smoother traffic flow will be ensured. This will contribute to the revitalization of Phnom Penh and the improvement of the urban environment. The preconditions for considering the expansion area of the traffic control system are as follows:

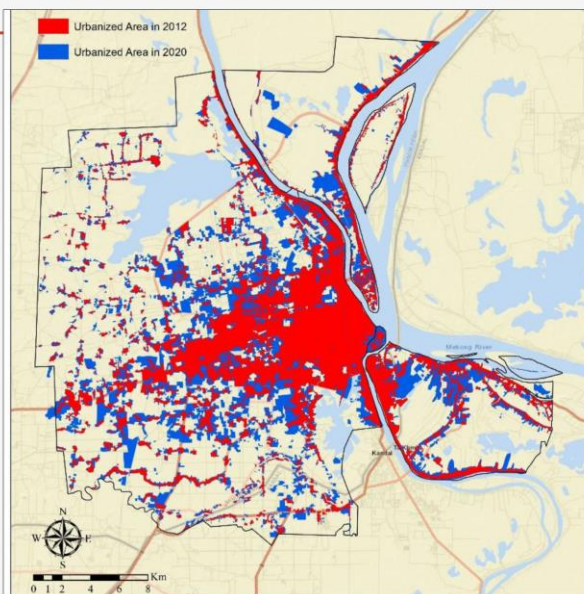
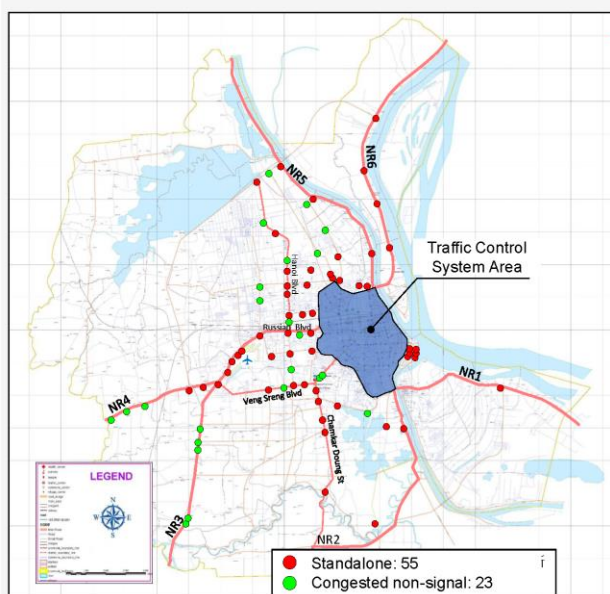
- (1) Urbanization has spread to approximately 220km² in the suburban areas, and if a traffic control system were to be established in these urbanized suburban areas, it would need to cover an area 7.6 times larger than approximately 30km² in central Phnom Penh (PP) where the current traffic control system is in place.
- (2) On the other hand, the road network in suburban areas is less dense but more varied than in the central PP.
- (3) The traffic control system in central Phnom Penh has been in operation for five years since it began operation in 2019, and has been operated by TCC staff without any major malfunctions, continuing to improving the traffic environment in Phnom Penh.

Central Phnom Penh in 2020



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Phnom Penh Suburban Area in 2020



2. Current Conditions

2.1 Characteristics of the Suburban Area

In Phnom Penh, population growth and urbanization have been significant, with approximately one-third of the city urbanized as of 2020. Three distinct suburban areas have developed surrounding the urban core. Each of these areas has access to national roads that connect to the city center and is linked by a ring road. Given these circumstances, an increasing number of traffic signals will be required in suburban areas in the future.

The suburban areas can be classified into three regions: northern, western, and southern. The characteristics of each region are as follows:

(1) Northern Area (Major Roads: National Road 5 and 6)

- The density of intersections is low.
 - Residential development is prominent.
- (2) Western Area (Major Roads: Veng Sreng Boulevard, National Road 3 and 4)
- This area provides access routes from the city center to the current airport.
 - This area is characterized by the intersection of significant east-west and north-south roads.

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(3) Southern Area (Major Road: National Road)

- Construction of roadways connecting to the new airport is underway.

- The density of intersections is low.

(4) Common Characteristics of Suburban Area:

- Each traffic signal operates independently
- The distance between traffic signals is considerable.
- There is no integrated road network.
- Urban development is progressing everywhere.
- Major roads serve as routes for public transportation.

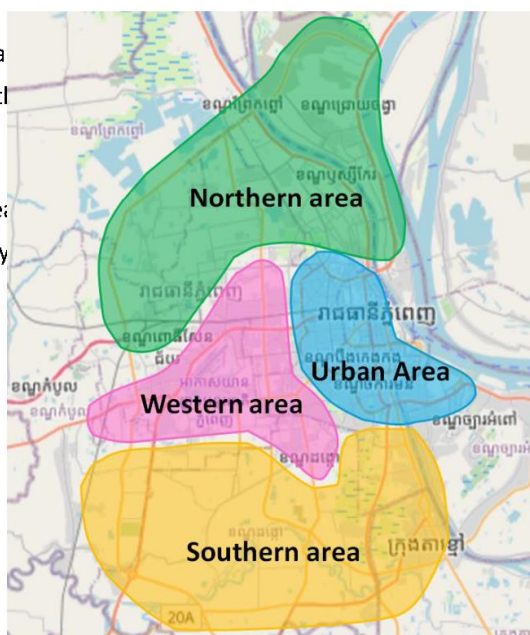


Figure 2.1 Zoning of the Suburban Area 34

2.2 Issues in the Suburban Area (Roadside Conditions)

The suburban area has different issues compared to the well-developed central Phnom Penh.

(1) Traffic Signal Lantern

There are various types of traffic signal lanterns, which can lead to confusion among drivers.



(2) Malfunction of Equipment

There are issues of malfunctioning pedestrian signals and countdown timers, and poor visibility of traffic signals.



(3) Unclear Road Marking

There are many intersections with unclear crosswalks, and yellow boxes. Road markings at most signalized intersections are unclear.



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(4) Problematic Installation of Traffic Signs and Road Marking

There are stop signs remaining at signalized intersections and traffic signs facing the wrong direction.



(5) Poor Road Conditions

There are intersections with poor drainage and intersections with very poor road conditions.



(6) Traffic Obstruction

In many points along suburban main roads, medians are open to accommodate traffic to/from narrow streets. Although this is convenient for traffic on narrow streets, many sections can be observed blocking traffic on the main road, causing congestion.



(7) Inconvenient Bus Use for Suburban Residents

The Phnom Penh City Bus System was established in 2016 and currently operates 13 routes. There are bus routes in suburban areas, mainly along major roads, but there are issues with accessibility and the environment at those stops, and measures such as bus priority signals have not been implemented, so the number of bus users is low.



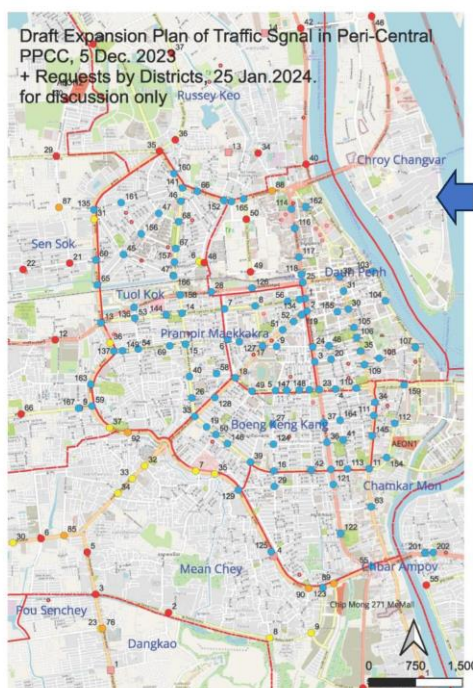
36

3. Signalized Intersections in the Suburban Area (As of Jan. 2024)

As of January 2024, there are 186 signalized intersections in Phnom Penh, of which 118 are in central PP and 68 are in suburban areas. DPWT plans to build 25 new signalized intersections in suburban areas where urbanization is progressing. The PPTMTC project, a JICA-TCP project that began in 2022, proposed 38 new signalized intersections. The above plans and proposals were consulted at a coordination meeting (held on January 25, 2024) inviting representatives from Khans, mainly from suburban areas, and 19 additional signalized intersections were requested. In light of the above, the PPTMTC project decided to focus on 268 signalized intersections as part of the suburban expansion of the traffic control system.

No. of Signalized Intersections by Type

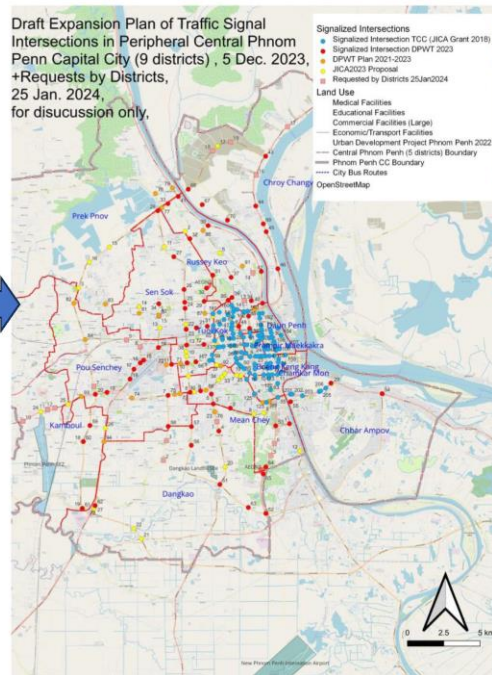
Control System	Management Body	No. of Intersections	Remarks
Existing	Centrally Control	118	109 (Central Area) 6 (Along NR No. 1) 3 (Pilot Project)
			70 (Existing) 2 Relpaced by PPTMTC PP
	Sub Total	186	
Plan	DPWT	25	2021 - 2023
	JICA-PPTMTC	38	Proposed
	Requested by Khan	19	By Coordination Meeting held in 25 Jan. 2024
	Sub Total	82	
Grand Total		268	37



Location of Signalized Intersections of PPTMTC PLAN

(Central Phnom Penh)

(Suburban Area)



4. Traffic Control System

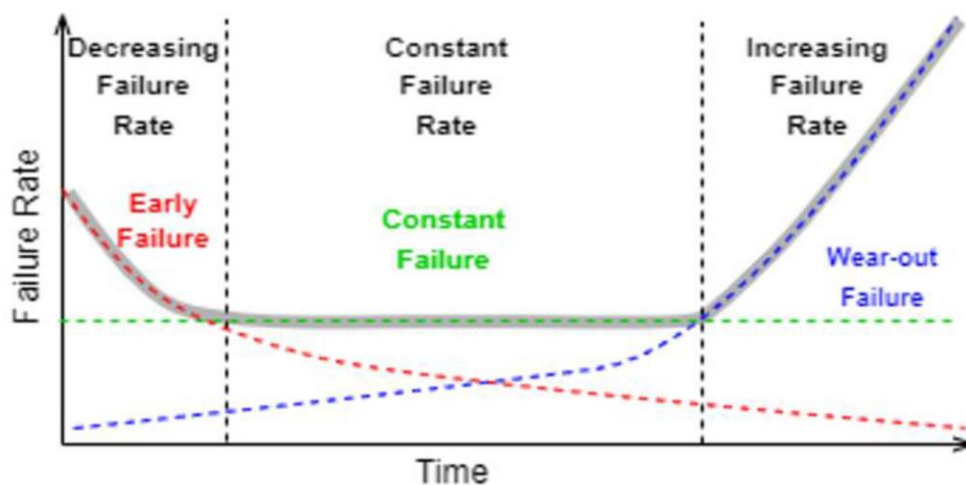
4.1 System Update Cycle

All products have a lifespan, and traffic control systems are no exception. The bathtub curve (Figure below) represents the life cycle of a product: a high initial failure rate, followed by a stable operational phase, and then an increase in failures due to wear and tear. The Traffic Control Center (TCC) has been in operation for five years (it was launched in 2019) and is currently stable. However, it may face performance degradation and security risks in the future.

IT systems typically require planned updates, including hardware renewals, software upgrades, and the application of security patches. However, since Phnom Penh's traffic control system lacks a clear update plan, it should consider system updates alongside plans for expansion to suburban areas.

Japan's update cycle of every five years can be a benchmark, but ideally, updates within 15 years are recommended.

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Bathtub Curve

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4.2 History and Roadmap to the Next Stage

Phnom Penh's traffic control system has been in operation for five years, from 2019 until 2024, without any major problems.

This is entirely due to the efforts of TCC staff and the support of PPCH, DPWT, PPTP, and citizens.

The lifespan of a Japan-made traffic control system is about 15 years, and the Japan-made Panasonic traffic control system in Manila, Philippines operated for 14 years from 1980 to 1994.

For these reasons, it is important to use the current Sumiden system for at least 10 years, and to renew Phnom Penh's traffic control system 15 years later, at least in 2035. This means that it is important for TCC staff to use the current system effectively for the next five years (2030).

History of the Mero Manila Traffic Control System (1981 - 2024)										
PHASE	Implementation		Agency Responsible	Funding		No of Int.	Traffic Control		Controller	Manufacturer / Supplier
	From	To		Source	Amount		System	Country		
Planning & Design	1977	1980	TEAM PH-1							
Phase I	1980	1982	MPWH-TCC	IBRD/WB	US\$5.8M	134	ATC	Japan	NEMA TSI-National	Matsushita Elec
Phase II	1984	1987	DPWH-TCC	OECE-Japan	3.86B Yen	170	ATC	Japan	NEMA TSI-National	Matsushita Elec
Phase III	1989	1994	DPWH-TEC	OECE-Japan	4.61B Yen	131	ATC	Japan	NEMA TSI-National	Matsushita Elec
Renewal of System										
Phase IV (P&D)	1993	1994	DPWH-TEC							
Phase IV (Imp.)	1998	2002	MMDA-TEC*	EFIC-AUS	US\$22.8M	419	SCATS	Australia	Delta 5	AWA -Plessey
Upgrading/System Replacement										
Phase 1	2012	2017	MMDA-TEC**	Local	P295.26 M	93	Hermes	Spain	RSIM	Indra
Phase 2	2014	2018	MMDA-TEC	Local	P395.78 M	161	Cosmos	Korea	Korean LC	Keon-A Info Tech
Phase 3	2015	Terminated	MMDA-TEC	Local	P390.39 M	155	Cosmos	Korea	Korean LC	KYUNG BONG CO. LTD.
Phase 4	2017	2021	MMDA-TEC	Local	P229.00 M	48	Cosmos	Korea	Korean LC	Easy Traffic
Phase 5	2018	2024	MMDA-TEC	Local	P292.33 M	49	Cosmos	Korea	Korean LC	Easy Traffic
						506				
* Transfer of TEC Operation & Maintenance to the MMDA - Aug. 15, 1998 (Verify)										
** Transfer of TEC whole office - Feb. 2003										

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History and Roadmap to the Next Stage

			Achievements											Plan			
Year	Aera	Activities	Master Plan	Japan Grant Aid	Managed by TCC	Technical Cooperation Project					2025 - 2030	2031 - 2035	2036 -				
2012		Traffic control system was proposed one of the short-term action plans of 2035 PP Urban Transport Master Plan															
2013																	
2014																	
2015		A traffic control system installation project with 105 intersections and TCC in central Phnom Penh (28 km2) by Japanese Grant Aid was completed.															
2016																	
2017																	
2018																	
2019		The traffic control system connected TCC and 105 signal intersections started operation by TCC staff themselves.															
2020																	
2021																	
2022		Technical cooperation project begins Objective: To enable TCC staff to maintain and manage the traffic control system themselves Activities: (1) Training for TCC staff, (2) Implementation of pilot project, and (3) Training in Japan. As of the end of 2024 118 signalized intersections in the city center (28 km2) are centrally controlled by TCC - Approximately 70 standalone signalized intersections in the suburban area (640 km2) are installed and managed by the DPWT Public Lighting and Traffic Signal Office															
2023																	
2024																	
Shift from the current Sumiden system to a new traffic control system with 280 intersections in total by 2036 (approximately 15 years after operation begins)																	
		Effective use of the current Sumiden system Preparation period for the development of a new traffic control system • Construction of the new traffic control system will start about 10 years after the current Sumiden system begins operation. • Construction of the new traffic control system will be completed about 15 years after the current Sumiden system begins operation. The new traffic control system connected TCC and 280 signal intersections started operation by TCC staff themselves.	Managed by TCC	Transition	New System												

Completed: 5 Years

Life of the System:
15 Years

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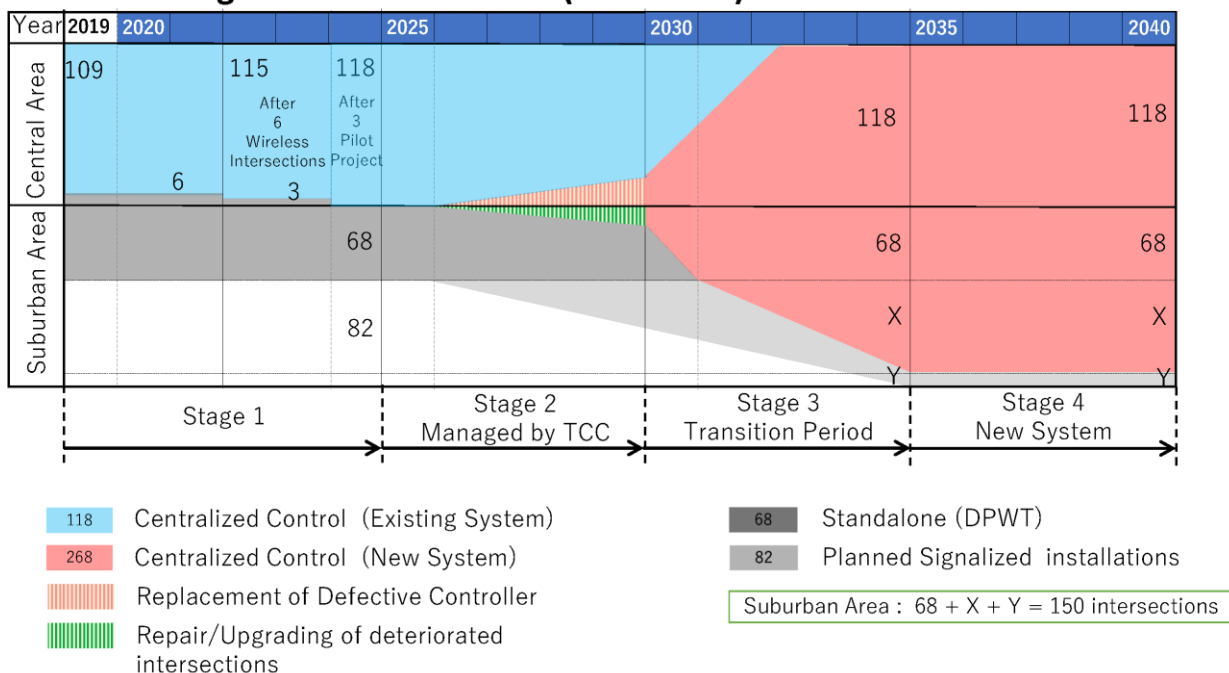
4.3 Scenarios to the Next Step to the System Update

From Current System to Other Japanese Traffic Signal Manufacturer

CASE	STAGE 1 (Until 2024)	STAGE 2 (2025 – 2030) Managed by TCC Period	STAG 3 (2031 – 2035) Transition Period	SAGE 4 (After 2035) Completion of Replacement
Under Other Signal Maker	Current system	- If SUMIDEN will stop their service to Phnom Penh, other Japanese signal maker will be used to respond to the existing traffic control system. - For the next 5 years, the SUMIDEN central server still will be used in the urban area. - In the case of malfunction of spare parts in controller, it is necessary to replace whole controller of other signal maker's in the central Phnom Penh. Quality control is performed under the Japanese MODERATO system for compatibility with other companies in Japan. - Problematic intersections in suburban areas will be replaced by the other signal maker's stand-alone traffic signals. At the same time, intersection improvement and other issues will be considered in collaboration with relevant offices under DPWT.	- Replacement to other signal maker's system from SUMIDEN's traffic control system within 3 to 5 years - During this period, the central systems of SUMIDEN and other signal maker will coexist. - Basically, almost all signalized intersections in Phnom Penh will be under new SUMIDEN system.	Under new other signal maker's system

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Number of Signalized Intersections (2019 2035)

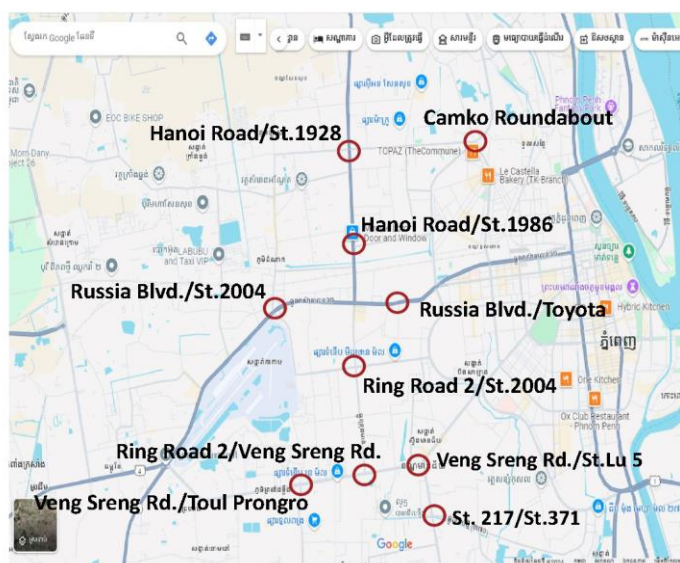


4.4 Priority Area by Stage

(1) Priority Area for Improving Signalized Intersections in the Suburban Area is the rapidly urbanizing western area, focusing on major arterial roads such as Veng Sreng Blvd. and NR No. 4.



Priority Area for Improving Signalized Intersections before Upgrading



Reference: 10 Congested Intersections in the Western Suburban Area in Phnom Penh

(2) Proposed Area for Central Control by TCC after Completion of the Replacement of the Traffic Control System

In the future, the system will be extended to almost all Phnom Penh Area. This will enable to manage Phnom Penh's main arterial road traffic from the Traffic Control Center and improve traffic flow between central Phnom Penh and suburban areas.

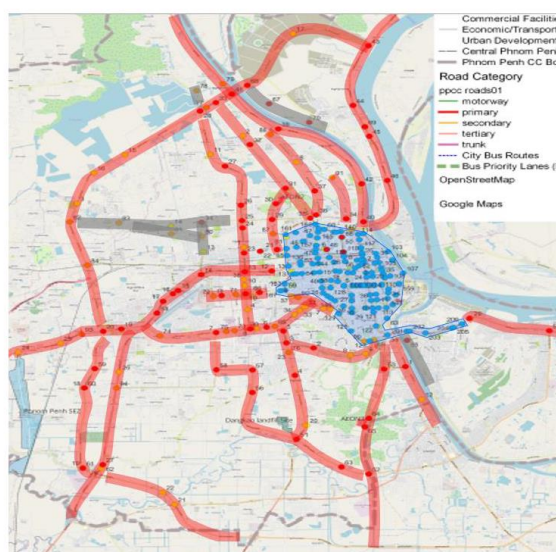


Figure 2.2 Proposed Area for Central Control by TCC after Upgrading

4.5 Signal Control Method

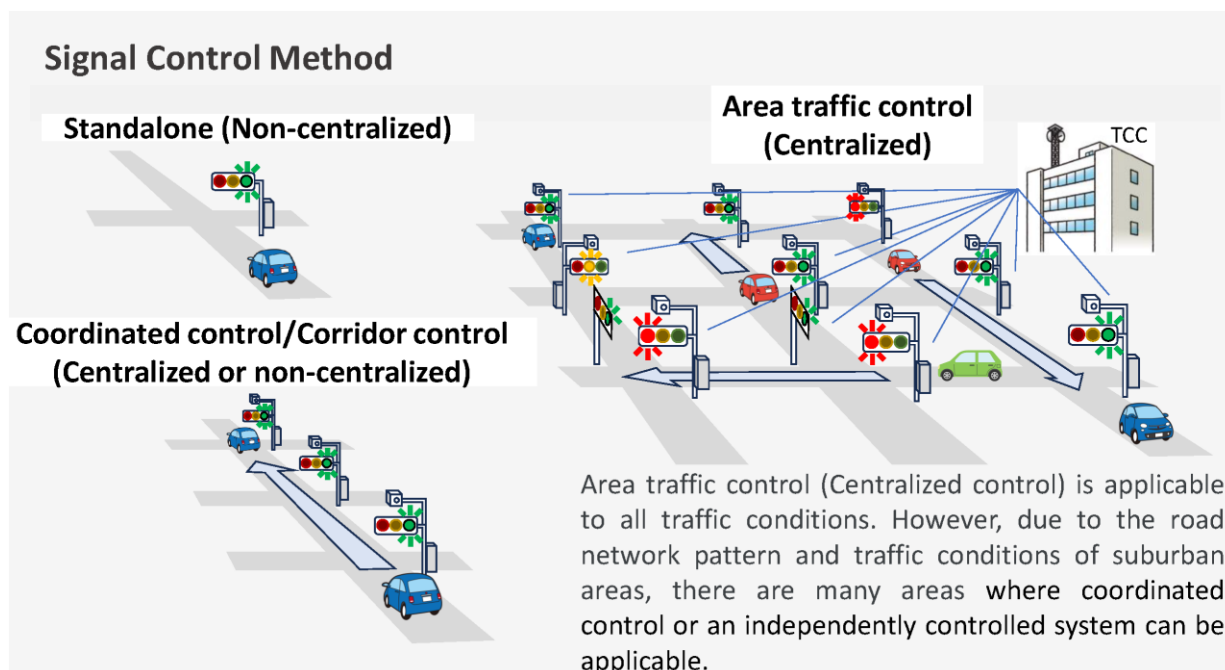
Traffic signal control systems can be categorized into three types: standalone, coordinated control, and area traffic control. Urban areas typically employ area traffic control systems to integrate and manage traffic across extensive regions. In contrast, suburban areas, characterized by their linear road layouts, benefit from coordinated control. Moreover, isolated signals, operating independently without coordination with neighbouring signals, do not pose significant issues in such settings. Given that suburban main roads frequently serve as public transportation routes, appropriate signal control can facilitate the smooth operation of public transit and encourage a shift from private to public transportation.

Since suburban areas typically have linear road networks, traffic flow can be effectively managed using a coordinated or standalone control system.

Table 4.1 Characteristics of each traffic signal control methods

	Standalone Non-centralized	Coordinated Control Corridor Control	Area Traffic Control Centralized
Purpose	Isolated intersection optimization	Intersections along major transport corridor	Areal Control
Control Summary	Signal controlled independently	Multiple signals under coordinated control	Area coordinated control
Requirement	Standard local controller	Controller with coordinated system functionality or centralized control	Centralized control by traffic control center (TCC)
Advantage	Low-cost for stable traffic	Effective for high-volume such as main roads	Effective for complex and dense road networks
Disadvantage	Weakness in adapting to traffic changes and uncoordinated signals	Not suitable for complex and road networks	High performance but expensive

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5. Maintenance Management System

5.1 Current Conditions

- Phnom Penh's traffic signal system is currently composed of two types of operation.

Centralized system of Area Traffic Control (ATC) installed in central Phnom Penh, and scattered standalone intersections located in Phnom Penh's suburban area.

The ATC system is currently managed by the TCC staff trained in the operation and maintenance of the system while the Standalone intersections are managed by Public Lighting & Traffic Signal Office (PLTSO), DPWT. Matrix of the current situation is shown in the table.

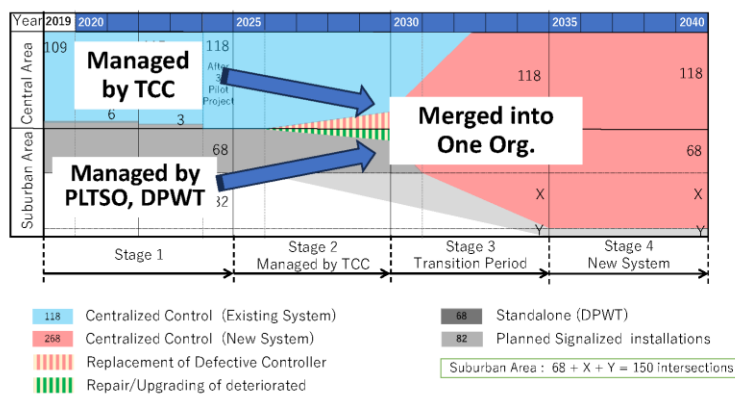
Current Situation

Operation & Management	TCC Team	Public Lighting & Traffic Signal Office (PLTSO)
System/Type of Controller	ATC-SUMIDEN	Standalone
No. of Intersections	118	68
Area / Vicinity	Central Phnom Penh	Phnom Penh Suburbs
Mother Org.	PPCA/DPWT	DPWT
Organization Status	Temporary	Regular/Permanent
Major Maintenance Equipment (Manlift, etc.)	Borrowed from PLTSO	Assigned to Unit

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5.2 Traffic Control System Expansion Plan

- Expansion of the control system is recommended to include the future need in suburban areas. The recommendations shall include the upgrading of the existing standalone controllers and incorporating them into the system. The plan is to have only one system in Phnom Penh.



Implementation of Traffic Control System Extension Plan by One Maintenance Management Organization

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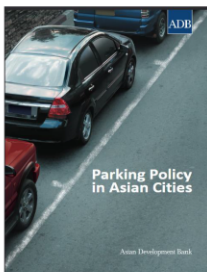
5.3 Consolidation of TCC and PLTSO

- Having a single umbrella organization is crucial for effectively managing a city's signal system. First, is because the management should have a uniform policy and directions, rules and regulations. Second, the consolidation of maintenance assets like vehicles, specialized equipment, repair tools, and office spaces minimizes duplication and additional expenses ensuring full utilization of resources.
- At present there are two groups managing the signal system with the Public Lighting and Traffic Signal Office (PLTSO) of DPWT maintaining the standalone controllers and the TCC team, also technically under DPWT, assigned in the operation and maintenance of the central coordinated signals. With the proposed expansion of signal installations to the outskirts of Phnom Penh by JICA, DPWT and Khans of the districts totaling 268 intersections, the area of operations will increase with the farthest intersection reaching 18 km from TCC office at Phnom Penh City Hall.
- The proposed future upgrading of DPWT's 68 standalone controllers together with the gradual replacement of SUMIDEN's 118 controllers, and integration of 82 future other controllers to be installed under a single system will leave only one option for the management, that is, consolidation of the two management groups into one. When the proposed expansion plan follows the strategy, the Phnom Penh Traffic Signals will be under one system and one supplier by the year 2035.

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Output 5: Traffic Management Plan

1. Parking management plan



- Using parking survey result by JICA Study (2023), the parking management plan prepared and justified by feasibility analysis
- Draft parking management plan presented to PPCA/MPWT and recommendation made to MPWT to draft Parking Prakas to define the parking type/responsibilities for management.

2. Paratransit management

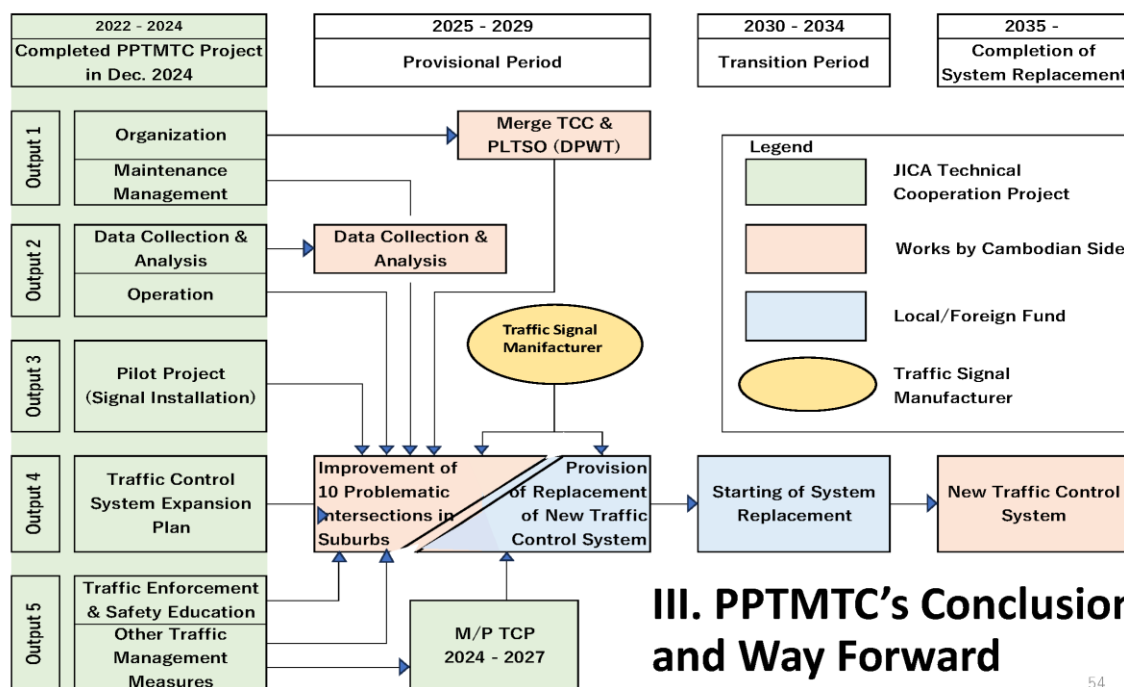
- Learning lessons from paratransit management in African countries, paratransit management scheme prepared with multiple stakeholders tasked among MPWT, PPCA, Khan, Informal workers association (IDEA) and RHS App operator(s).
- Draft scheme presented to MPWT, DPWT, IDEA and PassApp and fine-tuned.

3. Support to MPWT's Land Transport Law

- As part of drafting Parking Management Plan, concept of Parking Law prepared and presented to MPWT. Parking Law in Japan also shared with MPWT.
- A separate meeting with MPWT discussed draft Land Transport Law and recommendations made: Inclusion of (i) parking and para-transit management and (ii) overall institutional arrangement including establishment of Public Transport Authority and Public Administrative Enterprise and (iii) overall financial arrangement and subsidy policy, in the said law.

4. Revitalization of CBA

- CBA successfully improved ridership at 26,000 pax per day by May 2024 and reached to the similar number recorded before COVID-19.
- Multiple efforts made by CBA contributed to this increased ridership, including improved network and service, PR activities, fleet and driver management.
- CBA also generated significant revenue from non-passenger business including advertisement and bus wrapping.
- CBA continue to seek for other business opportunities following JICA's recommendation including shuttle services for company and school.



III. PPTMTC's Conclusion and Way Forward

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Project Design Matrix (1)

Project Design Matrix			
Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Achievement
Overall Goal Sustainable urban transport environment is formed through effective operation of the traffic control system.	1. Travel speed of the main road after the project increases by 8% (*1) compared to before the project. <i>Note: Target corridors are selected before the Pilot Project.</i>	1. Travel speed survey (Daily Average along 3 Major Corridors in the Phnom Penh Central Area)	Before Pilot Project: 13.3km/h. After Pilot Project: 13.2km/h. (decreased by 0.8%) (*4)
	2. Number of interviewees who answered "Better" for the comparison traffic conditions between 2023 and 2024. <i>Note: Interviewees are from the participants in the PPTMTC Seminar held on 08 August 2024.</i>	2. Questionnaire to PPTMTC Seminar participants of government agencies and citizens	69% of participants respond to the questionnaire said "Better".
Project Purpose Traffic management measures including traffic safety measures in Phnom Penh is improved through strengthening capacity of operation and maintenance of traffic control system.	1. Target Availability of the Traffic Control System (Key Performance Indicator: KPI) sets by 95% (*2). 2. Results of the traffic data analysis at major intersections are summarized in the monthly report. 3. Number of traffic violators decrease by 8% (*1). <i>Note: Target major intersections was determined before the Pilot Project.</i>	1. TCC Monthly/Annual report	Before PPTMTC Training: 83.24% After PPTMTC Training: 94.37% (Increased by 11.2%)
		2. Traffic Volume Monitoring Report in Evening Peak (17:30 - 18:00)	Summarized in Dashboard Data: CCTV Camera Video Image Analysis: DataFromSky
		3. Pilot Project Traffic Survey on the number of traffic offenders of Traffic Rules at Pilot Project Intersections	Before Pilot Project: 1,592 After Pilot Project: 1,256 unit: drivers/intersection/3 hours (Decreased by 21.1%) (*5)

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Project Design Matrix (2)

Project Design Matrix			
Outputs	Objectively Verifiable Indicators	Means of Verification	Achievement
Output 1: Maintenance management system of traffic control system is established.	1-1. A trouble list that occurred after the traffic control system started operation is developed.	1-1 Responses to Accidents to the Traffic Signal System (2018 - 2023)	Top 3 TCC activities 1. OFC related: 38% 2. Local Controller related: 19% 3. Lantern/Must-arm related: 12%
	1-2. Proposed maintenance system is approved by DPWT Director.	1-2 Maintenance Management Manual	Explain in the Maintenance Management Manual
	1-3. Developed manual by counterparts is approved by the DPWT Director.	1-3 Maintenance Management Manual	Completed
Output 2: Capacity of TCC staff on the operation of traffic control system is strengthened.	2-1. Through the training, TCC staff are able to analyze / design / repair problematic intersections by themselves.	2-1 TCC Monthly Report and Pilot Project Handbook	Perform TCC Staff's Activities through PPTMTC Training and Pilot Project
	2-2. Target score of the evaluation test for TCC staff (55 points) is achieved (*3). <i>Note: Target score was decided by experts and counterparts before Pilot Project.</i>	2-2 Evaluation test results of PPTMTC Training (before and after).	Before Training: 21.0 points After Training: 57.2 Points (Target Score is 55 points)
	2-3. TCC staff can repair quickly at cutting OFC by themselves	2-3 TCC Monthly Report	TCC staff can repair OFC problems using Pickup truck, Fusion splicer and OTDR.
Output 3: Capacity to design traffic signals is strengthened through the implementation of pilot projects for traffic signal improvement.	3-1. TCC staff can select the intersections which need revision of traffic control system design by using evaluation criteria developed by themselves.	3-1 Pilot project Work at Site and Pilot Project Handbook	Completed
	3-2. A pilot project is implemented and the queue length at the target major intersections are reduced by 8% (*1).	3-2 Intersection queue length survey results (Average Queue Length of each Inflow)	Before Pilot Project: 40m After Pilot Project: 34m (Decreased by 15.4%) (*6)
	3-3. The counterparts take the lead in compiling pilot project handbook, which explains the procedure from planning to project evaluation.	3-3 Pilot Project Handbook	Completed

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Project Design Matrix (3)

Output 4: Capacity of the relevant staff to traffic control in PPCA, DPWT and TCC staff to develop the expansion plan of traffic control system is strengthened.	4-1. Counterparts can analyze the base data for the development of traffic control system extension plan such as urbanization in Phnom Penh and traffic situation at intersections where traffic signals are needed. 4-2. Traffic control system expansion plan is approved by the DPWT Director.	4-1 Pilot Project Work and Traffic Control System Expansion Plan	Completed
		4-2 Approve by the DPWT Director by December 2024	Completed
Output 5: Capacity of urban transport related organizations on traffic management measures is strengthened towards enhancement of the project sustainability.	5-1. Implementation training on traffic control is carried out 2 times or more. 5-2. Traffic safety enforcement and a traffic safety education manual are developed and approved by the traffic police. 5-3. Workshops / seminars are held 2 times or more.	5-1 Training	Completed 1st Training: October 2022 from PPTMTC Experts and SUMIDEN Engineers 2nd Training: January 2024 from SUMIDEN Engineers
		5-2 Traffic Enforcement and Traffic Safety Education Manual	Completed
		5-3 Workshops/Seminars	Completed 1st Seminar: Hold in 8th August 2024 2nd Seminar: Joint Seminar with NR No. 5 Road Safety TCP Team hold in 03 December 2024

ANNEX12: Deed of Donation Documents

DEED OF DONATION
ON
TRAFFIC CONTROL SYSTEM RELATED TOOLS AND EQUIPMENT
BETWEEN
JICA PPTMTC EXPERT TEAM
AND
PHNOM PENH CAPITAL ADMINISTRATION/DEPARTMENT OF PUBLIC WORKS
AND TRANSPORT
FOR
THE PROJECT FOR CAPACITY DEVELOPMENT ON COMPREHENSIVE TRAFFIC
MANAGEMENT PLANNING AND TRAFFIC CONTROL CENTER OPERATION AND
MAINTENANCE IN PHNOM PENH CAPITAL CITY (PPTMTC)

In January 2022, the Japan International Cooperation Agency (hereinafter referred to as “JICA”) dispatched the JICA Expert Team for the implementation of the Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City (PPTMTC), in order to strengthen capabilities of operation and maintenance skills and knowledge of the traffic control system in Traffic Control Center (TCC). Following the Record of Discussion signed on 20th August 2021, JICA Expert Team procured the Traffic Control System related tools and equipment necessary for the implementation of the PPTMTC Project mainly in TCC of the Department of Public Works and Transport (DPWT).

The Deed of Donation is signed to handover these traffic control system related tools and equipment to the TCC of DPWT in Phnom Penh Capital Administration (hereinafter referred to as “the DPWT/PPCA”), and both DPWT/PPCA and JICA PPTMTC Expert Team confirmed and agreed with the items described in the attachment.

Phnom Penh, 08th January, 2025



Mr. SAM PISETH
Director, Department of Public Works
and Transport



Mr. MASATO KOTO
Chief Consultant,
JICA PPTMTC Project



Ms. YOSHIKO MIURA
Senior Representative,
JICA Cambodia Office



H.E. EK KHUNDOEURN
Vice Governor,
Phnom Penh Capital Administration

ATTACHMENT

1. The DPWT/PPCA agreed and accepted the components of Traffic Control System related tools and equipment procured under the JICA-PPTMTC necessary for the implementation of the Project. Both the DPWT/PPCA and JICA PPTMTC Expert Team jointly inspected these tools and equipment on 18th December 2024, when they were delivered and agreed to receive them.
2. The storages and installation of the tools and equipment procured under the JICA-PPTMTC are located in the TCC at 9th Floor of PPCH New Building and the Pilot Project sites in the Central Phnom Penh.
3. The operation and maintenance costs for the tools and equipment listed below are borne by the DPWT/PPCA and/or Cambodia side after the implementation of the JICA-PPTMTC, as agreed in the Record of Discussions on the Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City (PPTMTC), signed on 20th August, 2021 (see the Record of Discussion in the Attachment)
 - Replacement parts and other expenses necessary for the operation and maintenance of tools and equipment;
 - Operator for the operation and maintenance of the tools and equipment under JICA-PPTMTC; and
 - Insurance, repairing and inspection costs for tools and equipment when necessary.
4. Tools and equipment procured under the JICA-PPTMTC are utilized properly and effectively for a reasonable period of time and solely for the activities for the operation and maintenance works of the traffic control system.
5. The use of tools and equipment procured under the JICA-PPTMTC are fully controlled by the DPWT/PPCA.
6. The DPWT/PPCA shall keep monitoring sheet and submit to the JICA Cambodia Office when required after the implementation of project.

7. When the tools and equipment procured under the JICA-PPTMTC are unable to operate, the DPWT/PPCA shall consult with the JICA Cambodia Office before disposal and transfer of these tools and equipment.

Annex-1: List of Traffic Control System related Tools and Equipment

Annex-2: Record of Discussion

ANNEX-1: List of Traffic Control System related Tools and Equipment and their Storage

No.	Delivered	Name of equipment	Model	Price	Currency	No. Unit	Managed	Operating body/office	Procurement	Status/ Condition
1	Jan 2025	Multifunction Color Printer	Canon C3120 (Canon)	5,445	USD	1	PPCH/DPWT	TCC	By the Project	Working
2	Jan 2025	Type A /Signal Pole + 1 Arm	L=6.0m, Dia-216mm L=4.0m x 1, Dia-114mm	9,101	USD	12	PPCH/DPWT	TCC	By the Project	Working
3	Jan 2025	Type C /Signal Pole + 2 Arms	L=6.0m, Dia-216mm L=4.0m x 2, Dia-114mm	2,043	USD	2	PPCH/DPWT	TCC	By the Project	Working
4	Jan 2025	Type P /Pedestrian Signal Pole	L=3.0m, Dia-102mm	242	USD	2	PPCH/DPWT	TCC	By the Project	Working
5	Jan 2025	LEVEL5 Platform (Local Controller Main Board)	Local Controller Main Board (LEVEL5)	381,600	JPY	6	PPCH/DPWT	TCC	By the Project	Working
6	Jan 2025	Local Controller Large / J (AC230V 50Hz)	AC230V 50HZ	1,753,000	JPY	1	PPCH/DPWT	TCC	By the Project	Working
7	Jan 2025	Local Controller Standard / R (AC230V 50Hz)	AC230V 50HZ	1,490,000	JPY	2	PPCH/DPWT	TCC	By the Project	Working
8	Jan 2025	Cabinet		300,000	JPY	3	PPCH/DPWT	TCC	By the Project	Working
9	Jan 2025	Vehicle lantern 3 arrows		2,1060	USD	18	PPCH/DPWT	TCC	By the Project	Working

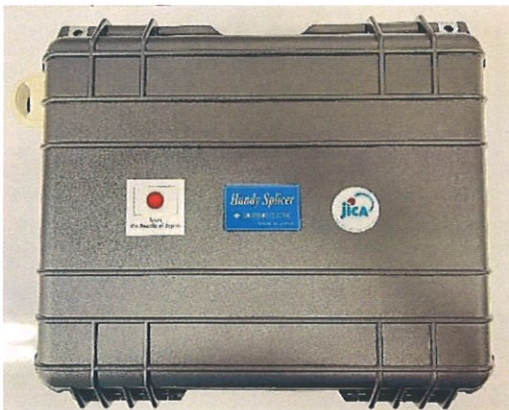
10	Jan 2025	Vehicle lantern 3 balls		31,200	USD	24	PPCH/DPWT	TCC	By the Project	Working
11	Jan 2025	Pedestrian Lantern		27,600	USD	24	PPCH/DPWT	TCC	By the Project	Working
12	Jan 2025	Fusion Splicer	TYPE-201+VS-D SKN (Sumitomo Electric Industries Ltd.)	1,047,200	JPY	1 unit	PPCH/DPWT	TCC	By the Project	Working
13	Jan 2025	OTDR (Optical Time-Domain Reflectometer)	AQ7280-HJ (Yokogawa Electric Corporation)	1,250,480	JPY	1 unit	PPCH/DPWT	TCC	By the Project	Working
14	Jan 2025	Small Truck (Vehicle)	TCM4004 (Hi-Lander) (ISUZU)	5,001,282	JPY	1 car	PPCH/DPWT	TCC	By the Project	Working

Photo of Tools and Equipment

- 1) Small Truck (Vehicle) TCM4004 (Hi-Lander)



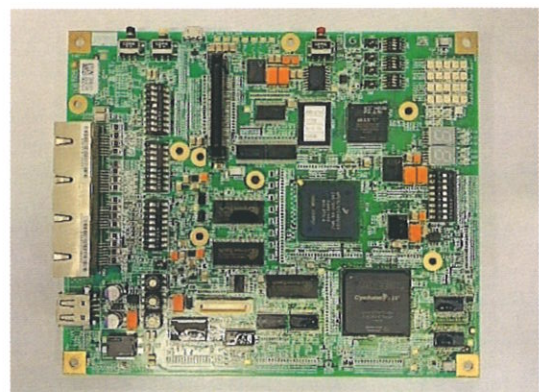
- 2) Fusion Splicer (TYPE-201+VS-D-SKN)



- 3) ODTR (Optical Time-Domain Reflectometer) AQ7280-HJ



4) Traffic Signal Components Set



LEVEL5 Platform (Local Controller Main Bord)

RECORD OF DISCUSSIONS

FOR

**PROJECT FOR CAPACITY DEVELOPMENT ON
COMPREHENSIVE TRAFFIC MANAGEMENT PLANNING AND
TRAFFIC CONTROL CENTER OPERATION AND MAINTENANCE
IN PHNOM PENH CAPITAL CITY**

IN

THE KINGDOM OF CAMBODIA

AGREED UPON BETWEEN

PHNOM PENH CAPITAL ADMINISTRATION

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

Dated August 20 2021

ts

Based on the minutes of meetings on the Detailed Planning Survey for "The Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City" (hereinafter referred to as "the Project") signed on June 28, 2021 between Phnom Penh Capital Administration and Department of Public Works and Transport of Phnom Penh, Traffic Control Center and Phnom Penh Traffic Police (hereinafter referred to as "the Counterpart") and the Japan International Cooperation Agency (hereinafter referred to as "JICA"), JICA held a series of discussion with the Counterpart and relevant organizations to develop a detailed plan of the Project.

The purpose of this record of discussions (hereinafter referred to as "the R/D") is to establish a mutual agreement for its implementation by both parties and to agree on the detailed plan of the Project as described in the followings and the Annexes, which will be implemented within the framework of the Agreement on Technical Cooperation signed on June 17, 2003 (hereinafter referred to as "the Agreement") and the Note Verbales exchanged on June 14, 2021 between the Government of Japan and the Royal Government of Cambodia.

The Counterpart will be responsible for the implementation of the Project in cooperation with JICA, coordinate with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the Implementation period in order to contribute toward social and economic development of the Kingdom of Cambodia.

Both parties also agreed that the Project will be implemented in accordance with the "Basic Principles for Technical Cooperation" published in December 2016 (hereinafter referred to as "the BP"), unless other arrangements are agreed in the R/D.

The R/D is delivered at Phnom Penh as of the day and year first above written. The R/D may be amended by a minutes of meeting between both parties, except the plan of operation to be modified in monitoring sheets. The minutes of meetings will be signed by authorized persons of each side who may be different from the signers of the R/D.

For

Japan International
Cooperation Agency


Ms. Kamei Haruko
Chief Representative
JICA Cambodia Office



For

Phnom Penh Capital City


M.E. Mr. Khuong Sreng
Governor
Phnom Penh Capital City
Kingdom of Cambodia



- Annex 1 Main Points Discussed
- Annex 2 Project Design Matrix (PDM)
- Annex 3 Plan of Operation (PO)
- Annex 4 Implementation Structure
- Annex 5 List of Proposed Members of Joint Coordination Committee

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Annex 1

MAIN POINTS DISCUSSED

1. Technical Cooperation

Both sides confirmed that the operation of the Project is not consultancy service but co-working process between the Cambodian counterparts and JICA experts to be dispatched under the Project agreed upon.

2. Framework of the Project

Both sides, in principle, have agreed on the framework of the Project that is given in the Record of Discussions (hereinafter referred to as "R/D"). The Project Design Matrix (hereinafter referred to as "PDM") and Plan of Operation (hereinafter referred to as "PO") attached to R/D as the Annex 2 and Annex 3 respectively shall be used as a monitoring and management tool of the Project. The PDM and PO will be reviewed and revised flexibly whenever the necessity arises.

3. Title of the Project

When the Project was requested, the title of the Project was "Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center in Phnom Penh Capital City" but both sides have agreed to change it to "Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City" with consideration of the Project's content. The exchange of the Note Verbale regarding the change of the title of the Project is currently underway, and the title of the Project will be officially confirmed to be changed as soon as the Note Verbale is exchanged.

4. Duration of the Project

Both sides have agreed that the duration of the Project is 36 (thirty six) months from the date of the commencement of activities based on the framework of the Project.

5. Implementation Structure

Both sides have agreed that the project organization chart is given in Annex 4.

(1) Joint Coordinating Committee (JCC)

Joint Coordinating Committee (hereinafter referred to as "JCC") will be established in order to facilitate inter-organizational coordination. JCC will be chaired by the Project Director and the proposed members of the JCC are described in Annex 5 of the R/D. The first JCC will be convened within six months of the commencement of the Project to approve the first version of the PDM and PO. JCC will be held at least once a year and whenever necessity arises.

(2) Working Group

For effective and successful implementation of the Project, there shall be



regular and periodical meetings to formulate and review the work plan of the Project and exchange opinions on major issues. For this purpose, a Working Group (hereinafter referred to as "WG") composing at least one (1) senior officer from concerned agencies, i.e., PPCA, DPWT, Traffic Control Center, or Phnom Penh Traffic Police will be set up to jointly work as counterparts to the JICA experts. WG will invite relevant officials in charge from respective organizations regarding major agenda.

6. Counterpart Personnel

Both sides have agreed that the necessary counterpart described in the PDM of the R/D shall be assigned by the respective organizations as below:

- (1) Project Director: Vice Governor of PPCA
- (2) Project Manager: Director of DPWT
- (3) Deputy Project Manager: Deputy Head of Public Relations and International Cooperation Division, PPCA
- (4) Counterpart personnel: Members of the Project team from Cambodian side.

7. Undertakings of both sides

Cambodian side agreed to provide the following inputs:

- (1) Office space in the building of PPCA for the JICA experts with office furniture and utilities such as internet connection, electricity, water, sewage, air conditioner and so on before commencement of the Project,
- (2) Permission of access to the Project sites for JICA experts,
- (3) Identification cards from PPCA for JICA experts if necessary,
- (4) Facilitation of visa issuance and extension for JICA experts if necessary,
- (5) Necessary data and information for the Project, and
- (6) Budget allocation for personnel, operation and activities for implementation of the Project, including pilot project personnel costs, local traveling costs and daily subsistence allowance for counterpart personnel, and recurrent cost.

Japanese side agreed to provide the following inputs:

- (1) JICA experts,
- (2) Training for Cambodian trainees in Japan,
- (3) Necessary equipment for the Project, and
- (3) Expenses related to JICA experts' activities.

8. Activities to be conducted as a pilot project

Both sides confirmed that pilot project is expected under the Output 3 of pilot project mainly for traffic signal improvement. Both sides also confirmed that sites, contents and cost-sharing between Cambodian side and JICA of the pilot projects will be determined after the initiation of the Project.

9. Environmental and Social Considerations

With regard to the Section 10.1 of the "Basic Principles for Technical Cooperation" published in December 2016 (hereinafter referred to as "the BP"), the Project is likely to have minimal adverse impact on the environment and society under the 'JICA Guidelines for Environmental and Social Considerations (April 2010)'.

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10. Promotion of Public Relations

For the purpose of expanding the outcomes of the Project, the Cambodian side will take appropriate measures to make the Project widely known to the people of Cambodia.

11. Monitoring and Evaluation

In principle, JICA will conduct the ex-post evaluation three (3) years after the Project completion in principle to verify target indicators of overall goal. The Cambodian side is required to provide necessary support such as provision of data/records and consultation meetings with the officials from the Cambodian side for the ex-post evaluation.



Project Design Matrix

Project Title: Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City Version 01

Implementing Agency: Phnom Penh City Hall, Department of Public Works and Transport in Phnom Penh Capital City, Traffic Control Center (TCC) and Phnom Penh Traffic Police Dated August 20 2021

Period of Project: ***, 2025

Project Site: The whole area of the Phnom Penh Capital City (678.46km²)

Narrative Summary	Means of Verification	Important Assumption	Achievement	Remarks
Overall Goal Sustainable urban transport environment is formed.	1. Travel speed of the main road after the project increases by XX% compared to before the project. Note: Target sites are selected by the end of the Project. 2. Number of interviewees who understand traffic rules/regulations increases. Note: Interviewees are selected from the participants in the Final Seminar of the Project.	1. Travel speed survey 2-1. TCC monthly/Annual report 2-2. Interviews with government agencies and citizens.		
Project Purpose Traffic management measures including traffic safety measures in Phnom Penh is improved.	1. Accident repair time of traffic control system is reduced by XX% compared to when the project starts. 2. Results of the traffic data analysis at major intersections are summarized in the monthly report. 3. Number of traffic violators decrease by XX%. * Target major intersections are determined within 3 months after the project starts.	1. TCC Monthly/Annual report 2. TCC Monthly/Annual report 3. Survey on the number of traffic offenders	The traffic management policy of the Cambodian government does not change.	
Outputs Output 1: Maintenance management system of traffic control system is established.	1-1. A trouble list that occurred after the traffic control system started operation is developed. 1-2. Proposed maintenance system is approved by DPWT Director. 1-3. Developed manual by counterparts is approved by the DPWT Director.	1-1 Project report 1-2 Project report 1-3 Project report		
Output 2: Capacity of TCC staff on the operation of traffic control system is strengthened.	2-1. Through the training, TCC staff are able to analyze / design / repair problematic intersections by themselves. 2-2. Target score of the evaluation test for TCC staff is achieved. Note: Target score will be decided by experts and counterparts within 6 months after starting the Project. 2-3. TCC staff can repair quickly at cutting OFC by themselves	2-1 Project report 2-2 Evaluation test results (before and after). 2-3 Project report		
Output 3: Capacity to design traffic signals is strengthened through the implementation of pilot projects for traffic signal improvement.	3-1. TCC staff can select the intersections which need revision of traffic control system design by using evaluation criteria developed by themselves. 3-2. A pilot project is implemented and the queue length at the target major intersections are reduced by XX%. 3-3. The counterparts take the lead in compiling pilot project handbook, which explains the procedure from planning to project evaluation.	3-1 Project report 3-2 Intersection queue length survey results 3-3 Project report		
Output 4: Capacity of the relevant staff to traffic control in PPCA, DPWT and TCC staff to develop the expansion plan of traffic control system is strengthened.	4-1. Counterparts can analyze the base data for the development of traffic control system extension plan such as urbanization in Phnom Penh and traffic situation at intersections where traffic signals are needed. 4-2. Traffic control system expansion plan is approved by the DPWT	4-1 Project report 4-2 Project report		
Output 5: Capacity of urban transport related organizations on traffic management measures is strengthened towards enhancement of the project sustainability.	5-1. Implementation training on traffic control is carried out XX times or more. 5-2. Traffic safety enforcement and a traffic safety education manual are developed and approved by the traffic police. 5-3. Workshops / seminars are held XX times or more.	5-1 Project report 5-2 Project report 5-3 Project report		

Activities	Inputs		Important Assumption
	The Japanese Side	The Cambodia Side	
1-1 To review the current organization and management system of TCC.	Japanese side: 1. Dispatch of Japanese experts: 1) Traffic Management Policy Expert 2) Traffic Control System Planning Expert	Cambodia side: 1) Office space for JICA Experts with air conditioning and telephone line 2) Following DPWT staff are the counterpart personnel (1) Project Director: Vice Governor, PPCA (2) Project Manager: Director, DPWT (3) Deputy Project Manager: PPCA Deputy Head of Public Relations and International Cooperation Division (4) C/P Chief: Deputy Director, DPWT (5) C/P Staff: Adviser, DPWT (6) C/P Staff: TCC Deputy Chief (7) C/P Staff: DPWT Engineer, Public Lighting Division (8) C/P Staff: DPWT Engineer, TCC Assistant Engineer (9) C/P Staff: PPCA Engineer (10) C/P Staff: PPCA Engineer (11) C/P Staff: PPCA Engineer (12) C/P Staff: TCC Engineer (13) C/P Staff: TCC Engineer (14) C/P Staff: TCC Engineer (15) C/P Staff: Traffic Police Officer	Turnover and change of counterparts are not frequently happened.
1-2 To identify operational and maintenance issues that have occurred since the traffic control system operation started and to develop improvement measures.	3) Traffic Management Planning Expert 4) Traffic Signal Design and Operation Expert 5) Traffic Signal Maintenance Expert 6) Road and Public Transport Planning Expert 7) Communication System Expert 8) Road Design/ Pilot Project Construction Supervision Expert 9) Traffic Survey and Analysis Expert 10) Traffic Enforcement and Traffic Safety Expert 11) Capacity building and training Expert(1) 12) Traffic Control System Software Expert 13) Traffic Control System Hardware Expert		
1-3 To review the system operations manuals, maintenance manuals and other manuals and to assess their suitability to the circumstances in Phnom Penh.	14) Capacity building and training Expert(2)/Seminar / Project Coordination		
1-4 To investigate the existing maintenance management organizations and to propose proper maintenance management system including the possibility of outsourcing.	2. Training Implementation of technical training in Cambodia Implementation of training in Japan		
2-1 To study additional equipment and software which will be required to extract necessary data from TCC for image analysis, travel speed measurement, etc.	3. Materials and equipment Procurement of materials and equipment for technical training		
2-2 To conduct trainings to TCC staff members to acquire necessary engineering knowledge related to traffic management	4. Pilot Project Expenses for implementing the pilot project		
2-3 To conduct trainings on the mechanism of the traffic control system, operation, modification and upgrade procedures	5. Workshop / Seminar Implementation costs for seminars, etc. to disseminate project results		
2-4 To conduct trainings on general maintenance and management work, including the repair of optical fiber cables	6. Printing Handbook / Manual Printing Expenses		
2-5 To collect data and information at target intersections and road sections where traffic congestions and accidents have occurred frequently, using data and information from TCC, and analyze the issues.	NOTE: Outputs (Provided by Experts and C / P) 1. Maintenance manual for ATC system. 2. TCC operation/management manual. 3. Pilot project handbook. 4. ATC system expansion plan. 5. Traffic safety enforcement handbook and traffic safety education handbook.	NOTE: Outputs (Provided by C / P) 1. TCC monthly/Annual report.	
3-1 To identify traffic signals that need phasing and/or timing plan modification due to the change of traffic demand pattern			Pre-Conditions
3-2 To collect and analyze traffic data related to target intersections			N/A
3-3 To modify the design of traffic management system including the use of traffic signal design software			
3-4 To consider and procure necessary tools and/or equipment for traffic signal improvement			
3-5 To evaluate the impact of traffic signal design modification			
3-6 To summarize the procedure from planning to evaluation of implementation for traffic signal improvement in a handbook			
4-1 To examine the area of the traffic control system expansion, considering the urbanization trend of Phnom Penh, the traffic conditions at major intersections and characteristics of the traffic control system			
4-2 To develop the expansion plan of the traffic control system			
5-1 To consider and identify tools and/or equipment for the conduct of traffic enforcement measures to support the traffic management system in Phnom Penh			
5-2 To review the current traffic enforcement measures and issues, and to conduct the on-the-job training for the traffic enforcement			
5-3 To develop the traffic enforcement and driver's education handbook			
5-4 To disseminate the Project's outputs/activities to the public through the mass media and workshop/seminar			<Issues and countermeasures>

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Tentative Plan of Operation

Version 01
Dated August 20 2021

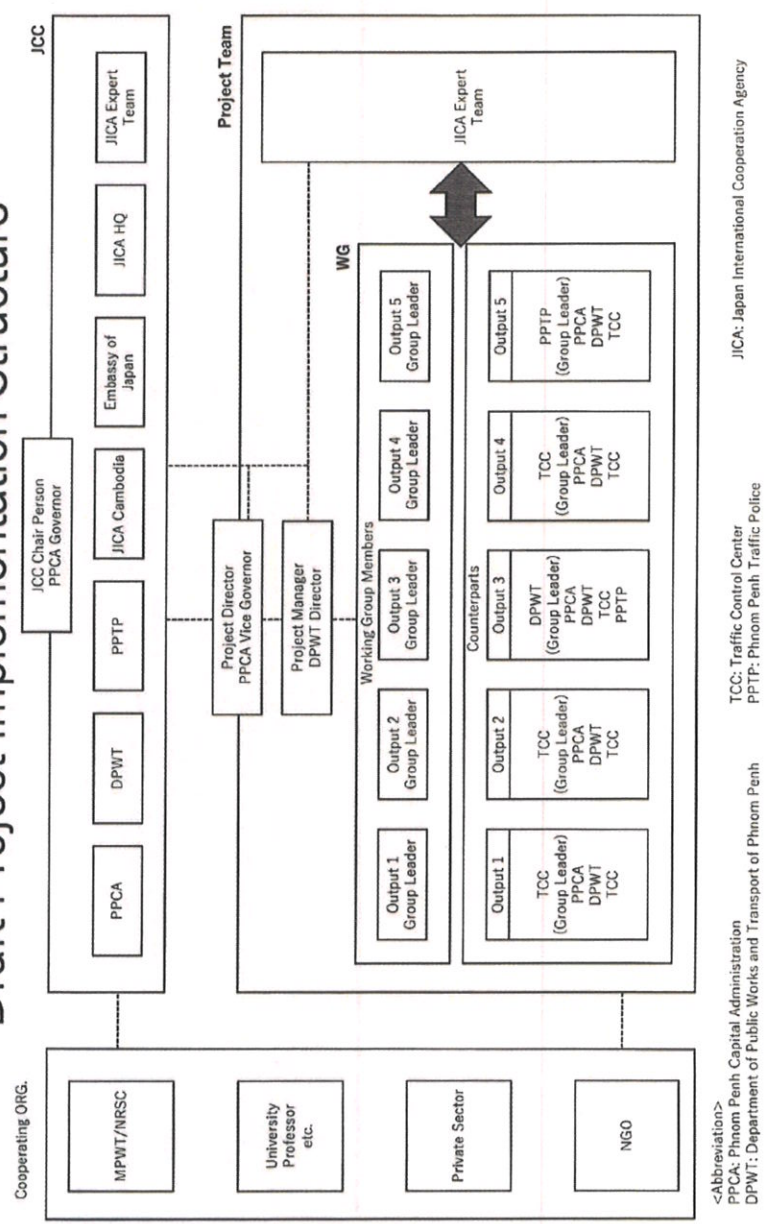
Annex 3

Project Title: Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City																																					
Inputs																																					
Expert																																					
Equipment																																					
Training in Japan																																					
In-country/Third country Training																																					
Activities																																					
Sub-Activities																																					
Output 1: Maintenance management system of traffic control system is established.																																					
1-1 To review the current organization and management system of TCC.	Plan																																				
1-2 To identify operational and maintenance issues that have occurred since the traffic.	Plan																																				
1-3 To review the system operation manuals, maintenance manuals and other materials and to assess their suitability to the circumstances in Phnom Penh.	Plan																																				
1-4 To investigate the existing maintenance management organizations and to propose proper maintenance management system including the possibility of outsourcing.	Plan																																				
Output 2: Capacity of TCC staff on the operation of traffic control system is strengthened.																																					
2-1 To study additional equipment and software which will be required to extract necessary data from TCC for image analysis, travel speed measurement, etc.	Plan																																				
2-2 To conduct trainings to TCC staff members to acquire necessary engineering knowledge related to traffic management.	Plan																																				
2-3 To conduct trainings on the maintenance of the traffic control system, operation, modification and update procedures.	Plan																																				
2-4 To conduct training on general maintenance and management work, including the repair of optical fiber cables.	Plan																																				
2-5 To collect data and information at target sections and road sections where traffic congestions and accidents have occurred frequently, using data and information from TCC, and analyze the issues.	Plan																																				
Output 3: Capacity to deal in traffic signals is strengthened through the implementation of pilot projects for traffic signal improvement.																																					
3-1 To study traffic lights and the road planning and/or living plan modification due to the change of traffic demand pattern.	Plan																																				
3-2 To collect and analyze traffic data related to target intersections.	Plan																																				
3-3 To modify the design of traffic management system including the use of traffic signal design software.	Plan																																				
3-4 To consider and procure necessary tools and/or equipment for traffic signal design modification.	Plan																																				
3-5 To evaluate the impact of traffic signal design modification.	Plan																																				
3-6 To summarize the procedure from planning to evaluation of implementation for traffic signal improvement in a handbook.	Plan																																				
Output 4: Capacity of the relevant staff in traffic control in PHCA, DPWT and TCC staff to develop the expansion plan of traffic control system is strengthened.																																					
4-1 To examine the size of the traffic control system expansion, considering the urbanization trend of Phnom Penh, the traffic conditions at major intersections and characteristics of the traffic control system.	Plan																																				
4-2 To develop the expansion plan of the traffic control system.	Plan																																				
Output 5: Capacity of urban transport related organizations on traffic management measures is strengthened towards enhancement of the project sustainability.																																					
5-1 To consider and identify tools and/or equipment for the conduct of traffic enforcement measures to support the traffic management system in Phnom Penh.	Plan																																				
5-2 To review the current traffic enforcement measures and issues, and to conduct the on-the-job training for the traffic enforcement.	Plan																																				
5-3 To develop the traffic enforcement and driver's education handbook.	Plan																																				
5-4 To disseminate the Project outputs/activities to the public through the mass media and workshops/seminar.	Plan																																				
Duration / Phasing																																					
Monitoring Plan																																					
Joint Coordinating Committee	Plan																																				
Set-up the Detailed Plan of Operation	Plan																																				
Submission of Monitoring Sheet	Plan																																				
Monitoring Mission from Japan	Plan																																				
Joint Monitoring	Plan																																				
Post Monitoring	Plan																																				
Reports/Documents																																					
Project Completion Report	Plan																																				
Public Relations																																					
	Plan																																				
	Plan																																				
	Plan																																				

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Annex 4

Draft Project Implementation Structure



Annex 5

List of Proposed Members of Joint Coordinating Committee
for
Project for Capacity Development on Comprehensive Traffic Management
Planning and Traffic Control Center Operation and Maintenance
in Phnom Penh Capital City

Composition

- (1) Project Team
 - 1) Project Director: Vice Governor of Phnom Penh Capital City (hereinafter referred to as "PPCA")
 - 2) Project Manager: Director of Department of Public Works and Transport of Phnom Penh (hereinafter referred to as "DPWT")
 - 3) Deputy Project Manager: Deputy Head of Public Relations and International Cooperation Division, PPCA
 - 4) Officials from PPCA
 - 5) Official from DPWT
 - 6) Official from Traffic Control Center
 - 7) Official from Phnom Penh Traffic Police
 - 8) JICA Experts
- (2) Other members from Japanese side:
 - 1) Chief Representative, representative and staff of JICA Cambodia Office
 - 2) Staff from JICA Headquarters, other domestic and foreign offices if necessary
 - 3) Staff from the Embassy of Japan
 - 4) Other persons that Japanese side might consider necessary
- (3) Others:

The JCC can invite any related persons to discuss specific issues if necessary.



ANNEX13: Letter of Appreciation

4th February, 2025 Letter of Appreciation from Phnom Penh Capital Hall



ANNEX14: News Letter



PPTMTC News Letter vol.1

(2022 Issue)



The Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City (PPTMTC)

Background and Purpose of the Project

Phnom Penh, the capital city of Cambodia, is the political and economic center of the country. Traffic volume continues to increase due to the country's remarkable economic growth, and traffic congestion is becoming increasingly serious. The Phnom Penh Capital Administration (PPCA) has been working on the installation of traffic signals, improving intersections, and construction of flyovers using its own budget. However, because the traffic signal related equipment and traffic control system were not unified, the signal parameters such as signal phasing and timing did not reflect the actual traffic volume and flow, causing serious traffic jam and traffic accidents.

To respond to such serious traffic conditions in Phnom Penh, Japan provided traffic signal controllers, vehicle and pedestrian signals, vehicle video detectors, CCTV cameras, etc. through Grant Aid in 2018, and replaced and newly installed them at 115 intersections in central Phnom Penh. Furthermore, the traffic control center (TCC) that collects real-time traffic information from vehicle video detectors via optical fiber cables and controls traffic signals was constructed.

After that, the “Project for Comprehensive Traffic Management Plan and Traffic Control Center Operation and Maintenance Capacity Improvement Project in Phnom Penh (2022 – 2025) (PPTMTC)” started from January 2022, aiming to strengthen the traffic management system in Phnom Penh by improving the traffic management capacity of TCC staff, and the operation and maintenance management capacity of traffic control systems. In addition to technology transfer to TCC staff and other related organizations, PPTMTC is planning to implement a pilot project to improve traffic signals and intersections at several locations in Phnom Penh. Together with the Phnom Penh Department of Public Works and Transport (DPWT) and TCC staff, we are working every day to make the traffic environment in Phnom Penh safer and more comfortable.

Five Outputs of the PPTMTC Project

[Output 1] Maintenance and management system for traffic control system is established.

[Output 2] The Capacity of operation for the traffic control system is strengthened.

[Output 3] A pilot project based on the 3Es (Engineering, Education and Enforcement) is implemented.

[Output 4] Safe and comfortable urban transport environment will be realized through the expansion of the traffic control system area.

[Output 5] Traffic safety education rooted in society and culture is implemented.



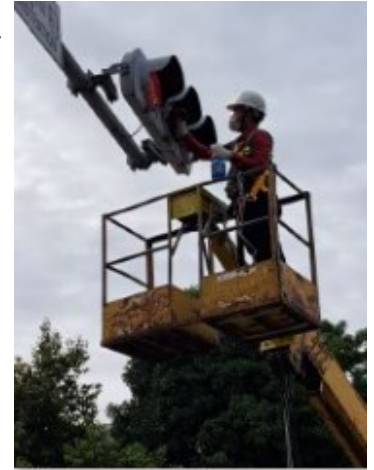
Activity Details (January to December 2022)

Learn Traffic Management Techniques

Responding to Changes in the Urban Transport Environment

[Output 1] Toward the establishment of a maintenance management system for the traffic control system

- TCC's organizational structure and management methods were reviewed together with the PPCH and DPWT.
- After the traffic control system started operation, TCC staff updated the list of defects and developed a 2023 budget plan that includes the necessary spare parts cost. Approval of the TCC budget plan was obtained from the PPCA and the Ministry of Economy and Finance (MEF).
- While inspecting the traffic control system through on-the-job training (OJT), JICA experts trained TCC members to understand the necessity of regular inspections, and also confirmed roadside equipment problems that occurred after the traffic control system started operation and developed a list of defective equipment.



[Output 2] Toward the strengthening capacity of operation in TCC staff

- In collaboration with a Japanese start-up IT company, TCC staff and JICA experts analyzed CCTV camera video images using AI and quantified traffic volume by vehicle type so that TCC staff can appropriately process traffic signals based on real-time traffic conditions.
- Based on the data collected by TCC, TCC staff and JICA experts analyzed the issues at intersections where traffic jams and accidents frequently occur, and developed a list of candidate intersections for pilot projects.
- One month of training (August 24, 2022 to September 23, 2022) for TCC staff conducted for the following 5 fields, namely, as 1) maintenance, 2) operation (practical), 3) traffic signal control, 4) communication system, 5) traffic management
- Among these, 1) Maintenance training: lectures were given on maintenance management examples of traffic signal systems in other countries, the concept of preventive maintenance and repair, checklists, etc., and then the practice of traffic signals and intersections at the site.
2) Operation (practical) training: lectures were given on basic procedures and how to arrange parameters to change signal timing according to actual traffic volume, intersection design, etc. Trainees learned on site by actual experience with parameter settings of a traffic control system.
3) Traffic signal control training: various lectures were given on how to control traffic lights based on traffic engineering, from the basic level to exercises, and the trainees actively asked questions and learned with enthusiasm.
4) Communication system training: lectures were given on how to introduce communication systems, the basics of network, and maintenance activities, and trainees listened intently.



5) Traffic management training: Trainees were divided into 2 groups and selected study area in central Phnom Penh. Then, trainees studied and discussed to come up with traffic improvement measures and develop an action plan to improve parking

[Output 3] Implementation of a project based on 3Es

- Among the candidate intersections to implement the pilot project, trainees analyzed the characteristics and issues of each intersections. After discussions with related organizations, TCC staff selected the target intersections from the perspective of strengthening the planning capacity of TCC staff.
- Also, TCC staff and JICA Experts proceeded with preparations for traffic surveys and equipment procurement while carefully examining the data and information required for the pilot project, such as the scope of the project, the schedule and analysis methods, etc.



[Output 4] Toward the realization of safe and comfortable urban transportation through expansion of the traffic control system area

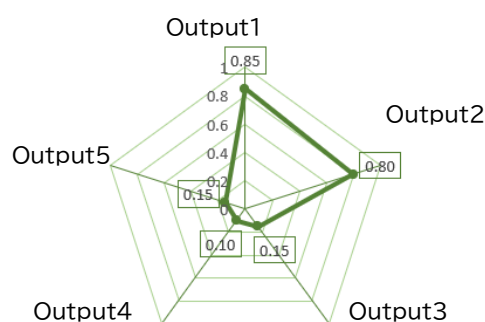
- TCC staff and JICA Experts conducted the data collection and field surveys to understand the latest conditions of the whole of Phnom Penh such as development projects and urbanization trends in Phnom Penh.
- Through interviews with relevant organizations, TCC staff and JICA experts collected information on the current status of development of major transport infrastructure in Phnom Penh.

[Output 5] Toward implementation of traffic safety education rooted in society and culture

- JICA Expert prepared the materials for training of traffic management measures in Output 2.
- JICA Expert also supported the Parking Prakas preparation by MPWT, introducing Japan's Parking Regulation as an example.

Achievement of results (January to December 2022)

2022



(Average value of each result simply aggregated by item from WBS)



PPTMTC News Letter vol.2

(2023 Issue)



The Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City (PPTMTC)

Activity Details (January to December 2023)

Intersection improvements have begun through a pilot project

[Output 1] Toward the establishment of a maintenance management system for the traffic control system

- Out of training items for TCC staff conducted as part of Output 2 in 2022, 1) maintenance, 2) operation, 4) communication systems, and 5) traffic management, TCC staff and JICA experts developed a format that can be used by TCC staff in the future when conducting daily maintenance management work. TCC staff also developed a new format for the Phnom Penh traffic control system's Key Performance Index (KPI) for the traffic signal system (in this case, using the availability rate of traffic signal operation) and spare parts inventory system. This is expected to understand the causes and frequency of traffic accidents, as well as budget for the necessary spare parts and speed up maintenance management.
- Continuing from 2022, TCC staff continue to check at the site for equipment problems that occurred after the traffic control system operation started and update the list of defective equipment.

[Output 2] Toward the strengthening capacity of operation in TCC staff

- In order to collect data to analyze traffic in Phnom Penh City, where various types of vehicles come and go, we will continue to demonstrate the accuracy of automobile detectors in 2022 while performing AI analysis of CCTV camera images.
- In addition, since the speed of development of AI that analyzes images is extremely impressive, in 2023 we also verified the accuracy of a new automatic vehicle sensing service that is considered to be more effective.



[Output 3] Implementation of a pilot project based on 3Es

- Based on the characteristics and problems of each intersection selected in 2022, the TCC staff and JICA expert team developed a list of target intersections to implement the pilot project. It was approved by the 3rd JCC Meeting, held in February 2023, after discussions with related organizations, including PPCA, DPWT and Phnom Penh Traffic Police (PPTP). In response to this, after considering the data collection and analysis necessary for the revised design and evaluation of the target intersection of the pilot project, JICA experts and TCC staff selected a traffic survey contractor through designated competitive bidding. The survey was conducted from March to April 2023.
- Signal parameters were calculated based on the results of a traffic survey at six intersections (#165, #166, #167, #28, #126 and #25) selected for the pilot project. TCC staff and JICA experts also discussed the design of traffic lanterns and road markings while conferring with DPWT engineers and traffic police officers.
- In Japan Grant Aid, Japanese-made equipment such as local controllers and signal lanterns was provided, but PPTMTC aimed to procure equipment suitable for Phnom Penh's current situation quickly and cheaply from neighboring countries so that Cambodia would be able to procure the equipment by themselves when planning and installing new signalized intersections in the future.
- As a result, we procured signal poles from Vietnam, signal lanterns from Thailand, and local controllers from Japan. PPTMTC also dispatched a limited number of engineers from Japan for signal installation work and communication work, and also provided software services. Most of the signal installation work were ordered from Cambodian companies, except that procured from Japan. Some details of the signal installation work and wireless connection work are provided below:

<Signal Installation Work>

- September 24, 2023 : Signed a contract with Norak for signal installation work (including procurement of signal poles and lamps). The construction period is from October 2023 to the end of February 2024 (control equipment will be installed at the end of January 2024).
- October 2, 2023 : The Ministry of Electricity of Cambodia (EDC) held a briefing session for the Phnom Penh Water Supply Authority (PPWSA).
- October 17, 2023 : Construction begins with wiring and foundation work.
- End of December 2023: Approximately 55% completed

<Wireless Communication Construction>

- Sumiden is in charge of overall coordination and management as well as setting information on intersections (#201 to #206) to TCC. Forval is responsible for radio communication and roadside equipment procurement and installation.
- Roadside equipment will be installed by the end of December 2023.



[Output 4] Toward the realization of safe and comfortable urban transportation through expansion of the traffic control system area

- Confirmed and analyzed the conditions for the expansion plan for the traffic control system. First, regarding the selection of target intersections, TCC staff and JICA experts conducted a data collection and review and field survey to obtain an understanding of Phnom Penh's urbanization trends and the current road network and traffic conditions. Next, TCC staff and JICA experts held discussions with relevant organizations and gathered information on the current development of major transportation infrastructure in Phnom Penh.
- TCC staff and JICA experts conducted a survey of signalized intersections in the suburban area of Phnom Penh and confirmed in September 2023 that stand-alone signals were installed at about approximately 60 locations by DPWT. In the future, DPWT has a plan to develop about 30 more intersections, and the expansion plans under consideration in November 2023 are as follows:

< Central Phnom Penh (5 Khans) >

118 intersections

(including 3 pilot project locations, maintenance management and operation being carried out by TCC)

< Suburban Area (9 Khans) >

About approximately 60 intersections and about 30 planned locations

(maintenance and operation are being carried out by the DPWT Public Lighting Division)

< New proposed locations to the suburban area >

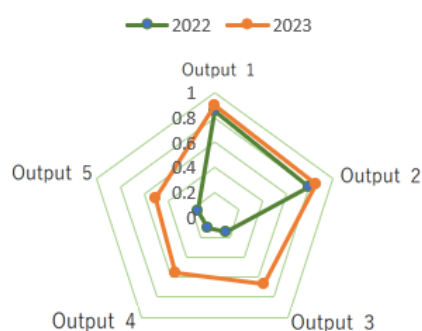
30-40 intersections, 120-130 locations in total (proposed by the PPTMTC project)

- The expansion plan will be finalized through discussions with related organizations such as DPWT, PPTP and Khans regarding the signal control system to be introduced and the locations of target intersections.

[Output 5] Toward implementation of traffic safety education rooted in society and culture

- TCC staff and JICA experts exchanged opinions and gathered information through repeated meetings with relevant organizations such as the Ministry of Public Works and Transport (MPWT), DPWT, PPTP, and universities to address urban traffic management issues facing Phnom Penh, particularly parking countermeasures and revitalization of public transportation.
- After setting signal control parameters and improvement of intersection geometric design, etc. (Engineering) through the pilot project, in 2024, the PPTMTC Team will implement traffic safety measures that incorporate a traffic safety campaign for road users (Education) and traffic enforcement (Enforcement). The Team will also develop a campaign (3Es) and verify the effectiveness of the pilot project using traffic survey results of pre- and post-pilot project. In addition to inviting a former traffic police officer, who worked as the head of the Traffic Enforcement Division of the Tokyo Metropolitan Police Department in Japan, as a lecturer on traffic enforcement, a traffic safety campaign is also planned for March 2024. TCC staff and JICA experts will actively disseminate information in cooperation with PPCA and the JICA Cambodia Office.

Achievement of results (January to December 2023)



(Average value of each result simply aggregated by item from WBS)



PPTMTC News Letter vol.3

(2024 First Quarter Issue)



The Project for Capacity Development on Comprehensive Traffic Management Planning and Traffic Control Center Operation and Maintenance in Phnom Penh Capital City (PPTMTC)

Activity Details (from January 2024 to March 2024)

Learn about urban transport in Japan through training in Japan

Visited Japan in Two Groups

13 officials from the Phnom Penh Traffic Control Center (TCC), the Phnom Penh Capital City (PPCC), and the Department of Public Works and Transport (DPWT) came to Japan to participate in PPTMTC's training program in February 2024. The training was designed to various aspects of Japanese knowledge, including the traffic control system, the history and characteristics of urban transport systems, and state-of-the-art ITS technology, as well as to improve their skills in optical cable connection technology. Through this learning, the program was planned to improve the operational capacity of TCC staff and to make the best use of it in planning the urban transport system in Phnom Penh.

Nevertheless, the TCC, which plays an important role in monitoring and controlling traffic flow of traffic in Phnom Penh, could not be left empty of personnel. Therefore, the PPTMTC decided to divide the 13 staff members into two groups, stagger their visits to Japan, and conduct training sessions of approximately the same content for two weeks each. It was the coldest season of the year in Japan, with occasional snow flurries, yet all participants seemed eager to start the day with a twinkle in their eyes. Here is a brief introduction of the contents.

"See" traffic management in Japan : Observation

To "see" Japan's knowledge of traffic management, the group visited facilities at the forefront of urban transport systems and redevelopment projects.

In Tokyo, the group visited the Tokyo Metropolitan Police Department's Traffic Control Center, which collects and analyzes traffic information in Tokyo and provides it to residents in Tokyo in real-time. Trainees watched monitors larger than those of TCC in Phnom Penh with great interest while road conditions in multiple locations were displayed and changed from moment to moment.

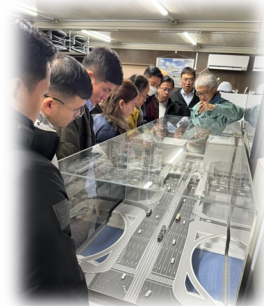
They also visited the "Dai-Maru-Yu Area" around Tokyo Station, which is a business/commercial area with more than 4,000 companies and 280,000 workers, ranging from the headquarters of listed companies to venture companies or start-ups. They observed how redevelopment projects and parking measures are being promoted there in cooperation with the public and private sectors.



Visited Traffic Control Center of
Tokyo Metropolitan Police Department

They also visited Hiroshima City, where several private railways including JR, buses, LRT (Light Rail Transit), and AGT (Automated Guideway Transit) are in operation. It is said that among the city's population of 1.2 million, approximately 600,000 people use the public transport system daily.

The group visited the ongoing redevelopment of the south station plaza in conjunction with the direct connection of LRT to the 2nd level of JR Hiroshima Station to smooth transfer between 2 public transport systems, as well as the bus center on the third floor of a department store.



visited Hiroshima City, where approximately 600,000 people use public transport system daily

"Listen" to the Japanese experience : Receive the lecture

On the other hand, the group also had the opportunity to "listen" (i.e., receive lectures) to the various experts on Japan's experience in traffic management. For example, an official from the Institute for Traffic Accident Analysis and Research (ITARADA), which collects and manages information on traffic accidents in Japan, talked about how to read traffic accident analysis tables, and cooperation with overseas research institutions. The group also learned about Japan's experience in pursuing a better traffic environment based on the analysis of accidents.

They also received a lecture on the current status of Intelligent Transport Systems (ITS) in Japan and how to conduct traffic studies using ITS technology.

"Practice" its application to traffic management in Phnom Penh : Exercise

During this training period, the group also visited Sumitomo Electric Industries and took a training course on optical fiber connection technology. The purpose of this training was to enable the TCC staff to repair the fiber-optic lines (OFC) that connect the TCC to the signals installed at the intersections in Phnom Penh in the event of an emergency, as these lines are frequently disconnected due to fires, accidents, or constructions in Phnom Penh.

At the end of the training, each participant gave a presentation on how they would apply what they had learned in Japan to improve Phnom Penh's urban transport system.



Training course of optical fiber connection technology at Sumitomo Electric Industries

Implemented 3Es (Engineering, Enforcement and Education)

in a pilot project

PPTMTC selected several intersections in Phnom Penh where traffic congestion and changes in the traffic environment are significant, and implemented a pilot project from the end of 2023 to March 2024. Specifically, the project implemented by 3Es, involved the installation of traffic signals and other intersection improvements (Engineering), followed by traffic safety education for drivers and pedestrians (Education) and traffic enforcement (Enforcement).

Here is a brief introduction:

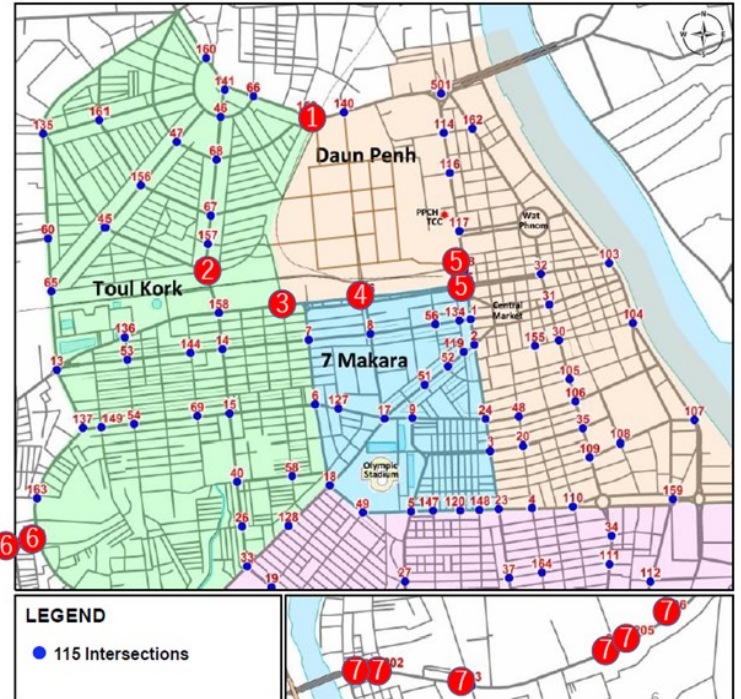
Installation and improvement of traffic signals (Engineering)

Among the 3Es, TCC staff and JICA experts worked in the signal installation, local controller and signal lantern, etc., including intersection improvement at six (6) intersections shown in the figure on the right.

For example, at the R3 intersection (St. 70/Old railroad track), a T intersection without a signal was improved to a 4-leg intersection by installing a signal.

The roundabout (St. 289/St. 608/St. 592) in Moul Tuol Couk was developed to make traffic flow safe and smoothly by placing traffic signs and zebra markings and making the large intersection area compact.

A new traffic signal was also installed at the 2004 intersection (St. 371/St. 2004) and road markings were improved to ease congestion. There was a signal parameter improvement for coordination of the 2004 and Nokia (#59) to reduce congestion queue length between the two intersections.



In addition, a wireless connection was implemented at six intersections along National Road No.1 (7 in the above Map) that were not previously connected to the TCC. As a result, all 118 signalized intersections in central Phnom Penh are now linked to the TCC.



Installation and improvement of traffic signals through Piot Project

Traffic Safety Education and Traffic Enforcement

At the intersection where the signal installation and intersection improvement (Engineering) were completed, Traffic Safety Campaign with 3Es including Traffic Safety Education and Traffic Enforcement was conducted.

In Traffic Safety Education, with the cooperation of the student volunteers of the Cambodian Red Cross, the activities called for adherence to traffic signals and driving manners; campaign banners were used and flyers were distributed, reminding people how to follow the traffic rules for a safe and comfortable traffic environment

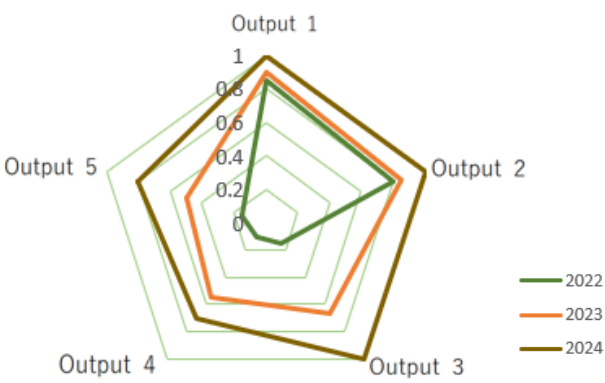
Concerning Traffic Enforcement, for example, at and around the intersection of Be Ka Se (Preah Monivong Blvd./Russian Blvd.), the traffic measure worked out is as follows: When the traffic lantern was green and there was congestion ahead, the traffic signal parameter was adjusted to prevent vehicles from entering the intersection; and traffic police officers conducted traffic enforcement to prevent the traffic congestion from worsening.

In addition, a traffic enforcement expert who had worked as a traffic enforcement section chief at the Tokyo Metropolitan Police Department in Japan was invited to Phnom Penh to give a lecture to the Phnom Penh Traffic Police and the National Traffic Police.



traffic safety education and traffic enforcement through Piot Project

Achievement of Results (January to March, 2024)



(Average value of each result simply aggregated by item



Closing ceremony of training in Japan



PPTMTC Newsletter vol.4

(April 2024 to February 2025 Issue)



Activity Details (April 2024 to February 2025)

Compilation of Three Years of Activities Toward a Safe, Secure, and Comfortable Transportation Future in Phnom Penh

Holding Seminar to Unveil New Traffic Control System

On August 8, 2024, approximately two and a half years after the start of the PPTMTC, a seminar on the traffic control system in Phnom Penh took place at the Cambodia-Japan Human Resources Development Center (CJCC). This seminar was held to inform Phnom Penh citizens about the traffic control system and the activities and roles of the Traffic Control Center (TCC). Following opening remarks by H.E. Ek Khundoeurn Vice Governor of Phnom Penh Capital Administration (PPCA), and Ms. Yoshiko Miura, Senior Representative of the Japan International Cooperation Agency (JICA), Mr. Masato Koto, Chief Consultant of PPTMTC Project, introduced the progress of the project and the pilot project's activities. Ms. Pharinet, the Chief of TCC also took the stage to introduce the role and functions of TCC, the daily work of the staff, and what she learned from the training conducted in Japan in February 2024.



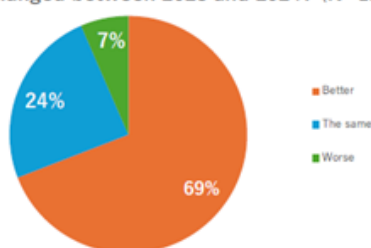
Approximately 170 people from Phnom Penh, including citizens, students, related organizations, aid workers, and the private sector, gathered at the venue and listened with great interest to the series of presentations, which were followed by a lively Q&A session that went over the allotted time.

About 120 people answered a questionnaire that was distributed to participants on this day to raise awareness of the traffic conditions in PPCA in 2023 and 2024.

The survey results showed that about 70% of the respondents answered that the traffic situation had improved in 2024 compared to 2023/ Many also noted that traffic volume had increased, but that measures such as installing traffic signals, making road improvements such as building flyovers, and road markings, and educating people about traffic safety had been successful.

(10) Changes in the traffic condition in Phnom Penh between 2023 and 2024

How has the traffic condition in Phnom Penh changed between 2023 and 2024? (N=123)



About 70% of participants said the traffic situation has improved.

Two Transportation Projects Jointly Discuss about Road Safety

On December 3, 2024, PPTMTC held a joint seminar on road safety in Cambodia with the “Project for the Improvement of Road Traffic Safety on Trunk Roads,” which is implemented in Cambodia by the Ministry of Public Works and Transport with funding from JICA.



At first, Mr. Michimasa Takagi, Chief Consultant of the “Project for Improving Road Traffic Safety on Trunk Highways” and Mr. Masato Koto, Chief Consultant of PPTMTC, introduced the activities and approaches of their respective projects. Afterwards, H.E. Min Meanvy, Secretary of State, and Mr. Prom Vantha, Director of the Department of Road Traffic Safety from MPWT, and Prof. Hirokazu Akabane from Chiba Institute of Technology were also invited to the stage. Through the panel discussion, they exchanged ideas about the characteristics of traffic accidents in Cambodia, points to keep in mind when deploying traffic control systems in other provinces, the importance of traffic management and control, and what is needed to achieve behavioral change in the Cambodian people.

Supporting daily maintenance and inspection activities through Providing a Pickup truck

As mentioned in Newsletter vol. 3, as part of a pilot project to improve the targeted intersections, PPTMTC provided TCC with vehicle/pedestrian signal lanterns, traffic signal controllers, and signal poles. Furthermore, the procurement of a pickup truck was completed in January 2025. This was provided so that TCC personnel may rush with repair equipment to sites requiring maintenance, inspection, and other urgent needs.



On February 12, a handover ceremony was held at the Phnom Penh City Hall attended by Mr. Masato Koto, Chief Consultant of PPTMTC Project, and H.E. Ek Khundoeurn, Vice Governor from PPCA.

Final JCC to wrap up the PPTMTC project was held

On January 8, 2025, the last Joint Coordination Committee (JCC) meeting of PPTMTC was held at the Phnom Penh City Hall. The JCC was formed to confirm the overall project direction, approve the pilot project implementation plan and construction work, and to exchange ideas. Following the kick-off meeting held in February 2022, the JCC has been meeting regularly twice a year.



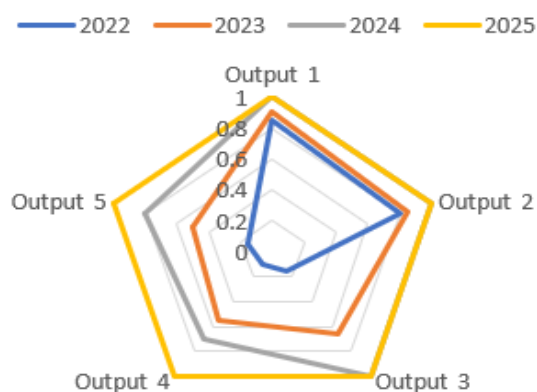
This fifth JCC meeting provided a summary of the three years of activities before the PPTMTC project comes to an end. The JCC also approved the contents of the deliverables produced through the project, including a hand-book for TCC staff to refer to when constructing and upgrading signalized intersections in the future, a traffic enforcement and traffic safety education manual that summarizes Japanese experience with traffic enforcement and points to consider in the field, and a traffic management plan.

In addition, the meeting participants discussed how the traffic control system should be maintained and expanded in Phnom Penh Metropolitan Authority and agreed on a direction for the future.



In the Phnom Penh Metropolitan Authority, the Department of Public Works (DPWT) has been in charge of installing traffic signals, but since the completion of the Traffic Control System (TCC), TCC has been responsible for the central part of the metropolis, and DPWT, for the suburban areas. In the future, collaboration and integration of the two organizations is strongly desired for the expansion of the TCC system.

Achievements of Results(April 2024 to February 2025)



(Average value of each result
simply aggregated by item from WBS)

Review of Chief Consultant

The project started at the height of COVID-19, which resulted in frequent travel restrictions. This was followed by significant currency fluctuations, which caused changes to the scale of pilot projects, the sudden death of a young expert who was supposed to lead the pilot project in early 2023, which caused members to be reassigned, and the global semiconductor shortage, which caused delays in equipment procurement.

It was a turbulent three years, but I am relieved that we were able to complete all activities within the project period. Thanks to the flexible response of JICA's supervising staff and the support of the C/P, mainly TCC staff.

Masato KOTO