

**The Kingdom of Cambodia
Ministry of Public Works and Transport**

**The Project for Improvement of
Road Traffic Safety
on Trunk Roads
in the Kingdom of Cambodia**

Project Completion Report

July 2025

**JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)**

**ALMEC CORPORATION
CTI ENGINEERING INTERNATIONAL CO., LTD.
KATAHIRA & ENGINEERS INTERNATIONAL**

TABLE OF CONTENTS

- 1. Project Outline1-1**
- 1.1 Background and Purpose..... 1-1
- 1.2 Project Area 1-1
- 1.3 Project Duration..... 1-3
- 1.4 Relevant Organizations 1-3
- 1.5 Project Outline..... 1-3
 - 1.5.1 Implementation Structure..... 1-4
 - 1.5.2 Counterparts 1-5
 - 1.5.3 JICA Expert Team..... 1-6
- 2. Implementation Schedule.....2-1**
- 2.1 Implementation Schedule.....2-1
- 2.2 Assignment Schedule2-2
- 3. Overall Activities3-1**
- 3.1 Direction of Project Implementation..... 3-1
- 3.2 Work Plan (Phase 2) Preparation and Confirmation..... 3-1
- 3.3 JCC Meetings 3-1
- 3.4 Baseline Survey3-2
 - 3.4.1 Baseline Survey Schedule.....3-3
 - 3.4.2 Baseline Survey Details.....3-3
 - 3.4.3 Baseline Survey Results.....3-6
- 3.5 Training in Japan..... 3-7
- 3.6 Seminars 3-12
 - 3.6.1 Seminar on First-Year Progress Results..... 3-12
 - 3.6.2 Seminar on the Second-Year Progress Results..... 3-13
 - 3.6.3 Seminar on Traffic Safety Knowledge Sharing..... 3-14
 - 3.6.4 Seminar on Cross-sectoral Collaboration for Road Safety Education 3-15
- 3.7 Public Relations and Awareness Raising Activities..... 3-16
 - 3.7.1 Public Relations and Awareness Raising Activities..... 3-16
 - 3.7.2 Quantitative Verification of Public Relations and Awareness Raising Activities..... 3-19
- 3.8 Workshops on Implementing the Behavioral Change Program 3-19
- 3.9 Midline Survey..... 3-22
 - 3.9.1 Midline Survey Schedule 3-22
 - 3.9.2 Midline Survey Details..... 3-22
 - 3.9.3 Midline Survey Results 3-24
- 3.10 Endline Survey 3-25
 - 3.10.1 Endline Survey Schedule..... 3-25
 - 3.10.2 Endline Survey Details 3-26
 - 3.10.3 Endline Survey Results..... 3-28

3.11 Preparation of the Project Completion Report.....	3-29
4 The Capacity of the Relevant Organizations for Research & Analysis for Road Safety is Improved (Output 1)	4-1
4.1 Outline.....	4-1
4.2 Record of Meetings.....	4-1
4.3 Activities.....	4-9
4.3.1 Improvement of Capacity in Traffic Accident Investigation.....	4-9
4.3.2 Improvement of Capacity in Traffic Accident Data Analysis.....	4-26
4.3.3 Publication of the Annual Traffic Accident Report.....	4-33
4.3.4 Issuance of a White Paper on Traffic Safety	4-35
4.4 Issues.....	4-44
4.4.1 Improvement of Capacity in Traffic Accident Investigation.....	4-44
4.4.2 Improvement of Capacity in Traffic Accident Data Analysis.....	4-47
4.4.3 Issuance of Traffic Accident Reports.....	4-48
4.4.4 Issuance of a White Paper on Traffic Safety	4-49
4.4.5 Assessment of Accident Investigation Capacity	4-50
4.4.6 Assessment of Accident Analysis and Planning Capacity.....	4-53
5 The Capacity of the Relevant Organizations for Road Safety Engineering is Improved through Activities in the Pilot Area on National Road No.5 (Output 2)	5-1
5.1 Outline.....	5-1
5.2 Record of Meetings.....	5-1
5.3 Activities.....	5-6
5.3.1 Consideration of Basic Principles of Road Traffic Safety Assessment Implementation and Preparation of its Manual.....	5-6
5.3.2 Conducting Road Traffic Safety Assessment on the National Road No. 5	5-7
5.3.3 Preparation of Manual for Traffic Safety Facility Measures	5-19
5.3.4 Preparation of Manual for Evaluation and Examination of Traffic Safety Facility Measures	5-22
5.3.5 Conducting Pilot Projects on the National Road No. 5 and Evaluation and Examination of the Effects.....	5-24
5.4 RSA Effectiveness	5-31
5.5 Future Issues	5-32
6 The Capacity of The Relevant Organizations for Traffic Enforcement is Improved through Activities in the Pilot Area on National Road No.5 (Output 3)	6-1
6.1 Outline.....	6-1
6.2 Record of Meetings.....	6-1
6.3 Activities.....	6-7
6.3.1 Review of Traffic Enforcement Activities on NR5 and its Surrounding Areas, and Analysis of their Impact for Traffic Safety.....	6-7
6.3.2 Preparation of Annual and Monthly Traffic Enforcement Plans.....	6-9
6.3.3 Prepare Traffic Enforcement Manual	6-10
6.3.4 Conducting Traffic Enforcement Activities on NR5.....	6-13

- 6.3.5 Evaluation and Examination of Traffic Enforcement Activities 6-20
- 6.4 Issues..... 6-26
 - 6.4.1 Review of Traffic Enforcement Activities on NR5 and Surrounding Areas, and Analysis of their Impact on Traffic Safety 6-26
 - 6.4.2 Development of Annual and Monthly Enforcement Plans..... 6-26
 - 6.4.3 Preparation of a Traffic Enforcement Manual 6-28
 - 6.4.4 Conduct of Traffic Enforcement Activities on NR5..... 6-28
 - 6.4.5 Evaluation and Examination of Traffic Enforcement Activities 6-28
 - 6.4.6 Strengthening of Traffic Police for Enforcement 6-29
- 7. The Capacity of the Relevant Organizations for the Promotion of the Safe Behavioral Manners for Road Traffic is Improved through Activities in the Pilot Area on the National Road No.5 (Output 4).....7-1**
 - 7.1 Outline..... 7-1
 - 7.2 Record of Meetings 7-1
 - 7.3 Activities..... 7-12
 - 7.3.1 Consider Traffic Safety Education Policy and Make the Policy Recommendations..... 7-12
 - 7.3.2 Establish Implementation Structure and Skills of Behavioral Change Programs 7-14
 - 7.3.3 Conduct a Behavior Change Pilot Project along the National Road No. 5..... 7-16
 - 7.3.4 Support Traffic Safety Campaigns on the National Road No. 5 7-36
 - 7.3.5 Develop a Draft of Medium Long-Term Strategic Plan for Road Safety 7-49
 - 7.3.6 Conduct a Seminar on Public-Private Partnerships in Traffic Safety Education..... 7-50
 - 7.4 Future Issues 7-51
- 8. Project Review 8-1**
 - 8.1 Objectives..... 8-1
 - 8.2 Outputs and Achievements..... 8-1
 - 8.2.1 Evaluation Indicators for Each Output 8-1
 - 8.2.2 Evaluation Indicator for the Project Purpose..... 8-5
 - 8.3 Overall Goal 8-5
 - 8.4 Ingenuity, Challenges, and Lessons Learned 8-6
 - 8.4.1 Ingenuity..... 8-6
 - 8.4.2 Challenges..... 8-7
 - 8.4.3 Lessons Learned..... 8-8
 - 8.5 Conclusion 8-9

TABLES

Table 1.4.1 Major organizations involved in traffic safety in Cambodia and their tasks	1-3
Table 1.5.1 Project Outline.....	1-4
Table 1.5.2 JICA Expert Team	1-6
Table 2.1.1 Implementation Schedule.....	2-1
Table 2.2.1 Assignment Schedule of Japanese Experts	2-2
Table 3.3.1 List of JCC Meetings	3-1
Table 3.4.1 Outline of the Survey	3-2
Table 3.4.2 Schedule of the Baseline Survey.....	3-3
Table 3.5.1 Program for the First Training in Japan.....	3-8
Table 3.5.2 Program for the Second Training in Japan.....	3-10
Table 3.6.1 Seminar Program (First Year)	3-12
Table 3.6.2 Seminar Program (Second Year).....	3-13
Table 3.6.3 Program for the Traffic Safety Knowledge Sharing Seminar	3-14
Table 3.6.4 Program for the Seminar on Cross-sectoral Collaboration for Road Safety Education	3-15
Table 3.8.1 Schedule of Workshop for School Teachers in Battambang Province.....	3-20
Table 3.8.2 Schedule of Workshop for School Teachers in Kampong Chhnang Province	3-20
Table 3.8.3 Schedule of Workshop for School Teachers in Kampong Chhnang Province	3-20
Table 3.8.4 Schedule of Workshop for School Teachers in Pursat Province	3-21
Table 3.8.5 Schedule of Workshop for School Teachers in Kampong Chhnang Province	3-21
Table 3.9.1 Schedule of the Midline Survey	3-22
Table 3.10.1 Schedule of the Endline Survey.....	3-25
Table 3.11.1 List of Technical Documents	3-29
Table 4.1.2 Effectiveness Indicators for Output 1	4-1
Table 4.2.1 Record of WG1 Meetings.....	4-1
Table 4.3.1 Key Questions for the Verification Survey.....	4-17
Table 4.3.2 Actual Respondents.....	4-17
Table 4.3.3 Traffic Accident Case Handling Log.....	4-25
Table 4.3.4 Assessment of DRTS's Capacity to Analyze Accident Data	4-32
Table 4.3.5 Contents of the Draft Traffic Accident Data Analysis Manual	4-33
Table 4.4.1 Composition of Survey Participants	4-51
Table 5.1.1 Activities for Output 2	5-1
Table 5.1.2 Effectiveness Indicators for Output 2	5-1
Table 5.2.1 Record of WG2 Meetings.....	5-1
Table 5.3.1 Table of Contents of the Manual on Road Safety Assessment.....	5-6
Table 5.3.2 Counterparts Involvement in RSA Activities (a) Counterparts Involvement.....	5-8
Table 5.3.3 2022 Road Safety Assessment.....	5-9
Table 5.3.4 Rates of Severe and Fatal Accidents in the Target NR5 Intersections in Battambang Province	5-11

Table 5.3.5 2023 Road Safety Assessment.....	5-12
Table 5.3.6 Rates of Severe and Fatal Accidents in Target NR5 Bypass Intersections in Kampong Chhnang Province.....	5-14
Table 5.3.7 2024 Road Safety Assessment.....	5-16
Table 5.3.8 Rates of Severe and Fatal Accidents in NR5 Intersections in Pursat Province.....	5-18
Table 5.3.9 Table of Contents of the Road Traffic Safety Guidebook.....	5-20
Table 5.3.10 Table of Contents of the Manual on Evaluating Road Safety Measures.....	5-22
Table 5.3.11 Contents of the 2022 RSA Report on Safety Measures for NR5 in Battambang Province	5-24
Table 5.3.12 Contents of the 2023 RSA Report on Safety Measures for NR5 in Kampong Chhnang Province	5-27
Table 6.1.1 Activities for Output 3	6-1
Table 6.1.2 Effectiveness Indicators for Output 3	6-1
Table 6.2.1 Record of WG1 and WG3 Meetings	6-1
Table 6.3.1 Example of a Monthly Enforcement Plan of Pursat Provincial Police.....	6-10
Table 6.3.2 Traffic Enforcement Training in Kampong Chhnang (2023).....	6-15
Table 6.3.3 Verification of the Effectiveness of Speed Enforcement at Intersection No.4 in Battambang Province	6-20
Table 6.3.4 Verification of Effectiveness of Speed Enforcement at NR5 Bypass-Route 53 Intersection in Kampong Chhnang Province.....	6-21
Table 6.3.5 Verification of Effectiveness of Speed Enforcement on NR5 in Pursat Province	6-21
Table 6.3.6 Verification Results of Warnings and Guidance on Temporary Stop Signs.....	6-22
Table 6.3.7 Changes in Vehicle Speeds at NR5-Route 53 Intersection in Kampong Chhnang Province	6-23
Table 7.1.1 Activities for Output 4	7-1
Table 7.1.2 Effectiveness Indicators for Output 4	7-1
Table 7.2.1 Record of WG4 Meetings.....	7-1
Table 7.3.1 Workshop for Teachers on the Pilot Implementation of the Behavior Change Program	7-18
Table 7.3.2 Schedule of the Pilot Implementation of the Behavior Change Program in Two Schools in Battambang Province	7-19
Table 7.3.3 Workshop for Grade 8 Teachers	7-24
Table 7.3.4 Training for Grade 8 Students.....	7-25
Table 7.3.5 Workshop for Grade 5 Teachers	7-26
Table 7.3.6 Training for Grade 5 Students.....	7-26
Table 7.3.7 Schedule of the School Zone Pilot Project in Pursat Province.....	7-29
Table 7.3.8 Workshop for Grade 10 Teachers.....	7-30
Table 7.3.9 Training for Grade 10 Students	7-30
Table 7.3.10 Workshop for Grade 5 Teachers.....	7-31
Table 7.3.11 Training for Grade 5 Students	7-31
Table 7.3.12 Schedule for Supplementary Lessons	7-35
Table 7.3.13 Schedule of Workshop in Kampong Chhnang Province.....	7-47
Table 7.3.14 Program for the Knowledge Sharing Campaign in Kampong Chhnang Province	7-48
Table 7.3.15 Table of Contents of the Draft Medium- to Long-Term Traffic Safety Plan.....	7-50

Table 8.2.1 Number of Traffic Accident Fatalities on NR5, 2019-20248-5
Table 8.3.1 Traffic Volume in Battambang Province.....8-6

FIGURES

Figure 1.2.1 Road improvement project on National Road No.5.....	1-2
Figure 1.2.2 Causes of accidents by transportation mode.....	1-2
Figure 1.5.1 Project Implementation Structure.....	1-5
Figure 3.4.1 Interview Survey Scenes	3-4
Figure 3.4.2 Observation Sites for Dangerous Road Behaviors	3-5
Figure 3.4.3 Traffic Safety Awareness	3-6
Figure 3.4.4 Awareness of Speeding	3-6
Figure 3.4.5 Helmet Wearing Rates in front of Otaki Primary School	3-7
Figure 3.6.1 Seminar Photos.....	3-13
Figure 3.6.2 Seminar Photos.....	3-14
Figure 3.6.3 Seminar Photos.....	3-15
Figure 3.6.4 Seminar Photos.....	3-16
Figure 3.7.1 Screens related to Public Relations and Awareness Raising Activities	3-17
Figure 3.7.2 News Articles about Police Activities on October 2022	3-18
Figure 3.7.3 Campaigns in Battambang Province.....	3-18
Figure 3.7.4 Walking Rally Scene	3-19
Figure 3.7.5 Number of Access on Facebook Page	3-19
Figure 3.9.1 Interview Survey Scenes	3-23
Figure 3.9.2 Observation Sites for Dangerous Road Behaviors	3-24
Figure 3.9.3 Traffic Safety Awareness	3-24
Figure 3.9.4 Awareness of Speeding	3-25
Figure 3.10.1 Interview Survey Scenes.....	3-26
Figure 3.10.2 Observation Sites for Dangerous Road Behaviors.....	3-27
Figure 3.10.3 Traffic Safety Awareness.....	3-28
Figure 3.10.4 Awareness of Speeding.....	3-28
Figure 4.3.1 Police Organizational Structure and Its Role in the Project.....	4-9
Figure 4.3.2 Review of Police Organizations Related to the Traffic Police	4-10
Figure 4.3.3 Inputting Traffic Accident Data	4-12
Figure 4.3.4 Traffic Safety Signboards in Kampong Chhnang	4-14
Figure 4.3.5 Location of the Signboards on NR5.....	4-14
Figure 4.3.6 Design of Signboards	4-15
Figure 4.3.7 Japan’s Case Study.....	4-15
Figure 4.3.8 Site Inspection and Meeting regarding Signboards.....	4-16
Figure 4.3.9 Sample Size for the Verification Survey.....	4-16
Figure 4.3.10 Impact of Traffic Safety Signboards on Driving	4-18
Figure 4.3.11 Visibility of Signboards at Sites of Serious Accidents.....	4-18
Figure 4.3.12 Arousing Fear of and Alertness to Traffic Accidents	4-19
Figure 4.3.13 Awareness of a Past Serious Accident at the Site	4-19
Figure 4.3.14 Impact of Seeing Traffic Safety Signboards.....	4-20

Figure 4.3.15 Impact on Future Driving.....	4-20
Figure 4.3.16 Agreement to Notify Police about Accidents	4-21
Figure 4.3.17 Example of Training Material on Traffic Accident Investigation	4-22
Figure 4.3.18 Scenes from the Accident Investigation Training in October 2022.....	4-23
Figure 4.3.19 Example of a Traffic Accident Map by Accident Type.....	4-25
Figure 4.3.20 Traffic Accident Investigation Manual.....	4-26
Figure 4.3.21 Training Material on Road Accident Macro Analysis	4-28
Figure 4.3.22 Training in Traffic Accident Macro Analysis	4-28
Figure 4.3.23 Training Materials on Traffic Accident Macro Analysis.....	4-29
Figure 4.3.24 Analysis of Motorcycle Traffic Accidents in Cambodia	4-30
Figure 4.3.25 Traffic Accident Analysis for Commercial and Freight Vehicles in Cambodia	4-30
Figure 4.3.26 Analysis of Speed-related Traffic Accidents in Cambodia	4-31
Figure 4.3.27 Analysis of Traffic Accidents before and after NR5 Widening.....	4-31
Figure 4.3.28 Training in Traffic Accident Data Analysis.....	4-32
Figure 4.3.29 Publication Schedule of Annual Traffic Accident Reports	4-34
Figure 4.3.30 NRSAP 2021-2030 and National Road Safety Policy in 2014	4-35
Figure 4.3.31 JET’s Concept of Evaluation Indicator.....	4-37
Figure 4.3.32 Sample of Evaluation Indicators.....	4-37
Figure 4.3.33 Cover Page of the Individual Evaluation Questionnaire	4-39
Figure 4.3.34 Individual Evaluation Questionnaire.....	4-40
Figure 4.3.35 Revised Evaluation Questionnaire for Individual Measures	4-42
Figure 4.3.36 Example of aggregated analysis results of individual measures	4-43
Figure 4.3.37 Contents of the Report on the Traffic Safety Plans of Japan and Cambodia	4-44
Figure 4.3.38 Contents of the White Paper on Traffic Safety in Cambodia	4-44
Figure 4.4.1 Basic Policy for Continuing WG Activities (Traffic Investigation)	4-47
Figure 4.4.2 Basic Policy for Improving Traffic Accident Analysis.....	4-49
Figure 4.4.3 NRSAP (2021-2030) Report.....	4-50
Figure 4.4.4 General Investigation Capacity of Police Managers	4-51
Figure 4.4.5 Investigation Capacity Acquired by Police Managers through the Project.....	4-51
Figure 4.4.6 Police Managers’ Application of Acquired Investigation Capacity	4-52
Figure 4.4.7 General Investigation Capacity of Frontline Police Officers.....	4-52
Figure 4.4.8 Investigation Capacity Acquired by Frontline Police Officers through the Project ...	4-53
Figure 4.4.9 Police Frontliners’ Application of Acquired Investigation Capacity.....	4-53
Figure 4.4.10 Results of Evaluation of Accident Investigation Capacity	4-54
Figure 5.3.1 RSA Manual Cover and RSA Implementation Flow.....	5-7
Figure 5.3.2 Scene from the 2nd RSA Meeting, 2022 (1).....	5-9
Figure 5.3.3 Scene from the 2nd RSA Meeting, 2022 (2).....	5-10
Figure 5.3.4 Seven Accident-prone Intersections on NR5 in Battambang Province.....	5-10
Figure 5.3.5 2022 RSA: Traffic Safety Measures for Bypass No. 3 on NR5 in Battambang Province	5-11
Figure 5.3.6 2022 RSA: Traffic Safety Measures for Bypass No. 4 on NR5 in Battambang Province	5-12
Figure 5.3.7 Scene from the 2nd RSA Meeting, 2023 (1).....	5-13

Figure 5.3.8 Scene from the 2nd RSA Meeting, 2023 (2).....	5-13
Figure 5.3.9 Four Accident-prone Intersections on NR5 Bypass in Kampong Chhnang Province	5-14
Figure 5.3.10 2023 RSA: Traffic Safety Measures for KCH-B-2 in Kampong Chhnang Province	5-15
Figure 5.3.11 2023 RSA: Traffic Safety Measures for KCH-B-4 in Kampong Chhnang Province	5-15
Figure 5.3.12 Scene from the 1st RSA Meeting, 2024 (1).....	5-16
Figure 5.3.13 Scene from the 2nd RSA Meeting, 2024 (2).....	5-17
Figure 5.3.14 Three Accident-prone Intersections on NR5 in Pursat Province.....	5-17
Figure 5.3.15 2024 RSA: Traffic Safety Measures for PS-T3 on NR5 in Pursat Province.....	5-18
Figure 5.3.16 2024 RSA: Traffic Safety Measures for PS-T4 on NR5 in Pursat Province.....	5-19
Figure 5.3.17 2024 RSA: Traffic Safety Measures for PS-T5 on NR5 in Pursat Province.....	5-19
Figure 5.3.18 Road Traffic Safety Guidebook Cover and Examples of Measures.....	5-21
Figure 5.3.19 Cover of the Manual for Evaluating Road Safety Measures and the Featured Evaluation Method.....	5-23
Figure 5.3.20 Installing 40 km/h Markings on NR5 in Battambang Province.....	5-25
Figure 5.3.21 Installing Colored Road Markings on NR5 in Battambang Province.....	5-25
Figure 5.3.22 Impact of Road Safety Measures on NR5 in Battambang Province.....	5-26
Figure 5.3.23 Results of Interview Survey on Impact of Safety Measures on NR5 in Battambang Province.....	5-27
Figure 5.3.24 Scenes from Pilot Project Implementation on NR5 in in Kampong Chhnang Province	5-28
Figure 5.3.25 Vehicle Speeds before (2023) and after (2024) the Implementation of Safety Measures on NR5 in Kampong Chhnang Province.....	5-29
Figure 5.3.26 Results of Interview Survey on Impact of Safety Measures on NR5 in Kampong Chhnang Province.....	5-29
Figure 5.3.27 Results of Behavioral Survey on Impact of Safety Measures on NR5 in Kampong Chhnang Province.....	5-30
Figure 6.3.1 Enforcement of Speed Limits in Battambang Province.....	6-7
Figure 6.3.2 Enforcement of Speed Limits in Kampong Chhnang Province.....	6-8
Figure 6.3.3 Enforcement of Speed Limits in Pursat Province.....	6-9
Figure 6.3.4 Survey of Traffic Enforcement.....	6-11
Figure 6.3.5 Part of the Enforcement Manual.....	6-12
Figure 6.3.6 Locations of the Enforcement Training.....	6-13
Figure 6.3.7 Stopping Vehicles using Flags in Kampong Chhnang Province.....	6-13
Figure 6.3.8 Enforcement Plan based on the New Speed Regulation.....	6-14
Figure 6.3.9 Scene from Training in Enforcement of New Speed Regulation.....	6-14
Figure 6.3.10 Speed Enforcement Plan for the 90-km/h Regulation Section.....	6-15
Figure 6.3.11 Training in Speed Enforcement on Bypasses and in Urban Areas.....	6-16
Figure 6.3.12 Scene from Speed Enforcement Training in Pursat Province.....	6-16
Figure 6.3.13 Scene from Training in Enforcement of Temporary Stops in Battambang Province	6-17
Figure 6.3.14 Scene from Training in Enforcement of Temporary Stops in Kampong Chhnang Province.....	6-17
Figure 6.3.15 Testing of the Self-Diagnosis Tool for Safe Driving.....	6-18

Figure 6.3.16 Scene from Training in Helmet Use Enforcement.....	6-19
Figure 6.3.17 Leaflet on the Experience of a Family Affected by a Traffic Accident in Japan.....	6-19
Figure 6.3.18 Footage Installed at NR5-No.3 Intersection in Battambang Province.....	6-22
Figure 6.3.19 General Enforcement Capacities of Police Managers.....	6-23
Figure 6.3.20 Enforcement Capacity Acquired by Police Managers through the Project.....	6-24
Figure 6.3.21 Police Managers' Application of Acquired Enforcement Knowledge.....	6-24
Figure 6.3.22 General Enforcement Capacity of Frontline Police Officers	6-25
Figure 6.3.23 Enforcement Capacity Acquired by Frontline Police Officers through the Project	6-25
Figure 6.3.24 Police Frontliners' Application of Acquired Enforcement Knowledge	6-25
Figure 6.4.1 PDCA Cycle Management of Traffic Enforcement.....	6-27
Figure 6.4.2 Policy on Strengthening Traffic Enforcement.....	6-29
Figure 7.3.1 Results of a Survey on Accident Experiences among Junior High School Students in Kampong Chhnang Province.....	7-13
Figure 7.3.2 Image of LoTA	7-15
Figure 7.3.3 Prospects of LoTA.....	7-15
Figure 7.3.4 Scenes from the March 2023 Workshop in Kampong Chhnang Province.....	7-17
Figure 7.3.5 Scenes from the June 2023 Workshop in Kampong Chhnang Province	7-17
Figure 7.3.6 Scene from the October 2023 Workshop in Kampong Chhnang Province.....	7-18
Figure 7.3.7 December 2023 Workshop for Teachers in Battambang Province	7-19
Figure 7.3.8 Pilot Implementation in Battambang Province.....	7-20
Figure 7.3.9 Schedule of the School Zone Pilot Project.....	7-20
Figure 7.3.10 Watch-Over Activity Locations	7-21
Figure 7.3.11 Road Improvement Plan at Location 1	7-21
Figure 7.3.12 Construction at Location 1	7-22
Figure 7.3.13 Road Improvement Plan (top) and Construction (above) at Location 2	7-22
Figure 7.3.14 Road Improvement Plans (top) and Construction (above) at Location 3	7-23
Figure 7.3.15 Watch-Over Activity in Kampong Chhnang Province.....	7-24
Figure 7.3.16 Classroom Activity for Grade 8 Students in Kampong Chhnang Province.....	7-25
Figure 7.3.17 Classroom Activity for Grade 5 Students in Kampong Chhnang Province.....	7-27
Figure 7.3.18 Changes in Traffic Safety Awareness among Teachers.....	7-27
Figure 7.3.19 Changes in Traffic Safety Awareness among Grade 8 Students	7-28
Figure 7.3.20 Changes in Traffic Safety Awareness among Grade 5 Students	7-28
Figure 7.3.21 Scenes from the January 2025 Visit to Target Schools in Pursat Province	7-29
Figure 7.3.22 Workshop for Teachers and Classroom Activity for Grade 10 Students in Pursat Province.....	7-31
Figure 7.3.23 Workshop for Teachers and Classroom Activity for Grade 5 Students in Pursat Province.....	7-32
Figure 7.3.24 Watch-Over Activity in Pursat Province	7-33
Figure 7.3.25 Developing Local Traffic Leaders in Kampong Chhnang Province.....	7-34
Figure 7.3.26 Conducting Comprehension Tests.....	7-34
Figure 7.3.27 Supplemental Lessons at Schools	7-36
Figure 7.3.28 Example of the Analysis Results using Facebook	7-42
Figure 7.3.29 Traffic Safety March in Battambang Province.....	7-45

Figure 7.3.30 Workshop and Media Report Scenes..... 7-48
Figure 7.3.31 Knowledge Sharing Campaign..... 7-49
Figure 7.3.32 Seminar on Cross-Sectoral Collaboration on Road Safety Education..... 7-51

ABBREVIATION

BMC	Banteay Meanchey
BTB	Battambang
CJCC	Cambodia Japanese Human Resource Development Center
C/P	Counterpart
DAP	Decade Action Plan
DOEYS	Department of Education, Youth and Sports
DPWT	Department of Public Works and Transport
DRI	Department of Road Infrastructure
DRIMS	Dynamic Response Intelligent Monitoring System
DRTS	Department of Road Traffic Safety
DUI	Driving Under the Influence
FS	Feasibility Study
GDLT	General Department of Land Transport
GDT	General Department of Techniques
GPS	Global Positioning System
IATSS	International Association of Traffic and Safety Sciences
ICT	Information Communication Technology
iRAP	International Road Assessment Program
ITARDA	Institute for Traffic Accident Research and Data Analysis
JCC	Joint Coordinating Committee
JET	JICA Expert Team
JICA	Japan International Cooperation Agency
KCH	Kampong Chhnang
LoTA	Local Technical Advisory Team
MCQ	Multiple Choice Question
MEF	Ministry of Economy and Finance
MoEYS	Ministry of Education, Youth and Sports
MOH	Ministry of Health
MOI	Ministry of Interior
MOJ	Ministry of Justice
MOT	Ministry of Transportation
MPWT	Ministry of Public Works and Transport
NRSC	National Road Safety Committee
NRSAP	National Road Safety Action Plan
NRSP	National Road Safety Policy
NR5	National Road No.5
NGO	Non-Governmental Organizations
ODA	Official Development Aid
PCU	Passenger Car Unit
PDCA	Plan-Do-Check-Action
PDM	Project Design Matrix
PO	Plan of Operation
PP	Phnom Phen
PR	Public Relations
PS	Pursat

PTA	Parent Teacher Association
RCVIS	Road Crash and Victim Information System
RID	Department of Road Infrastructure
RSA	Road Safety Assessment
SNS	Social Networking Service
TIC	JICA Tokyo Center
UYFC	Union of Youth Federations of Cambodia
WB	World Bank
WG	Working Group
WS	Workshop
3Es	Engineering, Enforcement, Education

1. Project Outline

1.1 Background and Purpose

This project targets the improvement of road traffic safety on National Road No.5 (NR5) in the Kingdom of Cambodia.

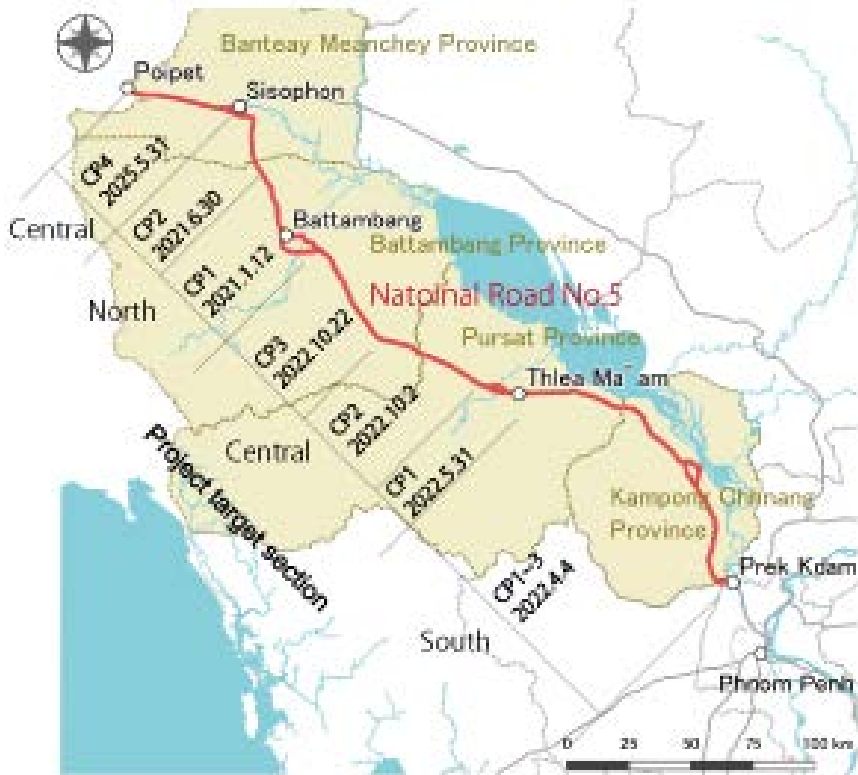
NR5 connects the capital city, Phnom Penh, and its border to Thailand via its third largest city, Battambang. Some of its sections are part of the Southern Economic Corridor in the Mekong region and play a critical role in industries and Cambodia's economy. Regarding road improvements, because of the deteriorated quality of roads and the expected further increase in transport demand, road expansion and bypass construction have been underway as part of an ODA loan assistance project.

On the other hand, Cambodia has been experiencing an increase in traffic accidents due to increased traffic and motorization. A particularly high incidence of accidents has occurred on trunk roads. That is, 74% of all fatalities in the country have taken place on trunk roads, with 18% of those on NR5. Given that continued economic growth and increased traffic are expected to further increase the number of accidents and fatalities, the implementation of appropriate road traffic safety measures on trunk roads, including NR5, has become an urgent priority.

This project focuses on NR5 and aims to improve traffic safety by examining traffic safety measures, strengthening organizational structures, and building human resource capacity. By enhancing the safety and security of residents, the project is also expected to help strengthen transportation capacity and efficiency.

1.2 Project Area

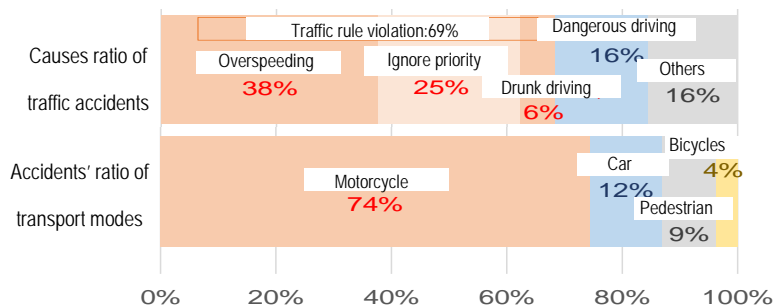
Traffic volume on NR5 was approximately 15,000 PCU/day in every interval, but it is projected to reach 30,000 PCU/day by 2040. Based on this projection, Japan's ODA loan assistance project will expand the 2-lane roads (total width: approximately 12 m) to 4-lane roads (total width: approximately 23 m) with median strips. It also plans to build a bypass road to avoid Kampong Chhnang, Pursat, Batdambang, and Sisophon. The road improvement plan for NR5 is shown in Figure 1.2.1.



Source: JET

Figure 1.2.1 Road improvement project on National Road No.5

About 85% of traffic accidents in Cambodia have been due to violations of traffic regulations and dangerous driving, and 74% have involved motorcycles. This is partly because driver’s licenses are not required for motorbikes under 125cc, hence only a few bike riders possess an appropriate understanding of traffic regulations. Acquiring knowledge and enhancing awareness of traffic safety among drivers and users are crucial.



Source: JET, based on the NRSC Summary Report 2018

Figure 1.2.2 Causes of accidents by transportation mode

1.3 Project Duration

This project has two phases.

- Phase-1 [Detailed Planning Phase]: March 2021–November 2021.
- Phase-2 [Core Project Implementation Phase]: February 2022–July 2025.

1.4 Relevant Organizations

The relevant organizations of the project are shown in Table 1.4.1. The coordinating organization is the National Road Safety Committee (NRSC), its secretariat is MPWT and the Department of Road Traffic Safety (DRTS), and the board members are from each ministry. The committee has met twice a year, and the working group meetings have been held every month. In these meetings, each organization has shared the activities it has conducted in accordance with traffic safety policy and plans.

Table 1.4.1 Major organizations involved in traffic safety in Cambodia and their tasks

Organization		Task	
National level	National Road Safety Committee (NRSC)	<ul style="list-style-type: none"> • Planning and review of traffic safety policies and strategic plans • Management of promotion and educational activities • Management of traffic enforcement with the cooperation of traffic police, etc. 	
Ministry	MPWT	Department of Road Traffic Safety (DRTS)	<ul style="list-style-type: none"> • Secretariat of NRSC • Traffic safety education and campaigns (mainly elementary school students) • Data collection, analysis and creation of reports on RCVIS
		Department of Road Infrastructure (RID)	<ul style="list-style-type: none"> • Management and maintenance of national roads and its traffic safety measures
	Ministry of Interior (MOI)	Traffic police	<ul style="list-style-type: none"> • Traffic accident investigation and enforcement (provincial police committee is in charge of this) • Submitting traffic accident data to MPWT
	Ministry of Health (MOH)		<ul style="list-style-type: none"> • Contribution of information to traffic accident database
	Ministry of Education, Youth and Sports (MoEYS)		<ul style="list-style-type: none"> • Management of traffic safety education and campaigns
	DPWT in each province		<ul style="list-style-type: none"> • Management and maintenance of roads (officers in charge of management and maintenance are also engaged in traffic safety, and traffic safety is not their main task.)

Source: JET

1.5 Project Outline

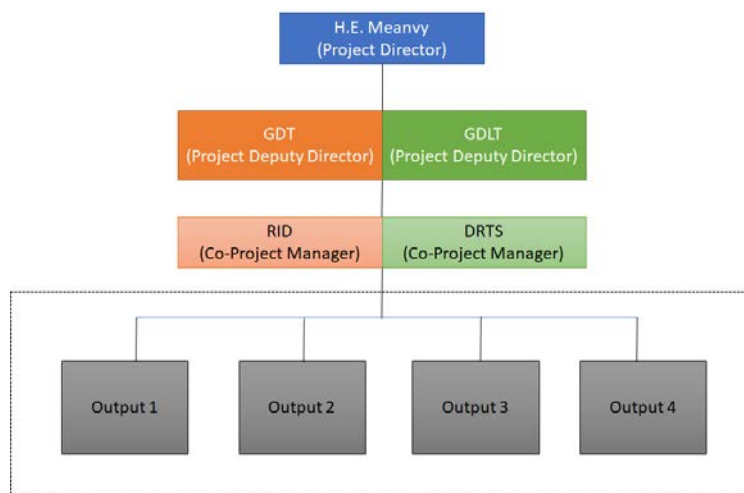
The project outline is shown in Table 1.5.1. The outputs and activities in phase 1 changed from the initial plan after examining the current state and discussing with counterparts and relevant organizations.

Table 1.5.1 Project Outline

Overall Goal	The transport capacity and transport efficiency in the target area will be increased by in the target area and thus promote the economic development of Cambodia.
Project Purpose	The number of fatalities due to traffic accidents on the National Road No.5 will decrease
Project Period	March 2021 to July 2025 - Phase-1 [Detailed Planning Phase]: March 2021–November 2021 - Phase-2 [Core Project Implementation Phase]: February 2022–July 2025
Output and activities	Output 1: The capacity of the relevant organizations for research & analysis for road safety is improved.
	1-1: Conduct activities for improving traffic accident investigation capacity 1-2: Conduct activities for improving traffic accident data analysis capacity 1-3: Issue the traffic accident report 1-4: Issue White Paper on traffic safety
	Output 2: The capacity of the relevant organizations for road safety engineering is improved through activities in the pilot area on the National Road No.5
	2-1: Consider basic principles of road traffic safety assessment implementation and prepare its manual 2-2: Conduct road traffic safety assessment on the National Road No. 5 2-3: Prepare manual for traffic safety facility measures 2-4: Prepare manual for evaluation and examination of traffic safety facility measures 2-5: Conduct pilot projects on the National Road No. 5 and evaluate and examine the effects
	Output 3: The capacity of the relevant organizations for traffic enforcement is improved through activities in the pilot area on the National Road No.5
	3-1: Review traffic enforcement activities on the National Road No. 5 and in areas along the National Road No. 5, and analyze the effects for traffic safety 3-2: Prepare annual and monthly traffic enforcement plans 3-3: Prepare traffic enforcement manual 3-4: Conduct traffic enforcement activities on the National Road No. 5 3-5: Evaluate and examine traffic enforcement activities
	Output 4: The capacity of the relevant organizations for the promotion of the safe behavioral manners for road traffic is improved through activities in the pilot area on the National Road No.5
4-1: Consider traffic safety education policy and make the policy recommendations 4-2: Establish implementation structure and skills of behavioral change programs 4-3: Conduct a behavior change pilot project along the National Road No. 5 4-4: Support traffic safety campaigns on the National Road No. 5 4-5: Develop a draft of medium long-term strategic plan for road safety 4-6: Conduct a seminar on public-private partnerships in traffic safety education	

1.5.1 Implementation Structure

The project implementation organization is shown in Figure 1.5.1. Under JICA’s instructions, the Project has been implemented in cooperation with the MPWT, MOI, and other related organizations.



Source: JET

Figure 1.5.1 Project Implementation Structure

1.5.2 Counterparts

The counterpart organizations are listed below.

(1) Project Team

- 1) Project Director (Chairperson of JCC)
 - Secretary of State, Ministry of Public Works and Transport (MPWT)
- 2) Project Deputy Director
 - Director of General Department of Techniques (GDT)
 - Director of General Department of Land Transport (GDLT)
- 3) Co-Project Manager
 - Director of Department of Roads Infrastructure, MPWT
 - Director of Department of Roads Traffic Safety, MPWT
- 4) Deputy Project Manager
 - Deputy Director of Department of Roads Infrastructure, MPWT
 - Deputy Director of Department of Roads Traffic Safety, MPWT
- 5) JICA Expert Team

(2) Observers from the Cambodian Side

- 1) Officials from the Road Traffic Safety Department, MPWT
- 2) Officials from the Road Infrastructure Department, MPWT

- 3) Officials from the Traffic Police and Public Order Department
 - 4) Officials from the Primary Education Department, MoEYS
 - 5) Officials from the Provincial Department of Public Works and Transport of Kandal, Kampong Speu, Kampong Chhnang, Pursat, Battambang and Banteay Meanchey.
- (3) Relevant organizations from the Japanese side
- Chief Representative, representative and staff of JICA Cambodia Office
 - Staff from JICA Headquarters, other domestic and foreign offices
 - Staff from the Embassy of Japan
 - International Association of Traffic and Safety Sciences (IATSS)
- (4) Others
- Japanese private companies in Cambodia

1.5.3 JICA Expert Team

The JICA Expert Team members are listed below.

Table 1.5.2 JICA Expert Team

Name	Position / Field of Expertise	Organization
TAKAGI Michimasa	Team Leader/ Traffic Safety Planning (1)	ALMEC Corporation
ONO Manabu	Deputy Team Leader/ Traffic Safety Planning (2)	ALMEC Corporation
SHIINA Yasuo	Traffic Accidents Database and Macro Analysis	ALMEC Corporation
ONO Masazumi	In-depth Traffic Accident Analysis	CTII Co., Ltd.
FUKASAWA Hideyuki	Traffic Accident Investigation / Traffic Regulation & Traffic Enforcement (1)	ALMEC Corporation
FURUKI Moriyasu	Road Engineering (1)	CTII Co., Ltd.
OGAWA Akiho	Road Engineering (2)	CTII Co., Ltd.
IWAMA Shun	Road Engineering (2)	CTII Co., Ltd.
UENO Ryuichi	Road Traffic Safety Audit	CTII Co., Ltd.
OCHI Masaki	Road Facility Planning	CTII Co., Ltd.
INOUE Kiyoji	Traffic Accident Investigation / Traffic Regulation & Traffic Enforcement (2)	ALMEC Corporation
NAGAI Toshio	Traffic Accident Investigation / Traffic Regulation & Traffic Enforcement (2)	ALMEC Corporation
YUMITA Kazuo	Traffic Safety Education	CTII Co., Ltd.

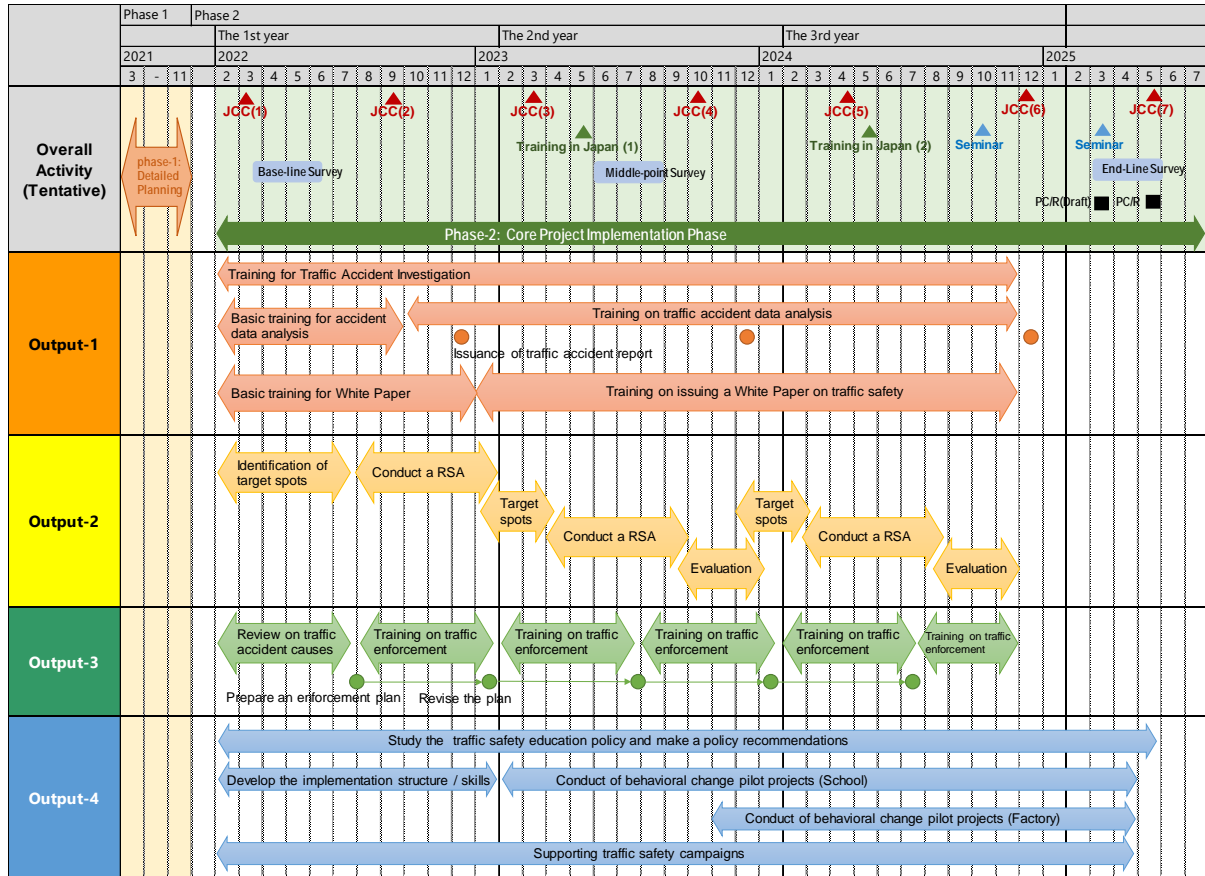
Name	Position / Field of Expertise	Organization
KITAMURA Yuto	Behavioral Change Pilot Project	The University of Tokyo
YAMAGUCHI Tadanori	Behavioral Change Program Development	Osaka International University
YASHIRO Shuichi	Social Survey / Model Projects	KEI Co., Ltd.
KOMAZAWA Yukitsugu	Awareness and PR Activity / Behavioral Change / Project Coordinator	ALMEC Corporation
ITO Yoshiyasu	Behavioral Change Effective Evaluation	ALMEC Corporation
OHNO Kenta	Traffic Safety Promotion / ICT Utilization	ALMEC Corporation
SHIROMA Sawa	Behavioral Change Community Activity (1)	ALMEC Corporation
INAGAKI Natsumi	Behavioral Change Community Activity (2)	ALMEC Corporation

2. Implementation Schedule

2.1 Implementation Schedule

Table 2.1.1 shows the implementation structure.

Table 2.1.1 Implementation Schedule



Source: JET

2.2 Assignment Schedule

The assignment schedule of the Japanese experts is shown in Table 2.2.1.

Table 2.2.1 Assignment Schedule of Japanese Experts

Position	Name	Grade		MM	No. of Trip					
				Total	Total	2021	2022	2023	2024	2025
Team Leader/ Traffic Safety Planning (1)	TAKAGI Michimasa	1	Planned	9.22	15	1	4	4	5	1
			Actual	9.22	15	1	4	4	5	1
Deputy Team Leader/ Traffic Safety Planning (2)	ONO Manabu	4	Planned	11.47	18	2	4	5	6	1
			Actual	11.47	18	2	4	5	6	1
Traffic Accidents Database and Macro Analysis	SHIINA Yasuo	4	Planned	9.00	9	1	3	4	1	0
			Actual	9.00	9	1	3	4	1	0
In-depth Traffic Accident Analysis	ONO Masazumi	4	Planned	7.00	8	1	3	2	2	0
			Actual	7.00	8	1	3	2	2	0
Traffic Accident Investigation / Traffic Regulation & Traffic Enforcement (1)	FUKASAWA Hideyuki	4	Planned	6.00	7	0	3	4	0	0
			Actual	6.00	7	0	3	4	0	0
Road Engineering (1)	FURUKI Moriyasu	3	Planned	3.00	4	0	2	1	1	0
			Actual	3.00	4	0	2	1	1	0
Road Engineering (2)	OGAWA Akiho	5	Planned	0.97	1	1	0	0	0	0
			Actual	0.97	1	1	0	0	0	0
Road Engineering (2)	IWAMA Shun	5	Planned	4.10	4	0	1	2	1	0
			Actual	4.10	4	0	1	2	1	0
Road Traffic Safety Audit	UENO Ryuichi	3	Planned	5.07	5	1	2	2	0	0
			Actual	5.07	5	1	2	2	0	0
Road Facility Planning	OCHI Masaki	4	Planned	8.85	9	0	4	3	2	0
			Actual	8.85	9	0	4	3	2	0
Traffic Accident Investigation / Traffic Regulation & Traffic Enforcement (2)	INOUE Kiyoji	4	Planned	2.20	3	1	2	0	0	0
			Actual	2.20	3	1	2	0	0	0
Traffic Accident Investigation / Traffic Regulation & Traffic Enforcement (2)	NAGAI Toshio	4	Planned	4.55	6	0	1	4	1	0
			Actual	4.55	6	0	1	4	1	0
Traffic Safety Education	YUMITA Kazuo	3	Planned	9.00	9	1	4	3	1	0
			Actual	9.00	9	1	4	3	1	0
Behavioral Change Pilot Project	KITAMURA Yuto	3	Planned	1.97	5	0	2	2	1	0
			Actual	1.97	5	0	2	2	1	0
Behavioral Change Program Development	YAMAGUCHI Tadanori	3	Planned	1.85	5	0	2	3	0	0
			Actual	1.85	5	0	2	3	0	0
Social Survey / Model Projects	YASHIRO Shuichi	4	Planned	8.00	9	1	2	3	3	0
			Actual	8.00	9	1	2	3	3	0
Awareness and PR Activity / Behavioral Change / Project Coordinator	KOMAZAWA Yukitsugu	5	Planned	8.63	8	1	4	3	0	0
			Actual	8.63	8	1	4	3	0	0
Behavioral Change Effective Evaluation	ITO Yoshiyasu	4	Planned	3.10	8	0	0	2	6	0
			Actual	3.10	8	0	0	2	6	0
Traffic Safety Promotion / ICT Utilization	OHNO Kenta	4	Planned	2.00	3	0	0	2	1	0
			Actual	2.00	3	0	0	2	1	0
Behavioral Change Community Activity (1)	SHIROMA Sawa	5	Planned	3.55	5	0	0	0	4	1
			Actual	3.55	5	0	0	0	4	1
Behavioral Change Community Activity (2)	INAGAKI Natsumi	5	Planned	2.33	3	0	0	0	3	0
			Actual	2.33	3	0	0	0	3	0
Planned				111.86	144	11	43	49	38	3
Actual				111.86	144	11	43	49	38	3

Source: JET

3. Overall Activities

3.1 Direction of Project Implementation

To achieve the overall goal and project purpose, as well as to ensure the sustainability of policies and activities beyond the project’s completion, the activity plan for each output has been developed with consideration of the following perspectives:

- Running PDCA cycle for each output;
- Building an implementation structure for each output;
- Training instructors and leaders for each output;
- Evaluating and examining the effects and impacts of implemented measures for each output; and
- Creating necessary manuals for each output.

Project activities were implemented as follows:

- In the first half of the project, Japanese experts trained instructors and leaders from the C/P side. In the latter half of the project, the C/P instructors and leaders led the project.
- Based on the evaluation and examination of implemented measures and activities, activity plans, manuals, and subsequent activities were revised.
- By repeating the PDCA cycle during the project period, the C/P’s capacity and the quality of manuals improved.

3.2 Work Plan (Phase 2) Preparation and Confirmation

To steadily achieve the purposes and activities agreed in the PDM and PO during the detailed planning phase, JET drafted the Work Plan (Phase 2). It was explained to the counterparts and approved in the 1st JCC meeting held on 3 March 2022.

3.3 JCC Meetings

The JCC met to monitor the progress of activities and decide on important project matters. Over the course of the Project, seven JCC meetings took place.

Table 3.3.1 List of JCC Meetings

No.	Date	Major Topic
First	3 March 2022	Confirmation of Work Plan (Phase 2) Exchange of opinions and confirmation of the following items: <ul style="list-style-type: none"> • Expected outputs and activities • Project schedule • Project implementation structure • Data sharing from C/P to JET

		<ul style="list-style-type: none"> • Progress of preparing the National Road Safety Action Plan (2011-2020)
Second	7 September 2022	Report on activities related to the overall Report on activities related to each WG Exchange of opinions and confirmation of the following: <ul style="list-style-type: none"> • Implementation of the first training in Japan • Submission of monitoring sheet Ver.2 • Information disclosure of materials produced by the project • Implementation of promotional activities
Third	28 March 2023	Report on activities related to the overall goal Report on activities related to each WG Exchange of opinions and confirmation of the following: <ul style="list-style-type: none"> • Implementation of the first training in Japan • Submission of monitoring sheet Ver.3 • Sharing of information and data necessary for the activities • Establishment of a Local Technical Advisor Team for WG4 • Traffic Park
Forth	6 October 2023	Report on activities related to the overall goal Report on activities related to each WG Exchange of opinions and confirmation of the following items <ul style="list-style-type: none"> • Submission of monitoring sheet Ver.4 • Indicators in PDM • Securing a budget for road measures related to WG2
Fifth	23 April 2024	Report on activities related to the overall goal Report on activities related to each WG Exchange of opinions and confirmation of the following: <ul style="list-style-type: none"> • Submission of monitoring sheet Ver.5
Sixth	11 December 2024	Report on activities related to the overall goal Report on activities related to each WG Report on the achievement status of each activity indicator Exchange of opinions and confirmation of the following: <ul style="list-style-type: none"> • Submission of monitoring sheet Ver.6
Seventh	23 May 2025	Report on activities related to the overall goal Report on activities related to WG4 Report on the achievement status of WG4 activity indicator Report on the action plan of each activity Exchange of opinions and confirmation of the following: <ul style="list-style-type: none"> • Submission of monitoring sheet Ver.7

Source: JET

3.4 Baseline Survey

The baseline and target values of the indicators can be grouped into two categories: (i) evaluation of project outcomes, such as traffic accidents, traffic flow, public behavior, and awareness; and (ii) evaluation of “counterparts’ capacity”. To assess these indicators, baseline, midline, and endline surveys were conducted at the beginning, middle, and end of the project, respectively. The framework is shown in Table 3.4.1.

Table 3.4.1 Outline of the Survey

Survey Category	Content	Timing
C/P Capacity Assessment	<ul style="list-style-type: none"> • Awareness about traffic safety • Knowledge and experience in each WG 	<ul style="list-style-type: none"> • End of the project

Questionnaire Survey		
Interview Survey among road users and residents along NR5	<ul style="list-style-type: none"> • Use of NR5 • Experience of traffic accidents and near misses on NR5 • Experience with traffic enforcement • Awareness of enforcement activities by traffic police • Participation in traffic safety training, etc. • Awareness of traffic safety • Awareness of traffic violations 	<ul style="list-style-type: none"> • Start of Phase 2 of the project (baseline survey) • Middle of the project (midline survey) • End of the project (endline survey)
Traffic Survey	<ul style="list-style-type: none"> • Traffic volume (video recording) • Travel speed (video recording) • Dangerous behavior (video recording) 	<ul style="list-style-type: none"> • Start of Phase 2 of the project (baseline survey) • Middle of the project (midline survey) • End of the project (endline survey)

Source: JET

The outline and results of the baseline survey, which comprised an interview survey and a traffic survey, are shown below.

3.4.1 Baseline Survey Schedule

The traffic and interview surveys among road users and residents along NR5 were conducted from March to June 2022.

Activities	2022			
	March	April	May	June
1. Work preparation	[Blue bar spanning March and April]			
2. Training surveyors	[Blue bar spanning March and April]			
3. Survey implementation	[Blue bar spanning March and April]			
a) Interview*	[Blue bar spanning March and April]			
b) Traffic count**	[Blue bar spanning March and April]			
c) Video recording & Observation***	[Blue bar spanning March and April] [Orange bar labeled 'Video recording' spanning April and May]			
5. Data coding & Error check	[Blue bar spanning May and June]			
6. Reporting	[Blue bar spanning May and June]			

Note: * Interview survey 6 locations: Kandal, Kampong Speu, Kampong Chhnang, Pursat, Battambang, Banteay Meanchey province;

** Traffic count at 5 intersections; *** 1 month video recording 2 locations.

[Blue bar] refers to the actual activities plan for the schedule in implementing the survey.

[Orange bar] refers to the actual video recording in implementing the survey.

Source: JET

Table 3.4.2 Schedule of the Baseline Survey

3.4.2 Baseline Survey Details

(1) Interview Survey

The survey was conducted in the following six provinces along NR5, i.e., Banteay Meanchey, Battambang, Kandal, Kampong Chhnang, Kampong Speu, and Pursat. A total sample of 627 respondents were interviewed.

The following are the interview items:

- Individual characteristics (gender, age, occupation, driving license etc.)
- Usage of NR5 (frequency, trip purpose)
- Experience of accidents in NR5 (number of accidents, accident characteristics, location)
- Experience of enforcement (number of times cracked down)
- Behavior when drivers see police officers
- Experience of traffic safety lecture/program
- What do you think about traffic safety?
- What do you think about following traffic rules?
- What do you think about DUI?
- What do you think about speeding?



Source: JET

Figure 3.4.1 Interview Survey Scenes

(2) Traffic Survey

The traffic survey was conducted using video recording at five intersections in the northern section of NR5 (Banteay Meanchey and Battambang provinces), where construction work had been completed. The following are the survey details:

- Date of Observation: 7 days
 - Weekdays: 30 March 2022, 1 and 6 April 2022
 - Weekends: 9–10 April 2022
 - Holidays: 15–16 April (during Khmer New Year)
- Observation period: from 6:00 to 20:00 (14 hours)
- Vehicle types:
 - 1: Motorbike
 - 2: Tuktuk
 - 3: Motorumo
 - 4: Sedan, Wagon, Van
 - 5: Taxi
 - 6: Minibus
 - 7: City Bus

- 8: Medium and Large Bus
- 9: Light Pickup Truck
- 10: Truck (2 axles)
- 11: Heavy Truck and Trailer (3+ axles)

(3) Observation of Dangerous Behaviors

Dangerous behaviors were observed at the following two out of the five junctions where the traffic survey was conducted:

- Otaki Primary School, Battambang Province
- Thmar Koul Market, Battambang Province

The following dangerous behaviors were analyzed:

1. Reverse Driving
2. Abrupt Lane Change
3. Speeding
4. Number of Motorcycle Riders
 - (1) First legal riding refers to a motorcycle carrying only the driver;
 - (2) Second legal riding refers to a motorcycle carrying the driver and 1 passenger; and,
 - (3) Illegal riding refers to a motorcycle carrying the driver and 2 or more passengers.
5. Wearing Helmet
6. Crossing Roads
 - (1) 100% using zebra crossing
 - (2) 1–99% using zebra crossing
 - (3) 0% using zebra crossing



Otaki Primary School



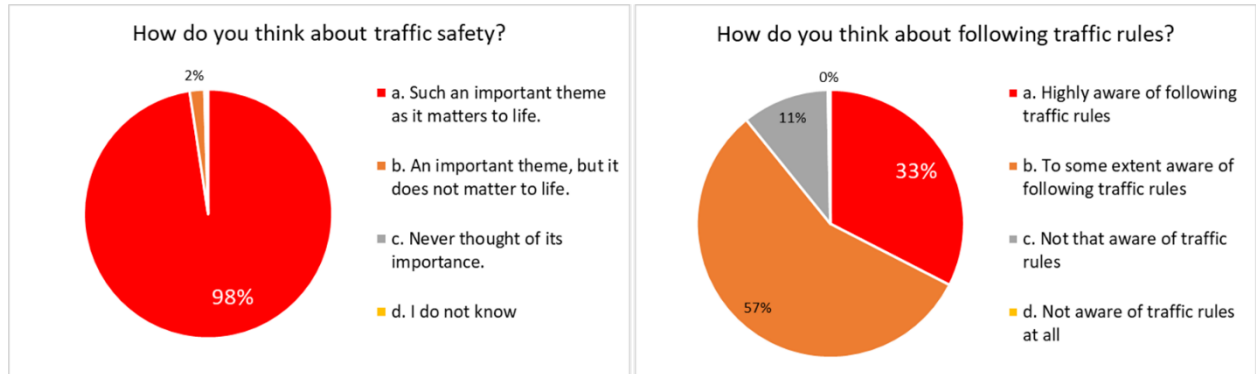
Thmar Koul Market

Source: JET

Figure 3.4.2 Observation Sites for Dangerous Road Behaviors

3.4.3 Baseline Survey Results

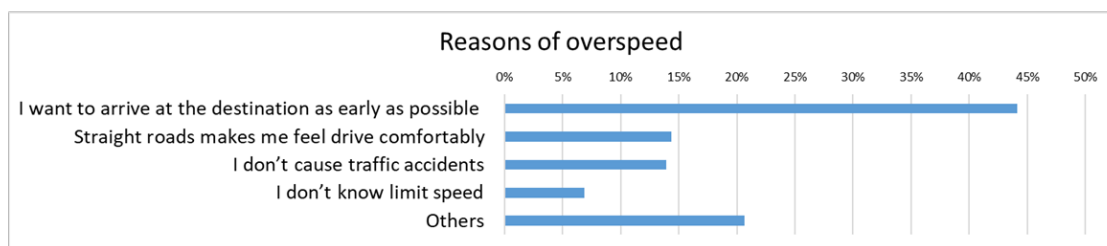
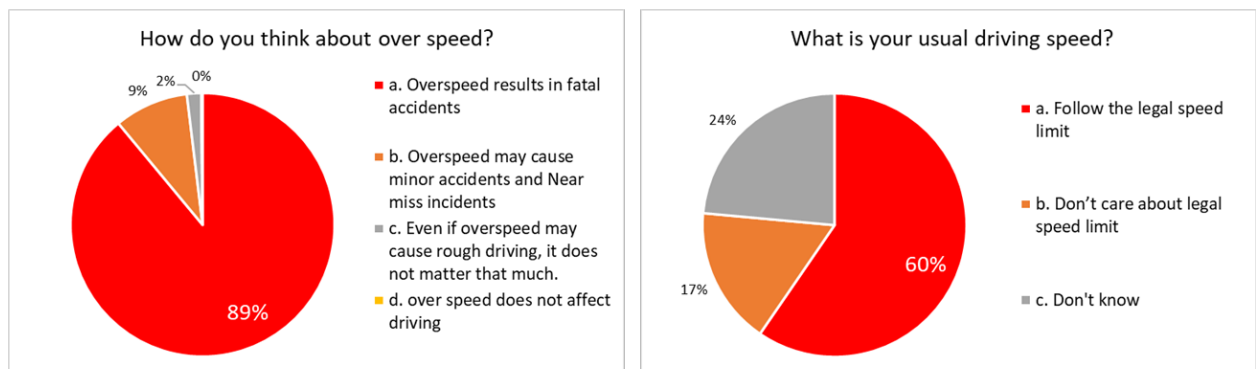
About 98% of road users and residents interviewed regarding their awareness of traffic safety acknowledged the importance of traffic safety, but only 33% were "highly aware of the importance of following traffic rules."



Source: JET

Figure 3.4.3 Traffic Safety Awareness

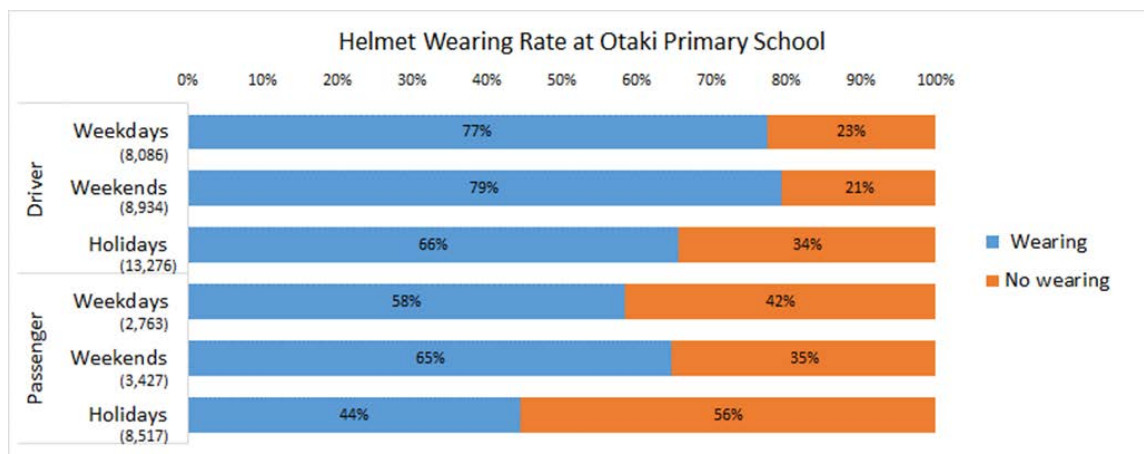
About 89% of respondents believed that "excessive speed leads to fatal accidents," but only 60% said they "obey the legal speed limit." The most common reason for speeding was to "get to the destination faster."



Source: JET

Figure 3.4.4 Awareness of Speeding

Helmet-wearing rates in front of Otaki Primary School were lower among passengers than drivers and on weekends than weekdays. Based on these survey results, Outcome 3: Traffic Enforcement and Outcome 4: Traffic Safety Campaign aimed to raise awareness of helmet use among motorcycle passengers and on weekends and holidays.



Source: JET

Figure 3.4.5 Helmet Wearing Rates in front of Otaki Primary School

3.5 Training in Japan

One training in Japan each year for three years was the original plan, but the first year training was not possible due to the COVID-19 pandemic. However, two participants from Cambodia (MPWT and DRTS) joined the "Knowledge Co-Creation Program: Traffic Safety" separately conducted by JICA in October 2022.

Trainings in Japan in the second and third years were conducted in April 2023 and May 2024, respectively. The summaries of each training program are provided below.

(1) First Training in Japan

The first training in Japan was held on 14–26 May 2023 (12 nights), with 13 participants from the MPWT, MOI, and MoEYS. The objectives of the first training in Japan are as follows:

WG1 (Accident Analysis, White Paper on Road Traffic Safety)

Through lectures and discussions on data analysis and the application of the results to measures and policies, improvements to the planning of measures and policies in Cambodia were examined. In addition, an evaluation framework for Cambodia was discussed with reference to the Japanese case study on evaluating initiatives mentioned in the Basic Plan for Road Safety.

WG2 (Road Facility)

Through on-site observations and discussions on roads and road safety facilities, the application of traffic management and traffic engineering methods in Japan to relevant measures and policies in Cambodia were examined.

WG1/3 (Traffic Enforcement, Accident Investigation)

The course examined improvements to traffic enforcement and accident investigation in

Cambodia through lectures and field visits on preparing traffic control plans and actual traffic enforcement, as well as lectures and field visits on the sequence of events and the latest technologies used in accident investigation.

WG4 (Road Safety Education)

Through field visits and discussions on road safety education in schools and school-based road safety communities, the application in Cambodia of the measures was examined.

The schedule of the first training in Japan is shown below.

Table 3.5.1 Program for the First Training in Japan

Date		Content		Lecturer		
14 May	All day	T	Flight to Japan			
15 May	10:00	12:30	L	Briefing	JICA Tokyo	
	14:00	16:00	L	Training Overview	Dr. Komazawa	
	17:30	19:30		Networking Event	JET	
16 May	8:30	9:20	T	TIC to Saitama Prefectural Police		
	9:30	10:30	SV	110 response situations	Police Officer	Communication Command Center
	10:30	11:30	SV	Traffic Control Center	Police Officer	Traffic Control Center
	11:30	12:30	T	Saitama Prefectural Police to TIC		
	14:30	16:30	L	Duties of the Traffic Police	Mr. Shiina	JET
17 May	8:50	10:20	T	TIC to Ibaraki Prefecture		
	10:30	12:00	SV	Overview of Traffic Accident Analysis	Mr. Nishida	ITARDA
	13:00	15:00	SV	Overview of Traffic Accident Analysis	Mr. Kiuchi	ITARDA
	15:00	16:30	T	Ibaraki Prefecture to TIC		
18 May	09:30	10:30	L	Countermeasures at National Level	Mr. Miyawaki	Cabinet Office
	11:00	12:00	L	Countermeasures at Prefectural Level	Mr. Atsuta	Tokyo Metropolitan Government
	14:00	16:00	L	Overview of Local Road Safety Measures	Dr. Kubota	Professor, Saitama University
	16:10	18:10	L	Overview of Trunk Road Safety Measures	Dr. Akahane	Professor, Chiba Institute of Technology
19 May	9:00	10:30	SA	Presentation Preparation		
	10:45	11:40	T	TIC to Asaka City		
	12:00	12:45		School Lunch		
	12:45	13:15	SV	Explanation of Local Road Safety Measures	Mr. Takahashi	Asaka City
	13:15	15:30	SV	Overview of Local Road Safety Measures	Mr. Takahashi	Asaka City
	15:30	18:00	T	Asaka City to TIC		
20 May	All day		Holiday			
21 May	All day	SA	Sightseeing	Dr. Komazawa	JET	
22 May	9:00	10:00	T	TIC to Omiya National Highway Office		

Date			Content		Lecturer	
	10:00	11:30	L	Outline of Facility Countermeasures	Mr. Kawaguchi	Omiya National Highway Office, Kanto Regional Development Bureau, MLIT
	13:30	15:10	SV	Inspection of the Pedestrian Bridge (Seikaji Kiyora Bridge) Inspection of Saitama Municipal Omiya International Secondary School Zone 30 Plus Inspection of the accident-free plan for the Tajima Danchi Mae intersection	Mr. Kawaguchi	Omiya National Highway Office, Kanto Regional Development Bureau, MLIT, Almec, and CTII
	15:10	16:30	T	Site Visit Location to TIC		
23 May	8:45	9:50	T	TIC to Sagamihara City		
	10:00	12:00	L	Role of Local Communities in Traffic Safety	Ms. Shinomiya	Kanagawa Prefecture, Sagamihara City, Hikarigaoka District Traffic Safety Mothers' Association
	12:00	13:30	T	Sagamihara City to TIC		
	14:00	16:00	L	Reality of Traffic Accidents and Crimes and Role of the Traffic Crime Victims' Association	Mr. Nakamura	Kanto Traffic Accident Victims' Families Association, Ai no Kai
24 May	07:30	11:30	T	TIC to Aichi Prefecture		
	11:30	14:00	SV	Traffic Park	Mr. Ito	Toyota City Traffic Safety Learning Center
	17:00	20:00	T	Aichi Prefecture to TIC		
25 May	09:00	12:00	SA	Presentation Preparation		
	13:00	15:30	P	Training Presentation and Evaluation		
	15:30	16:00		Awarding of Certificates	Ms. Watanabe	JICA Infrastructure Management Department
	17:00	20:00		Networking Event		
26 May	All day		T	Flight to Cambodia		

T: Travel, L: Lecture, SV: Site Visit, SA: Self Activity, P: Presentation, TIC: JICA Tokyo Center

Source: JET

(2) Second Training in Japan

The second training in Japan was held on 19 May–1 June 2024 (13 nights), with 14 participants from MPWT, MOI, MoEYS, MEF, and DPWT. The objectives of the second training in Japan are as follows:

WG1 (Accident Analysis, White Paper on Road Traffic Safety)

Through lectures and discussions on data analysis and the application of findings to practical measures and policies, the process of planning and formulating traffic safety measures and policies in Cambodia was examined. In particular, participants deepened their knowledge of

the cycle of formulating, implementing, and evaluating the Traffic Safety Basic Plan, the establishment of traffic accident databases, and micro- and macro-level analysis.

WG2 (Road Facility)

Through on-site observations and discussions on roads and road safety facilities, the applicability of Japanese traffic management and engineering methods to relevant measures and policies in Cambodia were examined, focusing on measures that do not need a large budget.

WG1/3 (Traffic Enforcement, Accident Investigation)

Through lectures and field visits related to police officer training, as well as exposure to useful technologies for traffic enforcement (such as signal control systems), opportunities to improve traffic police operations in Cambodia were considered.

WG4 (Road Safety Education)

Through a review of theoretical frameworks on traffic safety education for children, along with field visits and discussions on traffic safety learning environments, the development and progress of traffic safety education in Cambodia were considered.

The schedule of the second training in Japan is shown below.

Table 3.5.2 Program for the Second Training in Japan

Date	Time		Style	Content	Lecturer	
	Start	End			Name	Organization
19 May	12:40			Flight to Japan		
20 May	10:00	12:30	L	Briefing		JICA Tokyo Center (TIC)
	14:00	16:00	L	Orientation	Dr. Komazawa	Almec
21 May	09:05	9:45	T	TIC to Almec		
	10:00	12:00	L	Road Traffic Safety Measures	Dr. Akahane	Professor, Chiba Institute of Technology
	12:00	12:40	T	Almec to TIC		
	14:00	15:30	L	Road Traffic Safety Measures in Japan	Mr. Matsue	Cabinet Office
22 May	10:00	12:00	L	Facilitation Workshop	Mr. Nakata	Murano Mirai
	13:00	16:00	Pra	Facilitation Workshop	Mr. Nakata	Murano Mirai
23 May	10:00	12:00	L	Reality of Traffic Accidents and Crimes and Role of the Traffic Crime Victims' Association	Mr. Nakamura	Kanto Traffic Accident Victims' Families Association, Ai no Kai
	13:00	14:00	T	TIC to Sotode Elementary School		
	14:15	14:30	SV	Traffic safety facilities around elementary school (Zone 30 Plus)	Dr. Komazawa	Almec
	14:30	15:00	T	Sotode Elementary School to Asakusa		
	15:00	16:00	SV	Asakusa	Dr. Komazawa	Almec
	16:00	17:05	T	Asakusa to TIC		
24 May	09:45	10:30	T	TIC to Shinbashi Traffic Control		

Date	Time		Style	Content	Lecturer	
	Start	End			Name	Organization
				Center		
	10:45	11:45	SV	Shinbashi Traffic Control Center	Police Officer	Shinbashi Traffic Control Center
	11:45	11:50	T	Shinbashi Traffic Control Center to Fukoku Seimei Building		
	12:50	13:45	T	Fukoku Seimei Building to Chiba National Highway Office		
	14:00	14:30	L	Road Engineering Measures in Chiba Office	Mr. Watanabe Mr. Fujii	Chiba National Highway Office, Kanto Regional Development Bureau, MLIT
	14:30	15:30	SV	Road Engineering Measures on Chiba National Road	Mr. Watanabe	Chiba National Highway Office, Kanto Regional Development Bureau, MLIT
	15:30	16:30	T	Chiba National Highway Office to TIC		
25 May				Holiday		
26 May				Holiday		
27 May	07:30	8:10	T	TIC to Tokyo Station		
	08:30	11:00	T	Tokyo Station to Shin-Osaka Station		
	11:15	12:00	T	Shin-Osaka Station to Osaka International University		
	13:00	14:00	L	Traffic Safety Education	Dr. Yamaguchi	Professor, Osaka International University
	14:00	16:00	T	Osaka International University to Hotel		
28 May	09:30	10:15	T	Hotel to Police Academy		
	10:30	12:30	SV	Police Academy in Kyoto Police (Cancelled)	Police Officer	Kyoto Police Academy
	12:30	13:00	T	Police Academy to Hotel		
	14:00	18:15	SV	Presentation Preparation, Traffic experience in Kyoto City	Dr. Komazawa	Almec
29 May	08:30	10:30	T	Hotel to Traffic Park		
	10:30	12:30	SV	Traffic Park	Mr. Ito	Toyota City Traffic Safety Learning Center
	12:30	13:00	T	Traffic Park to Sanage Adventure Field		
	13:00	16:00	SV	Sanage Adventure Field (Cancelled)	Mr. Fujioka	Sanage Adventure Field
	16:00	17:00	T	Sanage Adventure Field to Nagoya Station		
	17:20	18:57	T	Nagoya Station to Tokyo Station		
	19:15	19:45	T	Tokyo Station to TIC		
30 May	10:00	11:30	L	Specific Methods of Micro and Macro Analysis of Road	Mr. Kiuchi	ITARDA
	11:40	12:30	L	Latest Road Accident Analysis Methods	Mr. Sugimoto	ITARDA
	14:00	16:00		Presentation Preparation	Dr. Komazawa	Almec
31 May	09:30	11:00	Pre	Training Presentation and	Dr. Komazawa	Almec

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Time		Style	Content	Lecturer	
	Start	End			Name	Organization
				Evaluation		
	11:00	11:30		Awarding of Certificates	Ms. Watanabe	JICA Infrastructure Management Department
1 June				Flight to Cambodia		

T: Travel, L: Lecture, SV: Site Visit, Pra: Practical, Pre: Presentation, TIC : JICA Tokyo Center

Source: JET

3.6 Seminars

To disseminate the results of the project, annual seminars were held in the provinces of Battambang and Kampong Chhnang. In addition, the Traffic Safety Knowledge Sharing Seminar was held in December 2024, and the Seminar for Cross Sectoral Collaboration on Road Safety Education was held in March 2025.

3.6.1 Seminar on First-Year Progress Results

The seminar was held on 21 March 2023 to report the first-year activities in Battambang Province. Some 61 participants, including representatives from MPWT, MOI, DPWT from each province, and the police, attended the seminar. The program is shown below. After the seminar, a walk to promote traffic safety was held in the center of Battambang Province.

Table 3.6.1 Seminar Program (First Year)

<i>Time</i>	<i>Presentation Title</i>	<i>Speaker</i>
09:00 – 09:10	Opening remarks	Her Excellency Min Meanvy Secretary of State, Ministry of Public Works and Transport (MPWT)
09:10 – 09:20	Outline of the JICA Project	Mr. Ohno Manabu, JICA Expert Team
09:20 – 09:45	Introduction of Output 1	Mr. Shiina Yasuo, JICA Expert Team
09:45 – 10:10	Introduction of Output 2	Mr. Khoun Kompheak (RID)
10:10 – 10:25	Coffee Break	
10:25 – 10:50	Introduction of Output 3	Mr. Fukasawa Hideyuki, JICA Expert Team
10:50 – 11:15	Introduction of Output 4	Mr. Yumita Kazuo, JICA Expert Team
11:15 – 11:50	Q&A	
11:50 – 12:00	Closing remarks	Her Excellency Min Meanvy Secretary of State, Ministry of Public Works and Transport (MPWT)

Source: JET



Source: JET

Figure 3.6.1 Seminar Photos

3.6.2 Seminar on the Second-Year Progress Results

The seminar was held on 20 March 2024 to report the second-year activities in Kampong Chhnang Province. The seminar program is shown below. Several media channels (i.e., MYFM News, TVK, CNC) broadcast the workshop and seminar.

Table 3.6.2 Seminar Program (Second Year)

<u>Time</u>	<u>Presentation Title</u>	<u>Speaker</u>
14:00 – 14:10	Opening remarks	1. Mr. Ohno Manabu, Deputy Team Leader 2. H.E. Sun Sovannarith, Kampong Chhnang Provincial Governor 3. H.E. Min Meanvy Secretary of State, Ministry of Public Works and Transport (MPWT)
14:10 – 14:20	Outline of the JICA Project	JET
14:20 – 14:45	Introduction of the Output 1	Mr. Boran Sattya and Mr. Pech Chan Bandith
14:45 – 15:10	Introduction of the Output 2	Mr. Sim Sanvapiseth
15:10 – 15:25	Coffee Break	
15:25 – 15:50	Introduction of the Output 3	Mr. Ly Na
15:50 – 16:15	Introduction of the Output 4	Mr. Tong Borith
16:15 – 16:50	Q&A	
16:50 – 17:00	Closing remarks	Her Excellency. Min Meanvy Secretary of State, Ministry of Public Works and Transport (MPWT)

Source: JET



Source: JET

Figure 3.6.2 Seminar Photos

3.6.3 Seminar on Traffic Safety Knowledge Sharing

The seminar on road traffic safety knowledge sharing was held on 3 December 2024, with the aim of sharing Japan's experience and knowledge on road traffic safety policies and measures, as well as discussing applicable measures in Cambodia. The seminar was attended by participants from MPWT, MOI, MoEYS, DPWT of each target province, police, JET, and JICA. Below is the seminar program.

Table 3.6.3 Program for the Traffic Safety Knowledge Sharing Seminar

<i>Time</i>	<i>Presentation Title</i>	<i>Speaker</i>
09:00 – 09:15	Opening remarks	Mr. TAKAGI Michimasa, JET Ms. MIURA Yoshiko, Senior Representative, JICA Cambodia Office H.E. Min Meanvy, Secretary of State, Ministry of Public Works and Transport (MPWT)
09:15 – 09:20	Outline of the JICA Project	Mr. OHNO Manabu, JET
09:20 – 09:50	Creation and Evaluation of the Traffic Safety Basic Plan in Japan	Prof. AKAHANE Hirokazu, Chiba Institute of Technology
09:50 – 10:20	Engineering Measures on Road Traffic Safety in Japan	Mr. FURUKI Moriyasu, JET
10:20 – 10:40	Current Situation and Challenges of Traffic Management in Phnom Penh	JICA Project Team of PPTMTC
10:40 – 10:55	Coffee Break	
10:55 – 11:10	Road Safety Policy and Accident Database in Cambodia	DRTS (Mr. Vantha)
11:10 – 11:25	Need of enforcement and education for road users in Cambodia	MOI (Mr. Hout)
11:25 – 11:50	RTS improvement at a Factory (Tentative)	AIP
11:50 – 12:00	Q and A for all topics	
12:00 – 13:00	Lunch	
13:00 – 13:40	Panel discussion on the development of road safety in Cambodia	Prof. AKAHANE Hirokazu Mr. TAKAGI Michimasa, JET Mr. FURUKI Moriyasu, JET Mr. Koto, JICA PPTMTC Mr. Vantha, DRTS Mr. Hout, MOI MC: Ohno
13:40 – 14:00	Introduction of JICA project results	Mr. Ohno, JET
14:00 – 14:20	Way forward on RTS in Cambodia	Mr. Vantha, DRTS

14:20 – 14:40	Summary and Recommendation	Prof. Akahane
14:40 – 15:00	Closing remarks	Ms. MIURA Yoshiko, JICA Her Excellency. Min Meanvy Secretary of State, Ministry of Public Works and Transport (MPWT)

Source: JET



Source: JET

Figure 3.6.3 Seminar Photos

3.6.4 Seminar on Cross-sectoral Collaboration for Road Safety Education

The seminar on cross-sectoral collaboration for road safety education was held on 19 March 2025, with the aim of discussing strategies to promote road safety education. Participants included the vice principal of Andong Snay Primary School, a pilot school for Outcome 4; representatives from government agencies such as MPWT, MOI, and MoEYS; and private sector representatives including the Minami Driving School, LoTA members, IATSS research team, JET, and JICA. Below is the seminar program.

Table 3.6.4 Program for the Seminar on Cross-sectoral Collaboration for Road Safety Education

<i>Time</i>	<i>Presentation Title</i>	<i>Speaker</i>
09:00 - 09:20	National Anthem Opening remarks	Mr. TAKAGI Michimasa, JET Mr. SANUI Kazumasa, Chief Representative, JICA Cambodia Office His Excellency Peng PONEA, Minister of Ministry of Public Works and Transport
09:20 - 09:25	Group Photo	All participants
09:25 – 09:55	Keynote Speech	Prof. KITAMURA Yuto, Tokyo Univ.
09:55 – 10:10	JICA Policy and Strategy for Road Traffic Safety	Mr. OUK REAKSMEY, Senior Program Officer, JICA Cambodia Office
10:10 – 10:40	Results of the JICA Project	Mr. OHNO Manabu, JET Mr. PRUM VANTHA, Director of Road Traffic Safety Department, MPWT Mr. SEUNG MARADI, Vice school principal of Andong Snay Primary School
10:40 – 10:55	Coffee Break	
10:55 – 11:25	Development and Implementation of a Road Safety Behavior Change Program in Cambodia	Prof. NAKAMURA Akihiro and Assistant Prof. YOH Kento, International Association of Traffic and Safety Sciences (IATSS) Project Team

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

11:25 – 11:45	The Need for Traffic Safety Education from a Driving School Perspective	Mr. KOBAYASHI Ryosuke, CEO, Minami (Cambodia) Co., Ltd.
11:45 – 12:00	Q and A	
12:00 – 13:00	Lunch	
13:00 – 13:20	Current Situation of Road Safety Enforcement and Awareness	Mr. SAY SAMATH, Chief officer of Traffic Police and Public Order, Ministry of Interior
13:20 – 13:40	Current Situation and Policy of Road Safety Education at school in Cambodia	Dr. CHAN SOPHEA, Under Secretary of State, Ministry of Education, Youth and Sports
13:40 – 14:00	The Need for Industry-Government-Academia Collaboration in Traffic Safety Education	Ms. HEANG OMUOY, Chief Executive Officer of Asia Digital Technology Innovation (ADITI), member of Local Technical Advisory Team (LoTA)
14:00 – 15:00	Panel discussion for road traffic safety education in Cambodia	Mr. PRUM VANTHA, MPWT Dr. CHAN SOPHEA, MoEYS Mr. SAY SAMATH, MOI Ms. HEANG OMUOY, LoTA Prof. NAKAMURA Akihiro, IATSS Mr. KOBAYASHI Ryosuke, Minami (CAMBODIA) Co.,Ltd. Mr. TAKAGI Michimasa, JET MC: Prof. KITAMURA Yuto
15:00 – 15:15	Coffee Break	
15:15 – 15:40	Q and A for all topics	
15:40 – 16:00	Closing remarks	Ms. MIURA Yoshiko, Senior Representative, JICA Cambodia Office H.E. Min Meanvy, Secretary of State, MPWT

Source: JET



Source: JET

Figure 3.6.4 Seminar Photos

3.7 Public Relations and Awareness Raising Activities

3.7.1 Public Relations and Awareness Raising Activities

The following are public relations and awareness-raising activities conducted during the project.

(1) Activities in Battambang Province in October 2022

The following public relations and awareness rising activities were carried out in October

2022 in collaboration with a traffic safety campaign and police activities (accident investigation and traffic enforcement training) in Battambang Province.

A) In Battambang Province, traffic safety awareness videos were produced regarding traffic on NR5 by utilizing the influencer. The video was shared on Facebook as shown below.

- Cambodia Road Traffic Safety Project (below left side)
- JICA Cambodia Office (below right side)



Source: JET

Figure 3.7.1 Screens related to Public Relations and Awareness Raising Activities

B) The above-mentioned traffic safety campaign and police activities appeared in Khoh Santhepheab News on 4 November 2022.

Summary

The construction of the northern section of NR5 from Battambang to Banteay Meanchey Province was completed, and the road opened in January 2022. The new four-lane road has led to an increase in road users, but also to an increase in traffic accidents. To address this issue, the Japanese Government and the Cambodian Government are implementing a joint project aimed at reducing the number of traffic accident fatalities and the number of accidents on NR5.

From 19 to 29 October 2022, JICA expert team conducted training for the Battambang Provincial Police on traffic accident investigation and traffic enforcement, deepening their knowledge and sharing experiences in these areas. Additionally, JICA expert team visited accident black spot to conduct an accident analysis survey, provided traffic enforcement training to the provincial police on stop signs at intersections and speeding violations, and distributed traffic safety materials such as leaflets, posters, and helmets. Police officers from

MOI, Battambang Provincial Police, and Battambang DPWT were attended these activities.



Source: Khoh Santhepheab News dated 4th November 2022

Figure 3.7.2 News Articles about Police Activities on October 2022

C) A campaign was held during the Water Festival organized by the DPWT in Battambang Province.

The project team conducted traffic safety awareness campaigns on 9 and 10 October 2022, distributing flyers and goods. Promotion of quiz-style traffic rules app was conducted as awareness activities for the public.



Source: JET

Figure 3.7.3 Campaigns in Battambang Province

(2) Activities in Battambang Province in March 2023

In March 2023, a walking rally was held in the center of Battambang Province in line with the first-year activity report seminar. The seminar and walking rally were reported by the media (CNC TV, Bayon TV, and Fresh News) and appeared on television and in the news.

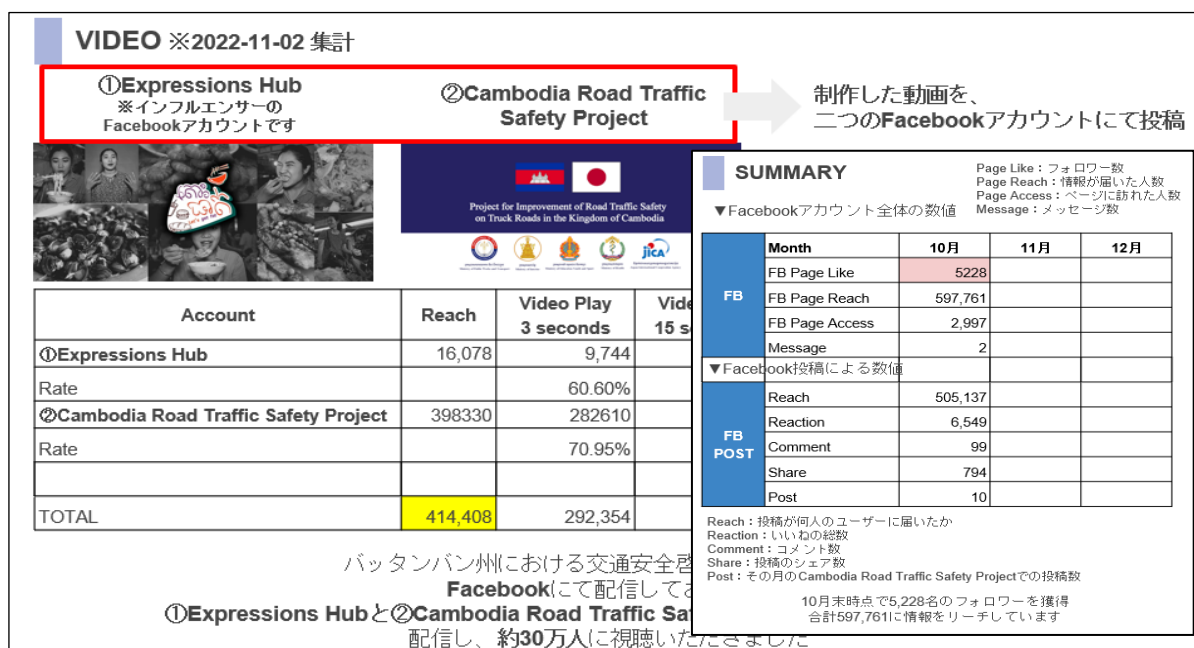


Source: JET

Figure 3.7.4 Walking Rally Scene

3.7.2 Quantitative Verification of Public Relations and Awareness Raising Activities

The number of accesses and followers was measured quantitatively for public relations and awareness activities utilizing the above Facebook page and videos.



Source: JET

Figure 3.7.5 Number of Access on Facebook Page

3.8 Workshops on Implementing the Behavioral Change Program

Five workshops were held for teachers who would be implementing the behavior change program. The workshop details are as follows.

(1) Workshop for secondary school teachers in Battambang Province

The workshop was held on 11 December 2023, for teachers from two secondary schools,

following the schedule below. After the workshop, teachers who received training implemented behavior change programs for students over a three-day period (13 to 15 December and 18 to 20 December 2023).

Table 3.8.1 Schedule of Workshop for School Teachers in Battambang Province

<i>Time</i>	<i>Content</i>	<i>Action by</i>
9:30-9:50 AM	Self-Introduction of Participants	Participants
9:50-10:10	Explanation on Behavior Change Program Outline Explanation on Objective of Two Textbooks	DRTS, MoEYS
10:10-10:50	Explanation on Textbook for Behavior Change	DRTS, MoEYS, (JET)
10.50-11:00	Break	
11:00-12:00	Explanation on Textbook for Behavior Change	DRTS, MoEYS, (JET)
12:00-13:00	Lunch Break	
13:00-14:00	Explanation on Textbook for Knowledge Development	DRTS, MoEYS
14:00-14:30	Explanation on Workshop Schedule	DRTS, MoEYS

Source: JET

(2) Workshop for secondary school teachers in Kampong Chhnang Province

The workshop was held on 9th September 2024, for teachers from Bunnary Hunsen Roleapiea High School, following the schedule below. After the workshop, teachers who received training implemented a behavior change program for students over a three-day period (10 to 12 September 2024).

Table 3.8.2 Schedule of Workshop for School Teachers in Kampong Chhnang Province

<i>Time</i>	<i>Content</i>	<i>Responsibility</i>
9:30-9:50	Self-Introduction of Participants	Participants
9:50-10:10	Explanation on Behavior Change Program Outline Explanation on Objective of Two Textbooks	JET (Mr. Ohno)
10:10-10:50	Explanation on Textbook for Behavior Change	DRTS (Ms. Leakhena)
10.50-11:00	Break	
11:00-12:00	Explanation on Textbook for Behavior Change	DRTS (Ms. Leakhena)
12:00-1:00	Lunch Break	
01: 00-02:00	Explanation on Textbook for Knowledge Development	DRTS (Ms. Leakhena)
02:00-02:30	Explanation on program schedule	DRTS (Ms. Leakhena)

Source: JET

(3) Workshop for primary school teachers in Kampong Chhnang Province

The workshop was held on 16 September 2024, for teachers from Andong Snay Primary School, following the schedule below. After the workshop, teachers who received training implemented a behavior change program for students over a three-day period (17 to 19 September 2024).

Table 3.8.3 Schedule of Workshop for School Teachers in Kampong Chhnang Province

<i>Time</i>	<i>Content</i>	<i>Responsibility</i>
9:00-9:20 AM	Self-Introduction of Participants	Participants
9:20-9:50	Explanation on Behavior Change Program Outline	JET (Mr. Ohno)
9:50-10:30	Explanation on lesson	DRTS (Ms. Leakhena)

10.30-10:40	Break	
10:40-11:20	Explanation on lesson	DRTS (Ms. Leakhena)

Source: JET

(4) Workshop for school teachers in Pursat Province

Two workshops were held on 18 February 2025, for teachers from Trapang Smach Primary School and Hun Sen KrarKor High School respectively, following the schedule below. After the workshops, teachers who received training implemented behavior change programs for students over a three-day period (19 to 21 February 2025).

Table 3.8.4 Schedule of Workshop for School Teachers in Pursat Province

Trapang Smach Primary School:

<i>Time</i>	<i>Content</i>	<i>Responsibility</i>
9:00-9:20 AM	Self-Introduction of Participants	Participants
9:20-9:50	Explanation on Behavior Change Program Outline	MoEYS (Mr. Borith)
9:50-10:50	Explanation on lesson	DRTS (Ms. Leakhena)
10:50-11:00	Break	Participants
11:00-12:00	Explanation on lesson	DRTS (Ms. Leakhena)

Hun Sen KrarKor High School:

<i>Time</i>	<i>Content</i>	<i>Responsibility</i>
2:00-2:10 PM	Self-Introduction of Participants	Participants
2:10-3:30	Explanation on Behavior Change Program Outline Explanation on Objective of Two Textbooks	MoEYS (Mr. Borith)
3:30-4:10	Explanation on Textbook for Behavior Change	DRTS (Ms. Leakhena)
4:10-4:20	Break	Participants
4:20-4:50	Explanation on Textbook for Behavior Change	DRTS (Ms. Leakhena)
4:50-5:30	Explanation on Textbook for Knowledge Development	DRTS (Ms. Leakhena)

Source: JET

(5) Workshop for school teachers in Kampong Chhnang Province

Two workshops were held on 13 March 2025, for teachers from Andong Snay Primary School and Bunnary Hunsen Roleapiea High School respectively, following the schedule below. After the workshops, teachers who received training implemented an additional behavior change program for students on 14 March 2025.

Table 3.8.5 Schedule of Workshop for School Teachers in Kampong Chhnang Province

Andong Snay Primary School:

<i>Time</i>	<i>Content</i>	<i>Responsibility</i>
9:00-9:10 AM	Self-Introduction of Participants	Participants
9:10-9:40	Feedback from the previous pilot project	DRTS (Ms. Leakhena)
9:40-9:50	Break	Participants
9:50-11:00	Explanation on lesson	DRTS (Ms. Leakhena)

Bunnary Hunsen Roleapiea High School:

<i>Time</i>	<i>Content</i>	<i>Responsibility</i>
2:00-2:10 PM	Self-Introduction of Participants	Participants

2:10-2:40	Feedback from the previous pilot project	DRTS (Ms. Leakhena)
2:40-2:50	Break	Participants
2:50-4:00	Explanation on lesson	DRTS (Ms. Leakhena)

Source: JET

3.9 Midline Survey

The midline survey was conducted in 2023 to confirm the achievement status of the indicators set to measure the effectiveness of the project. The main contents of the survey are the same as those of the baseline and endline surveys, as shown in Table 3.4.1. A summary of the survey and the main findings are presented below.

3.9.1 Midline Survey Schedule

The traffic and interview surveys among road users and residents along NR5 were conducted from November to December 2023.

Table 3.9.1 Schedule of the Midline Survey

Activities	Nov-2023				Dec-2023				Jan-24	
	W-1	W-2	W-3	W-4	W-1	W-2	W-3	W-4	W-1	W-2
1. Contract signing		*								
2. Work preparation										
3. Training & trial demonstration										
4. Survey implementation										
a) Interview*										
b) Traffic count**										
c) Video recording & analyse***										
5. Data processing										
a) Data retrieving development										
b) Data entry & cleaning										
c) Error & logical check										
d) Descriptive data and visualization										
6. Reporting										

Note: W: Week; * Interview survey 4 provinces: Kg. Chhnang, Pursat, Battambang, Banteay Meanchey province
 ** Traffic count at 4 locations (6:00-20:00); *** 1 week video recording 2 locations.

Source: JET

3.9.2 Midline Survey Details

(1) Interview Survey

The survey was conducted in the following four provinces along NR5, i.e., Banteay Meanchey, Battambang, Kampong Chhnang, and Pursat. A total sample of 459 respondents were interviewed.

The following are the interview items:

- Individual characteristics (gender, age, occupation, driving license etc.)
- Usage of NR5 (frequency, trip purpose)
- Experience of accidents in N (number of accidents, accident characteristics, location)
- Experience of enforcement (number of times cracked down)
- Behavior when drivers see police officers
- Experience of traffic safety lecture/program

- What do you think about traffic safety?
- What do you think about following traffic rules?
- What do you think about DUI?
- What do you think about speeding?



Source: JET

Figure 3.9.1 Interview Survey Scenes

(2) Traffic Survey

The traffic survey was conducted using video recording at four intersections in Battambang Province. The following are survey details:

- Date of Observation: 14 November 2023
- Observation period: from 6:00 to 20:00 (14 hours)
- Vehicle types:
 - 1: Motorbike
 - 2: Tuktuk
 - 3: Motorumo
 - 4: Sedan, Wagon, Van
 - 5: Taxi
 - 6: Minibus
 - 7: City Bus
 - 8: Medium and Large Bus
 - 9: Light Pickup Truck
 - 10: Truck (2 axles)
 - 11: Heavy Truck and Trailer (3+ axles)

(3) Observation of Dangerous Behaviors

Dangerous behaviors were observed at the following two junctions:

- Otaki Primary School, Battambang Province
- Thmar Koul Market, Battambang Province

The following dangerous behaviors were analyzed:

1. Reverse Driving

2. Abrupt Lane Change
3. Speeding
4. Number of Motorcycle Riders
 - (1) First legal riding refers to a motorcycle carrying only the driver;
 - (2) Second legal riding refers to a motorcycle carrying the driver and 1 passenger; and,
 - (3) Illegal riding refers to a motorcycle carrying the driver and 2 or more passengers.
5. Wearing Helmet
6. Crossing Roads
 - (1) 100% using zebra crossing
 - (2) 1–99% using zebra crossing
 - (3) 0% using zebra crossing



Otaki Primary School



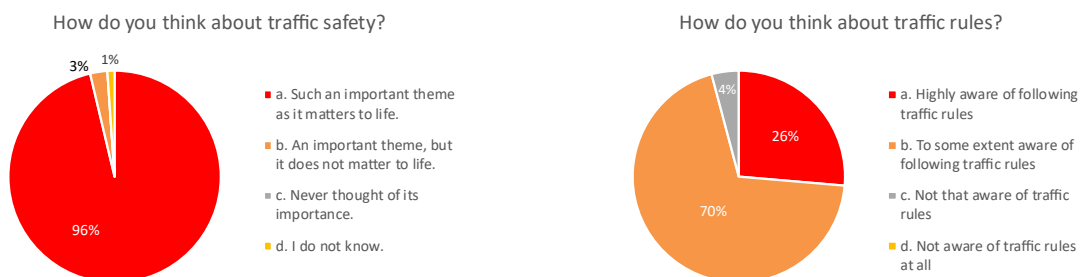
Thmar Koul Market

Source: JET

Figure 3.9.2 Observation Sites for Dangerous Road Behaviors

3.9.3 Midline Survey Results

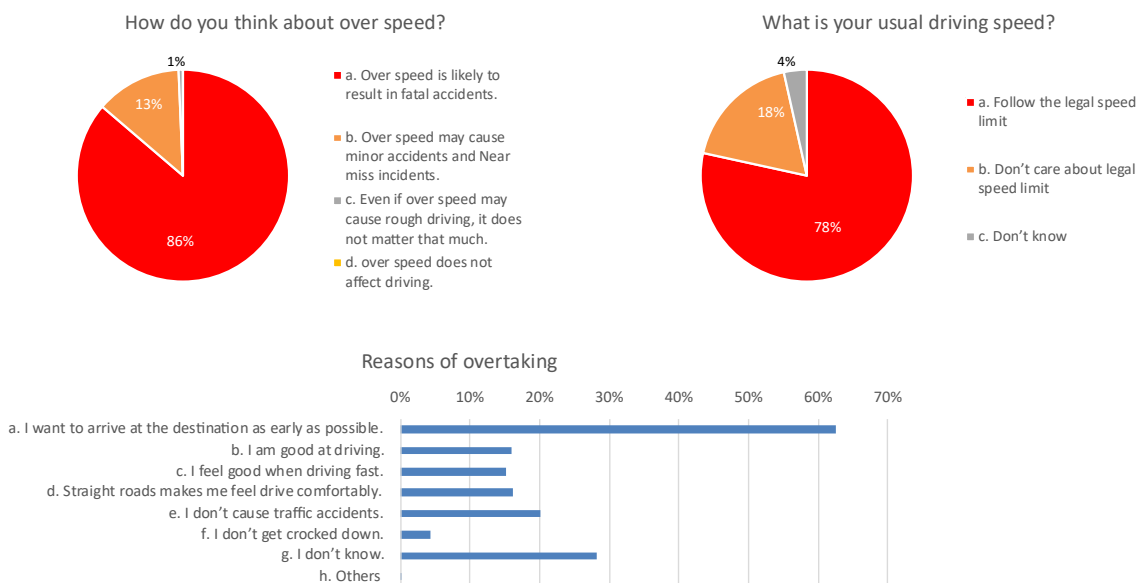
About 99% of road users and residents interviewed regarding their awareness of traffic safety acknowledged the importance of traffic safety, but only 26% were "highly aware of the importance of following traffic rules."



Source: JET

Figure 3.9.3 Traffic Safety Awareness

99% believed that "excessive speed leads to fatal accidents," and the number of respondents who said they "obey the legal speed limit" increased to 78%. The most common reason for oversteering was to "get to the destination faster."



Source: JET

Figure 3.9.4 Awareness of Speeding

3.10 Endline Survey

The endline survey was conducted in 2023 to assess the achievement of the indicators established to measure the project’s effectiveness. The survey covered the same components as the baseline and midline surveys, as shown in Table 3.4.1. A summary of the survey methodology and findings are presented below.

3.10.1 Endline Survey Schedule

The traffic and interview surveys among road users and residents along NR5 were conducted from February to April 2025.

Table 3.10.1 Schedule of the Endline Survey

Activities	2025											
	Feb	Mar				Apr			May			
	4W	1W	2W	3W	4W	1W	2W	3W	4W	1W	2W	
1. Contract signing	★											
2. Work preparation												
3. Survey training			● March 8, 2025									
4. Survey implementation												
a) Interview*												
b) Traffic count**												
c) Video recording & analyse***												
5. Data processing												
a) Data retrieving development												
b) Data entry & cleaning												
6. Report preparation and submission												

Note: W: Week; * Interview survey 4 provinces: Kg. Chhnang, Pursat, Battambang, Banteay Meanchey; ** Traffic count at 4 locations (6:00-20:00); *** 1 week video recording 2 locations.

Source: JET

3.10.2 Endline Survey Details

(1) Interview Survey

The survey was conducted in the following four provinces along NR5, i.e., Banteay Meanchey, Battambang, Kampong Chhnang, and Pursat. A total sample of 420 respondents were interviewed.

The following are the interview items:

- Individual characteristics (gender, age, occupation, driving license etc.)
- Usage of NR5 (frequency, trip purpose)
- Experience of accidents in NR5 (number of accidents, accident characteristics, location)
- Experience of enforcement (number of times cracked down)
- Behavior when drivers see police officers
- Experience of traffic safety lecture/program
- What do you think about traffic safety?
- What do you think about following traffic rules?
- What do you think about DUI?
- What do you think about speeding?



Source: JET

Figure 3.10.1 Interview Survey Scenes

(2) Traffic Survey

The traffic survey was conducted using video recording at four intersections in Battambang Province. The following are the survey details:

- Date of Observation: 11 March 2025
- Observation period: from 6:00 to 20:00 (14 hours)
- Vehicle types:
 - 1: Motorbike
 - 2: Tuktuk
 - 3: Motorumo
 - 4: Sedan, Wagon, Van
 - 5: Taxi
 - 6: Minibus

- 7: City Bus
- 8: Medium and Large Bus
- 9: Light Pickup Truck
- 10: Truck (2 axles)
- 11: Heavy Truck and Trailer (3+ axles)

(3) Observation of Dangerous Behaviors

Dangerous behaviors were observed at the following two junctions:

- Otaki Primary School, Battambang Province
- Thmar Koul Market, Battambang Province

The following dangerous behaviors were analyzed:

1. Reverse Driving
2. Abrupt Lane Change
3. Speeding
4. Number of Motorcycle Riders
 - (1) First legal riding refers to a motorcycle carrying only the driver;
 - (2) Second legal riding refers to a motorcycle carrying the driver and 1 passenger; and,
 - (3) Illegal riding refers to a motorcycle carrying the driver and 2 or more passengers.
5. Wearing Helmet
6. Crossing Roads
 - (1) 100% using zebra crossing
 - (2) 1–99% using zebra crossing
 - (3) 0% using zebra crossing



Otaki Primary School



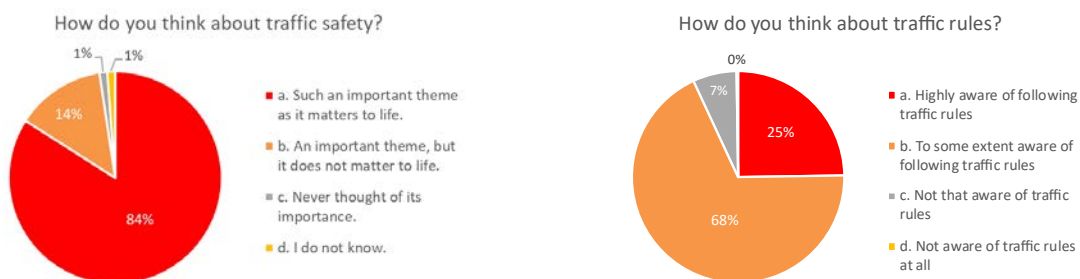
Thmar Koul Market

Source: JET

Figure 3.10.2 Observation Sites for Dangerous Road Behaviors

3.10.3 Endline Survey Results

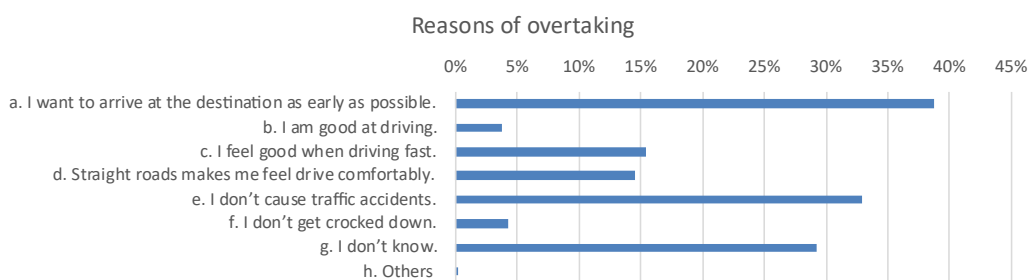
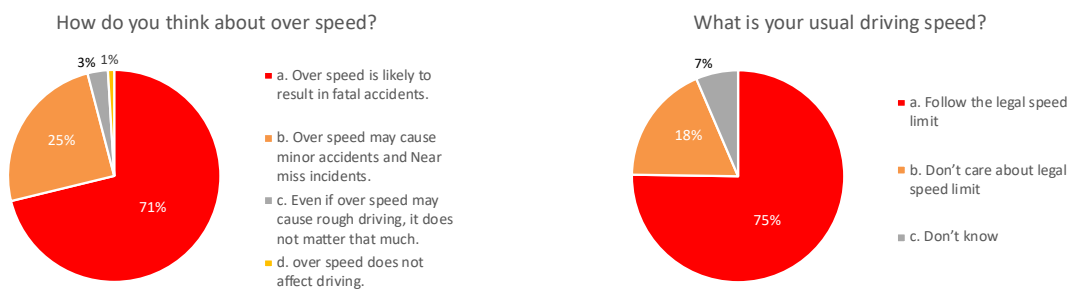
About 98% road users and residents interviewed regarding their awareness of traffic safety acknowledged the importance of traffic safety, but only 25% were "highly aware of the importance of following traffic rules."



Source: JET

Figure 3.10.3 Traffic Safety Awareness

About 96% believed that "excessive speed leads to fatal accidents," and the number of respondents who said they "obey the legal speed limit" increased to 75%. The most common reason for speeding was to "get to the destination faster."



Source: JET

Figure 3.10.4 Awareness of Speeding

3.11 Preparation of the Project Completion Report

The Project completion report provides a comprehensive overview of the project’s activities, the achievement of the objectively verifiable indicators, and recommendations for future projects. In addition, the report includes technical documents prepared during the project, such as the manual on traffic accident data analysis and the manual on road traffic safety assessment.

Table 3.11.1 List of Technical Documents

1. Annual Traffic Accident Report	Output1
2. Traffic Accident Investigation Manual	Output1
3. Traffic Accident Data Analysis Manual	Output1
4. Technical Cooperation Document on White Paper on Traffic Safety	Output1
5. Road Safety Assessment Manual	Output2
6. Road Traffic Safety Guidebook	Output2
7. Traffic Enforcement Manual	Output3
8. Manual for Behavioral Change on Traffic Safety Behaviors	Output4
9. Draft of Medium Long-term Strategic Plan for Road Safety	Output4

Source: JET

4 The Capacity of the Relevant Organizations for Research & Analysis for Road Safety is Improved (Output 1)

4.1 Outline

Output 1 comprises four activities as indicated in the Project Design Matrix (PDM). Its objectively verifiable indicators are shown in Table 4.1.1.

Table 4.1.1 Activities of Output 1

1-1	Conduct activities for improving traffic accident investigation capacity
1-2	Conduct activities for improving traffic accident data analysis capacity
1-3	Issue a traffic accident report
1-4	Issue white paper on traffic safety

Source: Project Design Matrix

Table 4.1.2 Effectiveness Indicators for Output 1

1-1	Conduct at least 3 training sessions each on accident investigation/accident analysis
1-2	Manuals for accident investigation/analysis are prepared
1-3	Accident report published at least once a year
1-4	Traffic safety white paper is published at least once a year
1-5	Self-assessment of the ability of relevant personnel to investigate accidents improves by at least 20%.
1-6	Self-assessment of the ability of relevant personnel to analyze accidents / to plan improves by at least 20%.

Source: Project Design Matrix

4.2 Record of Meetings

Activities related to capacity building in traffic accident investigation were regularly held with the MOI and the State Police under WGs 1 and 3, in collaboration with WG3 (Traffic Enforcement). In addition, activities related to traffic accident data analysis and road safety white papers were held regularly with DRTS and WG1. Table 4.2.1 shows the results of discussions with each agency.

Table 4.2.1 Record of WG1 Meetings

Date	Meeting Title	Venue or C/P	Agenda
2022/3/14	WG1&3-Police activities	MOI	<ul style="list-style-type: none"> Confirm activity plan of Kampong Chhnang Provincial Police and Battambang Provincial Police Identification of WG members from MOI
2022/3/14	WG1-Traffic accident data	DRTS	<ul style="list-style-type: none"> Exchange opinions over Outcome 1 (Traffic accident data analysis and accident report in White Paper on Road Safety)

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Meeting Title	Venue or C/P	Agenda
2022/3/17	WG1&3-Police activities	Kampong Chhnang	<ul style="list-style-type: none"> Inspect Kampong Chhnang Provincial Police Local police boxes and exchange opinions
2022/3/23	WG1-Traffic investigation, Traffic accident data	Battambang Provincial Police	<ul style="list-style-type: none"> Exchange opinions on the activities in Outcome 1 (Traffic investigation and accident data collection)
2022/3/29	WG1-Action Plan	DRTS	<ul style="list-style-type: none"> Confirm evaluation progress of the National Road Safety Action Plan (2011-2020)
2022/3/29	WG1-Traffic accident data	DRTS	<ul style="list-style-type: none"> Exchange opinions on Outcome 1 (Traffic accident data analysis, accident report, and White Paper on Road Safety)
2022/3/30	WG1&3-Wrap-upmeeting	MOI	<ul style="list-style-type: none"> Confirm activity outcomes in March and plan next steps
2022/3/31	WG1-Traffic accident data	DRTS	<ul style="list-style-type: none"> Exchange opinions on RCVIS (Output1)
2022/4/1	WG1~4-Wrap-upmeeting	DRTS	<ul style="list-style-type: none"> Confirm activity outcomes in March and plan next steps
2022/4/19	WG1-Traffic accident data	DRTS	<ul style="list-style-type: none"> Check traffic accident data collection Check RCVIS data contents
2022/5/10	WG1-Traffic accident data	DRTS	<ul style="list-style-type: none"> Confirm traffic accident data collection
2022/5/13	WG1&3-Police activities	MOI	<ul style="list-style-type: none"> Confirm activity plan for Battambang Provincial Police
2022/5/23	WG1&3-Police activities	Battambang Provincial Police	<ul style="list-style-type: none"> Inspect Battambang Provincial Police and local police boxes and exchange opinions
2022/5/26	WG1-Traffic investigation	Battambang Provincial Police	<ul style="list-style-type: none"> Confirm guidelines for on-the-spot investigation
2022/6/9	WG1-Traffic accident data	DRTS	<ul style="list-style-type: none"> Confirm data collection of RCVIS and collected data
2022/7/8	WG1-Traffic accident data	DRTS	<ul style="list-style-type: none"> Training in accident data analysis (Case study: Macro analysis on the traffic accident in Japan applied for the Annual Report 2017)
2022/7/15	WG1-Traffic accident data	DRTS	<ul style="list-style-type: none"> Training in accident data analysis (detailed analysis exercises on motorbike accidents)
2022/7/20	WG1-Traffic accident data	DRTS	<ul style="list-style-type: none"> Training in accident data analysis (evaluation of the detailed analysis exercises on motorbike accidents)
2022/7/22	WG1~4-Wrap-upmeeting	DRTS	<ul style="list-style-type: none"> Progress of each WG
2022/9/5	WG1 (accident data analysis, White Paper on Road Safety)	DRTS	<ul style="list-style-type: none"> Confirm 2nd JCC meeting presentation materials

Date	Meeting Title	Venue or C/P	Agenda
2022/10/17	WG1&3-Police activities	MOI	<ul style="list-style-type: none"> Confirm traffic accident investigation and enforcement in Battambang Province, training, planning
2022/10/20	WG1-Traffic investigation	Battambang Provincial Police	<ul style="list-style-type: none"> Tutorial on traffic accident investigation
2022/10/21	WG1-Traffic investigation	Battambang Provincial Police	<ul style="list-style-type: none"> On-site training and tutorial on traffic accident investigation
2022/10/26	WG1&3-Training interim reporting session	Battambang Provincial Police	<ul style="list-style-type: none"> Exchange opinions on activity plan and review the training in investigation and enforcement
2022/10/28	WG1&3-Wrap-up meeting	Battambang Provincial Police	<ul style="list-style-type: none"> Confirm future activities, reporting on the outcomes of investigation and enforcement
2022/11/1	WG-1 Interview on the Decade Road Safety Action Plan (DAP)	DRTS	<ul style="list-style-type: none"> Confirm progress of retaining the evaluation report for DAP (2011-2020/2021-2030) Review DAP (2011-2020/2021-2030) and the evaluation report
2022/11/30	WG1-Traffic accident data	DRTS	<ul style="list-style-type: none"> Coordinate the tabulation training
2022/12/8	WG1 evaluation indicators	DRTS	<ul style="list-style-type: none"> Confirm DAP (2011–2020) and request for materials Evaluation indicators and methods Next steps
2022/12/8	WG1-Traffic accident data	DRTS	<ul style="list-style-type: none"> Analysis on accident data and training about feedback and discussions on the motorbike accidents Traffic accident rates by country, data aggregation methods for traffic accident rate per vehicle-km.
2022/12/9	WG1-Traffic accident data	DRTS	<ul style="list-style-type: none"> Traffic accident statistics guidelines Methods for constructing interval in computing traffic accident rate per vehicle-km.
2023/1/11	WG1&3-Police activities	Online MOI	<ul style="list-style-type: none"> Confirming the second-year action plan. Creation of the questionnaire sheets to Kampong Chhnang Provincial Police and MOI
2023/1/16	WG1-White Paper on Road Safety	DRTS/Online	<ul style="list-style-type: none"> Evaluation indicators for DAP, confirmation of the questionnaire sheets for individual measures.
2023/1/19	WG1-White Paper on Road Safety	DRTS/Online	<ul style="list-style-type: none"> Coordination and preparation for the delivery of the questionnaire sheets for DAP
2023/1/26	WG1-traffic accident analysis	DRTS	<ul style="list-style-type: none"> Tabulation analysis over the motorbike accident Cross-tabulation analysis of commercial and freight vehicle incidents
2023/1/27	WG1-traffic accident analysis	DRTS	<ul style="list-style-type: none"> Overview of the Annual Report 2020 Case study of incident analysis of cell phone use in Japan
2023/2/6	WG1-traffic accident analysis	DRTS	<ul style="list-style-type: none"> Tabulation analysis for the accidents involving the commercial vehicles and freight vehicles

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Meeting Title	Venue or C/P	Agenda
2023/2/22	WG1-White Paper on Road Safety	DRTS	• Questionnaires for DAP evaluation
2023/3/9	WG1-White Paper on Road Safety	DRTS	• Preparation of delivery of the DAP evaluation questionnaires
2023/3/13	WG1-White Paper on Road Safety	DRTS/Online	• Explanation of the questionnaires for DAP to all WG
2023/3/17	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	• Report on the activities of the first year and explanation of the activity plan for the second year
2023/3/20	WG1&3-Police activities	BTB MOI, Battambang Provincial Police	• Report on first-year activities in Battambang Province • Explanation of the seminar
2023/3/21	Seminar	BTB	• Report on first-year activities in Battambang Province
2023/3/24	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	• Briefing on the technical cooperation project
2023/3/27	WG1-traffic accident analysis	DRTS	• Training on cross tabulation analysis (introduction of Japanese case studies, tutorial on cross tabulation methodology)
2023/3/29	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	• Kampong Chhnang Province bypass of the NR5 accident investigation status • Kampong Chhnang Provincial Police traffic control training discussions
2023/4/3	WG1-traffic accident analysis	DRTS Online meeting	• Analysis report from DRTS on accident 2020 for commercial vehicles
2023/5/29	WG1&3-Police activities	MOI Online meeting	• Confirmation of activities related to on-site training in June
2023/6/5	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	• Confirmation of activities at Kampong Chhnang Provincial Police
2023/6/6	WG1-Traffic investigation	KCH MOI, Kampong Chhnang Provincial Police	• Training in traffic investigation • Improvement of traffic accident reporting to the police • Preventing hit-and-run accidents
2023/6/8	WG1, 3, and 4-Police activities	KCH MOI, KCH DPWT	• Implementation of the Road Safety Campaign • Warning and guidance for violators of the stop sign
2023/6/13	Road safety campaign	KPC	• Implementation of road safety campaign • Warning and guidance for violators of the temporary stop sign • Safety education for drivers without helmets
2023/6/16	WG1-traffic accident analysis	DRTS	• Confirmation of training plan for the current year • Training in traffic accident macro-analysis • Example of cross-tabulation
2023/6/19	WG1-White Paper on Road Safety	DRTS/Online	• Explanation of DAP evaluation questionnaire (2nd session)
2023/8/8	WG1-traffic accident analysis	DRTS Online meeting	• Future activities
2023/8/18	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	• Field activities in September

Date	Meeting Title	Venue or C/P	Agenda
2023/8/30	WG1-White Paper on Road Safety	DRTS	<ul style="list-style-type: none"> Analysis of DAP evaluation questionnaires and preparation of evaluation reports
2023/9/6	WG1-traffic accident analysis	DRTS Online meeting	<ul style="list-style-type: none"> Activity plans for September and October
2023/9/11	WG1-White Paper on Road Safety	DRTS	<ul style="list-style-type: none"> Draft table of contents and assignment of responsibility for preparation of the DAP evaluation report Contents of the 4th JCC presentation
2023/9/13	WG1-traffic accident analysis	DRTS Online meeting	<ul style="list-style-type: none"> Guidance on how to analyze speeding accidents
2023/9/29	WG1-traffic accident analysis	DRTS	<ul style="list-style-type: none"> Report on activities at the JCC meeting Report on the results of the accident analysis of over speeding and critique of the results Future activity plan
2023/10/3	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	<ul style="list-style-type: none"> Check the progress of the bypass of the National Road No. 5 accident investigation Prepare enforcement plan and report results
2023/10/5	WG1-traffic accident analysis	DRTS	<ul style="list-style-type: none"> Interim evaluation of counterparts' ability to analyze traffic incidents Explanation and discussion of future activity plans Discussion on improvement of the annual report
2023/10/23	WG1-White Paper on Road Safety	MPWT	<ul style="list-style-type: none"> Improvement of the Questionnaire for Evaluation of Individual Measures Methods of conducting evaluation (where to distribute, how to distribute and collect)
2023/10/25	WG1-traffic accident analysis	DRTS Online meeting	<ul style="list-style-type: none"> Discussion on future action plans for accident aggregation and analysis
2023/11/2	WG1-White Paper on Road Safety	DRTS	<ul style="list-style-type: none"> Discussion on the contents of DAP evaluation indicators and the method and schedule for conducting the evaluation.
2023/11/8	WG1-traffic accident analysis	DRTS Online meeting	<ul style="list-style-type: none"> Training of traffic accident prevention measures based on cross tabulation analysis in Japan Detailed analysis of accidents caused by excessive speed
2023/11/24	WG1&3-Police activities	MOI, Kampong Chhnang Provincial Police Online meeting	<ul style="list-style-type: none"> Confirmation of activity plan for on-site training in December
2023/12/1	WG1-traffic accident analysis	DRTS	<ul style="list-style-type: none"> Basic safe road planning and training of traffic accident prevention measures through road improvements
2023/12/4	WG1-traffic accident analysis	DRTS	<ul style="list-style-type: none"> Training on measures to prevent traffic accidents through traffic control
2023/12/4	WG1-White Paper on Road Safety	DRTS	<ul style="list-style-type: none"> Status of DAP implementation and progress check
2023/12/5	WG1-traffic accident analysis	DRTS	<ul style="list-style-type: none"> Training in the changes in the occurrence of traffic accidents before and after the National Road No. 5 improvement work.
2023/12/6	WG1-traffic accident analysis	DRTS	<ul style="list-style-type: none"> Training in measures to prevent traffic accidents through safety education

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Meeting Title	Venue or C/P	Agenda
2023/12/6	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	<ul style="list-style-type: none"> Confirmation of activities related to on-site training in December
2023/12/8	WG1-Traffic investigation	KCH MOI, Kampong Chhnang Provincial Police	<ul style="list-style-type: none"> Training in management of traffic accident investigations Training in accident prevention measures based on traffic investigation
2023/12/12	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	<ul style="list-style-type: none"> Training in the effectiveness of speed enforcement Training in progress management of traffic accident investigations
2024/1/31	WG1-traffic accident analysis	DRTS	<ul style="list-style-type: none"> Preparation of the annual report of the Cambodia Transport Accident (review of table of contents)
2024/2/1	WG1,3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	<ul style="list-style-type: none"> Speed enforcement on bypass of NR5 Warning signs at fatal accident locations
2024/2/6	WG1-traffic accident analysis	DRTS	<ul style="list-style-type: none"> Revision of the Cambodia Traffic Accident Annual Report Improvement of the Timing of the Publication of the Annual Report
2024/2/20	WG1&3-project team meeting	Online meeting	<ul style="list-style-type: none"> Field activity plan for March and April Preparation of manuals (control and accident investigation)
2024/2/22	WG1-project team meeting	Online meeting	<ul style="list-style-type: none"> Cambodia Traffic Accident Annual Report Policy
2024/2/26	WG1-traffic accident analysis	DRTS Online meeting	<ul style="list-style-type: none"> Revision of the Cambodia Traffic Accident Annual Report
2024/3/6	WG1&3-Police activities	Online meeting	<ul style="list-style-type: none"> Preparation of seminar materials Preparation of JCC meeting materials
2024/3/11	WG1&3-Police activities	Online meeting MOI, Pursat Provincial Police	<ul style="list-style-type: none"> Discussion on local activity plans for March and April Content of seminar presentations
2024/3/12	WG1-Traffic accident analysis	DRTS (in person and online)	<ul style="list-style-type: none"> Seminar presentation contents Revision of the Cambodia Traffic Accident Annual Report
2024/3/14	WG1&3-Police activities	Online meeting	<ul style="list-style-type: none"> Preparation of JCC meeting materials Implementation and effectiveness study of speed enforcement
2024/3/26	WG1&3-Police activities	KCH Provincial Police	<ul style="list-style-type: none"> Review of JCC meeting documents Future activities (division of roles between MOI and JETs, etc.)
2024/3/27	WG1&3-Police activities	KCH Provincial Police	<ul style="list-style-type: none"> Discussions on installation of warning signs at accident locations Confirmation of the number of accidents that have occurred in the past year Creation of a map of accident locations Establishment of a cooperative system with road administrators
2024/4/2	WG1&3-Police activities	Pursat Provincial Police	<ul style="list-style-type: none"> Outline of the project Confirmation of local activity plan
2024/4/4	WG1&3-Police activities	Pursat Provincial Police	<ul style="list-style-type: none"> Critique on the status of speed enforcement Survey on the status of monthly enforcement plan Investigation of the occurrence of traffic accidents during the year 2023

Date	Meeting Title	Venue or C/P	Agenda
			<ul style="list-style-type: none"> Introduction of court cases related to traffic accident investigations
2024/4/8	WG1&3-Police activities	Phnom Penh	<ul style="list-style-type: none"> Discussion on JCC meeting materials Discussion on activities for the current fiscal year (manual preparation, control plan) Discussion on installation of warning signs for areas where accidents have occurred
2024/4/9	WG1-Traffic accident analysis	Phnom Penh	<ul style="list-style-type: none"> Discussion on JCC meeting materials Confirmation of this year's activity plan Proposals for improvements to the annual report
2024/5/15	WG1-Traffic accident analysis	Online meeting in PP	<ul style="list-style-type: none"> Propose improvements to the annual report
2024/5/17	WG1&3-Police activities	Online meeting in PP	<ul style="list-style-type: none"> Progress check of the publication of the annual report
2024/5/28	WG3-in-house meeting	Online meeting	<ul style="list-style-type: none"> Confirmation of next on-site training plan Discussion on warning cards
2024/6/24	WG1-traffic accident analysis	DRTS	<ul style="list-style-type: none"> Check the status of the annual report Determine improvements (additional analysis items) for the 2023 Traffic Accident Report
2024/7/1	WG1-traffic accident analysis	DRTS	<ul style="list-style-type: none"> Discussed issues related to the collection of traffic accident data and possible solutions.
2024/7/5	WG1&3-Police activities	DRTS	<ul style="list-style-type: none"> Report on the progress of WG1 and 3 activities
2024/7/8	WG1-traffic accident analysis	DRTS	<ul style="list-style-type: none"> Confirmation of the status of the annual report and plans for activities.
2024/7/9	WG1&3-Police activities	Phnom Penh	<ul style="list-style-type: none"> Discussion on finalizing the manual Implementation of the capacity assessment for counterparts Installation of signboards to indicate the location of traffic accidents
2024/7/26	WG1&3-Police activities	Online meeting (MOI, KCH, BTB, and PS Provincial Police)	<ul style="list-style-type: none"> Implementation of capacity assessment for counterparts Update on the collection of traffic accident data for NR5
2024/8/30	WG1-Road Safety White Paper	DRTS	<ul style="list-style-type: none"> Explanation of the contents of the Road Safety White Paper
2024/10/23	JET in-house meeting	Online meeting	<ul style="list-style-type: none"> Creation of materials for the seminar and JCC Future activity plans
2024/10/25	WG1&3-Police activities	Online meeting (MOI, KCH Provincial Police)	<ul style="list-style-type: none"> Verify the effectiveness of the signboards for the actual serious accident site.
2024/11/5	WG1&3-Police activities	Online meeting (MOI)	<ul style="list-style-type: none"> Reviewing JCC meeting materials Future activity plans
2024/11/19	WG1&3-JET in-house meeting	Online meeting	<ul style="list-style-type: none"> Reviewing JCC meeting materials Creation of the Project Completion Report
2024/11/25	WG1-Traffic accident analysis and White Paper	Online meeting (DRTS)	<ul style="list-style-type: none"> Discussion on JCC meeting materials Sharing progress of the Traffic Accident Annual Report
2024/11/29	WG1-JET In-house	Online	<ul style="list-style-type: none"> Planning for reflection of the discussion with DRTS on JCC meeting materials Reference of the project completion report and other deliverables to C/P

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Meeting Title	Venue or C/P	Agenda
2024/12/9	WG1-Traffic accident analysis and White paper	Online (DRTS)	· Discussion on the JCC meeting materials

Source: JET

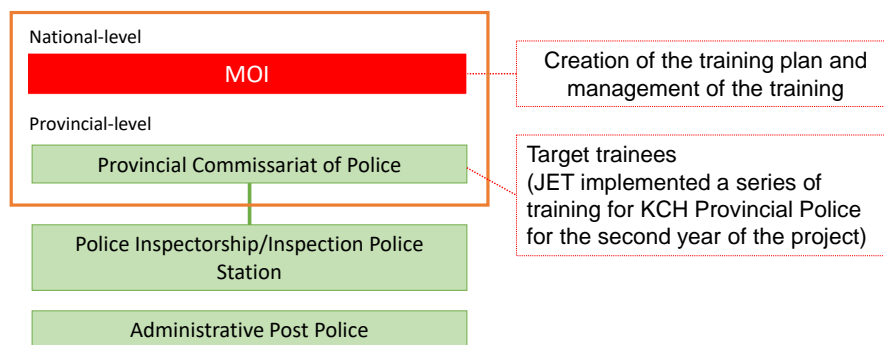
4.3 Activities

4.3.1 Improvement of Capacity in Traffic Accident Investigation

4.3.1.1 Review of the Traffic Investigations and Proposal for Improvement

(1) Survey Training Targets and Organizational Structure of Provincial Police

The organization of the provincial police in Cambodia consists of three levels: provincial police, district police, and police boxes. In WG1 (accident investigation) and WG3 (traffic enforcement) activities, the MOI plans and manages training programs. The target of each training conducted in the Project was the “provincial police, aiming that the MOI can continue to provide trainings to the Provincial Police, and the Provincial Police can provide training to district police and police box officers.



Source: JET

Figure 4.3.1 Police Organizational Structure and Its Role in the Project

JET interviewed the Battambang Provincial Police and the Kampong Chhnang Provincial Police to determine the number of police officers, their organization, and work systems in each province.

● **The Number of Police Officers**

Province	Provincial Police Officers	Regional Police Officers	Village (Police Posts)
Battambang	254 (132)	45 (20)	8
Kampong Chhnang	45 (15)	42 (4)	13

Note: Numbers in parenthesis indicate the number of traffic police officers

● **Departments (Provincial Police)**

Section	Primary mission	No. of Officers	
		Battambang Province	Kampong Chhnang Province
Traffic Accident Dealing Section	Traffic accident investigation, handling accident	8	5
Patrol Checking and Advertising Section	Promote and facilitate traffic education. Provide training to district-level traffic police officers on traffic laws and other norms related to traffic enforcement.	6	7
Total Administration Section	Handle administrative documents, including information from other organizations.	7	5
Traffic Section	Traffic control in traffic jams, parades, etc.	6	6
Intervention Section	Support other divisions	9	7

● **Department (Local Police in Kampong Chhnang Province)**

- ◆ 10 Divisions, 42 officers (Traffic control, Illegal drag enforcement, security, etc.)
- ◆ 4 officers belongs to the traffic police in charge of enforcement, investigations, road use, and road safety education.

● **Department (Local Police in Kampong Chhnang Province)**

- ◆ 3 Divisions, 13 officers
- ◆ Shift system with 6 to 12, 12-18, and 18 to 6



Source: JET

Figure 4.3.2 Review of Police Organizations Related to the Traffic Police

(2) Determine Traffic Accidents from Occurrence to Police Recognition

When a traffic accident occurs, the parties involved are obligated to report the accident, but in most cases, the parties do not. In most cases, local residents contact the police officer in charge at the police box, and the police recognize the accident. The reason for this is that the parties involved in the accident do not know the telephone number of the police. In areas with few roadside locations, such as bypasses, or at night, there may be a delay in reporting an accident, which may endanger people's lives. In addition, hit-and-run accidents are becoming more frequent. The police explained that the reasons for hit-and-runs include: (1) inadequate vehicle management, (2) few people have insurance, (3) few vehicles are equipped with GPS, and (4) residents are violent toward the parties involved in accidents.

In Cambodia, there is a 117 reporting system (similar to the 110 system in Japan), but most citizens do not understand the meaning of 117 and how to call it. The police station in Phnom Penh has a 117 center, but the number of calls they receive is small. Despite this, the MOI has shown no intention to actively promote the use of the 117 reporting system, citing a lack of police manpower.

In view of this, JET proposed that signs with police phone numbers be placed at intersections and other locations so that parties involved in accidents can easily report them.

In addition, it is believed that there are many traffic accidents that the police are unaware of, especially minor accidents where the parties involved have reached a settlement.

(3) Status of Investigations in Battambang Provincial Police

Response to traffic accidents

Police officers on duty are dispatched to the scene upon receiving a report of a traffic accident. Most reports are made by residents living near accident sites, and almost never by the parties involved in the accident.

The police officer on duty secures the parties involved in the accident, alerts emergency services for any injured individuals, preserves the accident scene, collects evidence, and manages traffic to prevent secondary accidents.

One or two traffic police officers from the district police ride to the scene on motorcycles after the arrival of the police officers. In the event of a serious accident, they will be assisted by the state police.

Most of the parties involved in accidents flee the scene. It is difficult to catch fugitives due to outdated information on vehicle license plates, vehicle registration, and driver's licenses.

Traffic investigation at the accident scene

The officers set up color cones in front of the accident scene to alert drivers coming through (to prevent secondary accidents). They spray the road surface to indicate the position of the vehicles' tires after the collision, and then move the vehicles.

Then, the officer determines what caused the accident, who caused it (first party), and who is the victim (second party) based on the positions of the vehicles, the location of the collision, injuries, slip marks, damaged parts, witnesses, and testimony.

Documents prepared at the scene are documents for investigation (including the accident diagram) and for filling out the original report on the accident.

The accident diagram is prepared by measuring the direction of travel of both vehicles, the stopping position after the collision (car, person), slip tracks, and the location of damaged parts from roadside utility poles and other targets with a tape measure. The parties involved in the accident are supposed to record the positions where they saw the other party, applied brakes, operated the steering wheel, etc., but this is not thoroughly done.

Pursuit of perpetrators

If the arrest of the person who caused an accident is made within 7 days, it will be reported orally to the court. If done after 8 days, court procedures are required.

The district police prepares an investigation report and sends it to the state police, who then submits the documents to the court.

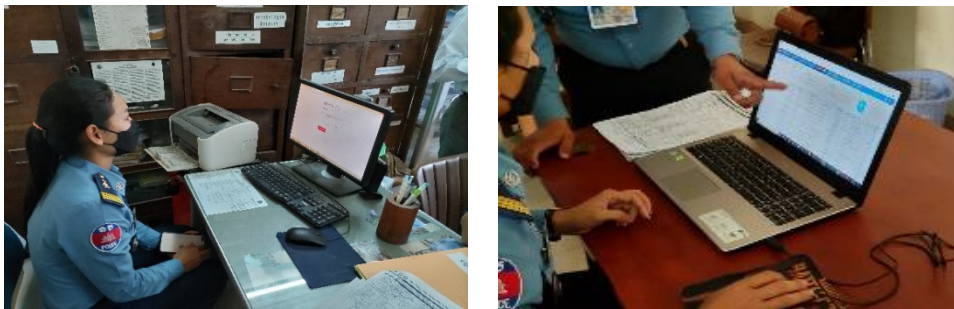
There are approximately 20 documents for the investigation, 5 prepared at the scene and 15 prepared by the District Police Department.

Preparation of accident reports

The accident report prepared by the district police station (completed report only) is sent to the Provincial Police, and the Provincial Police inputs the accident data along with the accident report prepared by the Provincial Police. The Battambang Provincial Police has two input staff and two computers for inputting data. About 10 cases are inputted each month.

Accident reports from the provincial police are collected by the MOI, and the MOI provides them to the DRTS in a database once a year.

The current accident report format has been in use since 2004; the MOI intends to use a new one with additional items in the future.



Source: JET

Figure 4.3.3 Inputting Traffic Accident Data

(4) Status of Traffic Investigation in Kampong Chhnang Provincial Police

The Kampong Chhnang Provincial Police explained that, as of March 2023, nine accidents occurred in the three months since the opening of the Kampong Chhnang bypass on NR5, resulting in four fatalities. Six of these were hit-and-run cases, which were not easy to pursue. As of August 2023, 16 cases had occurred, resulting in eight fatalities. JET's analysis based on the interviews is summarized below.

Key takeaways

- (1) Accidents were reported by local residents in most cases.
- (2) There were almost no reports from the involved parties.
- (3) A few cases were sent to the police. (1/9 cases)
- (4) There were many hit-and-run cases. (5/9 cases)
- (5) In many cases, perpetrators were not arrested. (4/9 cases)
- (6) Many accidents involved motorcycles. (6/9 cases)
- (7) Most accidents were caused by collisions due to violations of safety checks. (6/9 cases)

Key issues

- (1) Lack of prompt reporting.
- (2) Accidents were not reported by the parties involved, but mostly by residents. The parties involved in accidents typically did not know whom to contact.
- (3) The significant time delays between the occurrence of accidents and their reporting hindered both life-saving efforts and the preservation of evidence.
- (4) In many cases, the parties involved failed to fulfill their duty to assist the victims and report the accident, with many fleeing the scene.
- (5) The arrest rate has been low due to the large number of hit-and-run cases.
- (6) Most accidents were caused by motorcycles entering NR5 and neglecting safety checks. There may be a lack of knowledge about road traffic laws.
- (7) Speeding on NR5 was the major cause of accidents.

Possible countermeasures

- (1) Promote fast reporting of accidents by displaying contact information in prominent places at intersections.
- (2) Widely inform the public that hit-and-runs are malicious crimes which may lead to a murder charge when victims die and focus all efforts on making arrests in an organized manner.
- (3) To increase the arrest rate, the police must conduct initial investigations quickly, thoroughly collect witness accounts and evidentiary materials, and persistently search for the perpetrators. Holding persons responsible for accidents accountable for their violations will prevent recurrence.
- (4) Safety education, guidance, and enforcement among motorbike riders should be strengthened.
- (5) Install warning signs in accident hotspots.
- (6) Strengthen enforcement near intersections on national roads and impose a 40 km/h speed limit.
- (7) Reflect data on accident reports by the police, ensuring that the details of traffic accidents occurring within their jurisdiction are understood.

(5) Installation of Signs Indicating Traffic Accident Locations

Overview

Since the construction of the NR5 bypass in Kampong Chhnang Province, the number of fatal

and serious accidents at the intersection of the bypass and NR53 has been a serious problem for the provincial police. In August 2024, this project installed two warning signs along NR5 (Figure 4.3.4) to encourage reporting traffic accidents immediately to the police and to raise road users' awareness of traffic safety.



Source: JET

Figure 4.3.4 Traffic Safety Signboards in Kampong Chhnang



Source: Prepared by JET from Google Map.

Figure 4.3.5 Location of the Signboards on NR5

To enhance visual impact, the signboards show an image of an actual vehicle involved in a serious accident, along with a warning that the location was the site of a serious accident. The signboard is large and tall enough to be seen from a distance by vehicles traveling at high speeds. The national emergency hotline (i.e., 117) and the state police’s emergency number are written at the bottom of the signboard. A LED light is attached to the top of the signboard to ensure nighttime visibility.



Source: JET prepared the signboards using pictures provided by MOI.

Figure 4.3.6 Design of Signboards

Process

The signboard installation was introduced by JET as an example of an emergency measure after during a training session at the Kampong Chhnang Provincial Police.

In Japan, the police installs the signboards for 10 days immediately after a serious accident occurred to strengthen accident prevention measures and to gather information from witnesses to the accident. Signboards are also used after a serious accident as part of emergency enforcement at the accident site. For this reason, the installation of signboards is an important investigation and enforcement activity in Japan.

Enhanced Measures for the Prevention of Serious Traffic Accidents (In Japan's Case)

In Japan, measures are implemented for 10 days in the case of fatal accidents. Situation in Cambodia should be taken into consideration.

	Enforcement (Guidance, Warning, Caution)	Information Dissemination	Road Safety Activities	Consideration of Regulations and Countermeasures
Day 1	Not wearing a helmet, temporary stop xxxxxxxx	Installation of Witness Information Collection Signs	Street Deployment, Traffic Control Activities	Accident Site Investigation
Day 2	Speed (Heading toward the city) 9:00-11:00	Installation of Accident Occurrence and Caution Signs	Street Deployment, Traffic Control Activities	Drafting Regulatory Proposals
Day 3			Street Deployment, Traffic Control Activities	Consultation with Police and Road Administrators
Day 4	Drunk driving enforcement 23:00-01:00, 04:00-06:00	Providing Safety Information to Transport Operators (Transportation Association, etc.)		
Day 5			Street Deployment, Traffic Control Activities	
Day 6	Speed (Heading toward the suburban) 14:00-16:00, 21:00-01:00	Providing Traffic Safety Information to Schools	Street Deployment, Traffic Control Activities	
Day 7	Temporary stop, pothole maintenance		Street Deployment, Traffic Control Activities	
Day 8			Street Deployment, Traffic Control Activities	
Day 9	Speed (Heading toward the city) 10:00-12:00		Street Deployment, Traffic Control Activities	
Day 10	Not wearing a helmet xxxxxxxx		Street Deployment, Traffic Control Activities	

Japanese Case Study: Installation of Traffic Accident Site Signs

(Soliciting witnesses' information, Incident Location, etc.)



Source: JET

Figure 4.3.7 Japan's Case Study

On the other hand, Cambodia does not have a specific emergency response program in place in cases of accidents. JET proposed that, as a first initiative in Cambodia, a signboard be installed and that emergency accident prevention measures be initiated within a short period of time, such as five days. The installation of the signboards can be seen as evidence that the MOI and Kampong Tunan Provincial Police fully understood the importance of information gathering after an accident and the importance of measures to prevent serious accidents, and the signboards are expected to improve the ability of the MOI and the provincial police to gather information on accidents and to improve emergency enforcement.

In May 2024, the MOI, Provincial Police, DPWT, and JET jointly confirmed the future

location of the signboards. The following is a brief description of the signboards’ design and the relevant agencies shown on them.

The design of the signboards, including the logos of relevant agencies, were finalized in July 2024 after several online meetings led by the MOI with the RID, MPWT, DPWT Kampong Chhnang, and JET. The dimensions and structure of the sign were finalized according to RID standards.



(Top) MOI-led online meeting in coordination with RID and DPWT (Jun., 2024); (left) joint MOI/State Police/DPWT confirmation of sign locations (Sep., 2024)

Source: JET

Figure 4.3.8 Site Inspection and Meeting regarding Signboards

Verification Survey

In order to measure the effectiveness of the warning signs, MOI and the State Police conducted an interview survey among road users passing through the target intersection in September 2023. The sample size was 192 in both directions (96 in each direction) and allocated according to the traffic volume by vehicle type obtained from the MetroCount traffic survey conducted in January 2023. The key questions are shown in Table 4.3.1.

Target: NR5-bypass-user drivers

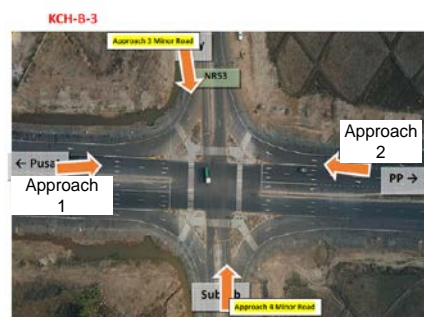
Through Traffic Volume at the Target Intersection from the Metro Count Survey

Date: 11-Jul-23
 Time: 6:08 AM – 7:08 AM

	Motorbike	Bicycle	4 Wheel	Truck	Tuk-Tuk	
Approach 1	33	0	51	33	0	117
	28%	0%	44%	28%	0%	100%
Approach 2	41	0	60	43	1	145
	28%	0%	41%	30%	1%	100%



Motorbike	Bicycle	4 Wheel	Truck	Tuk-Tuk	Total
74	0	111	76	1	262
28.24%	0.00%	42.37%	29.01%	0.38%	100.00%



Sample Size for This Survey by Direction and Vehicle Type

		Truck	Motorbike	Total

Source: JET

Figure 4.3.9 Sample Size for the Verification Survey

Table 4.3.1 Key Questions for the Verification Survey

	Answer type	Question
0	MCQ	Respondent attributes and mode of transportation at the time of questioning.
1	MCQ	Did you notice the signboard while driving?
2	MCQ	When you saw the signboard, did you feel threatened by a traffic accident?
3	MCQ	When you saw the signboard, did you realize that a serious traffic accident occurred in the area?
4	Mixture of MCQ and description	Did seeing the signboard affect your driving? If so, in what way?
5	Mixture of MCQ and description	In what ways did seeing the signboard about a serious accident make you want to change your driving?
6	MCQ	If you encountered or witnessed any incident on the road, would you be willing to call the contact information shown on the signboard?

Source: JET

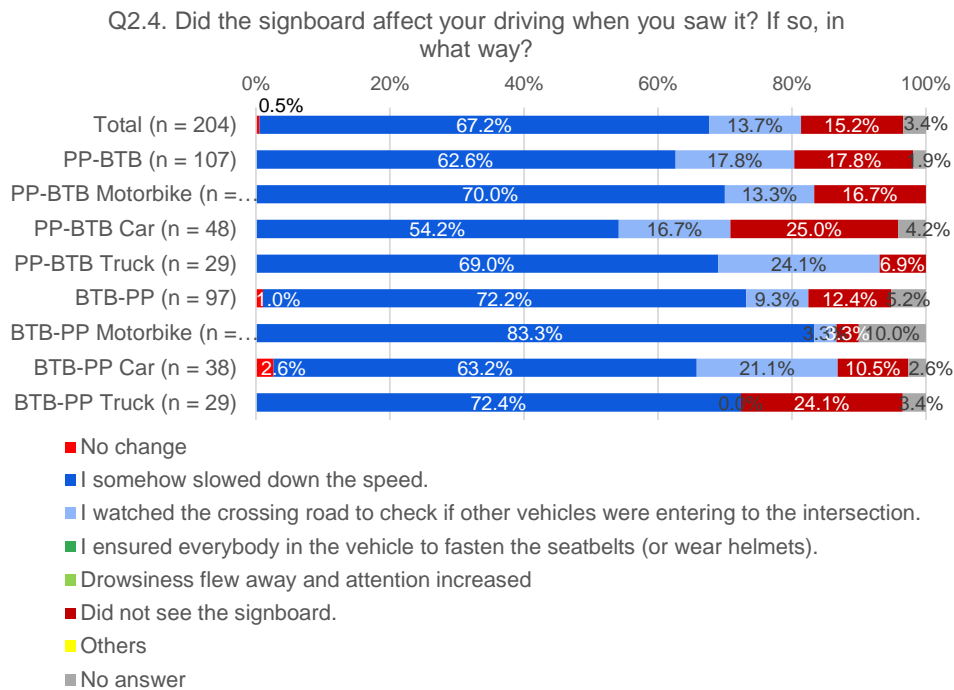
MOI and the Kampong Chhnang Provincial Police actively participated in planning the survey, based on the general framework and questionnaire prepared by JET. Then, on 5 November 2024, between 08:00 and 11:00 AM, vehicles passing the two signboards were interviewed by State Police officers using the questionnaire. The number of respondents by direction and vehicle type was obtained as planned (Table 4.3.2).

Table 4.3.2 Actual Respondents

Direction and Mode	Response
Total	204
Toward Battambang (PP-BTB)	107
Bike	30
Car	48
Truck	29
Toward Phnom Penh (BTB-PP)	97
Bike	30
Car	38
Truck	29

Source: JET

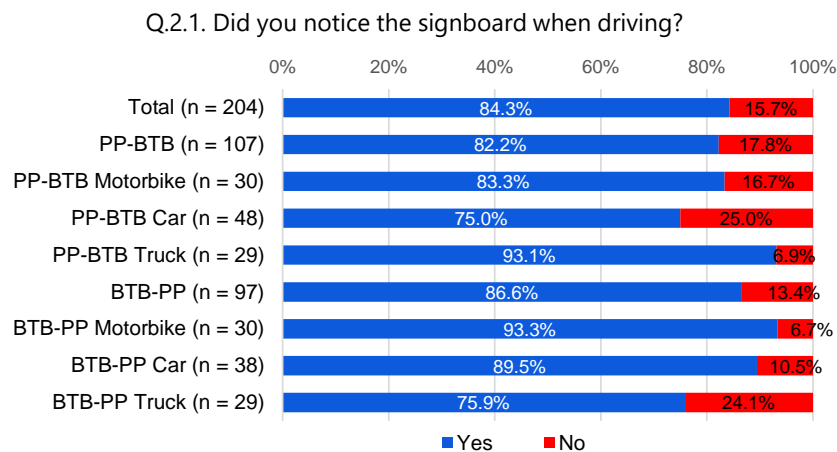
Survey results showed that the signboards prompted the drivers to drive more safely, with 80.9% of drivers and operators “slowing down” or “paying attention to other passing vehicles at intersections” (Figure 4.3.10).



Source: JET

Figure 4.3.10 Impact of Traffic Safety Signboards on Driving

In terms of awareness of the signboards by direction, 86.6% of vehicles headed in the direction of Phnom Penh saw them, 4.4% more than the recognition rate in the opposite direction (Figure 4.3.11). No regularity was observed in the results by vehicle type, with car drivers having the lowest recognition rates (75%) in the direction of Battambang and truck drivers (75.9%) in the direction of Phnom Penh.

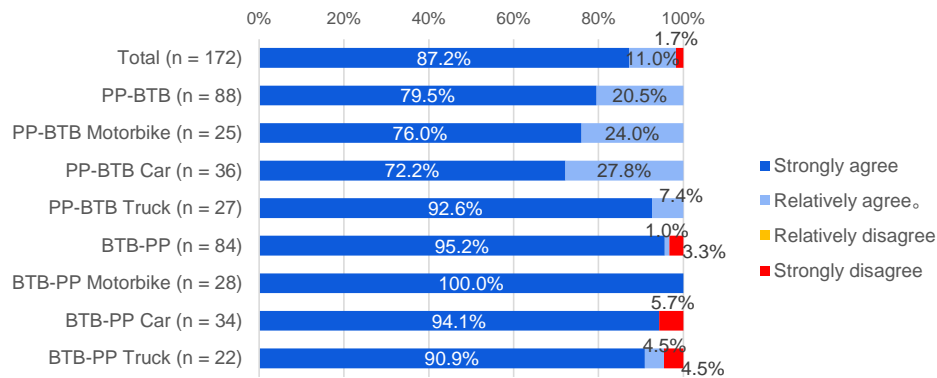


Source: JET

Figure 4.3.11 Visibility of Signboards at Sites of Serious Accidents

All motorbike riders heading toward Phnom Penh chose “strongly agree” in reply to the question of whether or not the signboards made them cautious or fear accidents (Figure 4.3.12). However, a small number of car and truck drivers going in the direction of Phnom Penh answered “strongly disagree”.

Q2. (Of those who answered “yes” to Q1) Did you feel fear of traffic accidents from the signboard?

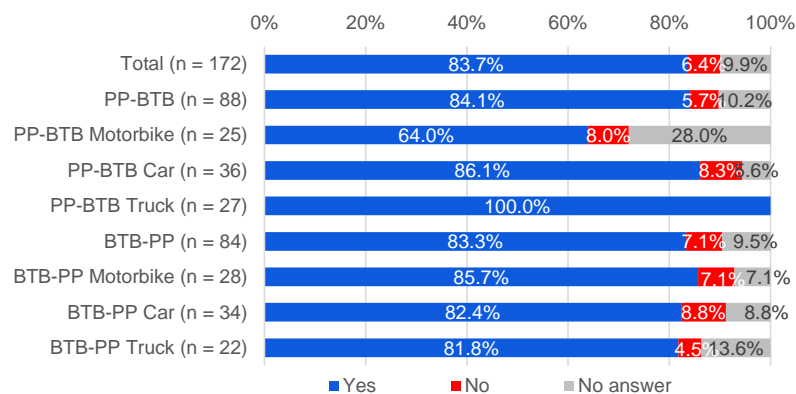


Source: JET

Figure 4.3.12 Arousing Fear of and Alertness to Traffic Accidents

When asked whether the drivers who noticed the signboards recognized that the location where the signs were placed was in fact the site of a serious traffic accident, more than 80% of respondents in both directions said they did (Figure 4.3.13).

(Of those who answered “yes” to Q1) When you saw a signboard, did you recognize there actually was a serious traffic accident near the point signboard stands?



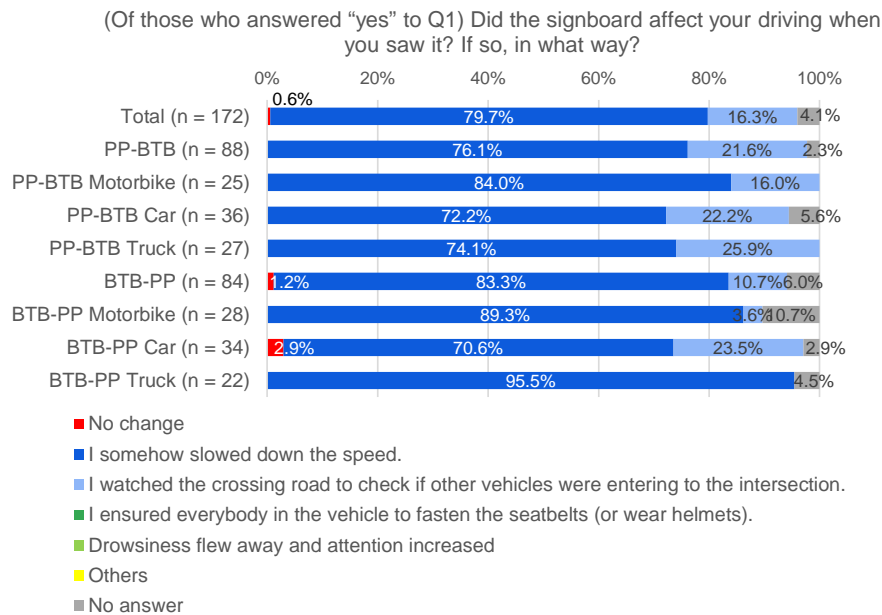
Source: JET

Figure 4.3.13 Awareness of a Past Serious Accident at the Site

While all truck drivers in the direction of Battambang who saw the signboards were aware that it was the site of a past serious accident, motorbike drivers in the same direction had the lowest awareness rate of 64%, but this figure is for reference only. Meanwhile, motorbike riders heading to Phnom Penh had a relatively high awareness rate (85.7%), suggesting that there may be a problem with the visibility of the signboard from the motorbikes on the road toward

Battambang. Further comparison and analysis of the signboards’ visibility by motorcycle drivers in both directions are needed to increase the awareness rate among those driving to Battambang.

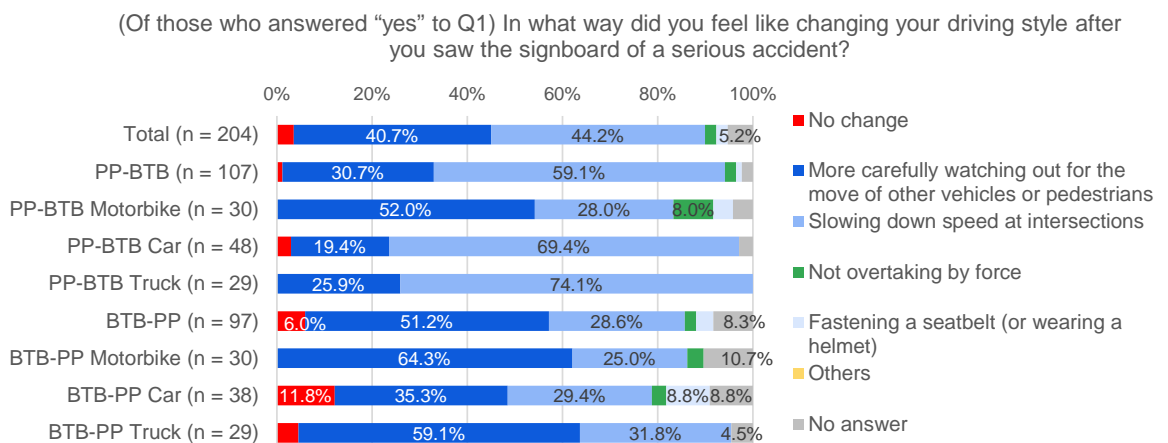
Of the drivers and riders who saw the signboards while driving, 95.9% of the drivers and riders who “slowed down” or “watched other traffic at the intersection” indicated that the warning changed their driving behavior (Figure 4.3.14). A meager 0.5% of drivers responded “no change” after seeing the signboards.



Source: JET

Figure 4.3.14 Impact of Seeing Traffic Safety Signboards

Furthermore, when asked about the effect on future driving, more than 90% of drivers and operators overall indicated a desire to change to safer driving, such as paying attention to the movement of other vehicles and pedestrians and slowing down at intersections (Figure 4.3.15).

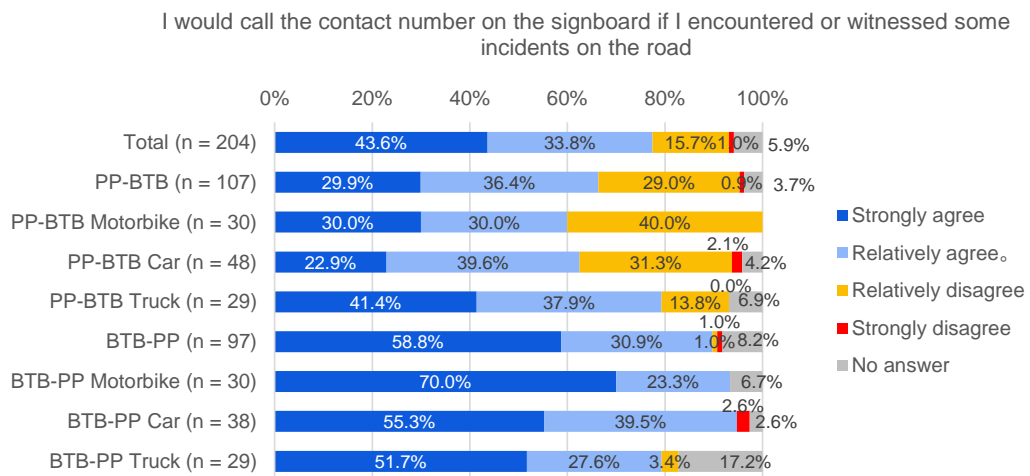


Source: JET

Figure 4.3.15 Impact on Future Driving

These results indicate that the content of the signboards had a positive effect on driving behavior, and that the key to improvement lies in how to ensure their visibility. JET recommended that MOI and Provincial Police reexamine the location, size, and color of the signboards from the perspective of each vehicle type in each direction, and to improve the current signboards and install them in other locations where serious accidents frequently occur.

Another purpose of the signboard was to disseminate the police’s emergency numbers. About 77.4% of the respondents answered “strongly agree” or “somewhat agree” to the suggestion that they call the numbers indicated on the signboards in the event of an incident or accident (Figure 4.3.16).



Source: JET

Figure 4.3.16 Agreement to Notify Police about Accidents

However, the answers to this question by direction were noticeably skewed. Since it was the police officers who served as interviewers, this might have influenced the respondents’ answers. The fact that nearly 30% of the respondents traveling to Battambang answered “relatively disagree” is a highly suggestive result. Further investigation by the MOI is needed to determine whether this response simply pointed to the respondents not seeing the emergency contact information on the signboards or to them not reporting to the police in the event of accidents.

4.3.1.2 Provide Training to Improve Accident Investigation Capabilities

(1) Training in the First Year

In October 2022, lectures and on-the-job training on traffic accident investigation were given to police officers of the MOI and Battambang Provincial Police.

The lectures were based on the “Training Materials on Traffic Accident Investigation” and covered the following topics: the purpose and necessity of traffic investigations and the preparation of investigation documents.



Source: JET

Figure 4.3.17 Example of Training Material on Traffic Accident Investigation

Understanding Traffic Accident Investigation

The purpose of traffic accident investigation is to prevent a recurrence of similar accidents. For this purpose, it is necessary to investigate the causes of traffic accidents and clarify the responsibility for the accidents.

Necessity of an Investigation Report

It is important for a judge, who was not present at the accident scene, to be aware of the objective situation at the time and scene of the accident and to obtain a final judgment based on the evidence and other materials.

In the on-the-spot training, at the intersection on the NR5 bypass where a fatal accident occurred, JET confirmed the method of traffic investigation by counterparts and explained the areas for improvement. In addition, JET found some challenges for investigative activities such as, the criteria for determining the first and second parties were unclear, and the accuracy of traffic accident investigations was low, at the scene of accidents.

JET also found that the criteria for determining the first and second parties were unclear, that the accuracy of accident investigation was low, and that there were issues with the investigation activities at the accident scene.



Source: JET

Figure 4.3.18 Scenes from the Accident Investigation Training in October 2022

(2) Training in the Second Year

In December 2023, a lecture on traffic accident investigation was held for MOI and Kampong Chhnang Provincial Police.

During the lecture, JET explained the management of traffic accident investigation and the measures to prevent accidents through traffic accident investigation, using the materials “Management of Traffic Accident Investigation (Creation of Traffic Accident Case Handling Log)” and “Measures to Prevent Accidents Based on Traffic Accident Investigation (Implementation of Measures through Indication of Traffic Accident Location)”.

The State Police intends to create a traffic accident case file and to display maps showing the locations of traffic accidents.

Creation of Traffic Accident Case Handling Log

The purpose of investigating traffic accidents is to determine their causes, to pinpoint the responsibility for the causes, and to prevent similar accidents from happening again. To prevent recurrence, it is important to ensure that the individuals responsible for the accidents are held accountable and made to reflect on their misdeeds. It is the duty of the police to refer the cases to the public prosecutor to ensure that the cases are given a fair trial. In order to prevent malicious traffic violators from going unchecked or for cases to remain untransmitted, it is necessary to compile traffic accident cases in a table in the “Traffic Accident Case Handling Log.”

The column for the date and time of recognition is intended to capture the time delay between the time an accident happened and the time it was reported. To prevent the loss of evidence, it is essential to promptly investigate an accident and secure the scene as quickly as possible.

The hit-and-run column is intended to get the percentage of hit-and-run cases among traffic accidents handled by the police and to strengthen countermeasures in cases where no arrests have been made.

Under “Cases of Referral,” the police should be aware of those that have not been referred to the police, investigate the causes, and take measures as soon as possible to avoid delays in the referral process.

By preparing and utilizing the “Traffic Accident Case Handling Log in Police Stations (NR5)”, the police themselves can understand the actual situation of traffic accidents and their ability to handle traffic accidents. In addition, by having police officers who know the accident scene prepare appropriate reports, traffic accident statistics can be enhanced. These statistics will be used to improve cooperation and coordination in traffic control planning, safety education conducted by other agencies, and road management and licensing systems, thereby preventing the recurrence of traffic accidents.

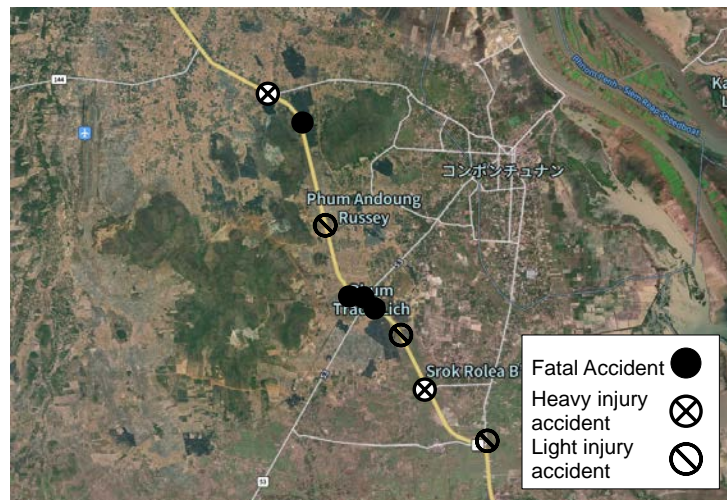
Table 4.3.3 Traffic Accident Case Handling Log

Traffic Accident Incident Handling Log for the KCH Provincial Police Department

NO	Date & Time of Recog.	Date & Time of occur.	Place of Occur.	No. of Casualties			Related Parties		Accident Type	Accident Cause	Hit and Run	Arrest	Referral	Remarks
				Minor Injr.	Heavy Injr.	Death	First Party (Perpetrator)	Second Party (Vidim)						
1		2023/3/1 20:00	KPC-B-4	0	1	0	Passenger Car (__ year old)	Motorbike (__ year old)	Encounter	Failure to confirm safety	○			
2		2024/1/6 17:30	KPC-B-3	0	0	1	Passenger Car (__ year old)	Motorbike (__ year old)	Encounter	Failure to confirm safety	○			
3		2024/1/10 7:10	KPC-B-3	0	0	0	Passenger Car (__ year old)	Passenger Car (__ year old)	Heads-on	Failure to confirm safety		voluntary invstg.	Non-Referral	Minor Property Damage
4		2024/1/13 7:30	KPC-B-4	0	0	1	Passenger Car (__ year old)	Motorbike (__ year old)	Encounter	Failure to confirm safety	○			
5		2024/1/15 23:30	KPC-B-2	0	0	1	Passenger Car (__ year old)	Pedestrian	Crosswalking Pedestrian	Failure to confirm safety	○			
6		2024/1/8 12:45	KPC-B-3	0	0	1	Passenger Car (__ year old)	Motorbike (__ year old)	Encounter	Overspeed (120km/h) (?)	○	Forced Search	Referred	
7		2024/2/18 8:30	KPC-B-1	1	0	0	Farm Tractor (__ year old)	Motorbike (__ year old)	Encounter	Failure to confirm safety		Voluntary invstg.	Non-Referral	Minor Injury
8		2024/3/5 10:20	KPC-B-1	0	1	0	Truck (__ year old)	Motorbike (__ year old)	Left-turn and straightahead	Wide left-turn	○			
9		2024/3/7 18:10	KPC-B-3	1	0	0	Truck (__ year old)	Passenger Car (__ year old)	Encounter	Failure to confirm safety		Voluntary invstg.	Non-Referral	Minor Injury

Source: JET

Traffic accident locations should be displayed on a map to identify high-risk areas and implement preventive measures, particularly in locations where frequent traffic accidents or fatalities occur. Such a map should be viewable on a smart phone or personal computer (e.g., Google) and posted within police stations to ensure all personnel are aware of the status of traffic accidents and their patterns, so they can respond accordingly.

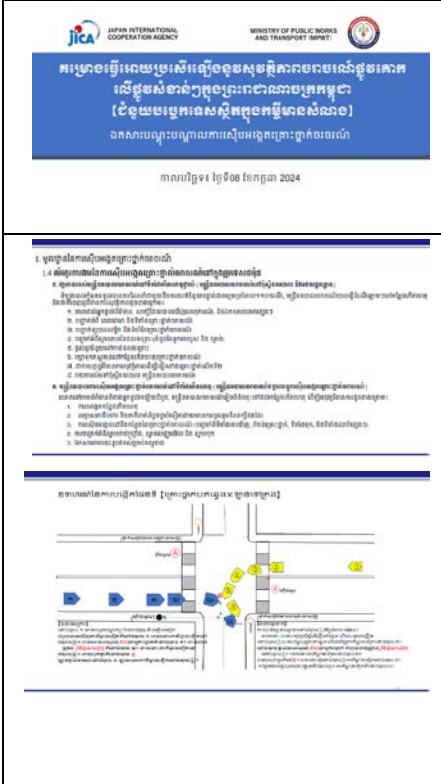


Source: JET

Figure 4.3.19 Example of a Traffic Accident Map by Accident Type

4.3.1.3 Creation of an Investigation Manual

The project created the traffic accident investigation manual in 2022, and that was updated in 2023 and 2024. MOI is supposed to integrate the manual prepared by JET into its own comprehensive manual and regularly update it. The contents of the traffic investigation manual are shown below.

	<p style="text-align: center;">TOC</p> <ol style="list-style-type: none"> 1. Basics of Traffic Accident Investigation <ol style="list-style-type: none"> 1-1 Objectives of Traffic Accident Investigation 1-2 Necessities of Traffic Accident Investigation 1-3 Legal basis 1-4 Flow of the Investigations in Japan 1-5 Referrals of Traffic Accidents in Japan 1-6 Creation of the referral documents 1-7 On-Site Investigation Report 2. Basics Knowledge of Traffic Accident Investigation <ol style="list-style-type: none"> 2-1 Key Points in Traffic Accident Investigation 2-2 Recognition, Decision, and Control 2-3 Frictional, Centrifugal, and Impact Forces 2-4 Blind Spots 2-5 Difference in Turning Radius between the Front and Rear Wheels 2-6 Determine Speed from the Length of the Slip Scar 2-7 Danger Perception Speed 2-8 Vehicle Stopping Distance 2-9 Intentional and Negligent 3. Management of Traffic Accident Investigation <ol style="list-style-type: none"> 3-1 Management Measures for Investigation 3-2 Creation and Effectiveness of Traffic Accident Handling Log
---	--

Source: JET

Figure 4.3.20 Traffic Accident Investigation Manual

4.3.2 Improvement of Capacity in Traffic Accident Data Analysis

4.3.2.1 Review of Existing Accident Reports and RCVIS

JET reviewed matters related to traffic accident analysis, including the department in charge within MPWT, namely the DRTS, the issued accident reports, and the accident database system (Road Crash and Victim Information System or RCVIS). The findings from this review, along with insights from interviews with related personnel, are presented below.

(1) DRTS Structure

The DRTS has approximately 20 staff members, of which the Statistical Research Department (5 staff members) is responsible for the management and operation of RCVIS and the issuance of accident reports.

(2) Outline of RCVIS

The RCVIS was developed in 2004 and provides traffic accident data from the police and hospitals. To avoid double entry of data, a two-person team from the DRTS compares the police and hospital data. While police data is submitted electronically once a year, hospital data is in paper format and collected 3 to 4 times a year, showing 5,000 to 6,000 cases annually. As for hospital data, the DRTS aims to bring it online in the future.

The RCVIS has data on casualties. If there are multiple casualties in one accident, data for

each casualty is individually recorded. When comparing hospital and police data for the same accident, the hospital data is prioritized and the police data is merged with it, as hospital records provide more accurate information regarding the extent of injuries or fatalities. The overlap between the two datasets is, however, minimal, i.e., about 1% for fatalities and 3% for injuries.

(3) Overview of Accident Analysis

The RCVIS Annual Report 2017, published by the DRTS, indicated that motorcycle fatalities accounted for 75% of all fatalities, with speeding contributing to 36% of these fatalities, a trend consistent with the previous years. As the bulk of accident analysis relied on year-to-year trends and simple tabulations, the training given to the counterparts aimed at enhancing their skills in accident analysis using cross-tabulation methods.

(4) Accident Reports

Traffic police accident reports are prepared by the district or state police based on the notes made at the accident scene. Accident reports prepared by the district police (completed reports only) are sent to the state police. Along with the accident report prepared by the State Police, accident data is entered by the State Police. The current accident report form has been in use since 2004, and a new form (with additional items) will be used in the future. The Battambang Provincial Police has two officers in charge of inputting the data, and they input about 10 cases per month. There are two computers for this task. Accident data from each provincial police is collected at the MOI, then forwarded to the DRTS which inputs the same in a database once a year.

(5) Training MOI in Accident Data Analysis

Training is provided to state police officers three times a year for five days, with 25 participants each time. After that, each state police department provides training to district police departments.

(6) Accident Reports

The RCVIS Report 2017 includes (1) an overview, (2) an introduction, (3) data sources, (4) key data trends, (5) an analysis of casualties (primarily fatalities), and (6) conclusion and key recommendations. The DRTS produces accident reports with the goal of reducing traffic fatalities. Therefore, it places more emphasis on hospital data rather than on police data.

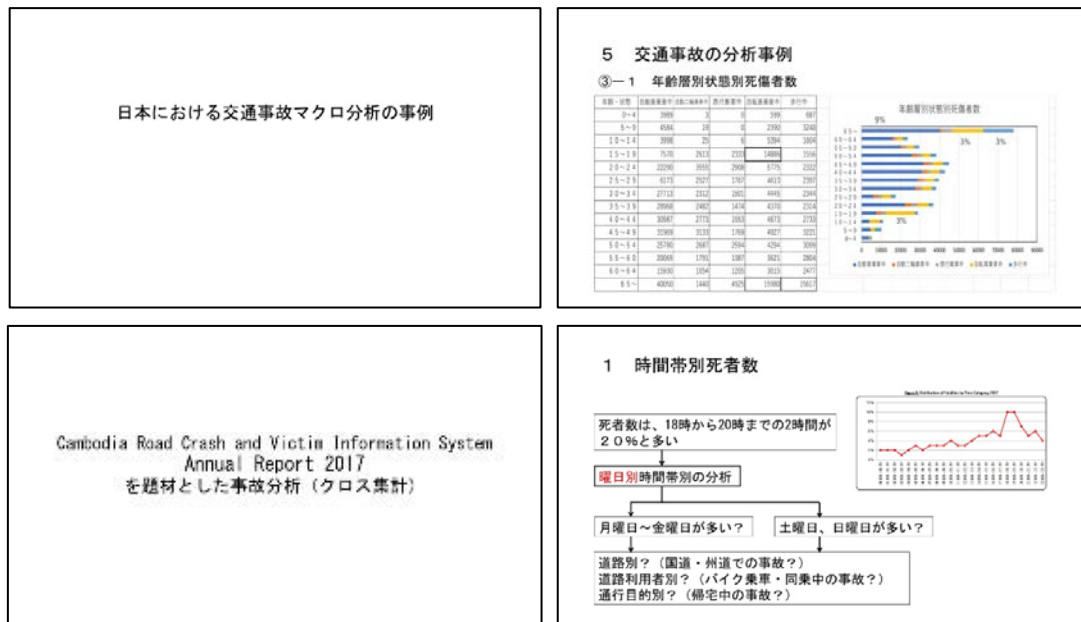
4.3.2.2 Training in Traffic Accident Data Analysis

(1) Case study training in traffic accident macro analysis in Japan

Year 1 Training

Cross-tabulation methods were taught based on the following materials: “Case Study of Traffic

Accident Macro Analysis in Japan” and “Accident Analysis (Cross Tabulation) on the Subject of Cambodia Traffic Accident and Victim Information System 2017 Report.”



Source: JET

Figure 4.3.21 Training Material on Road Accident Macro Analysis

The participants also decided to proceed with accident analysis using the RCVIS 2020 data, and conducted a cross-tabulation analysis exercise targeting motorcycle accidents, which are the most common type of accidents. The results of the exercise were discussed, and the DRTS was requested to analyze accidents requiring a detailed analysis. As a result, the DRTS submitted a report on “Traffic Accidents of Motorcycle Riders in Cambodia.” Although the analysis items in the DRTS report were reasonable, it was necessary to analyze the accident rate per population, per vehicle registration, and per vehicle-kilometer using not only the frequency and percentage of casualties, but also accident rate, which was analyzed in the second cross-analysis exercise.



Source: JET

Figure 4.3.22 Training in Traffic Accident Macro Analysis

Year 2 and Year 3 Training

JET prepared the materials entitled “Traffic Accident Macro Analysis: Japanese Cases (2),” “Traffic Accident Macro Analysis: Japanese Cases (3),” and “Examples of Traffic Measures by Cross Tabulation Analysis (Japanese Traffic Accident Data 2019)” for the training, and the DRTS accident analysts were briefed on case studies of cross-tabulation analysis and methodology to improve their ability in analyzing accidents.

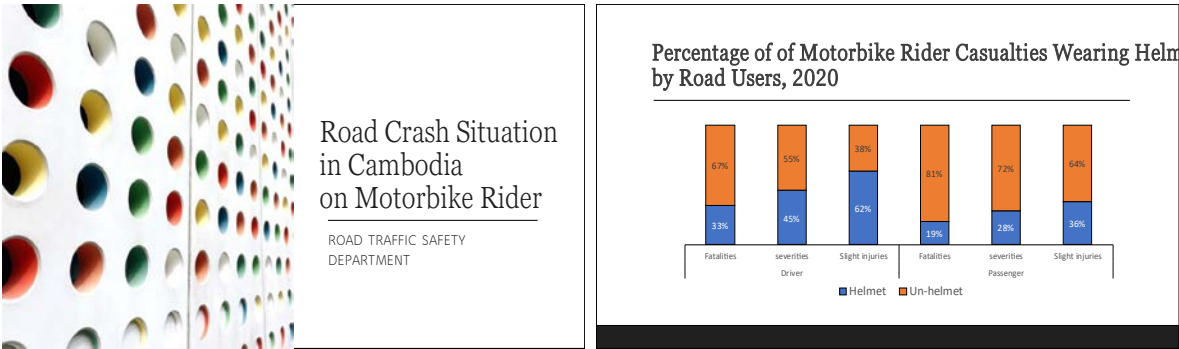


Source: JET

Figure 4.3.23 Training Materials on Traffic Accident Macro Analysis

(2) Analysis of Motorcycle Traffic Accidents (second and third year)

Approximately 80% of traffic fatalities in Cambodia involved motorcycles. Since it is necessary to analyze motorcycle accidents to reduce the number of traffic fatalities, the DRTS conducted an accident analysis under JET’s guidance. The analysis of motorcycle accidents included the number of fatalities and the number of fatalities per 100,000 population by year, by age group and degree of damage, by occupation and day of the week, by time of day and day of the week, and by degree of damage and use/non-use of a helmet.

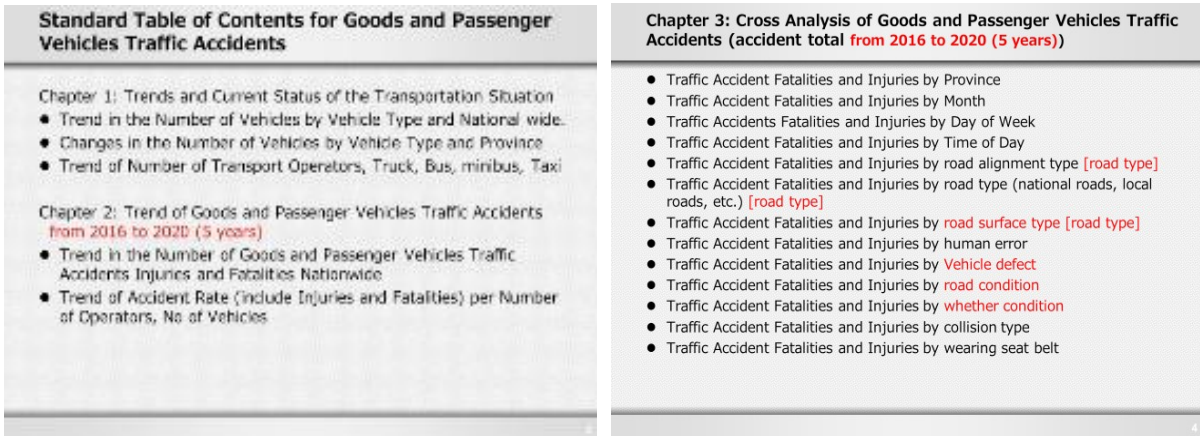


Source: JET

Figure 4.3.24 Analysis of Motorcycle Traffic Accidents in Cambodia

(3) Analysis of Traffic Accidents among Commercial and Freight Vehicles

Since the number of traffic accidents involving commercial and cargo vehicles has been increasing in Cambodia in recent years, JET guided the DRTS accident analysts in conducting an accident analysis to reduce the number of similar accidents.

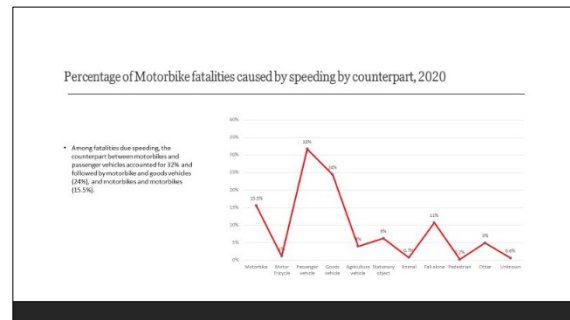
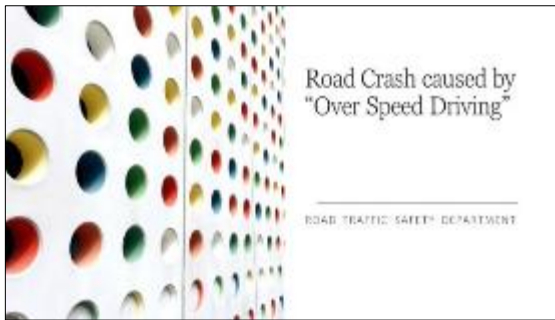


Source: JET

Figure 4.3.25 Traffic Accident Analysis for Commercial and Freight Vehicles in Cambodia

(4) Analysis of Speed-related Traffic Accidents (the second and third year)

In Cambodia, the number of fatalities from traffic accidents due to speeding is second only to that involving motorcycles. To reduce this number, the DRTS conducted accident analyses targeting speed-related accidents. The cross-analysis included the number of fatalities by year, by the other party, by day of the week and occupation, by occupational status, by age group and occupation, and by accident type and road geometry.



Source: JET

Figure 4.3.26 Analysis of Speed-related Traffic Accidents in Cambodia

(5) Analysis of NR5 Accidents after Widening Project (the second and third year)

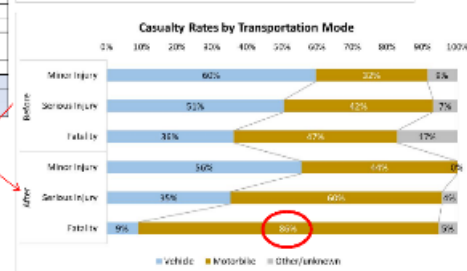
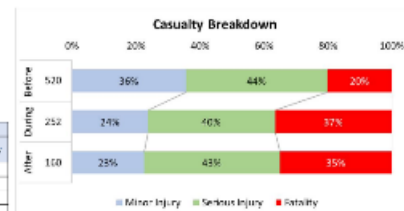
In the second year of this JICA project, traffic accident data on NR5 was collected from police departments in the four provinces it passes through. The data before and after NR5 was widened was compared to verify the effects of road widening. The data showed a decrease in the number of accidents per month, but there was a significant increase in the percentage of motorcycle fatalities.

In the third year of the project, JET added the accident data collected up to September 2024 to that collected in the second year to compare again the increase/decrease in traffic accidents and verify the effect of road widening.

6 Road Traffic Accidents on NR5

Number of Injury and Fatality

Type of Vehicle	Before			During			After		
	Minor Injury	Serious Injury	Fatality	Minor Injury	Serious Injury	Fatality	Minor Injury	Serious Injury	Fatality
Vehicle	100	55	10	26	6	2	20	1	1
Motorbike	39	27	79	30	82	74	10	41	10
Truck	2	7	2	3	0				
Cyclo/Phnom tractor	3	6	3						
Motorcycle	2	4	3		1	4		1	2
3-wheeled truck/taxi	1			1	1	1			
Passenger		5	1		4	10		2	1
Business vehicle		1	1		3	1			
Unknown		10	4						
Total	169	225	135	60	100	92	30	48	56
	30%	44%	20%	24%	47%	31%	28%	43%	35%
		262	254			192			



Source: JET

Figure 4.3.27 Analysis of Traffic Accidents before and after NR5 Widening

(6) Assessment of DRTS's capacity to analyze accident data (the third year)

Individual and organizational competencies required in traffic accident analysis can be divided

into knowledge, action, and skills. JET evaluated DRTS's accident analysis capability, as follows (on a scale of 1 to 5):

Table 4.3.4 Assessment of DRTS's Capacity to Analyze Accident Data

Competency	Type	Level			
Skill in operating accident DB and software	skill	Level 5			
Knowledge of mathematics and statistics	knowledge	Level 3			
Knowledge of traffic safety measures	knowledge	Level 2			
Actions to analyze a variety of accidents	action	Level 2			

Source: JET

Skill in operating software for accident DB and analysis

There is a high level of competence in the use of database systems, Excel, and SPSS. In the next step, it is necessary to share these skills within the organization to enhance organizational capabilities.

Knowledge of mathematics and statistics

Although it is considered that the respondents' knowledge of these subjects are at the level of university graduates, they lack the know-how and ingenuity in utilizing this knowledge in accident analysis. Experience in incorporating simple statistical methods, such as trend analysis, cross-analysis, and accident rate analysis, into practice is needed.

Knowledge of traffic safety measures (3Es: enforcement, engineering, education)

Since the DRTS has jurisdiction over traffic safety education, it possesses relevant knowledge and experience in implementing educational measures. However, to ensure integrated traffic safety strategies, it is also necessary for the DRTS to acquire basic knowledge of engineering and enforcement, which however, fall under the jurisdiction of other departments.

Actions to analyze various types of accidents

Since the DRTS's daily work consists mainly of preparing annual accident reports, it is necessary for them to also have experience in analyzing traffic safety measures to suggest the direction of their implementation.



Source: JET

Figure 4.3.28 Training in Traffic Accident Data Analysis

4.3.2.3 Preparation of the Data Analysis Manual (the third year)

To improve the annual traffic accident statistics report published by the DRTS, JET drafted a manual on traffic accident statistical analysis suitable for Cambodia's situation based on traffic analysis statistics guidelines in other countries. The contents of the draft Traffic Accident Data Analysis Manual is shown below.

Table 4.3.5 Contents of the Draft Traffic Accident Data Analysis Manual

Traffic Accident Data Analysis Manual	
1	Introduction
1.1	Purpose of Traffic Accident Analysis
1.2	Definitions
1.3	Analytical Methods for Traffic Accidents Data
2	Approach of Traffic Accident Analysis
2.1	Basic Approach from Simple Analysis to Study of Countermeasures
2.2	Example of the Approach of Cross-tabulation Analysis using Traffic Accident Data in Cambodia
3	Cases of Macro Analysis in Japan
3.1	Single-tabulation Analysis
3.2	Cross-tabulation Analysis
3.3	Analysis from Other Perspectives
3.4	Examples of Traffic Accident Countermeasures derived from Crosstabulation Analysis
4	Analysis of Motorbike Accidents
4.1	Overall Accident Trend
4.2	Trend of Motorcycle Accident
4.3	Detailed Analysis of Motorbike Accidents
5	Analysis of Traffic Accidents due to Speeding
5.1	Trend of Traffic Accidents due to Speeding
5.2	Detailed Analysis of Traffic Accidents due to Speeding
6	Analysis of Traffic Accidents along National Road 5
6.1	Accident Data Collection from 4 Provincial Police along National Road 5
6.2	Comparison between before and after the Improvement of NR 5

Source: JET

4.3.3 Publication of the Annual Traffic Accident Report

JET and the DRTS discussed the structure and contents of the annual report, the timing of publication, the status of its preparation, and issues and remedial measures.

(1) Structure and contents of the annual report

The RCVIS Report 2017 published by the DRTS includes (1) an overview of the report, (2)

an introduction, (3) data sources, (4) trends in key data, (5) an analysis of casualties (mainly fatalities), and (6) conclusion and key recommendations. Most of the accident analyses were based on yearly trends and simple tabulations, and detailed tabulations by cross tabulation, etc., were not done. JET proposed a new report structure, but since the DRTS cannot change the structure of the report, the latter added a cross-tabulation analysis.

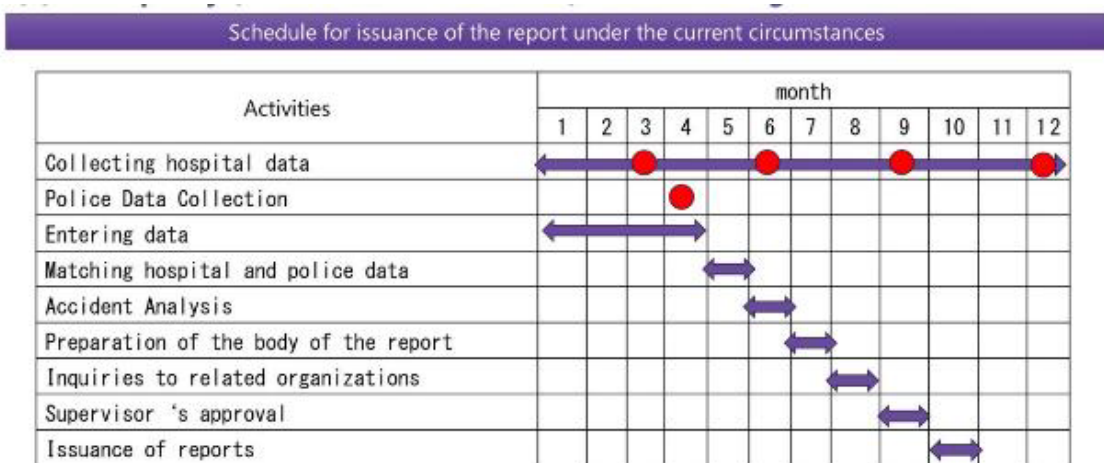
As it was deemed difficult to publish the report in a timely manner, JET considered posting the report on the websites of JICA and other relevant organizations. To do this, JET proposed publishing separate reports on specific themes using the RCVIS 2020 data, which is already being utilized in training activities. The themes are: (1) motorcycle accidents, (2) accidents involving commercial and freight vehicles, and (3) speed-related accidents. Each report should include the following: (1) introduction, (2) overview of RCVIS, (3) definition of terms, (4) analysis results, (5) directions for countermeasures, (6) conclusion, and (7) appendix (tabulation tables).

(2) Publication of Annual Reports

The publication of traffic accident reports has experienced significant delays. For example, the report for 2020 was not published until the fall of 2023. In contrast, in Japan, accident reports are typically issued in the year following the occurrence of the accidents. The necessity and importance of addressing this issue were explained and acknowledged during training sessions with the DRTS and at the JCC meeting.

(3) Annual report preparation

The RCVIS consists of police and hospital data, the latter of which is collected three to four times a year on paper format, with the DRTS inputting the data into the system. According to the DRTS, delays in producing the report could be traced to the inability of the hospitals to submit data by the stipulated deadline.



Source: JET

Figure 4.3.29 Publication Schedule of Annual Traffic Accident Reports

4.3.3.2 Preparation of Traffic Accident Annual Reports

To revise the 2023 accident report, it was agreed to insert the results of the cross-tabulation analysis of motorcycle and speeding accidents conducted in the WG1 training. The 2023 accident data was collected and matched, simple and cross-tabulation analysis was performed, and the draft Annual Accident Report for 2023 was prepared.

4.3.4 Issuance of a White Paper on Traffic Safety

4.3.4.1 Review of evaluation methods for decade action plan and relevant documents

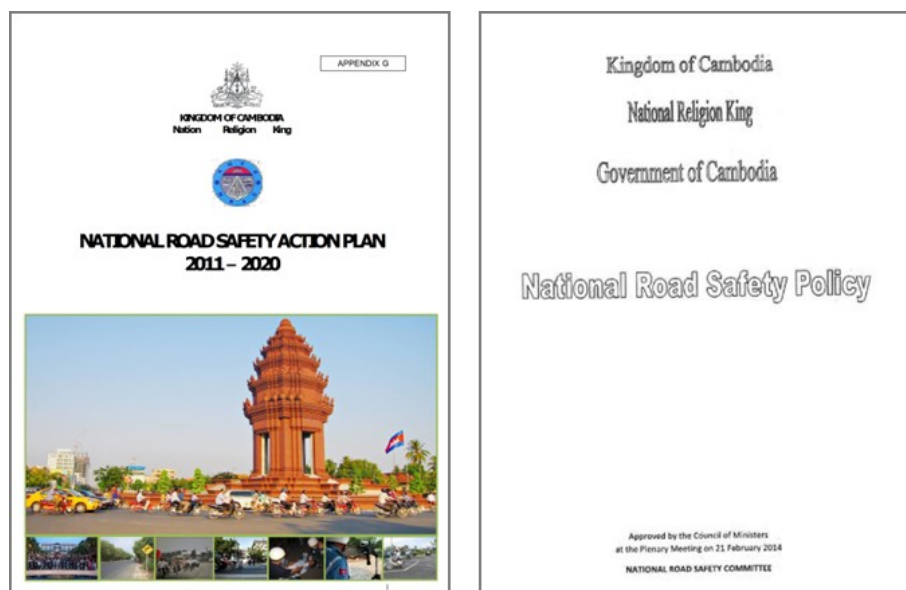
(1) Relevant documents

To begin the work, the following documents and evaluation results were collected for review.

National Road Safety Action Plan (NRSAP) (2011-2020)	Acquired
National Road Safety Policy 2014	Acquired
National Road Safety Action Plan (2006-2010)	Requesting to DRTS
National Road Safety Action Plan (NRSAP) (2021-2030)	Acquired
Evaluation Report for NRSAP (2011-2020)	Requesting to DRTS

For the NRSAP 2021-2030, the DRTS organized about 10 meetings with the MPWT, MOH, MOI, NGOs, academics, etc., over a period of about one year to collect information on global trends, research materials, etc., and prepared the draft proposal.

The draft was submitted to the NRSC, and following a workshop held in July 2022, it included the comments from relevant organizations. It was officially distributed to interested parties in December 2023.



Source : Cambodian Government

Figure 4.3.30 NRSAP 2021-2030 and National Road Safety Policy in 2014

(2) Evaluation Method of Action Plan

JET discussed with the DRTS about the evaluation method of previous NRSAP (2011-2020) and in the current action plan. According to the DRTS, the evaluation of the action plan was not based on data analysis or verification, but rather on a six-point scale from 0 to 5 using a questionnaire. In addition, the overall evaluation was based on overall activities rather than individual measures.

4.3.4.2 Consideration of Action Plan Evaluation Methods

Since the NRSAP 2021-2030 was not yet available, JET used the previous NRSAP (2011-2020) to propose evaluation indicators and methodology to the DRTS. With reference to the evaluation indicators of the previous DAP (2011-2020) prepared by JET, the DRTS prepared evaluation indicators for NRSAP (2021-2030). These indicators were supposed to be distributed to but have been on hold because the NRSAP 2021-2030 has not yet been officially approved.

(1) Evaluation Indicators of Action Plan

The goal of the previous NRSAP (2011-2020) was to halve the number of traffic fatalities in 2020 compared to 2011. To achieve this goal, 77 individual measures were identified for each of the eight action plans.

JET believes that the accumulation of individual measures will bring the country closer to achieving the action plan's overall goals. Thus, for the NRSAP 2021-2030, JET provided two evaluation indicators (Figure 4.3.31).

Indicator 1: Status of policy effects

- Number of road traffic fatalities
- Number of casualties per 10,000 vehicles
- Number of fatalities by condition
- Number of fatalities by cause of accident
- Others

Indicator 2: Implementation status of individual measures

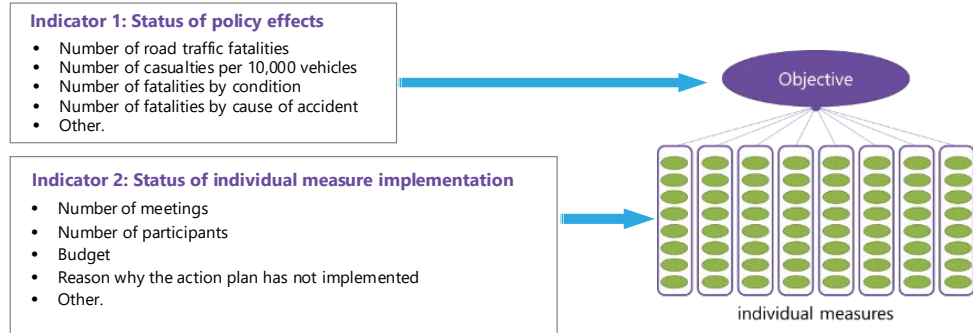
- Number of meetings
- Number of participants
- Budget
- Number of road improvements
- Reason why the action plan was not implemented
- Others

2 Evaluation method

2-1 Concept of evaluation indicators

Objective of the National Road Safety Action Plan 2021-2030: To reduce number of fatalities by 50% by 2030

- Individual measures are listed on the six action plans. The accumulation of individual measures leads to achieving the objective.
- The evaluation indicators for the Action Plan comprise the following two indicators.



Source: Discussion paper with DRTS prepared by JET

Figure 4.3.31 JET's Concept of Evaluation Indicator

Examples of evaluation indicators are shown in Figure 4.3.32.

EX.) Action plan 1: Road safety management

Priority	Action	Responsible Agents	Implemented			Reasons why you have not implemented						Remarks
			Number of activities	Participants	Budget (Million)	Shortage of Budget	Shortage of Human Resources	Lack of Leadership/Cooperation	Need to do Training	Lack of Technical Support	Not relevant	
Capacity building	1. To organize training for road safety experts (from NRSC and PRSC general/secretariat, MoH, MoEY and Mol with certificates- provided courses and programs	NRSC MPWT Mol MoH MoEY CRC Development partners										
	2. To liaise with universities, local organizations which are road safety expertized in order to organize study tour or exchange programs with local experts	NRSC MPWT Mol MoH MoEY CRC Development partners										
Financial support and resources	3. To develop yearly budget plan for NRSC and PRSC general/secretariat	MPWT NRSC g.secretariat PRSC secretariat Mol MoH MoEY										
	4. To ensure sustainably internal mechanisms for road safety financing and to ensure budget allocation from every road project budget for road safety sector (10% from every road project)	NRSC g.secretariat PRSC secretariat MPWT Development partners MoEF										
	5. To seek financial support and to improve external financing mechanisms to support NRSC and PRSC	NRSC g.secretariat PRSC secretariat Mol MoH MPWT Development partners MoEY										

Source: JET

Figure 4.3.32 Sample of Evaluation Indicators

(2) Evaluation Method

Evaluation Indicator 1 "Status of Policy Effects" will be quantified annually using RCVIS.

Evaluation Indicator 2 "Status of individual measure implementation" will be verified each year based on the questionnaire for the agencies listed in the "Responsible Agents" section of NRSAP. A proposed plan for the individual policy evaluation questionnaire is shown below.

(3) Evaluation Questionnaire for the Road Safety Action Plan

The basic concept of the questionnaire is as follows:

1. It aims to evaluate annually the achievement of the activities indicated in the Action Plan.

2. Evaluating the achievement of the measures in the action plan is the responsibility of each agency listed under 'Responsible agencies'.
3. Responsible agencies will, to the best of their knowledge, compile the responses pertaining to their respective activities.
4. To collect the responses, responsible agencies do not have to meet or visit relevant organizations/persons.
5. Responsible agencies will submit questionnaire responses to the DRTS by the end of March.

Evaluation Procedure:

1. The contact person should state the name of the agency s/he represents, as well as her/his department and e-mail address.
2. Two questionnaire sheets will be distributed, one for 2021 and another for 2022. The sheets should be filled in for each year, covering the results, budget, and status of activities, among other items.
3. Target values for 2023 (number of people, number of activities, and budget) will be filled in, as much as possible, by referring to the 2022 form.
4. Check (✓) the applicable reason(s) for which an activity could not be implemented. Provide detailed explanations in the Notes section.

Questionnaire Sheet for Evaluation of Road Safety Action Plan

Date of questionnaire distribution	25-Jan-23
Submission deadline	10-Mar-23

[Contact]

Road Traffic Safety Department, Ministry of Public Works and Transport
 Deputy Director, Sattya Boran
sattya.boran@yahoo.com

[Your affiliation and Name]

Affiliation	
Position	
Name	
E-mail address	

Concept & Method

(Basic concept of questionnaire)

1. Purpose of the questionnaire is to annually evaluate the achievement progress of the activities in the Action Plan.
2. Evaluation of each action plan will be responsibility of the agencies listed under 'Responsible agencies', each of which is responsible for evaluating the achievement of the measures.
3. Responsible agencies will be representatives of their activities and compile the results to the best of their knowledge.
4. Responsible agencies will collect information to the scope that it does not require holding meetings or visiting relevant organizations (persons).
5. Responsible agencies will be submit their questionnaire responses to the DRTS by the end of March.

(Evaluation Procedure)

1. Contact person should state the name of the agency, department, and e-mail address.
2. Two questionnaire sheets will be distributed, one for 2021 and one for 2022. Questionnaire sheet should be filled in for each year; covering the results, budget, and status of activities, among other items.
3. Target values in 2023 (number of people, number of activities, and budget) will be filled in, as far as possible, by referring to the 2022 form.
4. Place a check mark "✓" on the reasons for which an activity could not be implemented. Please provide the detailed reasons in the notes.

Source: JET

Figure 4.3.33 Cover Page of the Individual Evaluation Questionnaire

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Action plan 1: Road safety management													
Priority	Action	Responsible Agents	Evaluation Indicators			Evaluation Results		Evaluation of Current Status					
			No	Indicator	Unit	Plan	Achievement	Activity level	Issue and Problem level	Achievement level			
Capacity building	1. To organize training for road safety experts (from NRSC and PRSC general/secretariat, MoH, MoEY and Mol with certificates- provided) 2. To liaise with universities, local organizations which are road safety expertized in order to organize study tour or exchange programs with local experts	● NRSC MPWT Mol	1	Number of conducted training	Times		1. As planned 2. Almost as planned 3. Almost as planned 4. Plans to be active 5. Not active at all						
			2	Number of people who attended training	Persons								
		● NRSC MPWT Mol MoH MoEY CIC	3	Number of study tours and exchange programmes organized	Times								
			4	Number of universities, local experts participated in study tours and exchange programmes	Numbers								
			5	Number of people participated in study tours and exchange programmes	Persons								
Financial support and resources	3. To develop yearly budget plan for NRSC and PRSC general/secretariat	● MPWT NRSC g.secretariat PRSC secretariat Mol	6	Availability of yearly budget plan in NRSCs and PRSC	1: Yes 2: No	1. No problem 2. Slight problem, but possible to handle 3. Slight problem, but takes time 4. Problems, takes a long time 5. Quite a problem, difficult to handle							
			7	Difference between planned and actual yearly budgets in NRSCs and PRSC	USD								
	● NRSC g.secretariat PRSC secretariat MPWT Development partners MoEF	8	Number of agencies that requested budget allocations	Numbers									
		9	Number of agencies that implemented budget allocations	Numbers									
		10	Amount of budget allocation of each agency	USD									
	4. To ensure sustainably internal mechanisms for road safety financing and to ensure budget allocation from every road project budget for road safety sector (10% from every road project) 5. To seek financial support and to improve external financing mechanisms to support NRSC and PRSC	● NRSC g.secretariat PRSC secretariat Mol MoH MPWT Development partners MoEY	11	Difference between planned and actual of budget allocation of each agency	USD								1. Excellent 2. Very Good 3. Fair 4. Poor 5. Very Poor
			12	Number of agencies that requested financial support	Numbers								
			13	Number of agencies that responded to financial support	Numbers								
			14	Amount of financial support of each agency	USD								
			15	Difference between planned and actual of financial support	USD								
RCVIS	6. To organize training on data collection for traffic police, NRSC and PRSC g/secretariat and health staff at district at district level	● NRSC g.secretariat PRSC secretariat Mol MoH MPWT Development partners	16	Number of conducted training	Times								
			17	Number of people who attended training	Persons								
	7. To update RCVIS and provide equipment to Mol, MoH and NRSC	● NRSC g.secretariat PRSC secretariat Mol MoH MPWT Development partners	18	Number of updated RCVIS	Times								
			19	Number of devices provided	Numbers								
	8. To use provincial data and information to monitor regularly the goals of national action plan, and outcomes of actions	● NRSC g.secretariat PRSC secretariat Mol MoH MPWT Development partners	20	Number of provinces monitored	Times								
			21	Number of times monitored per provinces	Times								
	9. To provide information and analyze risk factors to develop projects, plans and current needs of concerning institutions	● NRSC g.secretariat PRSC secretariat Mol MoH MoEY MPWT Development partners	22	Number of conducted factor analyses	Times								
			23	Number of information provided by organizations	Numbers								
	10. To decentralize data system to provincial level	● NRSC g.secretariat PRSC secretariat Mol MPWT Development partners	24	Number of provinces with data systems improved	Numbers								
			25	Number of provinces utilizing the data system	Numbers								
	11. To improve Cambodian road safety information accessing and other issues via websites	● NRSC g.secretariat PRSC secretariat Mol MoH MPWT Development partners	26	Number of website access	Numbers								
27			Number of problems received that have been improved	Numbers									
Research, M&E	12. To set up research center on risk factors and economy losses; and to build capacity to research teams as well as to provide equipment	● NRSC g.secretariat PRSC secretariat Mol MoH MPWT Development partners	28	Availability of research center established	1: Yes 2: No								
			29	Number of research center staff	Numbers								
			30	Number of instruments provided	Numbers								
			31	Number of institutions that provided equipment	Numbers								
	13. To conduct research/disseminate result from research and evaluation on relevant priority	● NRSC g.secretariat PRSC secretariat MPWT Mol MoH Development partners	32	Number of research/studies conducted on priority issues	Times								
			33	Number of times the evaluation results were publicized	Times								
	14. To set up helmet testing center as well as to provide equipment; and to test locally produced and imported helmets	● NRSC M. of Industry ISC Development partners	34	Availability of helmet test center	1: Yes 2: No								
			35	Number of Helmet Test Center employees	Numbers								
			36	Number of times helmet tests were conducted.	Times								
			37	Number of helmets tested	Numbers								

Source: JET

Figure 4.3.34 Individual Evaluation Questionnaire

4.3.4.3 Activities Related to the Evaluation of the Action Plan

(1) Explanation and Distribution of the Action Plan Evaluation Questionnaire

JET prepared evaluation methods for the action plan and a questionnaire for evaluating individual measures. In March 2023, the DRTS conducted a joint briefing session among RID, MOI, MoEYS, and DPWT counterparts to request their cooperation in evaluating individual measures. The DRTS distributed the questionnaire for evaluating the 2021 status of individual measures in NRSAP 2021-2030.

(2) The response status of the evaluation questionnaire for the action plan

The deadline for submitting responses to the evaluation questionnaire was set for the end of March, but the counterparts were unable to meet the deadline. Due to the many events held in Cambodia in April and May, as well as the heavy workload of those in charge, it took time for them to respond. On 19 June 2023, the DRTS hosted another briefing session with the same counterparts to explain the questionnaire again and extend the deadline to the end of July.

By the end of July, the results of the evaluation questionnaires were submitted, but the content was far more insufficient than expected. The reasons cited included the fact that the counterparts' personnel could not evaluate individual measures outside their scope of responsibility, and that they could not submit responses without the approval of their superiors. JET analyzed the submitted questionnaire results, identified the issues and problems, and decided to consider a more effective and efficient survey method.

(3) Review of the Action Plan's Implementation Method

Taking into account the low accuracy of the responses to the evaluation questionnaire and the significant time required to complete it, JET discussed with the DRTS in October 2023 about improving the structure and implementation methods of the questionnaire. As a result, JET organized the focal points of the implementing organizations for the action plans positioned within the DAP and considered distributing the evaluation questionnaire through a formal request from the NRSC Secretariat (DRTS), which is the DAP's contact point.

In November 2023, JET reviewed the contents of the questionnaire and planned to distribute and collect the questionnaires by the end of November. However, when JET confirmed the progress with the DRTS, JET found that the work had been delayed. Therefore, it promptly adjusted the schedule and proceeded with the preparations to distribute the evaluation questionnaire to the relevant implementing agencies. Nevertheless, due to the unsatisfactory progress in the preparation, JET realized that distributing and implementing the evaluation questionnaire to all relevant agencies would require time for formal approvals and procedures. As a result, JET proposed to distribute the evaluation questionnaire first the relevant departments within the MPWT, the main counterpart organization.

However, high-ranking officials from the counterparts emphasized the importance of conducting evaluation validation, suggesting that an evaluation team should be established and the questionnaire distributed not only to the MPWT but to all relevant agencies following formal procedures. In response, JET, recognizing that gathering officially approved questionnaire responses would take time, decided to create mock evaluation data and change the plan to explain the evaluation and analysis methods to the WG based on that data.

(4) Working Group for the Evaluation and Analysis of the Action Plan

During working group discussions with the DRTS, JET explained the aggregation method for policy evaluations and examples of evaluation results. Additionally, JET compared the

structure of Japan's Basic Traffic Safety Plan with Cambodia's Road Traffic Safety Plan and explained the former's evaluation approach.

Evaluation of the Action Plan for Road Safety 2021 of the National Road Safety Committee

Pillar	Cluster of activities	Activities	Responsible unit (original)	Level of accomplishment	Reason why it was not implemented (multiple answers possible)							Comments (If select "Other")	
				Please select the No. 0: Not implemented 1: Implemented poorly 2: Implemented fairly 3: Implemented fairly good 4: Implemented very good 5: Implemented excellent	Lack of funds	Human resources	Lack of leadership	Lack of technical assistance	Lack of training	Not applicable	Other		
1- Strengthen the mechanism for managing and directing road traffic safety	1.1- Strengthen management and leadership mechanisms at all levels by ensuring the sustainability of action planning, meetings, reporting, drafting and reviewing performance appraisals.	1-Organize monthly, quarterly, semi-annual and annual meetings with national and provincial capitals	N.R.S.C. Ministry of Public Works and Transport, General Secretariat of the N.R.S.C.Sub-Committee on Capital and Provincial Traffic Safety, Capital and Provincial Secretariat										
	1.1	2-Hold regular consultation and evaluation meetings with relevant institutions	N.R.S.C. Ministry of Public Works and Transport, General Secretariat of the N.R.S.C.Sub-Committee on Capital and Provincial Traffic Safety, Capital and Provincial Secretariat, Development Partners										
	1.1	3-Develop strategic plans, annual action plans, budget plans and plans in line with the actual situation and monitor, evaluate, update strategies and road safety action plans.	N.R.S.C. Ministry of Public Works and Transport, General Secretariat of the N.R.S.C.Sub-Committee on Capital and Provincial Traffic Safety, Capital and Provincial Secretariat, Development Partners										
	1.1	4-Prepare and amend legal documents related to road traffic safety (Prakas on the use of chests, safety gaps, use of speed on highways, Prakas on the withdrawal of points on driving licenses and learning to complete points on driving licenses)	N.R.S.C.General Secretariat of Public Works and Transport, Department of Justice, Study and Amendment of the Road Traffic Law										
	1.1	5-Ensure a sustainable internal mechanism for the road safety work budget and ensure a portion of the budget from all road bridge construction projects for road safety.	N.R.S.C. General Department of Economy and Finance, Department of Public Works and Transport, General Secretariat of the N.R.S.C.Sub-Committee on Traffic Safety, Capital, Province, Development Partners										
	1.1	6-Raise funds to establish annual fundraising programs from private sector development partners, national and international organizations to support road safety work	N.R.S.C. Ministry of Public Works and Transport, General Secretariat of the N.R.S.C.Sub-Committee on Traffic Safety, Capital, Province, Development Partners, National and International Organizations										
	1.1	7-Establish a fund to support traffic accident victims	N.R.S.C. Ministry of Public Works and Transport, General Secretariat of the N.R.S.C.Sub-Committee on Traffic Safety, Capital, Province, Development Partners, National and International Organizations										

Source: JET

Figure 4.3.35 Revised Evaluation Questionnaire for Individual Measures

3 Sample of evaluation result

3. Example result sheet (53 activities)

Pillar	No.	Action Plan	a b c d e f				Percentage of Reason								
			No. of Sub Activity	All of Level of accomplishment	No. of Activity accomplishment	Level of actual accomplishment	No. of zero Activity	Lack of funds	Human resources	Lack of leadership	Lack of training	Lack of technical assistance	Not applicable	Other	
2. Strengthen the implementation of relevant laws and regulations	1	2.1- Develop legal documents related to road traffic safety	2	40.0%	2	40%	-								
	2	2.2-Develop an action plan to strengthen the implementation of the law on road traffic, focusing on the prevention and reduction of traffic accidents that have a high rate of deaths and injuries	4	45.0%	4	45%	-								
	3	2.3- Strengthen the capacity of law enforcement officers on legal, technical and professional ethics	3	20.0%	2	30%	1	16.7%	16.7%	16.7%	16.7%	16.7%	16.7%		
	4	2.4-Strengthen the implementation of the law on road traffic	10	44.0%	7	63%	3	16.7%	16.7%	33.3%		16.7%	16.7%		
	5	2.5-Build a data storage and management center on traffic accidents, traffic offenses and traffic conditions	3	0.0%	0	-	3	22.2%	11.1%	11.1%	33.3%	22.2%			
	6	2.6-Strengthen road traffic accident investigation	4	0.0%	0	-	4	22.2%	33.3%		22.2%	22.2%			
	7	2.7-Establish an information system on penalties for violating the law and withdrawing driver's license points	3	26.7%	2	40%	1			33.3%		33.3%		33.3%	
	8	2.8- Increase management, inspection and safety assessment of passenger and cargo transportation	4	5.0%	1	20%	3	20.0%	20.0%	20.0%	30.0%	10.0%			
	9	2.9-Increase controls, restrict shipments beyond the limit	5	0.0%	0	-	5	11.1%	22.2%	22.2%	22.2%	22.2%			

- a: Total number of sub activities
 - b: Average of level of implementation activities (including no of zero activities)
 - c: Number of implemented sub activities
 - d: Average of level of implementation activities (For the activates implemented)
 - e: Number of without implemented sub activities
 - f: Percentage of reasons for zero activity
- b = Total Percentage of Activity / No. of Sub Activities
d = Total Percentage of Activity / No. of Implemented Activities
f = No. of each reasons / Total No. of reason

Source: JET

Figure 4.3.36 Example of aggregated analysis results of individual measures

4.3.4.4 Preparation of a white paper on traffic safety (evaluation report)

A technical report on the "White Paper on Traffic Safety in Cambodia" and a report comparing the traffic safety plans of Japan and Cambodia, including examples of Japan's evaluation methods, were prepared. On 30 August 2024, the proposed tables of contents were presented to the Director and Deputy Director of the DRTS for their comment. In November 2024, JET explained the outline of the technical report to them and finalized it after the December 20 deadline for comments passed.

Table of Contents	
Chapter 1 Introduction	1
Chapter 2 Overall Outline of Decade Action Plan in Cambodia	2
Chapter 3 Questionnaire Items and Evaluation Method	3
3.1 Purpose of the Evaluation	3
3.2 Preparation and Implementation System for Evaluation	3
3.3 Evaluation Indicator Sheet	3
3.4 Example Evaluation Result	6
3.4.1 Individual Measures	6
3.4.2 Sub category measures	8
3.4.3 Summary of Six Pillars	10
Chapter 4 Composition of White Paper on Traffic Safety in Cambodia	11
4.1 Basic Concept	11
4.2 Example of White Paper on Traffic Safety in Cambodia	11
Chapter 5 Recommendations	60
5.1 Approach of Evaluation Method	60
5.2 Evaluation sheet	60
5.3 Recommendations	64
5.3.1 Comments on Current Issues	64
5.3.2 Efforts to Secure Budget	65
5.3.3 Activity on the Limited Budget	66

Source: JET

Figure 4.3.37 Contents of the Report on the Traffic Safety Plans of Japan and Cambodia

PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA	
FY 2024	
White Paper on Traffic Safety in Cambodia	
Contents	
Preface	
Part I Situation of Road Traffic Accidents and Current State of Traffic Safety Measures	
Chapter 1. Special Feature	
1.1 Introduction of "Improvement Road Traffic Safety on Trunk Road in Cambodia Project by JICA	
1.2 Traffic accidents on NR5 (About analysis and summary result)	
1.3 Activity of the JICA Project	
1.3.1 Field Survey and Data Collection	
1.4. Implementation of Pilot Project (Purpose/Activity / Evaluation)	
1.4.1 Questionnaire Survey for Evaluation Effectiveness of Kompong Chhnang Pilot Project	
1.4.1.1 Survey Result of Kompong Chhnang Pilot Project	
1.4.1.2 Evaluation of the Pilot Project based on the Result of the Interview Survey	
Chapter 2 Road Accident Trends	
Part II Overview of Current Road Traffic Safety Measures (Summary of Activities and Measure Evaluations Regarding the Six Pillars)	
Chapter 1. Strengthen road safety management and management mechanisms	
Chapter 2. Strengthen the implementation of relevant laws and regulations	
Chapter 3. Strengthen road safety education	
Chapter 4. Strengthen road safety engineering	
Chapter 5. Strengthen the efficiency of first aid and emergency services	
Chapter 6. Strengthen vehicle safety	

Source: JET

Figure 4.3.38 Contents of the White Paper on Traffic Safety in Cambodia

Although the "White Paper on Traffic Safety in Cambodia" was not published, efforts were made to lay the foundation for adopting evaluation methods by preparing a questionnaire to assess the progress of individual traffic safety measures indicated in the action plan. Through example responses and explanations of evaluation techniques, new aggregation methods and evaluation approaches were learned, enhancing technical skills. This activity highlighted the necessity of regularly reporting the status and evaluation of traffic safety measures in Cambodia. It also serves as the foundation for the future publication of the White Paper and is expected to contribute to raising awareness and advancing traffic safety efforts in Cambodia.

4.4 Issues

4.4.1 Improvement of Capacity in Traffic Accident Investigation

4.4.1.1 Management of the Number of Traffic Accidents and Cases

It is essential to understand the actual number of road traffic accidents occurring within each police station's jurisdiction. In addition, proper management of the number of road accidents that have occurred and those that have been handled is necessary. It is also important to ascertain whether or not each case has been formally reported to the police.

Also important thing is to put as much information as possible in the traffic accident report,

which is only available to the police officers present at the accident scene. The problem, however, is that the overall picture of road accidents is difficult to grasp, because hit-and-run cases are frequent and minor injuries are often settled and not reported to the police. Furthermore, the management of cases referred to the police does not seem to be carried out properly.

4.4.1.2 Recognition of Intentionality and Negligence in Road Accident Investigations

The traffic police is required to determine whether a road traffic accident was caused intentionally or through negligence. Negligence is assessed by identifying whether the accident resulted from a cognitive error, an error in judgment, or operational error based on findings from on-site investigations or other relevant methods. In cases where intent is established, the incident may constitute homicide or intentional injury, and the possibility of insurance fraud must be considered.

As there is no record of the investigation on the accident map, such as the position from which the person at the time of the accident saw the other party, applied the brakes, or operated the steering wheel, the detailed circumstances leading to the accident avoidance action or the cause of the accident are not known.

Thus, the problem is that on-site investigations are not precise enough, because it is difficult to obtain the testimony of the parties involved in hit-and-run cases, etc., and because only the point of collision and the point of stop are investigated.

4.4.1.3 Verification from Past Court Cases

In Japan, there have been many cases in which an acquittal was achieved due to inappropriate investigative methods. Strict and precise investigations are conducted on this basis. Therefore, it is necessary to verify past court cases, to recognize past cases of inappropriate investigations, and to conduct proper investigations. To this end, cases of acquittals in Japan were introduced and the importance of meticulous investigations was highlighted.

4.4.1.4 Police Organization in Relation to Accident Investigation

The Kampong Chhnang Provincial Police Traffic Police has a 47-strong workforce, grouped into three control teams, one investigation team, and one general affairs team. Compared to the Japanese police organization, the roles and responsibilities of each section are unclear.

There are problems such as inadequate accident investigation, triggered by the high number of hit-and-run incidents and insufficient referrals of cases to the police. An increase in the number of police officers is needed to strengthen the enforcement capability of the traffic police.

In addition, the MOI expressed its intention to implement a departmental reorganization, drawing on the structure of the Japanese police organization as reference.

4.4.1.5 Clarification of All Traffic Accidents

If the parties involved in a minor accident reach a settlement, the incident is typically not reported to the police. As a result, it is believed that a significant number of traffic accidents go unrecorded, leaving the police without a comprehensive understanding of the overall accident situation in the country. In other words, most police investigations focus on serious accidents, and majority of entries in Cambodia's accident database reflect only these severe accidents.

To develop effective and evidence-based countermeasures, it is critical to strengthen the entire workflow, from accident investigation, database reporting, followed by accident data analysis, Increasing the number of accident investigations, particularly for minor accidents, is therefore a critical issue that must be addressed.

JET has proposed to the MOI about the establishment of a system for reporting traffic accidents to the police and the strengthening of the police organizational structure. The MOI is currently considering whether or not to conduct such activities.

4.4.1.6 Establish a Reporting System for Traffic Accidents

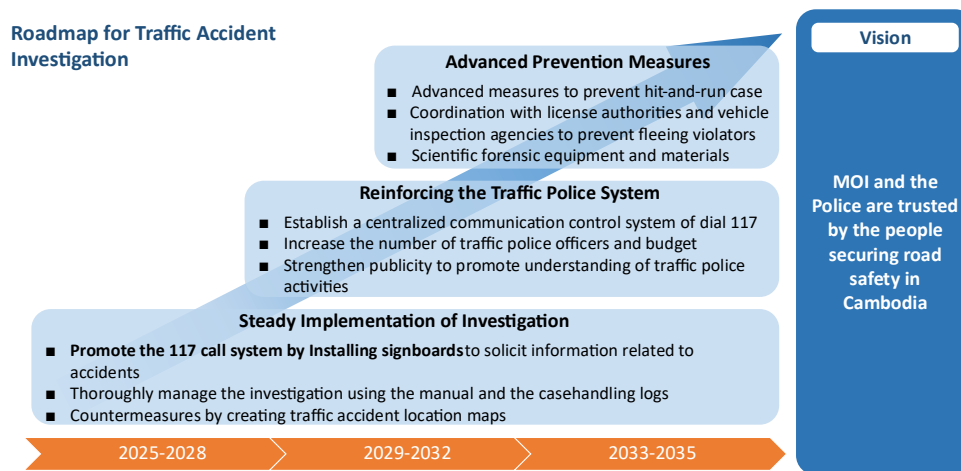
When a traffic accident occurs, very few people involved in the accident report the accident. As a result, it takes time for the police to become aware of the accident; in the worst case, serious injuries can result in death. If the police are slow to arrive, evidence at the accident scene will be scattered, making it impossible to collect evidence and hampering subsequent investigations. A trial was made to encourage people to report accidents by placing signs such as "Caution: Accident Sites" and "Where to Report Accidents" in areas where there have been many accidents.

The best way to deter hit-and-run cases is to make arrests; but in general, hit-and-run cases often occur when the person who caused the accident panics and runs away unintentionally. In Cambodia, a large number of hit-and-run cases remain unsolved.

4.4.1.7 Basic Policy for Continuing Working Activities

Short-, medium-, and long-term plans were developed in consultation with the counterparts to continue the activities after project completion. The short-term plan calls for the installation of accident information signs and the promotion of the 117 reporting system to ensure reliable investigations. The medium- to long-term plan calls for an increase in the number of traffic police officers and the budget to strengthen the traffic police system, and for the implementation of advanced accident prevention measures, such as preventing violators from fleeing in cooperation with driver license management agencies and vehicle inspection agencies.

2. Basic Policy for Continuing WG1 Activities



Source: JET

Figure 4.4.1 Basic Policy for Continuing WG Activities (Traffic Investigation)

4.4.2 Improvement of Capacity in Traffic Accident Data Analysis

4.4.2.1 Understanding the actual status of hospital data

RCVIS consists of police and hospital data, with DRTS managing the data. The MOI and the MOH generate the data.

4.4.2.2 Improvement of accident analysis capability

The DRTS accident officers analyze most accidents by simple tabulation and prepare accident reports based on the results. With simple tabulation, it is almost impossible to consider accident countermeasures corresponding to the causes of accidents. For this reason, JET provided training in accident analysis using cross-tabulation. It is necessary to continue to educate the persons in charge so that accident countermeasures can be derived from accurate and detailed analysis.

An interim evaluation of the accident analysis skills of the DRTS accident analysts showed that their level of knowledge of traffic safety measures and their ability to analyze a wide variety of accidents are low, and that training in these areas should be emphasized. Therefore, to improve the ability of the DRTS accident analysts to propose accident prevention measures based on the results of accident analysis, JET provided training in traffic control, road improvement, and safety education.

4.4.2.3 Improvement of Accident Reports

Looking at the Cambodian national accident report, JET suggested some items to be improved. The following accident analysis items are considered useful for accident countermeasures, but the analysis items of the original accident report and other items need to be reviewed.

- There are no survey items for traffic purposes. This is a necessary item in planning targeted countermeasures for commuters and freight vehicles.
- Accidents are not categorized by type (person vs. vehicle, vehicle vs. vehicle, vehicle alone) and behavior (straight ahead, overtaking, sudden stopping). In Cambodia, “collision type” (frontal/rear/right angle, etc.) is similar to “accident type,” but this is not sufficient.
- Although it is necessary to add an item for “behavior type,” it is currently difficult to do so because police accident investigations do not have a sufficient understanding of the behavior of the parties involved in the accident. One possible reason for this is that culprits usually flee the scene for fear of violence from residents. It is important to establish a system or other methods for the parties involved in accidents to report accidents to the police and emergency services, as is done in Japan.
- There are no investigation items for roadway classification and roadway width. There is “paved/unpaved” and “straight road/intersection” as road types. But there are no items related to road structure such as “presence/absence of guardrails, presence/absence of sidewalks, and roadway width. These items are necessary for considering road improvements (Outcome 2).
- There are no investigation items for traffic signals and temporary stop regulations. If traffic accidents are caused by traffic violations, these items are necessary to examine the implementation of traffic control (Outcome 3).

4.4.3 Issuance of Traffic Accident Reports

4.4.3.1 Accident Reports on Specific Themes

As it was deemed difficult to publish the report in a timely manner, JET, in the second year of this project, considered posting the report on the websites of JICA and other relevant organizations. To do this, JET proposed publishing separate reports on accidents involving motorcycles and commercial /freight vehicles and on speed-related accidents.

4.4.3.2 Annual Report

The 2020 report was expected to be published in the fall of 2023 or three years after the year the accidents occurred. In Japan, accident reports are issued in the year following the year of the accident, and it is necessary to improve the timing of publication in Cambodia. Therefore, the necessity and importance of improving the issuance timing was explained and understood at the JCC and other organizations, and the situation was improved so that the annual report is now issued in the year 2023. The RCVIS consists of police and hospital data, of which hospital data is collected three to four times a year on a paper basis, with data entry performed by DRTS. This process is one of the reasons for the delay in issuing the report, which DRTS states is due

to the hospital data not being submitted by the stipulated deadline. Other issues with delays may exist besides this and should be regularly discussed with the DRTS. JET strongly hopes that hospital data will also be put online in the future.

4.4.3.3 Basic policy for continuing working activities

In order to continue working activities in the future, a short-term plan and a medium- to long-term plan were developed in consultation with the counterparts. The short-term plan aims to promote traffic accident analysis, the preparation of manuals, and the strengthening of the accident analysis system. The medium- to long-term plan stipulates that traffic accident data collection be brought online and a new RCVIS be developed.

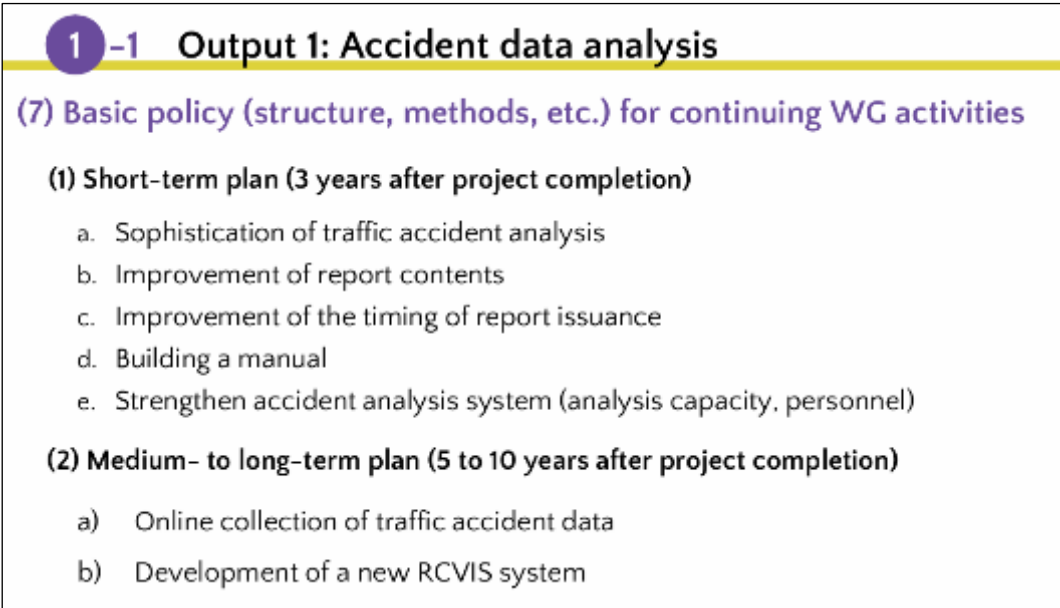
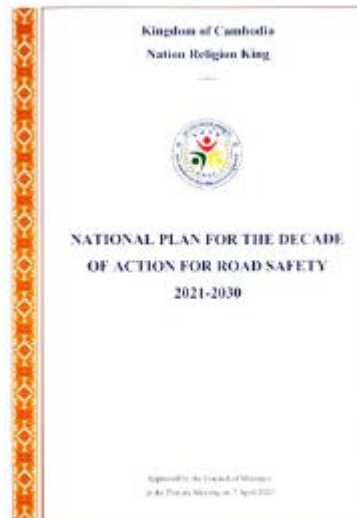


Figure 4.4.2 Basic Policy for Improving Traffic Accident Analysis

4.4.4 Issuance of a White Paper on Traffic Safety

(1) Obtaining Necessary documents

Since the start of the Project, it had been difficult to obtain the DAP ("Decade of Action Plans for Road Traffic Safety 2021-2030") report, which had been requested from the DRTS. However, at the official DAP launch event hosted by the General Secretariat of the National Road Safety Committee on 30 November 2023, the report was distributed to attendees, allowing JET to acquire it as well.



Source: NRSAP

Figure 4.4.3 NRSAP (2021-2030) Report

(2) Activity of individual measures questionnaire

JET found it difficult to get accomplished individual survey questionnaires from counterparts. The reasons given include: "I don't know because it's not my department" and "I need my supervisor's approval." Therefore, JET coordinated with the DRTS to identify and list the focal points and distributed the questionnaires to relevant organizations through the NRSC.

However, since the formation of a formal evaluation team and approvals for coordination with related organizations were required, it was anticipated that the implementation would take time, leading to the suspension of the survey. JET analyzed collected evaluation data and prepared reference materials explaining the evaluation methods.

(3) Issuance of a White Paper on Traffic Safety

Through the activities of the WG, JET was able to achieve certain results in terms of the approach to policy evaluation and evaluation methods. Although JET prepared a report that included examples of the trial evaluation surveys and methods, as well as a structure that reflects the overall composition of the white paper on traffic safety, the Cambodian side has not yet published a traffic safety on white paper based on this.

4.4.5 Assessment of Accident Investigation Capacity

As an assessment of the extent to which the implementation of this project has achieved Outcome 1: Improvement of accident investigation capacity, a questionnaire survey among MOI personnel involved in the project and provincial police officers in Battambang, Kampong Chhnang, and Pursat provinces was conducted from July to August 2024. This survey was conducted in parallel with the evaluation of all other activities targeting the Cambodian police personnel. The survey was conducted online using a Google Form with questions and answers. The questions were divided into two categories: one for managers (MOI employees and Deputy Directors and above) and one for employees below the rank of deputy chief in each

state police department. The survey participants were staff and police officers who participated in both the lectures and field activities of the project.

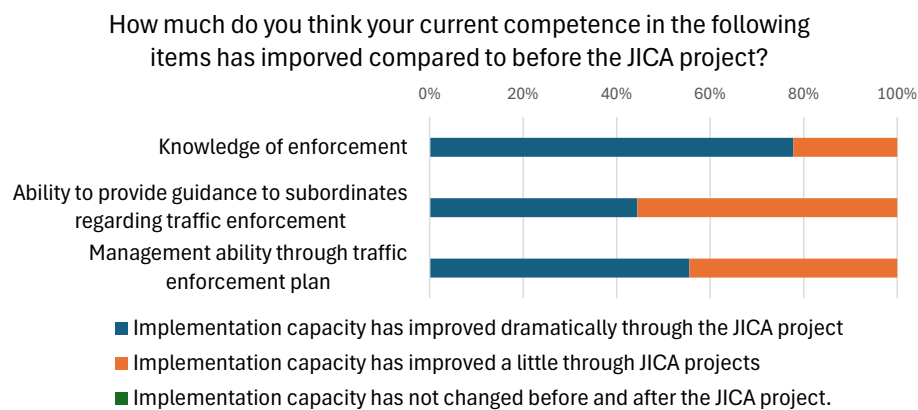
Table 4.4.1 Composition of Survey Participants

Organization	Management	Practitioner
MOI	3	-
Battambang Provincial Police	2	9
Kampong Chhnang Provincial Police	2	13
Pursat Provincial Police	2	10
Total	9	32

Source: JET

4.4.5.1 Self-Evaluation by MOI and Provincial Police Managers

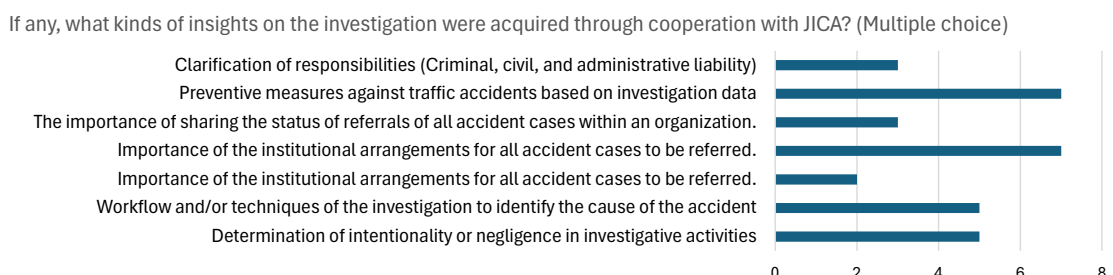
Results of the self-assessment indicated that more than 60% of management-level officers rated their knowledge of traffic accident investigations and their ability to instruct subordinates regarding the same as “dramatically improved” (Figure 4.4.4). With this result, JET concluded that 20% of the evaluation indicator was achieved.



Source: JET

Figure 4.4.4 General Investigation Capacity of Police Managers

The largest number of staff (7 out of 9) mentioned preventing recurrence based on investigation data and preparing an actual investigation report as knowledge specifically obtained from the project (multiple responses) (Figure 4.4.5).

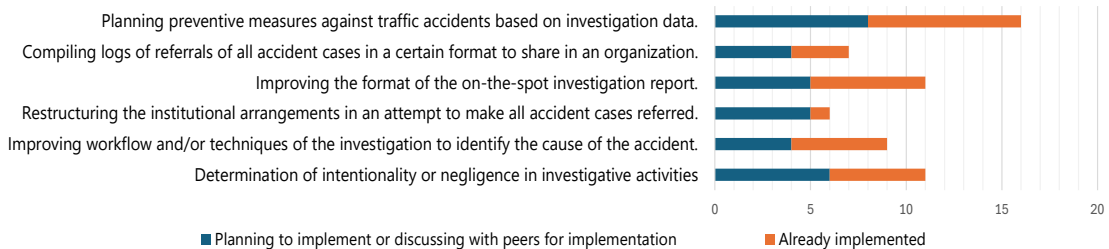


Source: JET

Figure 4.4.5 Investigation Capacity Acquired by Police Managers through the Project

Regarding the use of investigation findings obtained from the project, “planning measures to prevent recurrence based on investigation data” were already implemented by 8 out of 9 respondents, indicating that it has made the most progress. All other items have already been implemented.

Please specify all activities you are planning to implement or discussing with your colleagues to put them into practice, given the cooperation with JICA. (Multiple choice)

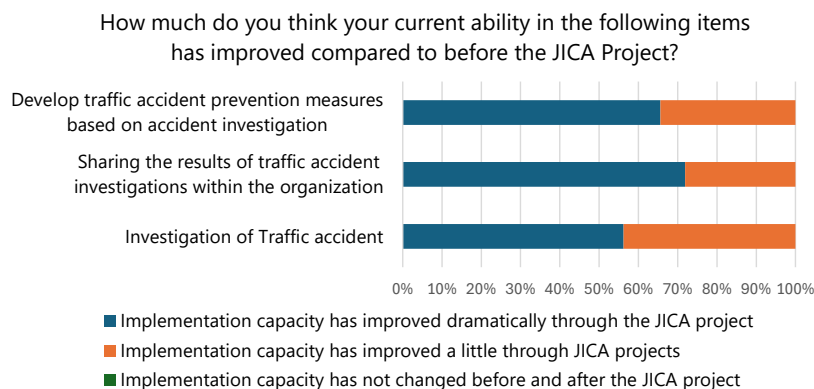


Source: JET

Figure 4.4.6 Police Managers’ Application of Acquired Investigation Capacity

4.4.5.2 Self-Evaluation by Frontline Police Officers

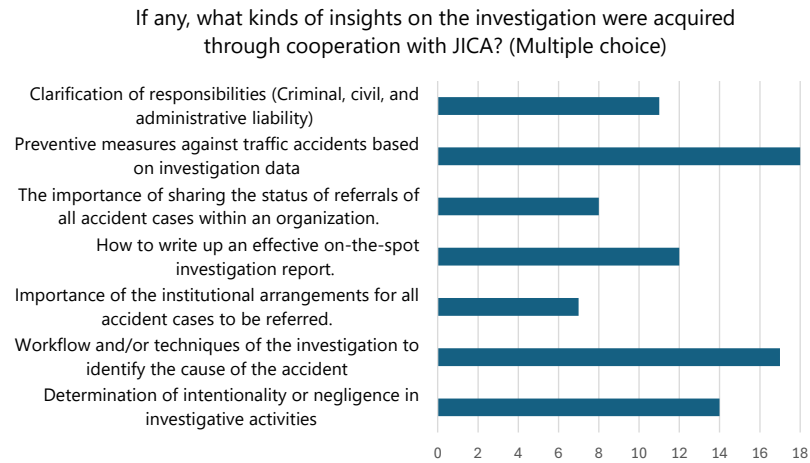
Results of the self-assessment show that, on average, more than 60% of frontline police officers rated their ability in each of the items related to traffic accident investigation as “dramatically improved,” which means that 20% of the evaluation indicators were achieved, as was the case of the managers (Figure 4.4.7).



Source: JET

Figure 4.4.7 General Investigation Capacity of Frontline Police Officers

As with the management level, the individual knowledge items (multiple responses) that were specifically gained from the project, the most votes were for measures to prevent recurrence based on investigation data.

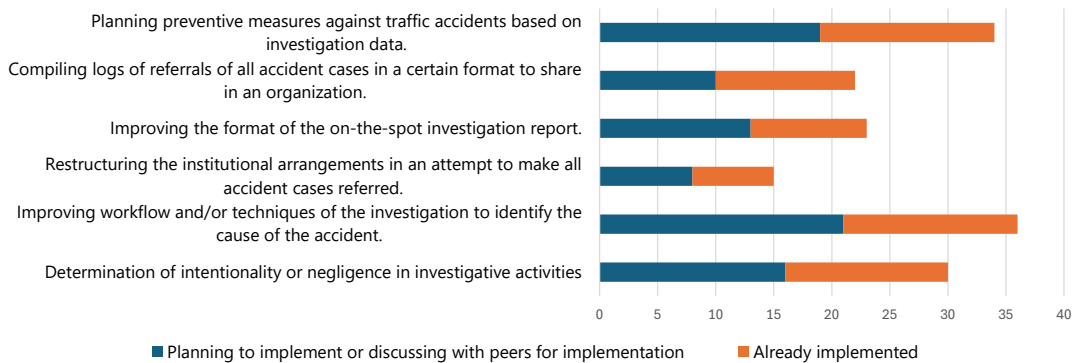


Source: JET

Figure 4.4.8 Investigation Capacity Acquired by Frontline Police Officers through the Project

In response to the question on the reflection of investigation know-how acquired in the project, the survey revealed that the largest number of respondents (15) cited "Improvement of investigation procedures or techniques to determine the cause of the accident" and "Planning of measures to prevent recurrence based on investigation data" as activities already put into practice. Similarly, all other items were already implemented.

Please specify all activities you are planning to implement or discussing with your colleagues to put them into practice, given the cooperation with JICA. (Multiple choice)



Source: JET

Figure 4.4.9 Police Frontliners' Application of Acquired Investigation Capacity

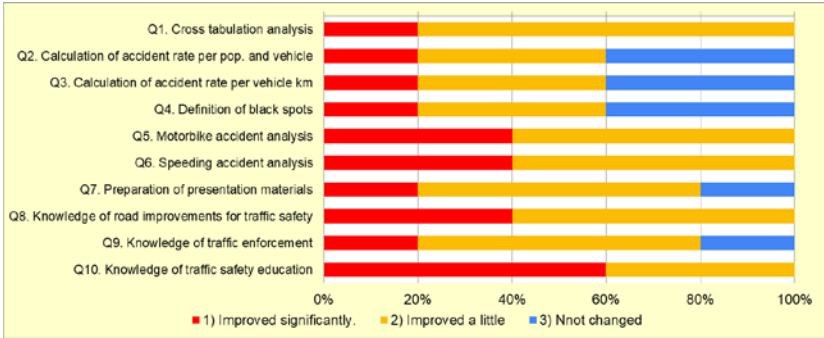
4.4.6 Assessment of Accident Analysis and Planning Capacity

A questionnaire survey was conducted to verify the effectiveness of one of the goals of this project, i.e., to confirm the effectiveness of the improvement of the counterpart's capabilities. The results showed that more than 20% of the counterpart DRTS officers significantly improved their capacities, and more than 60% slightly improved, exceeding the target of 20%.

1-6 Self evaluation of the officers in the relevant organizations on accident analysis and plan formulation capacity will be improved more than 20%.

- ✔ For each topic, **more than 20 %** of DRTS staff of WG1 answered "Improved significantly" on the improvement of their current ability. When combining "Improved significantly" and "Improved a little", the percentage become **more than 60%**.

Personal capacity related to accident analysis for each topics



Source: JET

Figure 4.4.10 Results of Evaluation of Accident Investigation Capacity

5 The Capacity of the Relevant Organizations for Road Safety Engineering is Improved through Activities in the Pilot Area on National Road No.5 (Output 2)

5.1 Outline

Under Outcome 2, five activities (Table 5.1.1) indicated in the Project Design Matrix (PDM) were implemented, with the effectiveness indicators shown in Table 5.1.2.

Table 5.1.1 Activities for Output 2

2-1	Consideration of basic principles of road traffic safety assessment implementation and prepare its manual
2-2	Conducting road traffic safety assessment on the National Road No. 5
2-3	Preparation of manual for traffic safety facility measures
2-4	Preparation of manual for evaluation and examination of traffic safety facility measures
2-5	Conducting pilot projects on the National Road No. 5 and evaluation and examination of the effects

Source: Project Design Matrix

Table 5.1.2 Effectiveness Indicators for Output 2

2-1	Road safety assessment (RSA) will be conducted more than three times
2-2	Manual for RSA and manual for road safety facility measures will be prepared
2-3	Based on RSA, traffic safety facility measures will be implemented in more than two places
2-4	Self-evaluation of the officers in the relevant organizations on road safety capacity will be improved more than 20%.

Source: Project Design Matrix

5.2 Record of Meetings

The record of meetings conducted by WG2 are shown in Table 5.2.1.

Table 5.2.1 Record of WG2 Meetings

Date	Meeting Title	Venue or C/P	Agenda
2022/3/15	WG2 1st Meeting	MPWT/Online	<ul style="list-style-type: none"> Explanation of Year 1 activities and RSA implementation details
2022/3/22	WG2 Workshop	Battambang	<ul style="list-style-type: none"> Explanation of the summary of activities for Output 2 Identification of danger locations on the northern section of NR5 (section under Battambang Province) Site inspection of dangerous locations

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Meeting Title	Venue or C/P	Agenda
2022/3/23	WG2 Workshop	Banteay Meanchey	<ul style="list-style-type: none"> • Explanation of the summary of activities for Output 2 • Identification of danger locations on the northern section of NR5 (section under Battambang Province) • Site inspection of dangerous locations
2022/4/1	WG2 2nd Meeting	MPWT/Online	<ul style="list-style-type: none"> • Report on the results of the workshop conducted in March
2022/5/18	WG2 3rd Meeting	MPWT/Online	<ul style="list-style-type: none"> • Brief explanation of RSA • Confirmation of RSA target locations and schedules • Request for submission and review of RSA manual (first draft) • Case studies of traffic safety measures in Japan
2022/5/24	WG2 4th Meeting	MPWT/Online	<ul style="list-style-type: none"> • Explanation of the status of RSA covered areas • Discussions on traffic accident factors and countermeasures
2022/6/2	WG2 5th Meeting (1st RSA)	MPWT/Online	<ul style="list-style-type: none"> • Discussion of the results of analyzing accident factors and proposed countermeasures for the location covered by the RSA in BTB (1st RSA was discussed by the RSA team)
2022/7/4	WG2 Small group Meeting (DRTS)	Online	<ul style="list-style-type: none"> • Installation standards for traffic signals at intersections
2022/8/12	WG2 Small group Meeting (RID Director)	MPWT	<ul style="list-style-type: none"> • Progress report on activities and exchange of opinions with RID Director General
2022/8/15	WG2 6th Meeting	MPWT/Online	<ul style="list-style-type: none"> • Proposal for additional local procurement (24h traffic, prevailing speed, video recording) • Preparation for the 2nd JCC
2022/8/25	WG2 Small group Meeting (RID)	MPWT	<ul style="list-style-type: none"> • Discussion of proposed pilot project (implementation of road safety measures) • Exchange of opinions regarding road design in front of an elementary school along Route 5
2022/8/29 ~9/3	WG2 Activity	Battambang	<ul style="list-style-type: none"> • Field survey (24-hour traffic volume, speed, video recording)
2022/8/30	WG2 Meeting (DRTS, DPWT)	Battambang	<ul style="list-style-type: none"> • Kick-off meeting for DRIMS-TS survey
2022/8/31	WG2 Activity (RID)	Battambang	<ul style="list-style-type: none"> • Locations covered by the pilot project (2 locations in BTB-Bypass) • Joint site visit in front of an elementary school along Route 5
2022/10/18	WG2 Meeting (DPWT)	Battambang	<ul style="list-style-type: none"> • Confirmation of traffic accident situation
2022/10/24	WG2 Meeting (RID)	MPWT/Online	<ul style="list-style-type: none"> • Exchange of opinions on Road Traffic Safety Guidebook
2022/10/27	WG2 7th Meeting	MPWT/Online	<ul style="list-style-type: none"> • Description of 2022 RSA Report
2022/11/2	WG2 8th Meeting	MPWT/Online	<ul style="list-style-type: none"> • Exchange of opinions on the design of medians and unsignalized intersections • 2022 RSA Report consultation
2022/11/14	WG2 9th Meeting	MPWT/Online	<ul style="list-style-type: none"> • Final confirmation of 2022 RSA Report
2022/11/29	WG2 10th Meeting	BTB DPWT	<ul style="list-style-type: none"> • Reporting on the results of the analysis of

Date	Meeting Title	Venue or C/P	Agenda
	(2nd RSA)		accident factors and proposed countermeasures in the locations covered by the RSA (The 2nd RSA is an opportunity for the road administrator and the RSA team to officially report on the implementation of the decision)
2023/1/16	WG2 Small Group Meeting (RID)	Online	<ul style="list-style-type: none"> Follow-up discussions on the content of the measures of the pilot project Application status of colored pavements in each country Effect of colored pavement
2023/2/16	WG2 Small Group Meeting (RID)	Online	<ul style="list-style-type: none"> Follow-up discussions on the content of the measures of the pilot project Design within intersections, including left-turn guide, etc.
2023/03/17	WG2 Activity (Site Visit)	KCH	<ul style="list-style-type: none"> Identification of dangerous locations on the southern section of National Highway 5 (section under Kampong Tunan Province) Site inspection of dangerous locations
2023/03/27	WG2 11th Meeting (Kick off meeting of 2023 RSA)	MPWT/Online	<ul style="list-style-type: none"> Confirmation of RSA coverage locations and schedule for the second year Explanation of the status of RSA covered areas Discussion on how to proceed in the second year of the RSA
2023/06/29	WG2 12th Meeting	MPWT/Online	<ul style="list-style-type: none"> Discussion of second year RSA structure Report on Training in Japan Exchange of opinions on Manual for Evaluation of Road Safety Countermeasures
2023/08/25	WG2 13th Meeting (Monthly Meeting)	MPWT/Online	<ul style="list-style-type: none"> Sharing the results of field surveys (traffic volume, speed) in the areas covered by the RSA
2023/09/08	WG2 14th Meeting (1st RSA)	MPWT/Online	<ul style="list-style-type: none"> Discussion of the results of the analysis of accident factors and proposed countermeasures in the areas covered by the RSA in KCH(The first RSA team meeting for discussion by the RSA team)
2023/09/29	WG2 15th Meeting (Monthly Meeting)	Online	<ul style="list-style-type: none"> Preparation for the 4th JCC meeting
2023/11/6	WG2 16th Meeting (Monthly Meeting)	Online	<ul style="list-style-type: none"> Exchange of opinions on Road Traffic Safety Guidebook
2023/11/23	WG2 Meeting	MPWT(RID)	<ul style="list-style-type: none"> Provide an overview of the second year RSA, review the schedule, and check the budget status of the first-year pilot project.
2023/11/24	WG2 Meeting	MPWT(DRTS)	<ul style="list-style-type: none"> Briefing on the second year RSA, confirming schedule, and discussing use of picalots
2023/11/29	WG2 17th Meeting (Monthly Meeting)	MPWT/Online	<ul style="list-style-type: none"> 2023 Final confirmation of RSA Report
2023/12/8	WG2 18th Meeting (2nd RSA)	KCH DPWT	<ul style="list-style-type: none"> Reporting of the results of the analysis of accident factors and proposed countermeasures in the locations covered by the RSA (the second RSA is an opportunity for the road administrator and the RSA team to officially report on the

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Meeting Title	Venue or C/P	Agenda
			implementation of the decisions).
2024/1/12	WG2 19th Meeting	Online	<ul style="list-style-type: none"> Proposal for design, color scheme, and location of new signage for KCH's pilot project
2024/1/23	WG2 Meeting	MPWT(DRTS)	<ul style="list-style-type: none"> Review design, color scheme, and installation of new signage, check progress of pilot project, and confirm schedule
2024/1/29	WG2 Meeting	MPWT(RID)	<ul style="list-style-type: none"> Discuss and confirm schedule for use of Picalot
2024/1/31	WG2 20th Meeting	MPWT	<ul style="list-style-type: none"> Determine design, color scheme, and location of new sign Consideration of color scheme for Picalot installation Review of traffic accident countermeasure evaluation index and interview survey content
2024/3/4	WG2 21th Meeting	DRTS/Online	<ul style="list-style-type: none"> About BTB and KCH Pilot Projects
2024/3/15	WG2 22th Meeting	DRTS/Online	<ul style="list-style-type: none"> About KCH's Pilot Project Materials for the next JCC meeting
2024/3/25	WG2 Meeting	RID	<ul style="list-style-type: none"> Confirmation of schedule for RSA and effectiveness verification for Year 3 (Pursat)
2024/4/1	WG2 Meeting	PS DPWT	<ul style="list-style-type: none"> Joint site visit with local police (Identification of locations with high traffic accident rates)
2024/4/8	WG2 Meeting	RID	<ul style="list-style-type: none"> Confirmation of the contents of the 5th JCC presentation Discussion of RSA manual approval process
2024/4/10	WG2 Meeting	DRTS	<ul style="list-style-type: none"> Discussion of KCH Pilot Project Effectiveness Verification Discussion of team composition and schedule for the 3rd year RSA
2024/4/26	WG2 23th Meeting	DRTS/Online	<ul style="list-style-type: none"> PS Reporting of traffic accident information by DPWT Finalize the method and schedule for verifying the effectiveness of the Year 3 RSA team and KCH pilot project.
2024/4/30	WG2 Meeting (Courtesy call)	Secretary Koisodany Office	<ul style="list-style-type: none"> Secretary Koisodany to outline to Secretary Manaby for approval of the RSA Manual.
2024/6/28	WG2 24th Meeting	Online	<ul style="list-style-type: none"> Promote understanding of the contents of the RSA Manual and Traffic Safety Guidebook
2024/8/15	WG2 Meeting	MPWT(DRTS)	<ul style="list-style-type: none"> 2024 Confirm schedule for RSA meeting 2024 Meeting to prepare RSA Report Meeting to approve RSA Manual and Road Safety Guidebook
2024/8/16	WG2 Meeting	MPWT(RID)	<ul style="list-style-type: none"> 2024 Confirm schedule for RSA meeting 2024 Discussion on traffic safety measures in areas covered by the RSA Meeting to approve RSA Manual and Road Safety Guidebook Design consultation for a two-stage pedestrian crossing for the WG4 pilot project

Date	Meeting Title	Venue or C/P	Agenda
2024/8/21	WG2 Meeting	MPWT(DRTS)	<ul style="list-style-type: none"> 2024 Meeting for preparation of RSA Report (1)
2024/8/26	WG2 Meeting	MPWT(RID)	<ul style="list-style-type: none"> Design consultation for a two-stage pedestrian crossing for the WG4 pilot project
2024/8/29	WG2 Meeting	MPWT(DRTS)	<ul style="list-style-type: none"> 2024 Meeting for preparation of RSA Report (2)
2024/9/3	WG2 Meeting (1st RSA)	MPWT	<ul style="list-style-type: none"> Discussion of the results of the analysis of accident factors and proposed countermeasures in the areas covered by the Pursat RSA (1st RSA is a consultative forum by the RSA team)
2024/9/16	WG2 Meeting	MPWT(DRTS)	<ul style="list-style-type: none"> 2024 Meeting to prepare RSA Report (3)
2024/9/23	WG2 Meeting (2nd RSA)	BTB DPWT	<ul style="list-style-type: none"> Reporting of the results of the analysis of accident factors and proposed countermeasures in the areas covered by the RSA in PUS (the second RSA is an opportunity for the road administrator and the RSA team to officially report on the implementation of the decisions).
2024/10/9	WG2 Meeting	MPWT(DRTS)	<ul style="list-style-type: none"> Results of pilot project in KCH effectiveness evaluation and exchange of opinions.
2024/11/18	WG2 Meeting	MPWT(Project Office)	<ul style="list-style-type: none"> Confirmation of attendees/presenters at technical seminars and JCCs Questionnaire survey of improvement of ability for WG2 members
2024/11/20	WG2 Meeting	MPWT(DRTS)	<ul style="list-style-type: none"> Results of pilot project in BTB effectiveness evaluation(Interview survey for road user) Confirmation of arrangements for results reporting session at BTB
2024/11/26	WG2 Meeting	MPWT(Project Office)	<ul style="list-style-type: none"> Results of pilot project in BTB effectiveness evaluation(Vehicle speed, traffic volume survey) Finalization of JCC materials
2024/12/5	WG2 Meeting	BTB DPWT	<ul style="list-style-type: none"> Traffic safety countermeasures results report meeting at BTB (RID, DRTS, BTB DPWT, BTB Police)

Source: JET

5.3 Activities

5.3.1 Consideration of Basic Principles of Road Traffic Safety Assessment Implementation and Preparation of its Manual

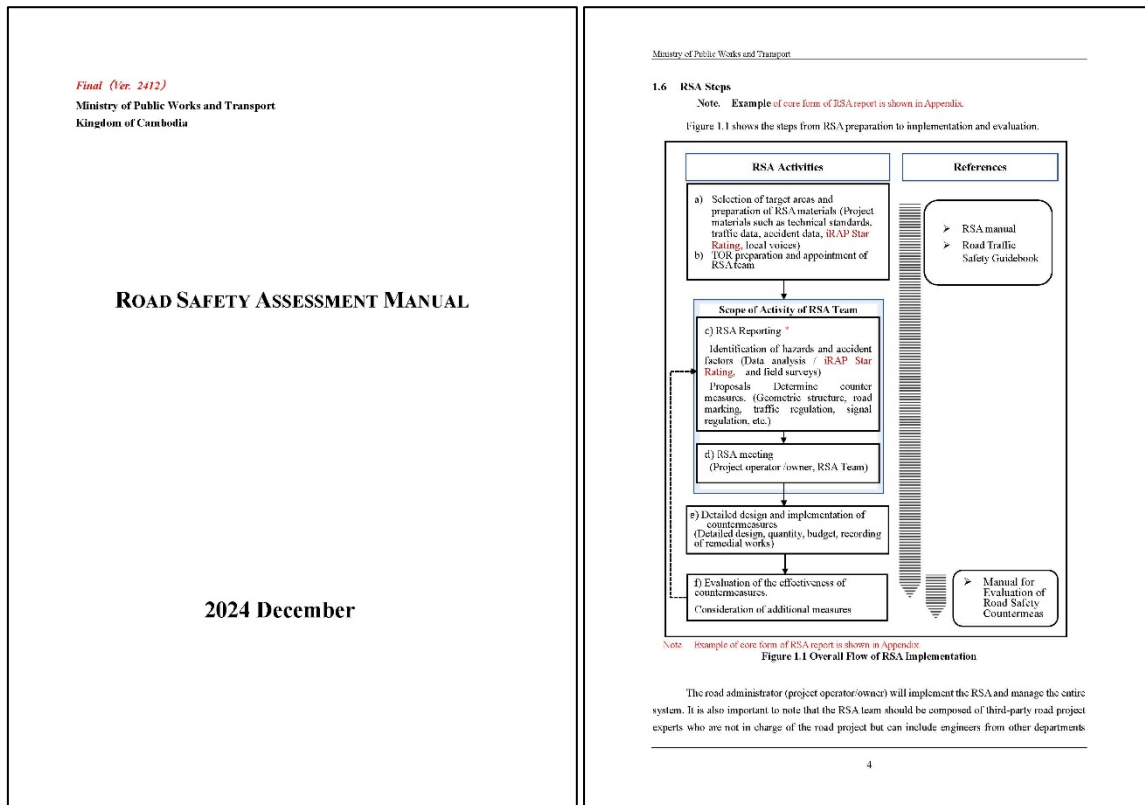
Based on WG2 activities, the WG members agreed to define road safety assessment (RSA) as a system wherein a team of road and traffic safety experts provides technical advice on the causes of accidents and on comprehensive road safety measures to be implemented through collaboration among road administrators.

Table 5.3.1 shows the table of contents of the RSA manual.

Table 5.3.1 Table of Contents of the Manual on Road Safety Assessment

SECTION 1: INTRODUCTION	
1.1.	The nature of this document
1.2.	Definition of terms
1.3.	RSA and the four stages of the project
1.4.	Necessity of RSA
1.5.	Legal character of RSA
1.6.	RSA Steps
SECTION 2. RSA IMPLEMENTATION	
2.1.	Identifying the target project and location, as well as preparing RSA materials
2.2.	TOR (Terms of References: Project Description) preparation and appointment of RSA team
2.3.	Preparation for the RSA report
2.4.	RSA Meeting
SECTION 3. IMPLEMENTATION OF ROAD SAFETY MEASURES AND MEASUREMENT OF EFFECTS	
3.1.	Project plan and budget request for road safety measures
3.2.	Utilization of records of project implementation results, etc.
3.3.	Post evaluation (to be applied in Stage 3 and Stage 4) Project Evaluation Manual
Appendix	Example of the core form of RSA Report

Source: JET



Source: JET

Figure 5.3.1 RSA Manual Cover and RSA Implementation Flow

5.3.2 Conducting Road Traffic Safety Assessment on the National Road No. 5

A total of six times, twice a year, RSAs were conducted for dangerous points of traffic accidents in BTB (2022), KCH (2023), and PUS (2024).

In the preparation and study for the RSA, JET proposed countermeasures in the first year, and the counterparts provided additional opinion. In the second year, based on the experience of the first year, the counterparts drafted the proposed countermeasures, and JET made additional proposals.

In the evaluation of the countermeasures, JET instructed the counterparts on the methodology in the first year, and the counterparts studied the evaluation method (collection and analysis of indicators) in the second year.

In the third year, the counterparts conducted the RSA by themselves, with JET only providing advice on the next steps, feedback on the results of activities, and support for the preparation of materials. Counterparts' independence and capacities were enhanced as the project progressed. Moreover, the design, construction, and evaluation of project activities are expected to be done by the counterparts after project completion.

Table 5.3.2 Counterparts Involvement in RSA Activities
(a) Counterparts Involvement

Process	Year 1	Year 2	Year 3
Appointment of RSA Team	Counterparts	Counterparts	Counterparts
Accident Data Collection, and analysis	JET	JET	Counterparts
Countermeasure Planning	JET	Counterparts	Counterparts
Coordination and implementation of RSA meetings	JET	Counterparts	Counterparts
Design of Countermeasure	JET	JET	Ongoing implementation by Counterparts
Construction of Countermeasure	Counterparts	Counterparts	Ongoing implementation by Counterparts
Evaluation of countermeasure	Counterparts	Counterparts	Ongoing implementation by Counterparts
Others (Presentation in JCC)	Counterparts	Counterparts	Counterparts

Source: JET

(b) RSA Members

Position	Year 1	Year 2	Year 3
Team Leader	RID Dep Dir. Mr. KOMPHEAK	RID Mr. SIM SANVAPISETH	DRTS Dep Dir. Mr. BORAN SATTYA
Road Safety Engineer	DRTS Dep Dir. Mr. SATTYA Ms. DAVY	DRTS Mr. BORANN SATTYA, Ms. KOE DAVY, Mr. SOK SANTENEA, Mr. KHENG	DRTS Mr. CHUM CHANVICHKA, Mr. KENG
Traffic Engineer	RID Mr. SANVAPISETH	RID Mr. KEAT SARUN Mr. LONG MARLY, Mr. CHHAP APHIVATH	DRTS Ms. KOE DAVY, Mr. SOK SANTENEA
Road Design	RID Mr. HENGCHHORN	RID Mr. PHAI HENGCHHORN	RID Mr. KEAT SARUN Mr. Phan Leang Hak
Traffic Police	Mr. VANNARA	MOI Mr. VANNARA	MOI Mr. VANNARA
Road Maintenance	BTB DPWT Mr. BUNNARONG	KCH DPWT Mr. LENG VEASNA	PS DPWT RY SISOVANNA

Source: JET

(1) Road Safety Assessment for 2022

Table 5.3.3 shows the RSA activities for 2022. Based on the decisions of the 2nd RSA held on 29 November 2022, it was decided that a pilot project on road safety measures be implemented at two intersections along the Battambang (BTB) Bypass. This pilot project was not implemented in 2023 due to delays in securing the BTB DPWT budget from the MEF (Ministry of Economy and Finance). It was only in August 2024 when the budget was secured that the pilot project was implemented.

Table 5.3.3 2022 Road Safety Assessment

Activity	Schedule	Description
Site inspection	2022/3/22-23	Joint site inspection by road administrator, police, WG2, and JET. Selection of RSA target locations (7 intersections) Appointment of RSA Team
1st RSA	2022/6/2	Discussion of the results of the analysis of cause of accident and proposed countermeasures for the target location covered by the RSA (The first RSA is the meeting for discussion by the RSA team)
2nd RSA	2022/11/29	Reporting on the results of the analysis of accident causes and proposed countermeasures for the target location covered by the RSA (Countermeasures based on RSA report were officially reported by the road administrator and the RSA team)

Source: JET



Source: JET

Figure 5.3.2 Scene from the 2nd RSA Meeting, 2022 (1)



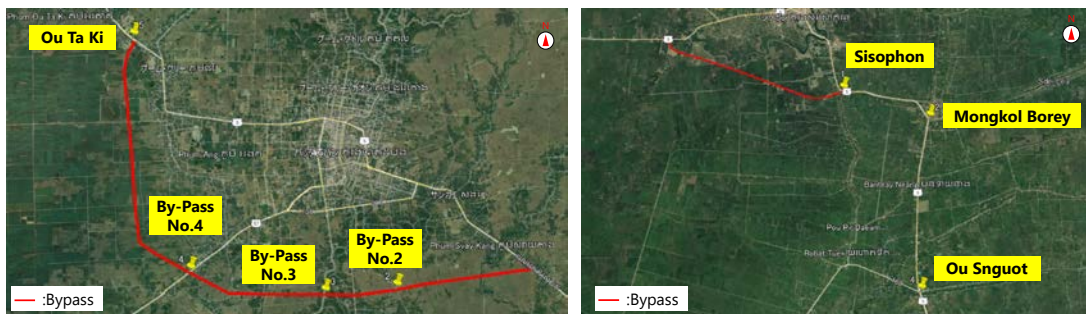
Source: JET

Figure 5.3.3 Scene from the 2nd RSA Meeting, 2022 (2)

(a) Selection of Target Locations

The 2022 RSA was conducted for the north section of NR5. In March 2022, the road administrator, police, WG2 members, and Japanese experts conducted a joint site investigation of the seven intersections where traffic accidents were reported (Figure 5.3.4).

Bypass No. 3 and No. 4 intersections, which have higher severe and fatality accident rates than others, were selected as RSA target locations for 2022 (Table 5.3.4).



Source: JET

Figure 5.3.4 Seven Accident-prone Intersections on NR5 in Battambang Province

Table 5.3.4 Rates of Severe and Fatal Accidents in the Target NR5 Intersections in Battambang Province

No.	Location	The No. of Severe and Fatality Accidents* (Cases/year)	Severe and Fatality accident rates (cases / 100 million vehicle)	Daily Traffic Volume (vehicle/day)
1	BTB Ou Ta Ki	0	0.0	17,670
2	BTB Bypass No.2	1	36.2	7,560
3	BTB Bypass No.3	2	53.5	10,237
4	BTB Bypass No.4	3	55.6	14,793
5	Sisophon	1	20.6	13,290
6	Mongkol Borey	0	0.0	21,360
7	On Sunguot	0	0.0	16,830

Source: JET

(b) Results of the Countermeasure Study

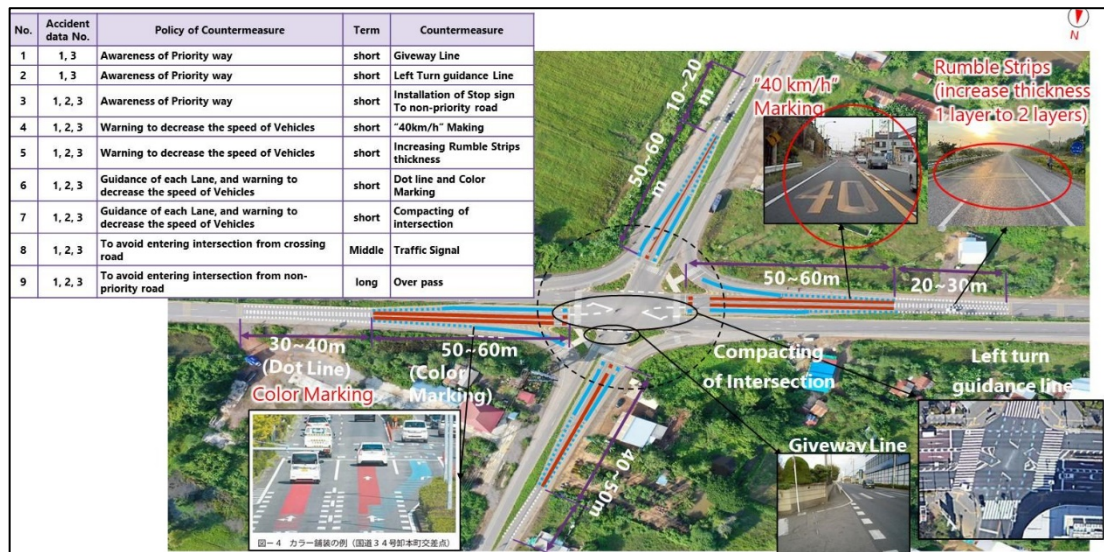
The results of WG2 discussions on the countermeasure policy and the specific countermeasure plans for the causes of accidents on bypass No. 3 and No. 4 are shown in Figure 5.3.5 and Figure 5.3.6, respectively. At both intersections, the main accident causes were speeding vehicles on the main road and the failure of vehicles from the minor road to yield to main road traffic. Therefore, countermeasures, such as providing warning signs to decrease vehicle speed on the main road and to give way to vehicles on the main road, were selected. At the 2nd RSA meeting, the members decided to implement these countermeasures as a pilot project.

The installation of traffic lights based on Japan standards was discussed during the design phase of countermeasures. However, an immediate decision could not be made due to budget constraints and the need to balance this countermeasure with the needs of other areas. It was instead proposed as a medium-term countermeasure.



Source: JET

Figure 5.3.5 2022 RSA: Traffic Safety Measures for Bypass No. 3 on NR5 in Battambang Province



Source: JET

Figure 5.3.6 2022 RSA: Traffic Safety Measures for Bypass No. 4 on NR5 in Battambang Province

(2) Road Safety Assessment for 2023

Table 5.3.5 shows the RSA activities for 2023. The RSA done in 2022 (Year 1 of this project) was led by JET. The Japanese experts drafted the proposed countermeasures, and the counterparts provided additional input. In the 2023 RSA, which was Year 2 of the project, RSA activities were led by the counterparts under JET’s guidance. In the first year, JET instructed the counterparts regarding the methodology for evaluating the countermeasures. In the second year, the counterparts studied the evaluation method (collection and analysis work of effectiveness indicators).

Based on the decisions of the 2nd RSA meeting held on 8 December 2023, the members decided to implement a pilot project on road safety measures at two intersections along the Kampong Chhnang (KCH) Bypass.

Table 5.3.5 2023 Road Safety Assessment

Activity	Schedule	Description
Site inspection	3/17, 2023	Joint site inspection by road administrator, police, WG2, and JETs. Selection of 2 nd year RSA target locations (4 intersections) Appointment of 2 nd year RSA Team
1st RSA	9/8, 2023	Discussion of the results of the analysis of cause of accident and proposed countermeasures for the target location covered by the RSA (The first RSA is the meeting for discussion by the RSA team)
2nd	12/8, 2023	Reporting of the results of analyzing accident causes and proposed

RSA		countermeasures for the target location covered by the RSA (Countermeasures based on RSA report were officially reported by the road administrator and the RSA team)
-----	--	---

Source: JET



Source: JET

Figure 5.3.7 Scene from the 2nd RSA Meeting, 2023 (1)



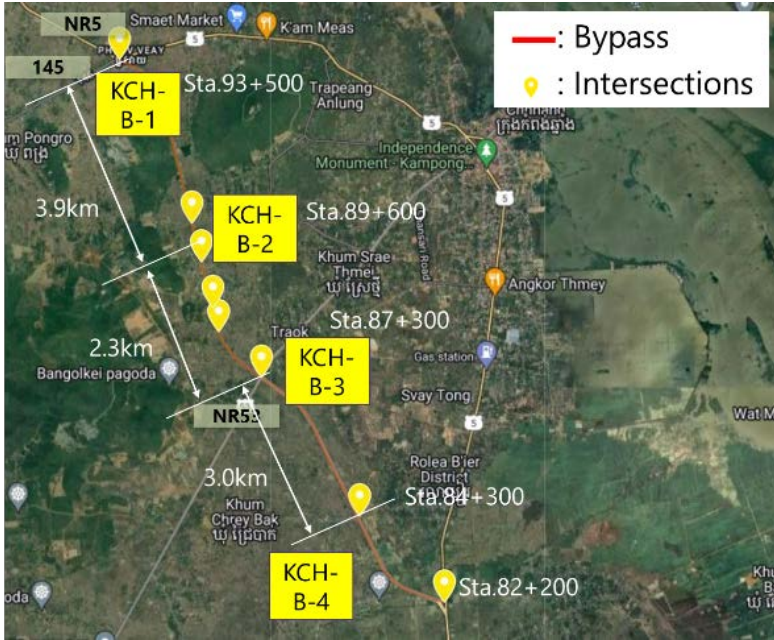
Source: JET

Figure 5.3.8 Scene from the 2nd RSA Meeting, 2023 (2)

(a) Selection of Target Locations

The 2023 RSA was conducted for the south section of NR5. In March 2023, the road administrator, police, WG2 members, and Japanese experts conducted a joint site investigation of the four intersections where traffic accidents were reported (Figure 5.3.9).

KCH-B-2 and KCH-B-4, the intersections with higher severe and fatality accident rates than others, were selected as RSA target locations for 2023 (Table 5.3.6).



Source: JET

Figure 5.3.9 Four Accident-prone Intersections on NR5 Bypass in Kampong Chhnang Province

Table 5.3.6 Rates of Severe and Fatal Accidents in Target NR5 Bypass Intersections in Kampong Chhnang Province

No.	Location	The No. of Severe and Fatality Accidents* (Cases/year)	Traffic Volume	Accident Rate**
1	KCH-B-1	1	15,220	18.0
2	KCH-B-2	1	5,774	47.4
3	KCH-B-3	2	11,713	46.8
4	KCH-B-4	2	9,936	55.1

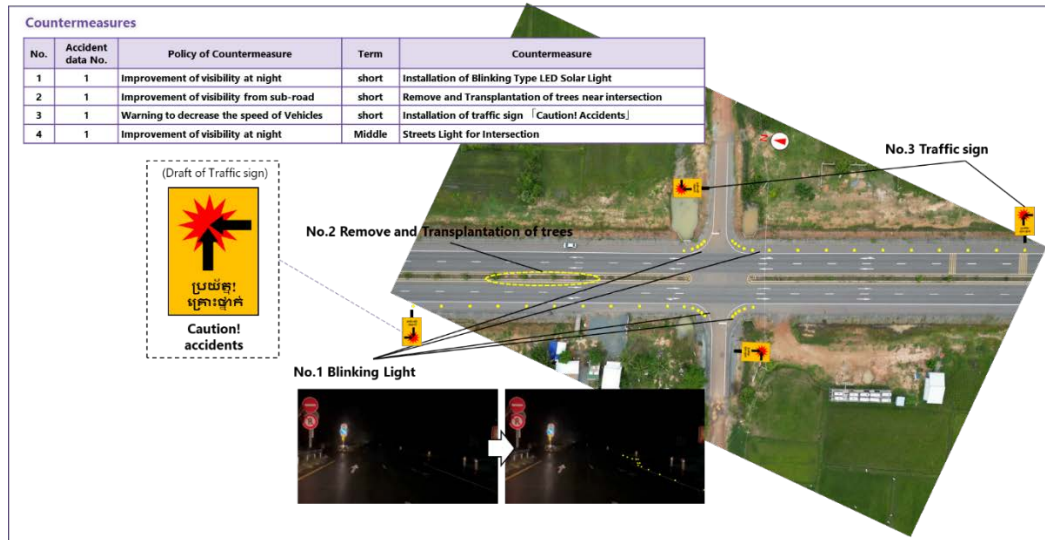
Source: JET

Since the layout of and traffic conditions at KCH-B-3 intersection are similar to those of the target intersections of the 2022 RSA, the RSA members decided to plan countermeasures for this intersection after determining the effectiveness of the 2022 pilot project.

(b) Results of the Countermeasure Study

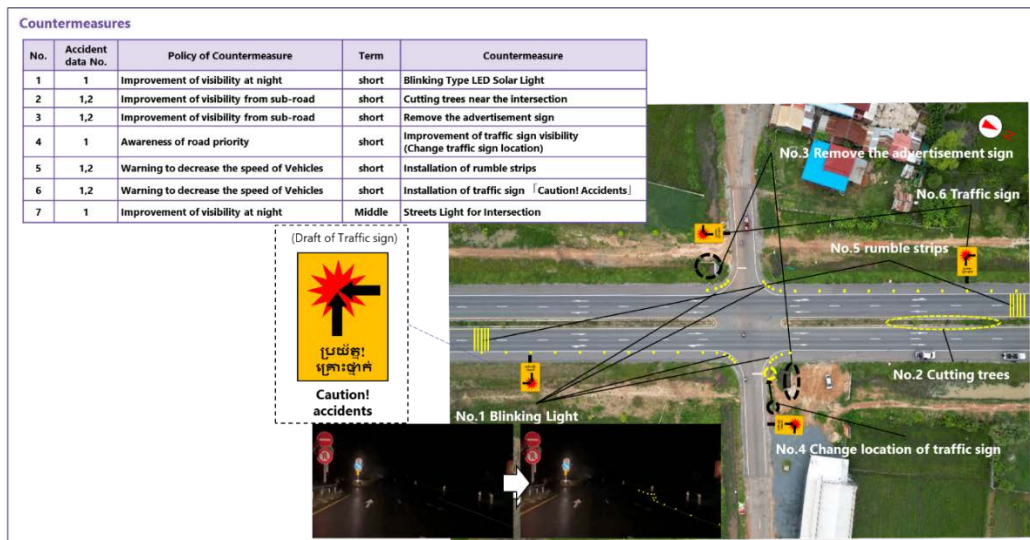
The results of WG2 discussions on the countermeasure policy and the specific countermeasure plans for the causes of accidents at KCH-B-2 and KCH-B-4 are shown in Figure 5.3.10 and Figure 5.3.11, respectively. At both intersections, the main accident causes were poor visibility

at night and poor visibility from the minor road. Therefore, installing signs to alert drivers on NR5 to an approaching intersection and improving the visibility from the minor road by transplanting the trees in the median were the selected measures. At the 2nd RSA meeting, the members decided to implement these countermeasures as a pilot project.



Source: JET

Figure 5.3.10 2023 RSA: Traffic Safety Measures for KCH-B-2 in Kampong Chhnang Province



Source: JET

Figure 5.3.11 2023 RSA: Traffic Safety Measures for KCH-B-4 in Kampong Chhnang Province

(3) Road Safety Assessment for 2024

Table 5.3.7 shows the RSA activities for 2024. The RSA done in the third year of the project was led by the counterparts. JET only provided advice on how to proceed, feedback on the results of activities, and support for the preparation of materials, to develop the counterparts’ capacity because after project completion (2025), they are expected to continue the RSA by themselves. Based on the decisions reached in the 2nd RSA meeting on 23 September 2024, a pilot project on road safety measures would be implemented at three intersections on NR5 in Pursat Province.

Table 5.3.7 2024 Road Safety Assessment

Activity	Schedule	Description
Site inspection	4/1, 2024	Joint site inspection by road administrator, police, WG2, and JETs. Selection of RSA target locations (3 intersections) Appointment of RSA Team
1st RSA	9/3, 2024	Discussion of the results of the analysis of cause of accident and proposed countermeasures for the target location covered by the RSA (The first RSA is the meeting for discussion by the RSA team)
2nd RSA	9/23, 2024	Reporting of the results of the analysis of cause of accident and proposed countermeasures for the target location covered by the RSA (Countermeasures based on RSA report were officially reported by the road administrator and the RSA team)

Source: JET



Source: JET

Figure 5.3.12 Scene from the 1st RSA Meeting, 2024 (1)

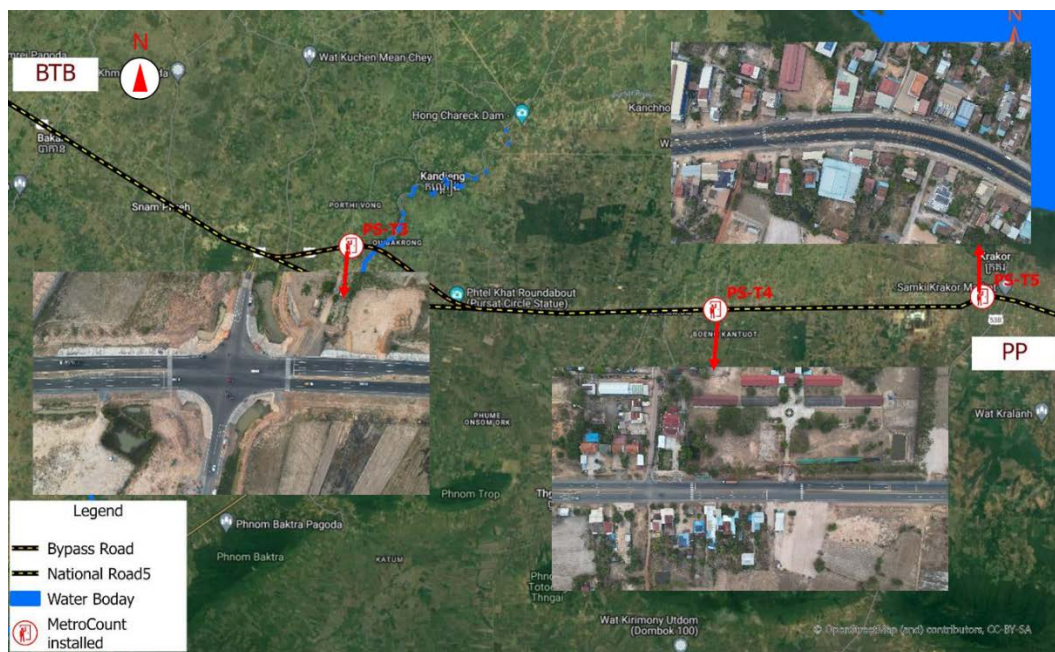


Source: JET

Figure 5.3.13 Scene from the 2nd RSA Meeting, 2024 (2)

(a) Selection of Target Locations

The 2024 RSA was conducted for the middle section of NR5. In April 2024, the road administrator, police, WG2 members, and Japanese experts conducted a joint site investigation of the three intersections where traffic accidents were reported (Figure 5.3.14).



Source: JET

Figure 5.3.14 Three Accident-prone Intersections on NR5 in Pursat Province

Table 5.3.8 Rates of Severe and Fatal Accidents in NR5 Intersections in Pursat Province

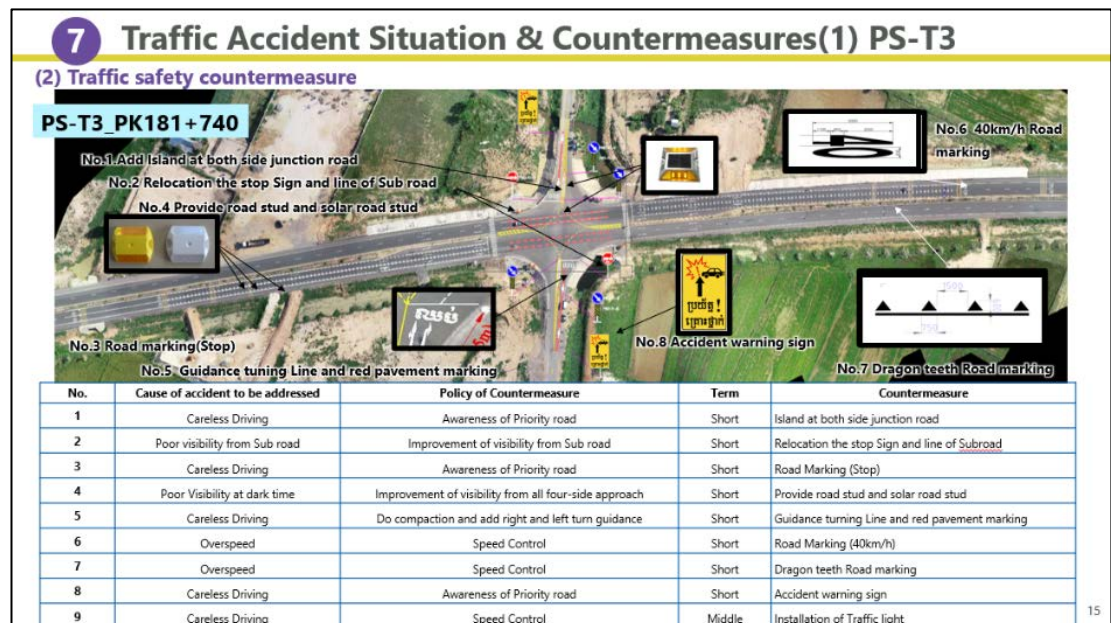
No.	Location	Sever And Fatality	Daily Traffic Volume	Sever And Fatality Accident Rate
		Case/year	Vehicle/day	Case/ 100 million vehicle
1	PS-T3_PK181	3	15406	53.4
2	PS-T4_PK163	2	12007	45.6
3	PS-T5_PK149	2	15739	34.8

Source: JET

(b) Results of the Countermeasure Study

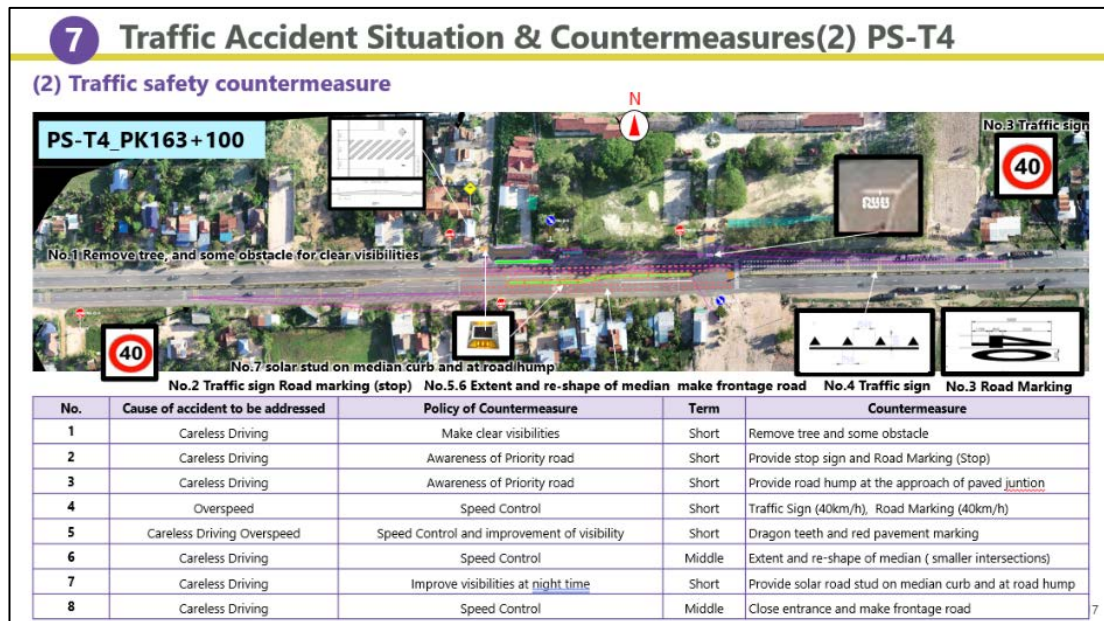
The results of WG2 discussions on the countermeasure policy and the specific countermeasure plans for the causes of accidents on PS-T3, PS-T4, and PS-T5 intersections are shown in Figure 5.3.15 ~ Figure 5.3.17. At all intersections, the main causes were speeding on NR5 and careless driving.

Therefore, the following countermeasures were selected: installing signs to alert drivers on NR5 to an approaching intersection and to slow down, installing stop road markings on the minor road, and downsizing the intersections. At the 2nd RSA meeting, the members decided to implement these countermeasures as a pilot project.



Source: JET

Figure 5.3.15 2024 RSA: Traffic Safety Measures for PS-T3 on NR5 in Pursat Province



Source: JET

Figure 5.3.16 2024 RSA: Traffic Safety Measures for PS-T4 on NR5 in Pursat Province



Source: JET

Figure 5.3.17 2024 RSA: Traffic Safety Measures for PS-T5 on NR5 in Pursat Province

5.3.3 Preparation of Manual for Traffic Safety Facility Measures

Table 5.3.9 shows the table of contents of the Road Traffic Safety Guidebook. The guidebook shows a list of comprehensive traffic safety measures for each road project stage, such as the planning stage, design stage, and operation stage, and provides a way to select and implement specific countermeasures. Considering the above features, JET decided to call this document

a "guidebook."

The guidebook was already approved by WG2 and is currently undergoing the approval process with the MPWT. Once approved, it will be officially adopted by the MPWT for use in planning and implementing traffic safety measures.

Table 5.3.9 Table of Contents of the Road Traffic Safety Guidebook

Main Text

SECTION 1: BASIC MATTERS

- 1.1 Road Traffic Safety Current Situation and Measures
 - 1.1.1 International Trends and Road Traffic Accidents in Cambodia
 - 1.1.2 Road Structures and Traffic Accidents
 - 1.1.3 Examination of Safety Measures at Each Stage of Road Projects
 - 1.1.4 How to Use this Manual and Safety Design Reference Books
- 1.2 Use of Road Safety Assessment/Audit (RSA)
 - 1.2.1 Road Safety Assessment/Audit (RSA) Overview
 - 1.2.2 Features of RSA
- 1.3 Basic Elements of Traffic Safety Measures
 - 1.3.1 Functionality
 - 1.3.2 Mass, Speed and Direction Uniformity of Traffic (Homogeneity)
 - 1.3.3 Predictability for the Drivers
 - 1.3.4 Minimize Damage from Driving Mistakes (Forgiving Roadside Design)

SECTION 2: SAFETY MEASURES BY STAGE

- 2.1 Planning Stage
 - 2.1.1 Challenges of the Planning Stage
 - 2.1.2 Purification of Functions through the Development of a Road Hierarchy
 - 2.1.3 Long-Distance Traffic and Bypass Development through Urban Areas
 - 2.1.4 Approach for Widening Existing Road and Current Roads after Construction of the Bypass
- 2.2 Design Stage
 - 2.2.1 Road Design Challenges
 - 2.2.2 Link Design
 - 2.2.3 Intersection Design
 - 2.2.4 Signs and Markings
- 2.3 Operation Stage
 - 2.3.1 Current Issues: Characteristics of Traffic Safety Measures at the Operation Stage
 - 2.3.2 Outline of Countermeasures
 - 2.3.3 Traffic Safety Measures Menu

Appendix

- 1. Planning Stage

5.3.4 Preparation of Manual for Evaluation and Examination of Traffic Safety Facility Measures

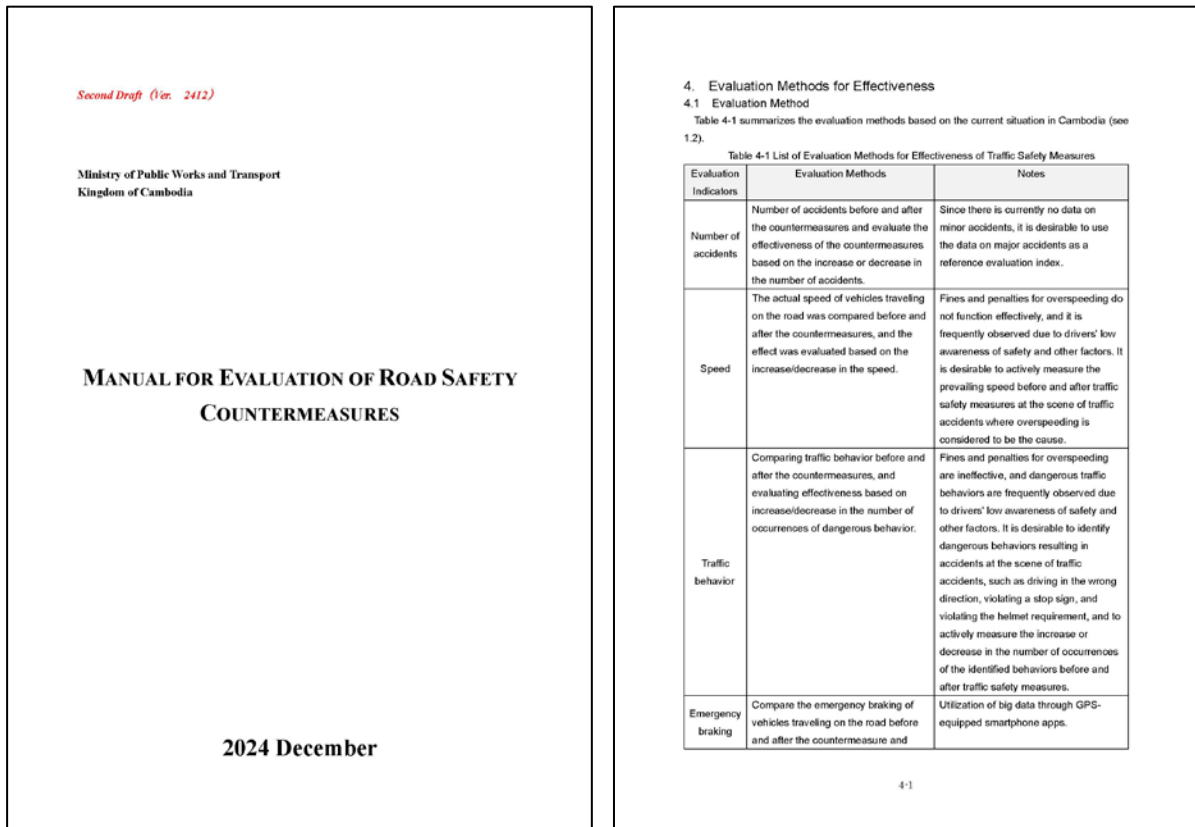
The table of contents for the manual to evaluate road safety measures is shown in Table 5.3.10. This manual proposes the direction of comparative survey of before-and-after implementation using the “serious accident occurrence rate” and “85th percentile speed”, based on the survey result of number of serious accidents, traffic volume, and vehicle speed survey as a quantitative evaluation index. In addition, it also shows qualitative evaluation indicators for analysis: the degree of contribution of each countermeasure to improve traffic safety based on the results of questionnaires for road users and residents living near the road, and changes in driving behavior based on behavioral surveys using video recording. Furthermore, it has been agreed that this manual will be organized by the MPWT as an appendix to the Road Traffic Safety Guidebook.

Table 5.3.10 Table of Contents of the Manual on Evaluating Road Safety Measures

1. General
1.1 Objective
1.2 PDCA Cycle
2. Current Situation in Cambodia
2.1 Traffic Accident Data
2.2 Lack knowledge of traffic rules
2.3 Inadequate traffic enforcement
2.4 Measuring Device
3. Basic Policy for Evaluation of Road Safety Countermeasures
3.1 Approach to Evaluation of Countermeasures
3.2 Relative and Absolute Evaluation
3.3 Before and After Study
3.4 Accidental occurrence of road accident
3.5 With / Without Study
3.6 Two-pair Comparison Method
3.7 Evaluation by indirect indicators
4. Evaluation Methods for Effectiveness
4.1 Evaluation Method
4.2 Number of road accident
4.3 Speed
4.4 Driver’s Behavior
4.5 Emergency Braking
4.6 Drivers’ Opinion
5. RSA Sheet for Evaluation of Countermeasures
5.1 RSA Sheet Format

- 5.2 Case of RSA sheet (Battambang Province)
- 5.3 Case of RSA Sheet (Kampong Chhnang Province)
- 5.4 Case of Questionnaire Survey
- 5.5 Case of Driver’s Behavior Survey
- Column 1 Example of Road Accident Reduction Effectiveness in Japan
- Column 2 Example of Driver’s Behavior Effectiveness in Japan
- Column 3 Example of Emergency Braking Effectiveness in Japan

Source: JET



Source: JET

Figure 5.3.19 Cover of the Manual for Evaluating Road Safety Measures and the Featured Evaluation Method

5.3.5 Conducting Pilot Projects on the National Road No. 5 and Evaluation and Examination of the Effects

(1) 2022 RSA of the Pilot Projects in Battambang Province

(a) Selection of Target Locations

Due to delays in the administrative procedures within the MEF (Ministry of Economy and Finance), the BTB DPWT budget for the Battambang pilot projects was only secured in August 2024. It was only then that construction work started.

Table 5.3.11 Contents of the 2022 RSA Report on Safety Measures for NR5 in Battambang Province

<p>(1) Pilot Project Locations BTB Bypass No.4 BTB Bypass No.3</p> <p>(2) Measures ① Install left-turn guidance lines ② Install 40-km/h Markings ③ Increase the Thickness of Existing Rumble Strips ④ Install Dotted Lines ⑤ Install Colored Road Markings ⑥ Streamline intersections (Bypass No.4)</p> <p>(3) Designer/ Implementer JET&WG2/Battambang DPWT</p> <p>(4) Implementation Schedule August 2024</p>

Source: JET



Source: JET

Figure 5.3.20 Installing 40 km/h Markings on NR5 in Battambang Province

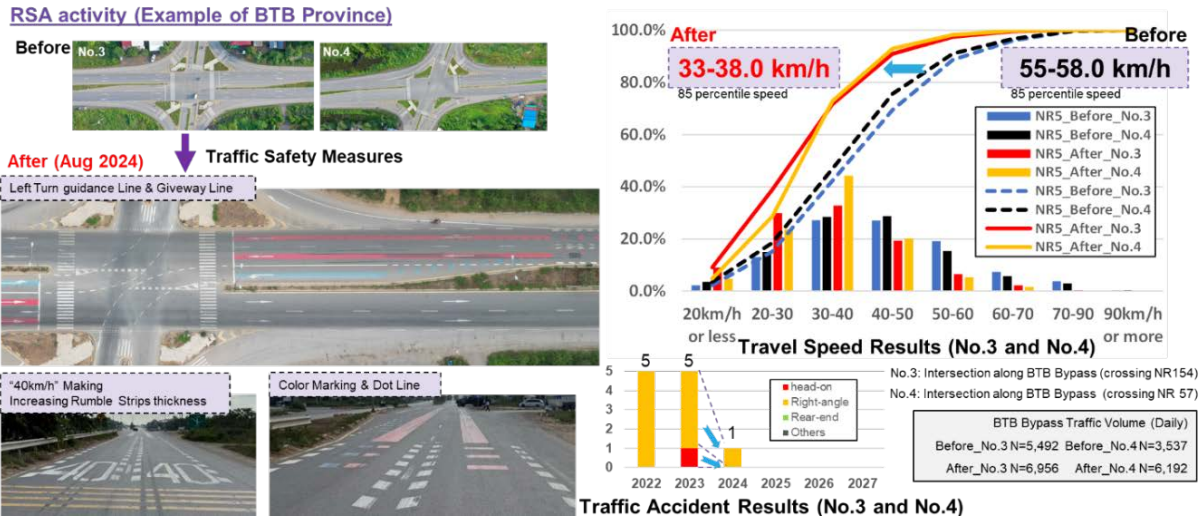


Source: JET

Figure 5.3.21 Installing Colored Road Markings on NR5 in Battambang Province

(b) Evaluation of the Impact of Safety Measures

A vehicle speed survey was conducted on 14-16 October 2022 to evaluate the impact of the safety measures. The 85th percentile speed at the two intersections (No.3 and No.4) was 55-58 km/h before the pilot project, which was over the speed limit of 40 km/h. After the measures were implemented, the 85th percentile speed was 33-38 km/h, which was well within the speed limit; in other words, many vehicles began to follow the legal speed limit. In addition, the number of serious accidents and fatalities, which was five each year in 2022 and 2023, decreased to one in 2024.



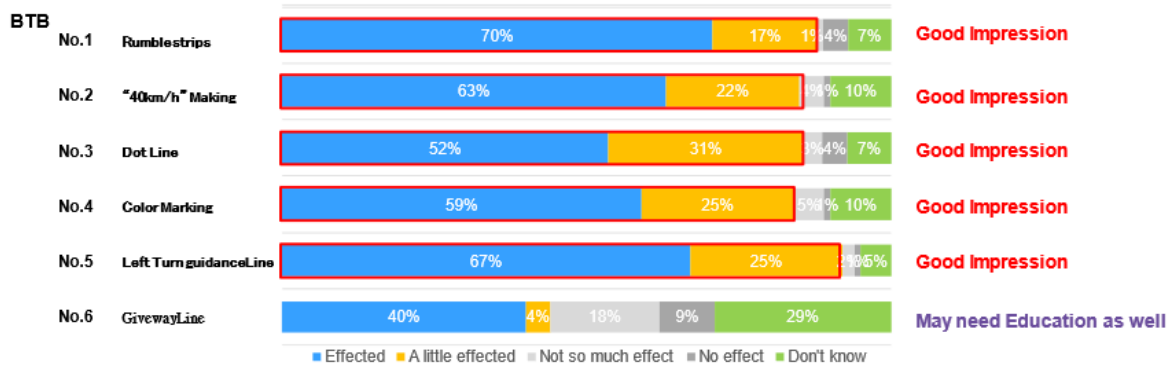
Source: JET

Figure 5.3.22 Impact of Road Safety Measures on NR5 in Battambang Province

An interview survey was conducted among road users on 14-15 October 2022. The results of the interview survey were organized by the DRTS and RID, and reported to the local police and BTB DPWT (road administrator) on 5 December 2022. The meeting was very meaningful in that it allowed them to exchange opinions on the results of the comparative evaluation of before and after vehicle speed and traffic accident counts, as well as the results of the interview survey of road users, and to develop a shared understanding of the importance of communication for the meaning and expected effects of each traffic safety countermeasure to road users in collaboration with the local police when implementing such hardware-based countermeasures.

The main points of the interview survey results are as follows:

- Many of the traffic safety measures were evaluated as “effective” or “somewhat effective.”
- Regarding the use of priority and non-priority lanes (give way line), the number of “don't know” answers was high, implying that traffic education among road users is also important.
- Regarding the use of priority and non-priority roads, which was proposed by the Cambodian side, writing “stop” in Khmer on the intersections was proposed.
- Although positive results were observed with the installation of colored lane markings, based on the video footage, there were many cases where vehicles did not drive in the center of the lane; again, this calls for traffic education. At the same time, however, it was also deemed possible that the white lines were becoming difficult to see, so it is desirable to pay attention to road maintenance and management of lane markings not only around intersections.



Source: JET

Figure 5.3.23 Results of Interview Survey on Impact of Safety Measures on NR5 in Battambang Province

(2) 2023 RSA of the Pilot Projects in Kampong Chhnang Province

(a) Selection of Target Locations

The traffic safety measures shown in Table 5.3.12 were implemented at two intersections of the Kampong Chhnang (KCH) Bypass where the RSA was implemented in 2023. LED road studs could not be installed due to difficulties in procuring them through the originally planned procurement route.

Table 5.3.12 Contents of the 2023 RSA Report on Safety Measures for NR5 in Kampong Chhnang Province

<p>(1) Pilot Project Locations KCH Bypass No.2 KCH Bypass No.4</p> <p>(2) Measures</p> <ol style="list-style-type: none"> ① Install Solar LED Pavement Blinkers ② Transplant Trees in Median Strips near the Intersection ③ Improve Visibility of Traffic Signs (Change Locations) ④ Install Rumble Strips ⑤ Install Traffic Signs <p>(3) Designer/ Implementer JET&WG2/Kampong Chhnang DPWT</p> <p>(4) Implementation Schedule April 2024</p>

Source: JET



Source: JET

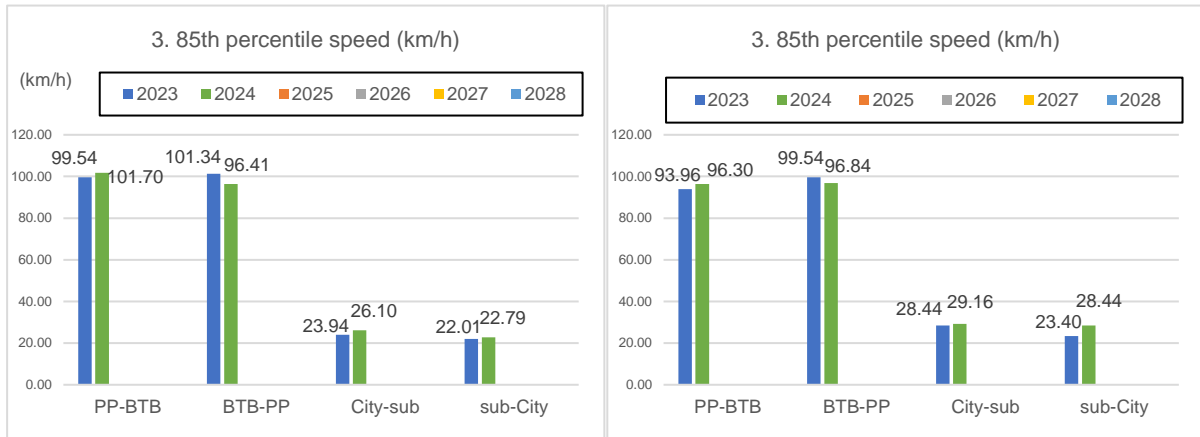
Figure 5.3.24 Scenes from Pilot Project Implementation on NR5 in in Kampong Chhnang Province

(b) Evaluation of the Impact of Safety Measures

A vehicle speed survey, an interview survey, and a video survey of driver behavior were conducted to evaluate the impact of the safety measures.

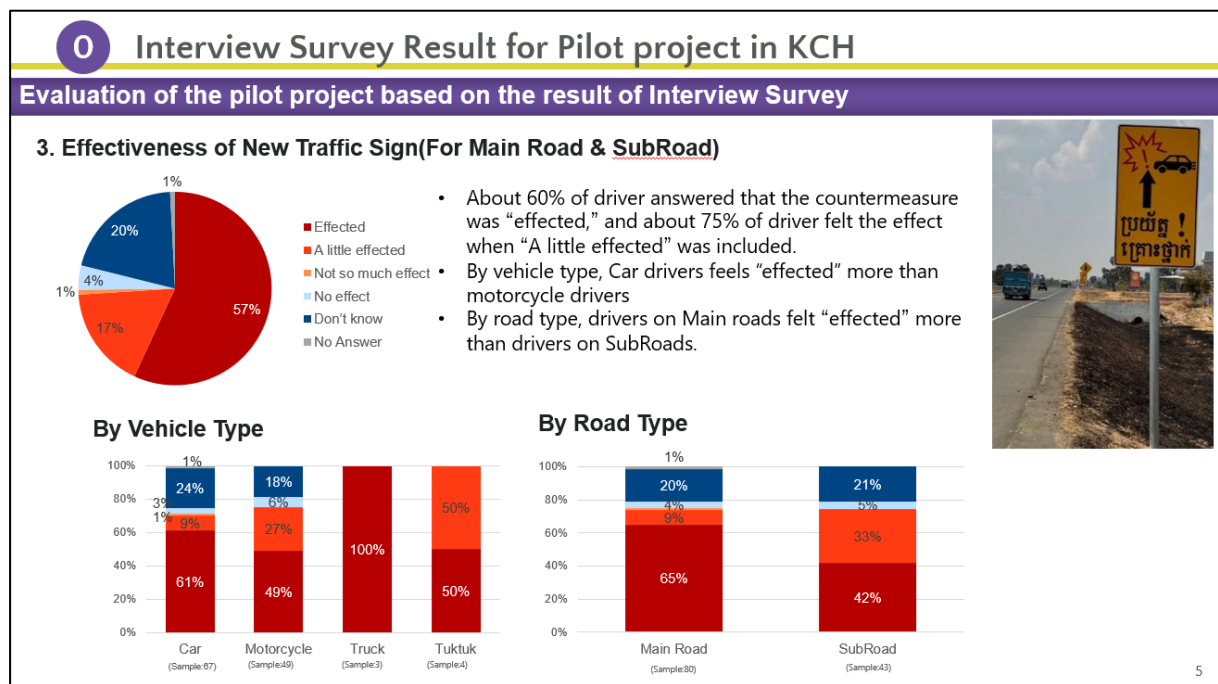
The results of the speed survey are shown in Figure 5.3.25. Although vehicle speeds did not decrease, it is important to note that the speed limit on the section was raised from 80 km/h prior to the pilot project to 90 km/h. Considering this change, the measure appears to have been effective in preventing excessive speeding relative to the new speed limit.

The results of the interview and behavioral surveys indicate that the traffic safety measures implemented in KCH are effective in improving traffic safety, and the results are considered very significant in considering future traffic safety measures.



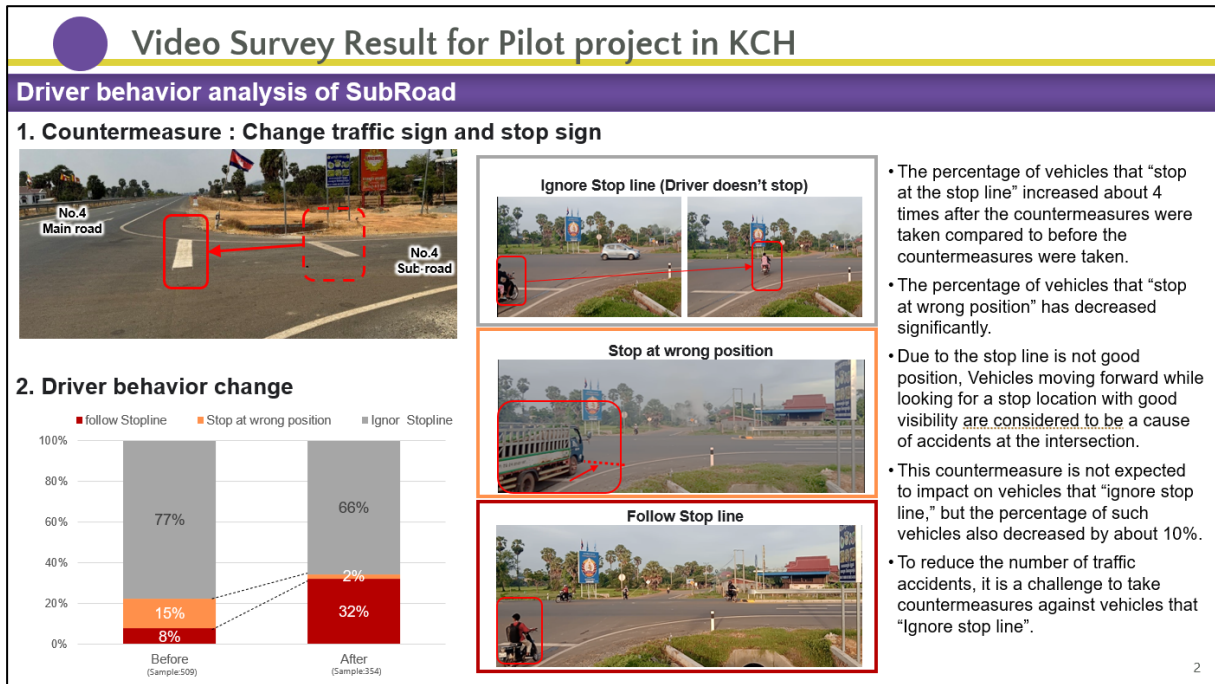
Source: JET

Figure 5.3.25 Vehicle Speeds before (2023) and after (2024) the Implementation of Safety Measures on NR5 in Kampong Chhnang Province



Source: JET

Figure 5.3.26 Results of Interview Survey on Impact of Safety Measures on NR5 in Kampong Chhnang Province



Source: JET

Figure 5.3.27 Results of Behavioral Survey on Impact of Safety Measures on NR5 in Kampong Chhnang Province

(3) 2024 RSA of the Pilot Projects in Pursat Province

In 2024, an RSA was conducted in Pursat Province. In Pursat, traffic safety measures were proposed for three intersections. The counterparts plan to use the experience from this project to implement RSA activities in the future, from securing the budget to implementing countermeasures and evaluating their effectiveness.

5.4 RSA Effectiveness

Below is the summary of the RSA method which was implemented in this three-year project:

- Although the target road for the project was the newly constructed NR5, traffic safety remains a priority issue across Cambodia. Therefore, tools such as the “RSA Manual”, “Road Traffic Safety Guidebook,” and the “Manual on Evaluation of Road Safety Measures” were developed for the effective application of RSA in Cambodia, along with the planning of traffic safety measures and the implementation of pilot projects using RSA findings.
- In the first year, the RSA activities in Battambang were mainly conducted by JET. However, the counterparts gradually assumed greater responsibility, and by the third year in Pursat, nearly all activities were carried out by them. As a result, some locally tailored suggestions were introduced, such as writing “stop” on lanes in the Khmer language. JET’s evaluation of the Battambang pilot projects’ effectiveness gave an impression that the counterparts support the RSA method and are, in fact, adopting it.
- A key factor in advancing the project was the counterparts’ strong motivation to improve road safety and strengthen implementation. Regarding road traffic safety, a cooperative system was established among the relevant departments within the MOT, DRTS, RID, MOI and the directors in charge. It was observed that this cooperative system was highly effective and useful in implementing the RSA in this project, and that cooperation between the central government and the local implementing agency, DPWT, was also achieved using the RSA.
- RSA is an approach to road traffic safety primarily focused on road facilities. However, road safety is achieved not only through better road facilities but also through an integrated approach that includes driver education, enforcement, and vehicle maintenance. Once a road is constructed, implementing major accident countermeasures can both be time-consuming and costly. Therefore, it is hoped that RSA findings will be used to inform each stage of road planning, construction, and operation, thereby enhancing awareness of safe road environments and improving road design and road traffic safety practices.

5.5 Future Issues

Future issues are expected to be as follows:

- The study should be conducted from the “line” approach of NR5 to the “network” approach to include national and local roads.
- In addition to the RSA at the operation stage, it should be conducted at the planning and design stages and should include traffic safety. Specifically, it is necessary to reflect the road structures in the Cambodian Design Standard, particularly access-controlled roads, in the road network plan, and to develop a road network with a clear hierarchy. A speed limit of 80 km/h on general roads is dangerous in areas where commercial and industrial facilities are located along the roads, as in Cambodia. However, since there is no accident data for RSA in the planning stage and design stage, the method is different, and research and development are necessary.
- The impact of the safety measures based on the RSA conducted on the operation stage of the roads should be fed back to the design and planning stages and should be reflected in the improvement of safety in the design and planning stages.
- Manuals and guidebooks on road safety will be reviewed and updated to enhance usability for Cambodian road administrators. Additionally, it would be effective to hold traffic safety seminars and country-specific training programs to support capacity development.

6 The Capacity of The Relevant Organizations for Traffic Enforcement is Improved through Activities in the Pilot Area on National Road No.5 (Output 3)

6.1 Outline

Under Outcome 3, five activities (Table 6.1.1) indicated in the Project Design Matrix (PDM) were implemented, with the effectiveness indicators shown in Table 6.1.2.

Table 6.1.1 Activities for Output 3

3-1	Review traffic enforcement activities on the National Road No. 5 and in areas along the National Road No. 5, and analyze the effects for traffic safety
3-2	Prepare annual and monthly traffic enforcement plans
3-3	Prepare traffic enforcement manual
3-4	Conduct traffic enforcement activities on the National Road No. 5
3-5	Evaluate and examine traffic enforcement activities

Source: Project Design Matrix

Table 6.1.2 Effectiveness Indicators for Output 3

3-1	Violative driving behavior is reduced by at least 30%.
3-2	Traffic enforcement manuals are developed.
3-3	Self-assessment of traffic enforcement capabilities by relevant personnel improves by at least 20%.

Source: Project Design Matrix

6.2 Record of Meetings

Activities aimed at improving the capacity for traffic enforcement were carried out together with WG1 (Traffic Investigation). WG1 and WG3 met regularly with the MOI and the Provincial Police to ensure alignment of purpose. Table 6.2.1 shows the topics discussed with each agency.

Table 6.2.1 Record of WG1 and WG3 Meetings

Date	Meeting Title	Venue/C/P	Agenda
2022/3/14	WG1&3-Police activities	MOI	<ul style="list-style-type: none"> Confirmation of activity plans for Kampong Chhnang Provincial Police and Battambang Provincial Police Confirmation of WG members on the MOI side
2022/3/17	WG1&3-Police activities	Kampong Chhnang	<ul style="list-style-type: none"> Kampong Chhnang Provincial Police on-site inspection of the district police box and exchange of opinions
2022/3/24	WG3-Traffic enforcement	Battambang Provincial Police	<ul style="list-style-type: none"> Exchange of opinions on activities for Outcome 3 (Traffic enforcement)

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Meeting Title	Venue/C/P	Agenda
2022/3/30	WG1&3-Wrap-up meeting	MOI	<ul style="list-style-type: none"> Confirmation of results of March activities and future plans
2022/4/1	WG1-4 Wrap-up meeting	DRTS	<ul style="list-style-type: none"> Confirmation of results of March activities and future plans
2022/5/13	WG1&3-Police activities	MOI	<ul style="list-style-type: none"> Confirmation of activity plan in Battambang Provincial Police
2022/5/23	WG1&3-Police activities	Battambang Provincial Police	<ul style="list-style-type: none"> Confirmation of activity plan in Battambang Provincial Police
2022/5/25	WG1&3-Police activities	Battambang Provincial Police	<ul style="list-style-type: none"> Traffic enforcement (speeding, etc.) inspection
2022/6/10	WG3-Traffic enforcement	MOI DRTS	<ul style="list-style-type: none"> Discussion of speed enforcement with speed limits before NR5 intersection
2022/7/4	WG3-Traffic enforcement	MOI	<ul style="list-style-type: none"> Confirmation of July activity schedule
2022/7/6	WG3-Traffic enforcement	MWPT	<ul style="list-style-type: none"> NR5 speed enforcement discussion with speed restrictions before intersections
2022/7/11	WG3-Traffic enforcement	Battambang Provincial Police	<ul style="list-style-type: none"> Training in traffic enforcement
2022/7/12	WG3-Traffic enforcement	Battambang	<ul style="list-style-type: none"> Confirmation of traffic enforcement situation in Battambang Province
2022/7/13	WG3-Traffic enforcement	MOI, DRTS, RID	<ul style="list-style-type: none"> Confirmation of enforcement points with speed restrictions
2022/7/22	WG1~4-Wrap-up meeting	DRTS	<ul style="list-style-type: none"> Reporting session of each WG
2022/10/17	WG1&3-Police activities	MOI	<ul style="list-style-type: none"> Confirmation of training plan for traffic accident investigation and traffic enforcement in Battambang Province
2022/10/21	WG3Traffic enforcement training (on-site)	Battambang	<ul style="list-style-type: none"> Training in speed enforcement with speed limits before NR5 intersections
2022/10/24	WG3Traffic enforcement training (lecture, on-site)	Battambang	<ul style="list-style-type: none"> Lecture and on-the-job training in stop-and-go enforcement
2022/10/25	WG3Traffic enforcement training (lecture, on-site)	Battambang	<ul style="list-style-type: none"> Lectures and on-the-job training in dangerous driving enforcement
2022/10/26	WG1&3-Interim reporting session the on trainings	Battambang Provincial Police	<ul style="list-style-type: none"> Review of the progress of training in traffic accident investigation and traffic enforcement, exchange of opinions on future activity plans
2022/10/27	WG3Traffic enforcement training (lecture, on-site)	Battambang	<ul style="list-style-type: none"> Lecture and hands-on training in speed enforcement with speed limits before NR5 intersections
2022/10/28	WG1&3-Wrap-up meeting	Battambang Provincial Police	<ul style="list-style-type: none"> Debriefing on the results of training in traffic accident investigation and traffic enforcement, and confirmation of future activity plans
2022/11/22	WG3-Police activities	MOI, Battambang Provincial Police	<ul style="list-style-type: none"> Confirmation of continued training in traffic enforcement Exchange of ideas on new activities
2023/1/11	WG1&3-Police activities	Online MOI	<ul style="list-style-type: none"> Confirmation of Year 2 activity plan Prepare questions for Kampong Chhnang Provincial Police and MOI
2023/3/17	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	<ul style="list-style-type: none"> Report on Year 1 activities, explanation of Year 2 activity plans
2023/3/20	WG1&3-Police activities	BTB MOI,	<ul style="list-style-type: none"> Report on Year 1 activities in

Date	Meeting Title	Venue/C/P	Agenda
		Battambang Provincial Police	Battambang Province • Explanation of the seminar
2023/3/21	Seminar	BTB	• Report on Year 1 activities in Battambang Province
2023/3/24	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	• Technical cooperation project briefing • Assessment of Kampong Chhnang Province NR 5 bypass accident investigation
2023/3/29	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	• Kampong Chhnang Province NR5 bypass accident investigation status • Kampong Chhnang Provincial Police traffic enforcement training discussion
2023/5/29	WG1&3-Police activities	MOI Online Meeting	• Confirmation of activities related to June field training
2023/6/5	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	• Confirmation of activities at Kampong Chhnang Provincial Police
2023/6/8	WG1,3&4-Police activities	KCH MOI, Kampong Chhnang Police, KCH DPWT	• Implementation of the traffic safety campaign • Warning and guidance for violators of temporary stops
2023/6/12	WG3-Traffic enforcement	KCH MOI, Kampong Chhnang Provincial Police	• Training in traffic enforcement • Preparation of enforcement plan
2023/6/13	Traffic safety campaign	KCH	• Conducting traffic safety campaigns • Warning and guidance for drivers who violate the temporary stop sign • Safety education for drivers not wearing a helmet
2023/8/18	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	• Discussion about September local activities
2023/9/25	WG3-Traffic enforcement	KCH MOI, Kampong Chhnang Provincial Police	• Confirmation of local activity plan (speeding enforcement, warning and guidance for stop-start violations) • Confirmation of traffic safety self-assessment chart (Cambodian version)
2023/9/26	WG3-Traffic enforcement	KCH MOI, Kampong Chhnang Provincial Police	• Evaluation of the method of warning and instructing on suspension violations. • Guidance on preparing a monthly plan sheet and results of implementation
2023/9/27	WG3-Traffic enforcement	KCH MOI, Kampong Chhnang Provincial Police	• Evaluation of speed enforcement • Confirmation of continued speed enforcement
2023/10/3	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	• Review progress of NR5 bypass accident investigation • Prepare enforcement plan and report results
2023/10/6	The 4th JCC	MPWT	• Checking the progress of each WG activity, checking the monitoring sheet ver4, etc.

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Meeting Title	Venue/C/P	Agenda
2023/11/24	WG1&3-Police activities	MOI, Kampong Chhnang Provincial Police Online Meeting	<ul style="list-style-type: none"> Explanation of activity plan regarding December field training
2023/12/6	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	<ul style="list-style-type: none"> Confirmation of activities related to December field training
2023/12/7	WG3-Traffic enforcement	KCH MOI, Kampong Chhnang Provincial Police	<ul style="list-style-type: none"> Proposed traffic enforcement immediately following a traffic accident
2023/12/12	WG1&3-Police activities	KCH MOI, Kampong Chhnang Provincial Police	<ul style="list-style-type: none"> Training in the effectiveness of speed enforcement Training in progress management of traffic accident case investigation
2023/12/13	WG3-Traffic enforcement	KCH MOI, Kampong Chhnang Provincial Police	<ul style="list-style-type: none"> Check on the status of preparation of the enforcement plan Proposal for centralized policing in NR5
2024/02/1	WG1,3-Police activities	MOI, KCH Police Online Meeting	<ul style="list-style-type: none"> Speeding enforcement on the NR5 bypass Warning signs at fatal accident sites
2024/02/20	WG1,3-In-house meeting	Online Meeting	<ul style="list-style-type: none"> Field Activity Plan for March and April Preparation of manuals (enforcement and accident investigation)
2024/3/6	WG1&3-Police activities	Online Meeting	<ul style="list-style-type: none"> Preparation of seminar materials Preparation of JCC materials
2024/3/11	WG1&3-Police activities	Online Meeting MOI, Pursat Provincial Police	<ul style="list-style-type: none"> Discussion of local activity plans for March and April Discussion of seminar presentations
2024/3/14	WG1&3-Police activities	Online Meeting	<ul style="list-style-type: none"> Preparation of JCC materials Implementation and effectiveness study on speed enforcement
2024/3/26	WG1&3-Police activities	KCH Police	<ul style="list-style-type: none"> Review of JCC materials Future activities (division of roles between MOI and JET, etc.)
2024/3/27	WG1&3-Police activities	KCH Police	<ul style="list-style-type: none"> Discussion on installation of warning signs for accident locations Confirmation of the number of accidents that have occurred over the past year Creation of a map of accident locations Establishment of a cooperative system with road administrators
2024/4/2	WG1&3-Police activities	Pursat Provincial Police	<ul style="list-style-type: none"> Project briefing Confirmation of local activity plan
2024/4/3	WG3-Traffic enforcement	Pursat Provincial Police	<ul style="list-style-type: none"> Conduct of training in verifying the effectiveness of speed enforcement
2024/4/4	WG1&3-Police activities	Pursat Provincial Police	<ul style="list-style-type: none"> Review of the implementation status of speed enforcement Survey on the status of monthly planning for speed enforcement Investigation of traffic accidents in 2023 Introduction of court cases related to traffic accident investigation
2024/4/5	WG3-Traffic	Pursat Provincial	<ul style="list-style-type: none"> Critique of the implementation status of

Date	Meeting Title	Venue/C/P	Agenda
	enforcement	Police	the driving without helmet warning instruction
2024/4/8	WG1&3-Police activities	Phnom Penh	<ul style="list-style-type: none"> • Discussion on JCC materials • Discussion on this year's activities (manual preparation, enforcement plan) • Discussion on installation of warning signs at accident locations
2024/4/23	The fifth JCC	TRIBE Phnom Penh Hotel (hybrid)	<ul style="list-style-type: none"> • Progress of overall activities • To continue each WG activity • Discussion topics of WGs
2024/5/17	WG1&3-Police activities	Phnom Penh Online Meeting	<ul style="list-style-type: none"> • Discussion on installation of warning signs at accident locations
2024/5/28	WG3-In-house meeting	Online Meeting	<ul style="list-style-type: none"> • Confirmation of next on-site training plan • Discussion on warning cards
2024/6/7	WG3-Traffic enforcement	Online Meeting (MOI, KCH, Police)	<ul style="list-style-type: none"> • June-July confirmation of local activity plan • Discussion on the installation and content of traffic accident prevention signs • Discussion on distribution of awareness cards for prevention of driving without wearing helmets, etc.
2024/6/26	WG3-Traffic enforcement	Pursat Provincial Police	<ul style="list-style-type: none"> • Confirmation of on-site training plan • Training in the purpose and distribution method of awareness cards for prevention of driving without helmet, etc. • Practical guidance on Cambodian version of safe driving self-diagnosis • Training in traffic enforcement (proposal of enforcement activities based on Japanese case studies)
2024/6/27	WG3-Traffic enforcement	Pursat Provincial Police	<ul style="list-style-type: none"> • Critique of the practice of distributing awareness-raising cards for the prevention of driving without helmet, etc. • Discussion on speed enforcement near intersections
2024/7/3	WG3-Traffic enforcement	Pursat Provincial Police	<ul style="list-style-type: none"> • Confirmation of the results of effectiveness verification associated with speed enforcement • Confirmation of speed enforcement status and guidance on areas for improvement • Confirmation of the enforcement plan and guidance on areas for improvement • Measure the effectiveness of the installation of signboards indicating traffic accident locations
2024/7/5	WG1,3-Police activities	DRTS	<ul style="list-style-type: none"> • Progress report on WG1&3 activities
2024/7/9	WG1,3-Police activities	Phnom Penh	<ul style="list-style-type: none"> • Discussions on the finalization of the manual • Implementation of competency assessment for counterparts • Installation of signs indicating traffic

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Meeting Title	Venue/C/P	Agenda
			accident locations
2024/7/26	WG1,3-Police activities	Online Meeting (MOI, KCH, BTB, PS Police)	<ul style="list-style-type: none"> • Implementation of competency assessment for counterparts • NR5 update on traffic accident data collection
2024/10/23	JET in-house meeting	Online Meeting	<ul style="list-style-type: none"> • Creation of materials for the seminar and JCC meeting • Plans for future activities
2024/10/25	WG1,3-Police activities	Online Meeting (MO, KCH Police)	<ul style="list-style-type: none"> • Verification survey for the serious accident point sign boards.
2024/11/5	WG1,3-Police activities	Online (MOI)	<ul style="list-style-type: none"> • Review of JCC meeting materials • Confirmation of activity plans
2021/11/19	WG1,3-Police activities	Online Meeting	<ul style="list-style-type: none"> • Review of JCC meeting materials • Preparation of the completion report.

Source: JET

6.3 Activities

6.3.1 Review of Traffic Enforcement Activities on NR5 and its Surrounding Areas, and Analysis of their Impact for Traffic Safety

(1) Overview of Enforcement Activities

The following are the results of interviews with the Battambang Provincial Police regarding their enforcement activities.

- The Provincial Police enforces traffic on national roads, and the District Police on local roads and in their vicinity.
- In Battambang Province, enforcement is conducted at one site for seat belts, driving while using a cell phone, speeding, and non-helmet use.
- Emphasis is placed on enforcing regulations on seat belts, speeding, and helmet use.
- The number of enforcers ranges from 12 to 15, with one staff member assigned to measure speed, three to stop traffic, two to interrogate traffic violators, and two to collect fines.
- Enforcement operations are conducted for 4 hours in the morning and afternoon.

(2) National Road No. 5, Battambang Province

In Battambang Province, where the four-lane construction of NR5 has completed, many fatal accidents have occurred at intersections.

Although there are stop signs on the roads intersecting with NR5, many vehicles do not stop. In addition, a speed limit of 40 km/h is in place for a 100-m section before and after the intersection on the NR5 side, but vehicles often do not comply with the speed limit when there are no vehicles entering the intersection from the intersecting road.

In addition, violators of speeding on NR5 and temporary stops on bypasses are not apprehended, and traffic enforcement after an accident occurs is also not carried out. Meanwhile, along the basic road section of NR5, vehicles traveling at speeds in excess of 80 km/h are apprehended.



Source: JET

Figure 6.3.1 Enforcement of Speed Limits in Battambang Province

(3) National Road No. 5, Kampong Chhnang Province

In Kampong Chhnang Province, where the four-lane construction of NR5 has completed, there have been many fatal accidents near intersections, as in the case of Battambang Province. Enforcement activities by the Kampong Chhnang Provincial Police are also carried out under MOI's initiatives.

Although there are stop signs on the roads that intersect with NR5, many vehicles do not stop. In addition, a speed limit of 40 km/h is imposed on the NR5 section that passes through urban areas, as well as within the 200-meter sections before and after intersecting with bypasses. When there are no vehicles entering the intersections from the bypasses, vehicles travelling on NR5 often do not comply with the speed limit. There is no enforcement against these speeding vehicles nor against those travelling on bypasses and not temporarily stopping before intersections. Traffic enforcement is also currently not implemented in response to the patterns of actual traffic accidents. On the basic road section of NR5, enforcement against vehicles travelling at speeds in excess of 90 km/h is in place.



Source: JET

Figure 6.3.2 Enforcement of Speed Limits in Kampong Chhnang Province

(4) National Road No. 5, Pursat Province

As in Battambang and Kampong Chhnang provinces, in the completed four-lane sections of NR5 in Pursat Province, many fatal accidents have occurred at intersections. The enforcement activities of the Pursat Provincial Police are also based on the initiatives of the MOI.

Speed limits of 40 km/h are enforced on a 200-m section of NR5 before and after the intersections, and a temporary stop is enforced on the intersecting road. In many cases, vehicles traveling on the national road do not comply with the speed limit, such as when there are no

vehicles entering the intersections from the intersecting roads. Meanwhile, vehicles from the intersecting roads fail to stop before entering the intersections. There is no enforcement against these violations nor in response to the patterns of actual traffic accidents.

On the basic road section of NR5, enforcement against vehicles traveling at speeds in excess of 90 km/h is in place.



Source: JET

Figure 6.3.3 Enforcement of Speed Limits in Pursat Province

6.3.2 Preparation of Annual and Monthly Traffic Enforcement Plans

(1) Battambang Provincial Police

The MOI prepared a basic plan, based on which the Battambang Provincial Police prepared a detailed enforcement plan. Every month, the Provincial Police conducts various enforcement operations in five teams and conducts 18 enforcement operations on NR5. Of these, 10 are ordered by the MOI and eight are based on Provincial Police plans.

(2) Kampong Chhnang Provincial Police

The MOI prepared a basic plan, based on which the Kampong Chhnang Provincial Police prepared a detailed enforcement plan. Prior to the Covid pandemic, the Provincial Police conducted various enforcement operations in three teams and conducted 18 enforcement operations on NR5 every month. Of these, 10 were ordered by the MOI and eight were based on the Provincial Police plan.

However, since the pandemic, only an annual plan has been prepared, not a monthly plan. For this reason, JET suggested creating a systematic enforcement plan related to the violations that have resulted in accidents, indicating traffic accident locations, times of day when accidents

and violations are most frequent, and local events to prevent similar traffic accidents.

In addition, when a serious traffic accident occurs, the plan also instructs that emergency traffic management be conducted near accident sites or on the same route the day after the accident, which is expected to have the effect of raising traffic safety awareness among drivers and local residents.

(3) Pursat Provincial Police

The MOI prepared a basic plan, based on which the Pursat Provincial Police prepared a detailed enforcement plan. As for speed enforcement on NR5, the monthly plan has enforcement points changing every other day. Speed enforcement is currently not implemented in response to the patterns of actual traffic accidents. As a result, the MOI has instructed that enforcement at sites of serious accidents would be more effective.

Table 6.3.1 Example of a Monthly Enforcement Plan of Pursat Provincial Police

Activities Plan of Road traffic enforcement by Pursat traffic Police for June 2024						
No	Date	Activities	No. Traffic Police involved	Time	Pole Kilo-meter	Location
1	01-6-24					
2	02-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK154-PK155	Sarovoan village, Sna Ansa commune, Krakor district
3	03-6-24					
4	04-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK156-PK157	Veal Vong village, Sna Ansa commune, Krakor district
5	05-6-24					
6	06-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK159-PK160	Krang Thum village, Ou Sandan commune, Krakor district
7	07-6-24					
8	08-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK161-PK162	Ou Ach Kok village, Ou Sandan commune, Krakor district
9	09-6-24					
10	10-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK165-PK166	Kandor Sa village, Boeng Kantuot commune, Krakor district
11	11-6-24					
12	12-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK168-PK169	Ta Kaev Kraom village, Boeng Kantuot commune, Krakor district
13	13-6-24					
14	14-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK170-PK171	Ta Kaev Leu village, Tnaot Chum commune, Krakor district
15	15-6-24					
16	16-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK190-PK191	Traeang Chornng Village, Traeang Chornng Commune, Bakan district
17	17-6-24					
18	18-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK196-PK197	Kaoh Kaev village, Traeang Chornng Commune, Bakan district
19	19-6-24					
20	20-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK154-PK155	Sarovoan village, Sna Ansa commune, Krakor district
21	21-6-24					
22	22-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK156-PK157	Veal Vong village, Sna Ansa commune, Krakor district
23	23-6-24					
24	24-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK159-PK160	Krang Thum village, Ou Sandan commune, Krakor district
25	25-6-24					
26	26-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK161-PK162	Ou Ach Kok village, Ou Sandan commune, Krakor district
27	27-6-24					
28	28-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK165-PK166	Kandor Sa village, Boeng Kantuot commune, Krakor district
29	29-6-24					
30	30-6-24	Road traffic enforcement + speed enforcement	24 officers	7:00 to 17:00	NR5: PK168-PK169	Ta Kaev Kraom village, Boeng Kantuot commune, Krakor district

Source: JET prepared from the MOI

6.3.3 Prepare Traffic Enforcement Manual

To prevent traffic accidents, it is important that enforcement (traffic enforcement), engineering (road traffic technology), and education (traffic safety education) be implemented in a comprehensive manner. As a reference, the Japanese police have been implementing a comprehensive approach to traffic accident prevention since the Showa era (1926-1989), called the “3Es of Traffic Safety.”

Enforcement Methods



Source: JET

Figure 6.3.4 Survey of Traffic Enforcement

In 2022, this JICA project conducted a field survey of the Battambang Provincial Police to understand the actual situation of traffic enforcement in Cambodia and to identify issues, such as speeding, dangerous driving, and temporary stop violations.

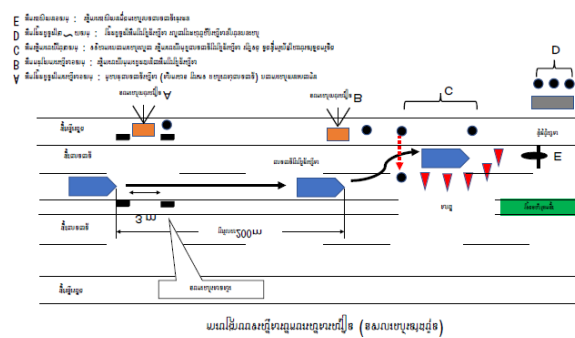
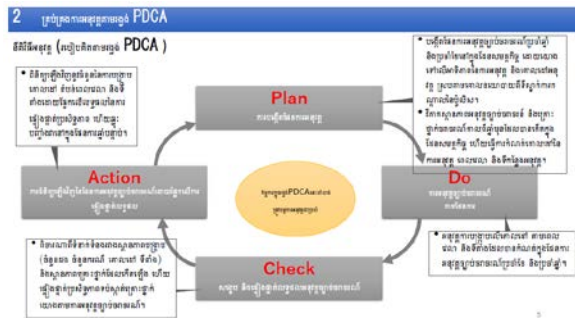
JET discussed the findings with MOI and the Battambang Provincial Police, referring as well to documents on traffic violation enforcement flow in Japan and on traffic enforcement issues and measures in Cambodia, and then an enforcement manual was prepared by JET.

The Cambodian police prepared a manual on traffic enforcement, and MOI has conducted training for provincial police (three times a year, totaling 80 participants, so far). In turn, the trained provincial police are educating the district police.

The table of contents of the enforcement manual is as follows:

<p>1 What is Traffic Enforcement?</p> <ul style="list-style-type: none"> (1) Definition of traffic enforcement activities (2) Purpose of traffic enforcement (3) What is required to achieve the objectives of traffic enforcement <p>2 Management of traffic enforcement by PDCA cycle</p> <ul style="list-style-type: none"> (1) Procedures of traffic enforcement (PDCA cycle concept) (2) Plan: Prepare an enforcement plan <ul style="list-style-type: none"> 1) Enforcement of speed limits 2) Warning and guidance for temporary stop violations (Enforcement) 3) Enforcement of dangerous driving (not wearing helmet, etc.) regulations 4) Centralized traffic enforcement 5) Simultaneous enforcement of multiple apprehensions (4) Check: Summary and verification of enforcement results <ul style="list-style-type: none"> 1) Summary of traffic enforcement results 2) Verification of traffic enforcement results

- (5) Act: Revision of enforcement plan based on effectiveness verification
- 3 Effective Information Dissemination (Case Study in Japan)
- (1) Publicize priority enforcement locations
- (2) Open enforcement with an awareness of news value
- 4 Other matters
- (1) Prevention of accidents resulting in injuries
- (2) Duties of traffic enforcers



Plan ការស្រាវជ្រាវ និងការកំណត់

① រក្សាទុកទីតាំងស្រាវជ្រាវ និងការកំណត់ ទីតាំងស្រាវជ្រាវ និងការកំណត់ ទីតាំងស្រាវជ្រាវ និងការកំណត់

- ធ្វើការស្រាវជ្រាវ និងការកំណត់ ទីតាំងស្រាវជ្រាវ និងការកំណត់ ទីតាំងស្រាវជ្រាវ និងការកំណត់
- ធ្វើការស្រាវជ្រាវ និងការកំណត់ ទីតាំងស្រាវជ្រាវ និងការកំណត់ ទីតាំងស្រាវជ្រាវ និងការកំណត់

4 ការប្រើប្រាស់ប្រព័ន្ធគ្រប់គ្រងការងារ (ប្រព័ន្ធគ្រប់គ្រងការងារ)

Source: JET

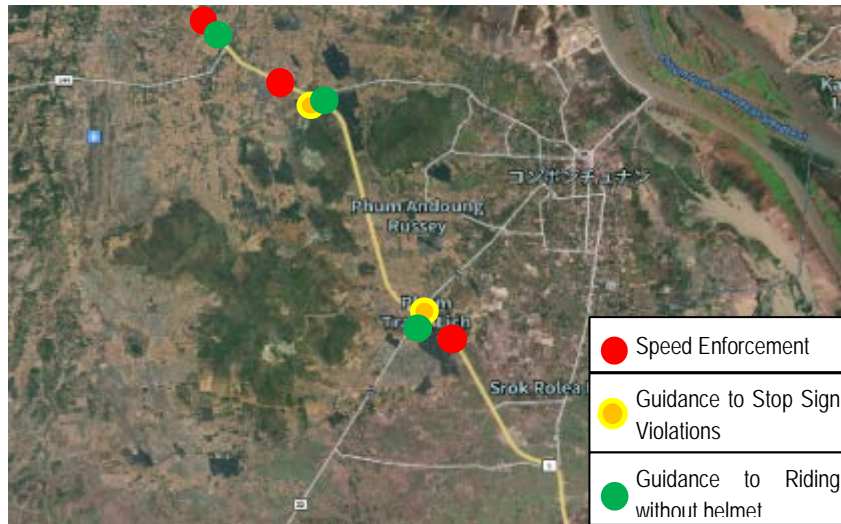
Figure 6.3.5 Part of the Enforcement Manual

The enforcement manual prepared in 2022 proposed focused traffic enforcement and simultaneous enforcement of multiple apprehensions of violators. In December 2023, during the Kampong Chhnang Provincial Police training, focused enforcement was implemented at three locations on NR5, as well as simultaneous apprehensions of stop-and-go violations and for non-helmet use. Step by step, the enforcement indicated in the manual has been implemented.

In the second year of this JICA project, MOI, Kampong Chhnang Provincial Police, and JET conducted enforcement against speeding and vehicles failing to stop. Based on this activity and discussions with the police and MOI, JET prepared a traffic enforcement plan for Kampong Chhnang Provincial Police. Based on the results, JET completed the manual.

6.3.4 Conducting Traffic Enforcement Activities on NR5

Field training or pilot implementation of speed limit enforcement at intersections, as well as the dissemination of warnings and instructions for stop sign violations and dangerous driving without a helmet, was conducted. The map below shows the locations of these enforcement activities.



Source: JET

Figure 6.3.6 Locations of the Enforcement Training

In Cambodia, a 30-cm long torch is used during traffic enforcement to motion to drivers to stop. To ensure drivers recognize when they are being signaled to stop and to allow them to do so safely, thereby preventing injury to police officers, JET introduced new stop sign flags in the Khmer language for use during enforcement activities under the Project.



Source: JET

Figure 6.3.7 Stopping Vehicles using Flags in Kampong Chhnang Province

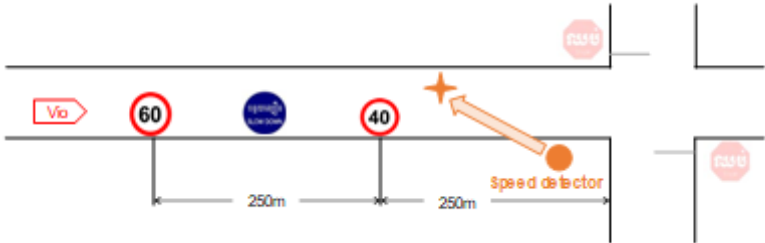
(1) Speed Enforcement before Intersections

(a) National Road No. 5, Battambang Province

In Battambang Province, enforcement against speeding vehicles (traveling over 80 km/h) on the completed four-lane NR5 has been conducted systematically.

However, due to the locations of checkpoints, enforcement tended to concentrate in certain areas and was not aligned with actual traffic accident patterns. For example, speed enforcement was not conducted upstream of high-accident locations.

On NR5, there are many level intersections without traffic signals, where many vehicles pass through at excessive speeds. While it is important to prevent vehicles from violating the stop sign at intersections, it was thought that deterring vehicles on NR5 from exceeding the speed limit would better deter serious accidents from occurring. With agreement from MOI, RID, and DPWT, the 40 km/h speed limit sign was relocated approximately 100 m before intersections on NR5, while a new 60 km/h speed limit sign was installed approximately 250 m before the 40 km/h speed limit sign. This was the first attempt to enforce speed limits near an intersection in Cambodia. Below is a diagram of the new regulation.



Source: JET

Figure 6.3.8 Enforcement Plan based on the New Speed Regulation



Source: JET

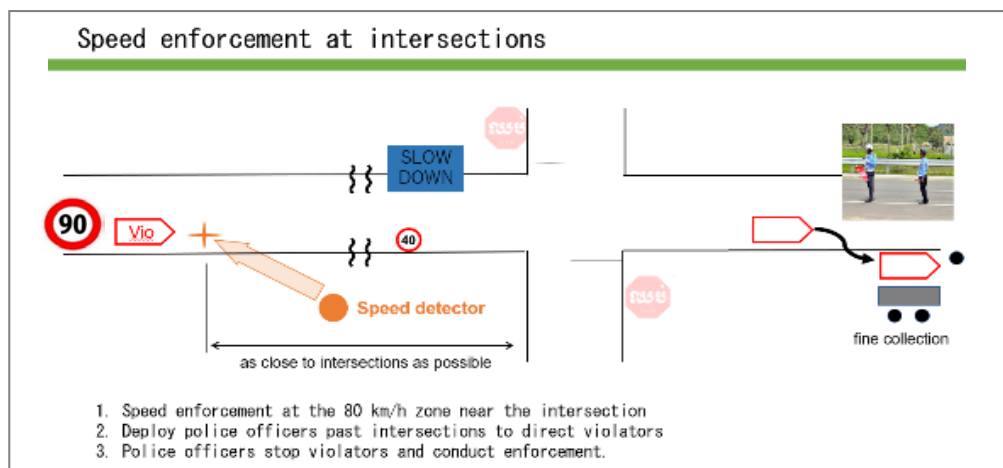
Figure 6.3.9 Scene from Training in Enforcement of New Speed Regulation

(b) National Road No. 5, Kampong Chhnang Province

In Kampong Chhnang Province, on the basic road section of NR5, enforcement against vehicles exceeding the speed limit (90 km/h) has also been systematically conducted. However, as in Battambang Province, enforcement points are tied to the location of checkpoints, so speed enforcement is not necessarily conducted near accident-prone sites. It can be said therefore that enforcement is not responsive to actual traffic accident patterns.

To prevent serious accidents from occurring at intersections, enforcement against speeding vehicles approaching the intersections has been implemented in this project as a pilot activity. This is because JET believed that ensuring that vehicles traveling on NR5 pass through intersections at acceptable speeds could prevent serious accidents from happening. The enforcement was targeted at vehicles exceeding the speed limit of 40 km/h before an intersection.

In addition, the speed limit of 90 km/h was enforced within urban areas approaching intersections to create a sense of urgency among drivers and to promote greater awareness of safe driving practices.



Source: JET

Figure 6.3.10 Speed Enforcement Plan for the 90-km/h Regulation Section

Table 6.3.2 Traffic Enforcement Training in Kampong Chhnang (2023)

May 8	<ul style="list-style-type: none"> Confirmation of training plan, training on stop instruction (lecture) Training in stop instruction (on-site), traffic safety campaign jointly with Kampong Chhnang DPWT
Jun. 13	<ul style="list-style-type: none"> Training in temporary stop and instruction for driving without wearing helmets (on-site) conducted jointly with traffic safety campaign
Sep. 25	<ul style="list-style-type: none"> Confirmation of safe driving self-diagnosis (Cambodia version)
Sep. 26	<ul style="list-style-type: none"> Evaluation of warning and instructional methods for suspension violations.
Sep 27	<ul style="list-style-type: none"> Assessment of speed enforcement status

Dec. 12	• Training in speed enforcement guidance (hands-on)
Dec. 13	• Training in temporary suspension and instruction to use helmets (on-site)

Source: JET



Source: JET

Figure 6.3.11 Training in Speed Enforcement on Bypasses and in Urban Areas

(c) National Road No. 5, Pursat Province

The Provincial Police systematically conducts enforcement against vehicles exceeding the speed limit (90 km/h) along the four-lane sections of NR5 in Pursat Province. However, enforcement is not done near accident-prone sites, which again are in areas before and after the intersections with NR5. It is also done at a one checkpoint only. Based on this, enforcement has not been responsive to actual traffic accident patterns.

In this project, speed enforcement at intersections near accident sites was conducted as a pilot activity the day after an accident happened. Acknowledging the effectiveness of such enforcement, the counterparts added checkpoints. Following this progress, JET has encouraged them to display on maps the locations of serious accidents and frequent traffic violations to visualize serious accidents and violations, as well as to devise their own enforcement methods in dangerous areas, even after the completion of the JICA project.



Source: JET

Figure 6.3.12 Scene from Speed Enforcement Training in Pursat Province

(2) Warnings and Instructions for Temporary Stop Violations

The MOI does not enforce temporary stops at intersections and only gives warnings and guidance.

(a) Battambang Province

For the No. 3 intersection on NR5 bypass, a traffic safety campaign, including a training in warnings and guidance on temporary stopping, was conducted in cooperation with the Battambang Provincial DRTS.



Source: JET

Figure 6.3.13 Scene from Training in Enforcement of Temporary Stops in Battambang Province

(b) Kampong Chhnang Province

Prior to the training, the counterparts were skeptical about giving out warnings to motorists about stop signs. During the training, however, they participated actively. In addition, MOI suggested that they would like to confirm the effectiveness of public awareness activities in cooperation with non-police organizations and would include such to their future activities. During the training in December 2023, the Kampong Chhnang Provincial Police expressed their intention to strengthen their enforcement due to the high number of traffic accidents caused by violations of the temporary stop rule.



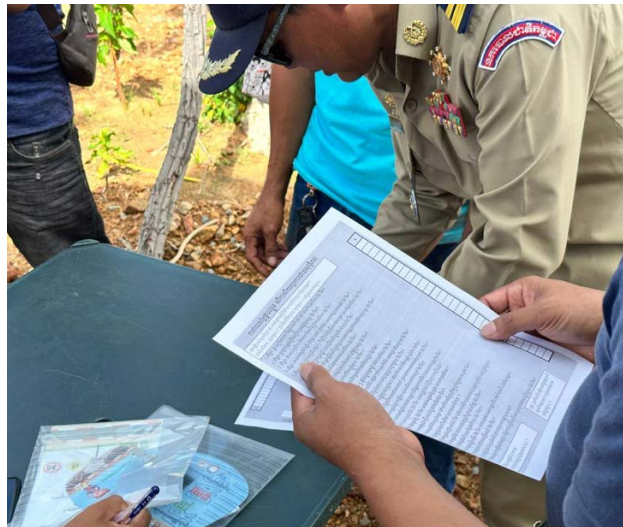
Source: JET

Figure 6.3.14 Scene from Training in Enforcement of Temporary Stops in Kampong Chhnang Province

(3) Piloting of the Self-Diagnosis Tool for Safe Driving

JET also introduced a psychological test to enable drivers to understand their own driving behavior and help them drive safely. The Japanese version of the safe driving self-diagnosis

contains 30 questions, but MOI commented that the Cambodians are not accustomed to reading long sentences or answering numerous questions. For this reason, JET prepared a Cambodian version in consultation with the MOI, reducing the number of questions to 16. The content of the questionnaire was also modified to suit the driving behavior in Cambodia, where it is possible to turn left at an intersection even on a red light, where motorcycles and other vehicles are often seen traveling on the wrong lane, and where public transportation is scarce. The tool was piloted among violators during a traffic enforcement activity and was the first of its kind in the country. Providing guidance and educating traffic violators are tasks that only the police in Cambodia can do.

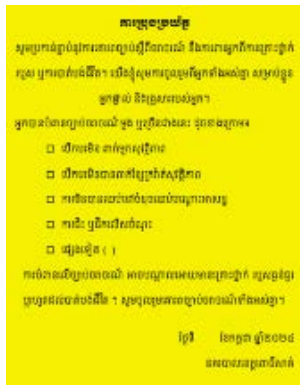


Source: JET

Figure 6.3.15 Testing of the Self-Diagnosis Tool for Safe Driving

(4) Warnings and Instructions on Dangerous Driving without a Helmet

In Pursat Province, helmet laws are not consistently enforced due to the country's non-uniform regional regulations. As a result, the majority of motorcyclists ride without helmets. To address this issue, JET introduced an awareness tool---a yellow card---modeled after Japan's "bicycle warning card." This card was distributed to violators at intersections near the sites of recent serious accidents involving helmetless riders to inform motorcyclists about the dangers of driving without a helmet. At the same time, a leaflet describing the experiences and emotions of traffic accident victims and their bereaved families in Japan, as well as the remorse expressed by perpetrators (source: Hokkaido Traffic Accident Victims' Association No. 51) and translated in Khmer, was distributed to them as part of the police's on-the-job training aimed at preventing traffic accidents.



Awareness card (left) and the memorandum of the family member of the fatal accident victim.

Source: JET

Figure 6.3.16 Scene from Training in Helmet Use Enforcement

Thoughts of the family of the victim of the traffic accident (experience)^៤
 (The situation has been edited to drive on the left to suit the traffic situation in Cambodia.)^៤

My wife was admitted to the ICU of the University Hospital on 20XX.10.23.14:30 due to a traffic accident involving a left-turn four-wheeler and a straight 50cc car.^៤

Traffic accidents are truly a flash in the blue sky for everyone.^៤

In the case of the wife, the wife herself drove straight on a 50cc motorcycle, the perpetrator turned left from the oncoming lane, and came into contact with his wife's motorcycle due to inattention in front of him.^៤


When my wife fell, her helmet blew off and her head hit the curb of the sidewalk.^៤

My wife was already in the ambulance when I arrived at the scene of the accident. My wife's condition in the ambulance was that she was wearing an oxygen mask, and **although there was no major trauma, she was constantly trying to remove her oxygen mask.**^៤

After that, he went straight to the emergency room of the university hospital, where he found that his left epidural was bleeding and he underwent emergency surgery. The operation was completed just after 2 a.m. the next day.^៤

My wife managed to survive, but she fell into a so-called "vegetative state." For the next three years, she underwent rigorous rehabilitation at a specialized hospital for those injured in car accidents, was able to remove the treatment tube, and was given care at home.^៤

Even if you are wearing a helmet, you will still suffer serious damage to your head. The grief and hardship of the family is unimaginable. Let alone if you encounter an accident with No Hell ...^៤



Source: JET

Figure 6.3.17 Leaflet on the Experience of a Family Affected by a Traffic Accident in Japan

6.3.5 Evaluation and Examination of Traffic Enforcement Activities

(1) Speed Enforcement at Intersections

(a) National Road No. 5, Battambang Province

With regard to the pilot speed enforcement carried out before the intersection No. 4 on NR5 Bypass among vehicles exceeding the speed limit, a vehicle speed survey was conducted before and after the activity with the cooperation of the Battambang Provincial Police to verify its effectiveness.

Survey results showed that the average vehicle speed increased by 1.9 km/h after the enforcement compared to before. However, when analyzed by vehicle type, the speeds of motorcycles and four-wheeled vehicles decreased by 0.7 km/h and 1.8 km/h, respectively, indicating a slightly positive impact. The increase in average speed and the decrease by vehicle type was attributed to a lopsided sample size.

Table 6.3.3 Verification of the Effectiveness of Speed Enforcement at Intersection No.4 in Battambang Province

Survey Date	Ex-anti	Oct. 22, 2010 09:00-11:00		
& Time	Ex-post	Apr. 28, 2010 09:00-11:00		
Location	Intersection No. 4, NR 5			
Results:				
Item	Timing	Total	Motorbike	Cars
Average speed (km/h)	Ex-anti			
	Ex-post			
	Change			
Sample vehicles (cars)	Ex-anti			
	Ex-post			

Source: JET

(b) National Road No. 5, Kampong Chhnang Province

To verify the effectiveness of speed enforcement on NR5 in Kampong Chhnang, vehicle speed surveys were conducted in two locations before and after the enforcement with the cooperation of the provincial police.

Survey results indicated that following enforcement, the average vehicle speed at the intersection of NR5 Bypass and Route 53 decreased by 2.8 km/h compared to pre-enforcement. The speed here was lower than that at the west end of the intersection, where no enforcement was conducted, suggesting that speed enforcement was effective. Although enforcement was done only on the intersection of NR5 and Route 53, the average speed at the intersection at west-end of NR5 Bypass also decreased by 1.6 km/h. This reduction was considered a spillover effect of the enforcement.

Table 6.3.4 Verification of Effectiveness of Speed Enforcement at NR5 Bypass-Route 53 Intersection in Kampong Chhnang Province

1. Before and After the Speed Enforcement at the Intersection

Intersection of the bypass and Route 53	Before 06/06/23	After 28/03/24	Change
Average speed of four-wheeled and two-wheeled vehicles	59.2 km/h	56.4 km/h	-2.8 km/h
Number of Samples	95 vehicles	122 vehicles	

Note: Tuk-tuks are excluded

2. Comparison of Intersections with No Speed Enforcement

Intersection at the West end of the bypass	Before 06/06/23	After 28/03/24	Change
Average speed of four-wheeled and two-wheeled vehicles	59.0 km/h	57.4 km/h	-1.6 km/h
Number of Samples	158 vehicles	143 vehicles	

Note: Tuk-tuks are excluded

Source: JET

(c) National Road No. 5, Pursat Province

The Pursat Provincial Police regularly conducts speed enforcement on NR5. The counterpart examined the speed before (March 4, 2024) and after (June 12, 2024) the enforcement activity to verify the impact. Survey results indicated that the speeds of vehicles traveling on NR5 in the direction of Phnom Penh decreased, while those traveling down NR5 in the direction of Battambang increased.

The purpose of this project was to train counterparts in verifying the effectiveness of speed enforcement as part of the PDCA cycle. It could be said that JET succeeded in achieving this objective.

Table 6.3.5 Verification of Effectiveness of Speed Enforcement on NR5 in Pursat Province

NR 5 heading to Phnom Penh	Before Mar 3, 2024	After Jun. 12, 2024	Change
Average speed of four-wheeled and two-wheeled vehicles	73.7 km/h	64.5 km/h	-9.2 km/h
Number of Samples	99 vehicles	101 vehicles	

NR 5 heading to Battambang	Before 06/06/23	After 28/03/24	Change
Average speed of four-wheeled and two-wheeled vehicles	74.0 km/h	81.1 km/h	+7.1 km/h
Number of Samples	97 vehicles	104 vehicles	

Source: JET

(2) Warnings and Guidance on Temporary Stop Signs

JET conducted a survey of temporary stop compliance prior to the enforcement activity to verify the effectiveness of the instructional warnings on temporary stopping on NR5 in Battambang Province. Survey results showed the compliance rate to the temporary stop sign was only 39.2%. The results are shown in the table below.

Table 6.3.6 Verification Results of Warnings and Guidance on Temporary Stop Signs

Survey Date Ex-anti Oct. 21, 2022 11:00-12:00
 & Time Ex-post Nov. 26, 2022 10:00-11:00
 Location Intersection No. 3, NR 5

Results:

Item	Ex-anti	Ex-post
Abide by stopping	191 39.2%	190 35.2%
No stopping	296 60.8%	350 64.8%
Total	487 100.0%	540 100.0%

Source: JET



Source: JET

Figure 6.3.18 Footage Installed at NR5-No.3 Intersection in Battambang Province

(3) Evaluation of Changes in Risky Driving Behavior

Since 2022, this JICA project has implemented pilot enforcement activities on speeding vehicles before the intersections to prevent serious accidents at the intersections. The basic idea behind this attempt was that reducing the speeds of vehicles passing the intersections was the key factor in reducing the number of severe accidents at the site.

While the original plan targeted speeding vehicles on road sections with a speed limit of 40 km/h, the Provincial Police only enforced the law on vehicles moving in excess of 80 km/h in this section and 90 km/h in other sections.

The number of vehicles exceeding 80 km/h speeds at the Route 53 intersection on NR5 Bypass in Kampong Chhnang Province decreased by 45% after enforcement compared to pre-enforcement, surpassing the project goal of 30%.

Table 6.3.7 Changes in Vehicle Speeds at NR5-Route 53 Intersection in Kampong Chhnang Province

Intersection with Route 53	Before (Jun. 6, 2023, 09:00-11:00)	After (Mar. 28, 2024, 10:00-11:00))	Difference
No. of vehicles surveyed	95	122	
No. of vehicles exceeded 80 km/h	10	7	-3
Ratio of vehicles exceeded 80 km/h to 100 vehicles	10.52 (100.0%)	5.74 (54.6%)	-4.78 (-45.4%)

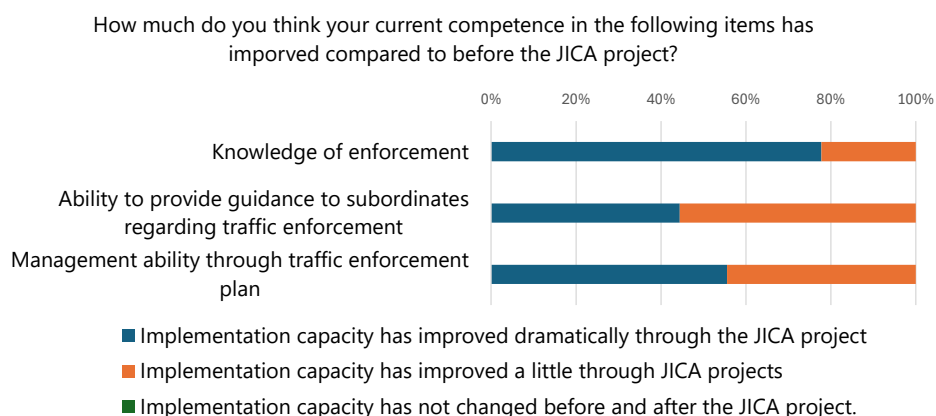
Source: JET

(4) Evaluation of Traffic Enforcement Capacity

In August 2024, the WG3 conducted a self-evaluation questionnaire survey to assess the extent to which the project has improved the investigation capacity of the MOI and the Provincial Police officers involved in the JICA project. The survey was administered using a Google Form question-and-answer format in conjunction with an evaluation of traffic investigation capabilities. Two versions of the questionnaire were developed: one for the police managers, MOI staff, deputy chiefs, and higher-ranking officers in each Provincial Police Department; the other questionnaire was for the frontline police, which includes staff below the rank of deputy director. As noted in Section 4.4.5 of this report, there were 9 respondents at the management level and 32 from the frontliners.

(a) Self-Evaluation of MOI and Provincial Police Managers

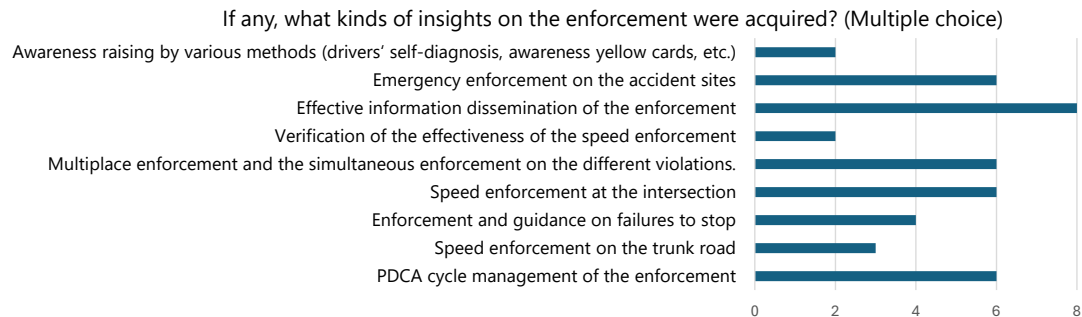
Survey results showed that more than 60% of police managers evaluated their knowledge, leadership, and management capacities as “dramatically improved” (Figure 6.3.19). This result surpassed the indicator of 20% in the PDM, indicating that the activities were successful.



Source: JET

Figure 6.3.19 General Enforcement Capacities of Police Managers

In terms of specific enforcement capabilities gained from the project, 8 police managers chose “effective information dissemination,” followed by “emergency enforcement on the accident sites,” “multi-place and simultaneous enforcement on multiple traffic violations,” and others (Figure 6.3.20).

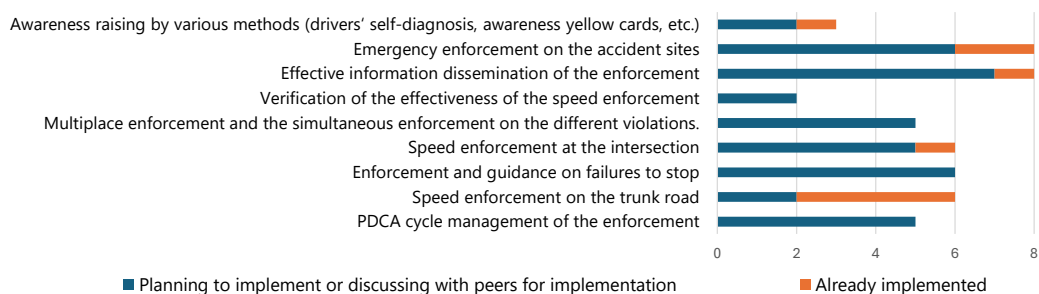


Source: JET

Figure 6.3.20 Enforcement Capacity Acquired by Police Managers through the Project

In terms of applying their learning on traffic enforcement, 5 activities were already implemented to date and 4 are in the planning stage (Figure 6.3.21). The activity that received the largest number of responses as already being implemented was “speed enforcement on the trunk road.” The most common activities planned and already implemented were “emergency enforcement in accident sites” and “effective information dissemination of enforcement.”

Please specify all activities you are planning to implement or discussing with your colleagues to put them into practice, given the cooperation with JICA. (Multiple choice)



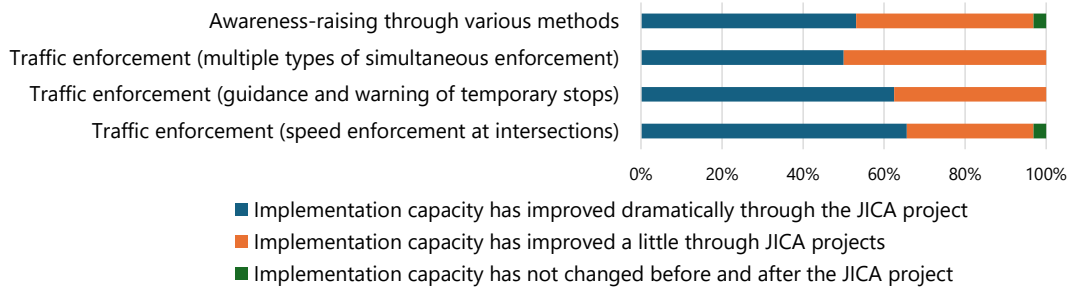
Source: JET

Figure 6.3.21 Police Managers' Application of Acquired Enforcement Knowledge

(b) Self-Evaluation by Frontline Police Officers

Results of the self-assessment showed that more than 55% of frontline police officers rated their ability in each item related to traffic enforcement as “dramatically improved.” This exceeded the evaluation indicator of 20% (Figure 6.3.22), as was the case of the police managers

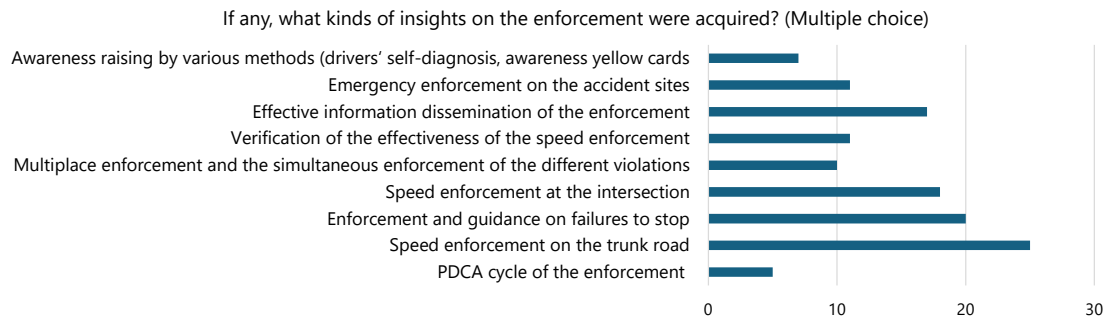
How much do you think your current ability in the following items has improved compared to before the JICA project?



Source: JET

Figure 6.3.22 General Enforcement Capacity of Frontline Police Officers

Among the individual themes, 25 respondents said their capacity for “speed enforcement on the trunk road” improved, followed by “enforcement and guidance on failures to stop” which got 20 (Figure 6.3.23).

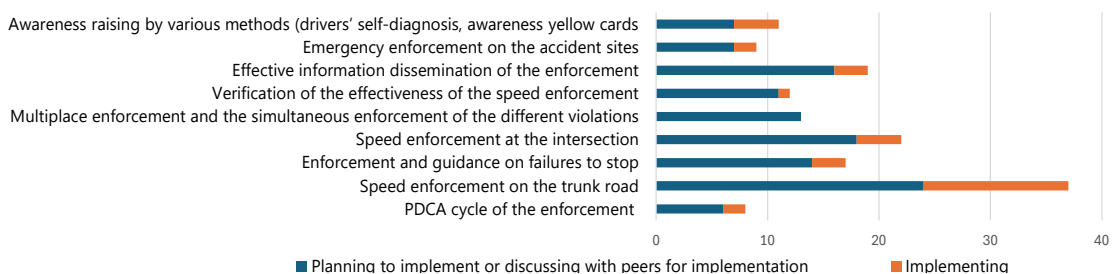


Source: JET

Figure 6.3.23 Enforcement Capacity Acquired by Frontline Police Officers through the Project

In terms of applying their learning on traffic enforcement, 13 frontline police officers indicated that they were already putting their learning into practice in “speed enforcement on trunk roads. Many other activities newly introduced by the project were also put into practice, indicating that the project was highly effective.

Please specify all activities you are planning to implement or discussing with your colleagues to put them into practice, given the cooperation with JICA.



Source: JET

Figure 6.3.24 Police Frontliners’ Application of Acquired Enforcement Knowledge

6.4 Issues

6.4.1 Review of Traffic Enforcement Activities on NR5 and Surrounding Areas, and Analysis of their Impact on Traffic Safety

(1) Traffic Enforcement in Response to Actual Traffic Accidents

In Battambang and Kampong Chhnang provinces, where the four-lane construction of NR5 has completed, many fatal accidents have occurred at intersections. To prevent these accidents, JET proposed speed enforcement before the intersections and the enforcement of the rule on temporary stopping.

JET consulted with MOI, RID, and DPWT to implement the new traffic regulations at the intersections on NR5 in Battambang Province. Continued enforcement is necessary to ensure compliance with the 40 km/h speed limit in the approach and exit of the intersections.

For the temporary stop signs at intersections, the MOI has decided to provide warnings and guidance only to ensure the enforceability of the temporary stop rule. In addition, Kampong Chhnang police have indicated their intention to enforce the temporary stop rule due to the high number of accidents.

In addition, JET proposed to establish a mechanism that would help prevent traffic accidents from occurring and alert the public immediately after an accident happens by managing traffic near the accident site and installing standing signboards at the site. In addition, JET proposed mapping the locations of traffic accidents and priority areas for enforcement and posted such maps at police stations.

(2) Inter-agency Cooperation on Traffic Accident Prevention

As in the pilot speed enforcement using the new traffic regulation on NR5 bypass in Battambang Province implemented by the Project, JET coordinated with relevant agencies to install speed control signs, after which the Provincial Police conducted speed enforcement. In addition, in Kampong Chhnang Province, when implementing speed enforcement and providing warnings guidance on temporary stop signs, the Provincial Police recognized the need for improvement in consultation with the agencies concerned, as there were locations where the signs were not placed properly. Furthermore, in Pursat, the Pursat DRTS participated in the overall training under the initiative of the MOI.

The importance of cooperation between the police and relevant agencies was recognized. It is proposed that an accident prevention committee be established by the agencies concerned for the completed 4-lane section of NR5, with the aim of developing a system to implement accident countermeasures, as well as to study and implement specific accident prevention measures.

6.4.2 Development of Annual and Monthly Enforcement Plans

In this project, the PDCA cycle was established in traffic enforcement activities targeting NR5

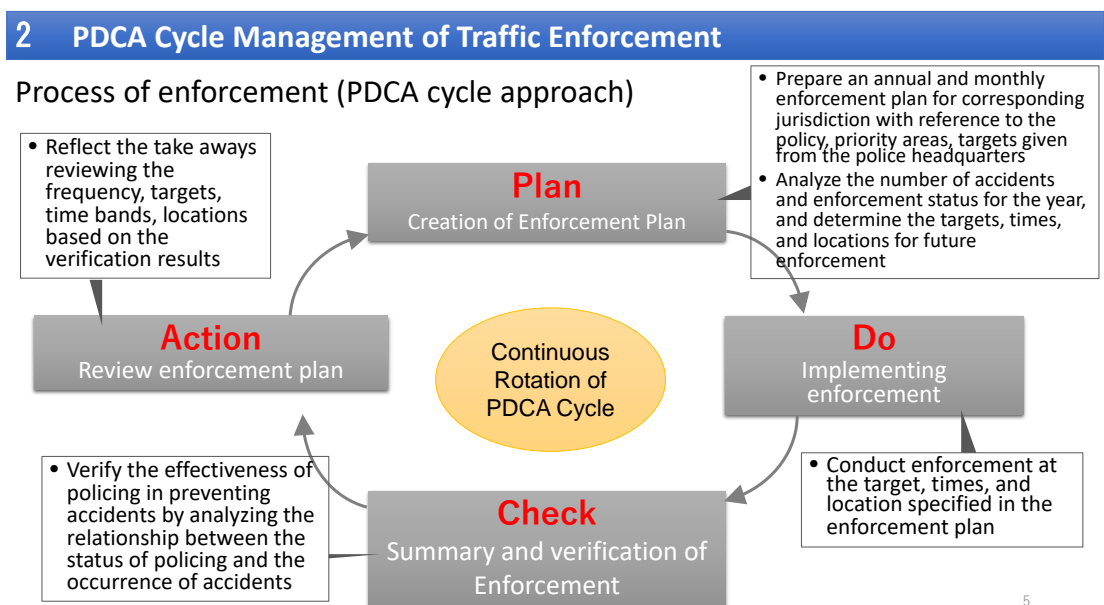
to improve the capacity of police officers in traffic enforcement.

In Cambodia, the MOI prepares a basic plan based on which the Provincial Police prepares an enforcement plan. Since a monthly enforcement plan had not been prepared since the pandemic, JET instructed the Pursat Provincial Police to prepare a monthly enforcement plan and to conduct enforcement in accordance with traffic accident patterns. JET introduced a “concentrated enforcement” plan, which includes the following types of enforcement: (1) concentration of time (enforcement month, week, day, day and time), (2) concentration of place (specific road, specific area), and (3) concentration of targets (speeding, dangerous driving, temporary stop violations).

The Pursat Provincial Police now conducts enforcement based on a monthly enforcement plan. However, it is not always responsive to the traffic accident patterns because: (1) enforcement is tied to checkpoints, and in Pursat it is located in one place only; and (2) enforcement is carried out only on basic road section of NR5. In addition, the counterparts were instructed to enforce helmet use in driving together with speed enforcement.

The monthly enforcement plan submitted by the Pursat Provincial Police and the results of its implementation were inspected. The implementation report summarized the daily number of violators, warning instructors, and fines collected. However, no analysis, such as examining the relationship between the data and the occurrence of accidents, has been conducted. An analysis of enforcement activities should be conducted in the future.

Since the enforcement activities were not analyzed, no enforcement plan showing the effective accident prevention measures has been prepared for the next year.



Source: JET

Figure 6.4.1 PDCA Cycle Management of Traffic Enforcement

6.4.3 Preparation of a Traffic Enforcement Manual

Based on an understanding of the actual situation of traffic accidents and traffic enforcement in Cambodia, an enforcement manual has been completed. It is expected that through enforcement based on this manual, public awareness of safe driving will be fostered to reduce the number of traffic accidents. The manual also includes measures to be taken in the event of a serious traffic accident, resulting in deaths or serious injuries.

6.4.4 Conduct of Traffic Enforcement Activities on NR5

Since the enforcement of speed limits and helmet use appeared to be not sufficiently implemented, JET discussed with the MOI about introducing enforcement measures targeting multiple types of traffic violations. As a result, enforcement against non-helmet use was carried out. JET hopes that enforcement will eventually cover a broader range of traffic violations.

The MOI does not collect fines for violations of temporary stop signs at intersections but only provides warnings and instructions. To enhance the effectiveness of this approach, it will be necessary to (1) conduct enforcement against dangerous drivers such as those not wearing helmets, and (2) conduct safety education campaigns in cooperation with related agencies. In some provinces, enforcement is conducted at checkpoints. It is necessary to consider the relocation of checkpoints so that enforcement is tailored to actual traffic accidents, for example, by conducting speed enforcement in accident-prone locations.

Given the high number of serious accidents caused by excessive speeding, JET proposed to the MOI that the provincial police of each of the four provinces that have jurisdiction over NR5 conduct intensive enforcement operations and make the public aware that the police are doing these to prevent traffic accidents.

6.4.5 Evaluation and Examination of Traffic Enforcement Activities

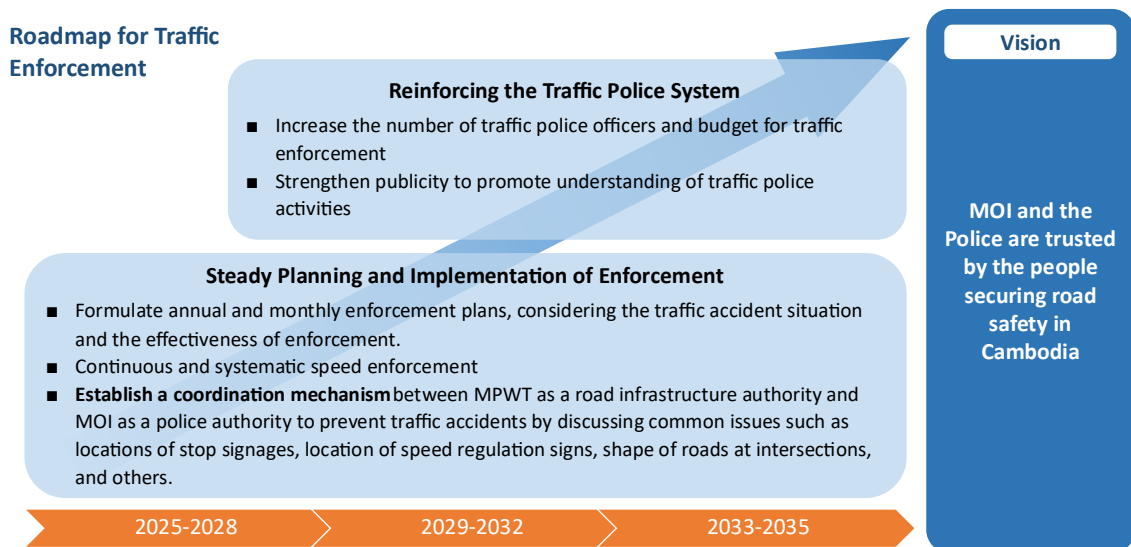
The effectiveness of speed enforcement at intersection approaches and exits was verified in this project. Speed reduction was observed at intersections in Battambang and Kampong Chhnang provinces after the pilot enforcement, which indicates that the enforcement was effective. In the future, it is necessary to consider implementing speed enforcement at intersections with frequent accidents and where serious accidents occur especially when traffic signals are not installed.

JET has been the main agency in verifying the effectiveness of speed enforcement at intersections in Battambang and Kampong Chhnang provinces, while in Pursat Province, JET was able to achieve its initial objective by instructing its counterpart on how to verify the effectiveness of speed enforcement. JET hopes that the counterparts will continue to verify the effectiveness of new initiatives.

6.4.6 Strengthening of Traffic Police for Enforcement

A short-term plan and a medium- to long-term plan were developed in consultation with the counterparts to enable them to continue with the activities even after project completion.

The short-term plan includes the preparation of an enforcement plan and the establishment of a coordination mechanism between the MPWT and the MOI with the aim of preventing traffic accidents. The medium- to long-term plan calls for an increase in the number of traffic police officers, more budget to strengthen enforcement, and better publicity to promote understanding of traffic police activities.



Source: JET

Figure 6.4.2 Policy on Strengthening Traffic Enforcement

7. The Capacity of the Relevant Organizations for the Promotion of the Safe Behavioral Manners for Road Traffic is Improved through Activities in the Pilot Area on the National Road No.5 (Output 4)

7.1 Outline

Under Output 4, six activities (Table 7.1.1) indicated in the Project Design Matrix (PDM) were implemented, with effectiveness indicators shown in Table 7.1.2.

Table 7.1.1 Activities for Output 4

4-1	Consider traffic safety education policy and make the policy recommendations
4-2	Establish implementation structure and skills of behavioral change programs
4-3	Conduct a behavior change pilot project along the National Road No. 5
4-4	Support traffic safety campaigns on the National Road No. 5
4-5	Develop a draft of medium long-term strategic plan for road safety
4-6	Conduct a seminar on public-private partnerships in traffic safety education

Source: Project Design Matrix

Table 7.1.2 Effectiveness Indicators for Output 4

4-1	Basic principles on traffic safety education revision will be examined and agreed
4-2	Manual for behavioral change on traffic safety behaviors will be prepared
4-3	Pilot projects on behavioral change will be implemented more than three times
4-4	Motorcycle users' helmet-wearing rate will increase by 20%, and pedestrian crossing use rate when crossing the street will increase by 20%
4-5	Supporting traffic safety campaigns more than three times
4-6	Traffic safety activity in the pilot area will be conducted in cooperation with private sector
4-7	Draft of medium long-term strategic plan for road traffic safety will be prepared
4-8	Seminar containing knowledge sharing from private companies will be held

Source: Project Design Matrix

7.2 Record of Meetings

The record of meetings conducted by WG4 is shown in Table 7.2.1.

Table 7.2.1 Record of WG4 Meetings

Date	Meeting Title	Venue or C/P	Agenda
2022/2/21	DRTS first meeting	DRTS	• WG4 Activity Plan
2022/2/28	WG4 policy discussion	DRTS	• WG4 Activity Plan
2022/3/7	Sharing information with relevant organizations	Online	• Sharing information on AIP activities
2022/3/9	Courtesy visit to relevant organizations	Kampong Chhnang DPWT	• Courtesy visit • Explanation of activities

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Meeting Title	Venue or C/P	Agenda
2022/3/9	Courtesy visit to relevant organizations	Pursat DPWT	<ul style="list-style-type: none"> • Courtesy visit • Explanation of activities
2022/3/10	Courtesy visit to relevant organizations	Battambang DPW	<ul style="list-style-type: none"> • Courtesy visit • Explanation of activities
2022/3/10	Courtesy visit to relevant organizations	Banteay Meanchey DPWT	<ul style="list-style-type: none"> • Courtesy visit • Explanation of activities
2022/3/14	WG4 policy discussion	DRTS	<ul style="list-style-type: none"> • WG4 Activity Plan
2022/3/18	Courtesy visit to relevant organizations	MoEYS	<ul style="list-style-type: none"> • Courtesy visit • Explanation of activities
2022/5/19	IATSS first meeting	Online	<ul style="list-style-type: none"> • Introduction of activities by IATSS and JET, and discussion of future activities
2022/6/14	WG4 policy discussion	DRTS	<ul style="list-style-type: none"> • WG4 Activity Plan
2022/7/22	WG4-MoEYS	MoEYS	<ul style="list-style-type: none"> • Confirmation of survey activities after August • Policy for Activity 4-1
2022/7/27	WG4-DRTS	MPWT	<ul style="list-style-type: none"> • First meeting for the October campaign
2022/7/29	WG4	Online	<ul style="list-style-type: none"> • Join AIP (NGO) Seminar
2022/8/4	Traffic safety campaign	DRTS	<ul style="list-style-type: none"> • Campaign during the Battambang Water Festival
2022/8/5	Visit a driving school for large vehicles	Driving school for large vehicles	<ul style="list-style-type: none"> • Observing training for large vehicle drivers
2022/8/9	IATSS Behavior Change Program in School	BTB DoEYS	<ul style="list-style-type: none"> • Courtesy visits to relevant organizations • Contents of the behavioral change program to be implemented in schools in collaboration with IATSS
2022/8/10	Pilot project school visit	Battambang	<ul style="list-style-type: none"> • Visited pilot school implementing behavior change program and conducted interview survey
2022/8/12	IATSS Behavior Change Program in School	DRTS	<ul style="list-style-type: none"> • Courtesy visits to relevant organizations • Contents and cooperation system the behavioral change program to be implemented in schools in collaboration with IATSS
2022/8/12	IATSS Behavior Change Program in School	CJCC	<ul style="list-style-type: none"> • Courtesy visits to relevant organizations • Contents of the behavioral change program to be implemented in schools in collaboration with IATSS
2022/8/15	Traffic safety campaign	DRTS	<ul style="list-style-type: none"> • Campaign during the Battambang Water Festival
2022/8/16	WG4 general discussion	DRTS	<ul style="list-style-type: none"> • Details of each activity and future plans
2022/8/23	Consideration of pilot project schools	MoEYS	<ul style="list-style-type: none"> • Consideration of pilot schools in Kampong Chhnang and collection of examples from other provinces
2022/8/25	School visit	Phnom Penh	<ul style="list-style-type: none"> • Visited two schools in Phnom Penh and conducted interviews
2022/8/26	Traffic safety campaign	Online (Battambang DPWT)	<ul style="list-style-type: none"> • Campaign during the Water Festival
2022/9/2	WG4 Policy Recommendation Board (DRTS, MoEYS)	DRTS	<ul style="list-style-type: none"> • How to proceed with the policy recommendation board for Activity 4-1

Date	Meeting Title	Venue or C/P	Agenda
			<ul style="list-style-type: none"> • Discussion on Policy Proposal Document Part 1
2022/9/2	WG4	DRTS	<ul style="list-style-type: none"> • Confirmation of the 2nd JCC explanation materials
2022/9/9	Courtesy visit to KC Pilot School	Kampong Chhnang	<ul style="list-style-type: none"> • Courtesy visit to pilot school for the development and trial of behavior change program and discussion of future plans
2022/9/15	Battambang Water Festival Traffic Campaign	DPWT	<ul style="list-style-type: none"> • Confirmation of support from the project for the DPWT-led traffic campaign scheduled for October 9 and 10
2022/9/16	Puchunbang Traffic Safety Campaign	Battambang DPWT, Read cross	<ul style="list-style-type: none"> •
2022/9/23	Review of promotional video for Battambang Water Festival Traffic Campaign	DRTS	<ul style="list-style-type: none"> • Exchange of opinions and confirmation of revisions regarding the traffic campaign promotional video
2022/10/4	Preliminary meeting for October 9th campaign	Buddy's Marketing JP Co.,Ltd.	<ul style="list-style-type: none"> • Feedback method for the campaign in Battambang Province • Regarding the video project Facebook and Battambang DPWT Facebook posts
2022/10/5	WG meeting	Online	<ul style="list-style-type: none"> • Final confirmation regarding the campaign in Battambang Province
2022/10/9,10	Battambang Water Festival Traffic Campaign	Battambang province	<ul style="list-style-type: none"> • Implementation of traffic campaign
2022/10/12	WG4 surveyors meeting	Online	<ul style="list-style-type: none"> • Preliminary arrangements for interviews on traffic safety behavior in Battambang and Kampong Chhnang provinces
2022/10/13	Support for Traffic Park	Minami Driving School	<ul style="list-style-type: none"> • Discussions regarding estimates for layout and facilities of traffic park • Support and cooperation for education at traffic park
2022/10/20	Donation of helmets	ReNet Japan (Cambodia) Co., Ltd.	<ul style="list-style-type: none"> • Interview regarding the activity of donating 1,000 helmets to MPWT every year
2022/10/21	WG4 IATSS meeting	Online	<ul style="list-style-type: none"> • Information sharing on WG4 activities, outline of program development and evaluation (IATSS), and future plans
2022/10/21	Cooperation in traffic safety activities	Toyota	<ul style="list-style-type: none"> • Cooperation in future traffic safety activities
2022/10/24,25	Traffic enforcement campaign	Battambang Provincial Police, DPWT	<ul style="list-style-type: none"> • Implementation of traffic campaign during traffic enforcement activities
2022/11/21	WG4 Local Technical Advisory Team	Online	<ul style="list-style-type: none"> • Preliminary coordination regarding Local Technical Advisory Team scheduled to be launched in January 2023
2022/11/24	WG4 Local Technical Advisory Team	Online	<ul style="list-style-type: none"> • Preliminary coordination regarding Local Technical Advisory Team scheduled to be launched in January 2023.

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Meeting Title	Venue or C/P	Agenda
2022/12/1	WG4 DRTS	Online	• Development of a behavior change program
2022/12/19	WG4 DRTS	Online	• Hearing on traffic park development
2022/12/19	Phnom Penh Post	Online	• Public relations
2022/12/27	WG4 MoEYS	Online	• Preliminary coordination regarding Local Technical Advisory Team
2023/1/6	WG4-MoEYS meeting	MoEYS	• Progress of activities, establishment of Local Technical Advisory Team, and future activities (Workshop in March and campaign)
2023/1/6	WG4-DRTS meeting	DRTS	• Progress of activities, establishment of a team of local experts, and future activities (Workshop in March and campaign)
2023/1/10	WG4-BMC Province Campaign	Online	• Meeting with BMC Province DPWT and province police regarding support for the campaign in BMC Province on January 19
2023/1/12	Launch meeting of Local Technical Advisory Team (LoTA)	DRTS	• Launch of LoTA and discussion of a long-term vision
2023/1/13	WG4-NGO meeting	AIP	• Sharing information on activities and understanding the status of traffic safety education at factories
2023/1/13	WG4-BMC Province Campaign	BMC Province DPWT	• Confirmation of support for the campaign in BMC province on January 19 with BMC province DPWT regarding implementation details, location, and time
2023/1/16	WG3,4	Online	• Cooperation between WG3 and WG4 on safety education
2023/1/16	Explanation of training in Japan (WG4)	DRTS	• Explanation of training in Japan and listening to requests
2023/1/17	Phnom Penh Post (PPP)	PPP	• Discussion on cooperation regarding PR
2023/1/18	WG4-DRTS	DRTS	• Exchange of opinions on the role of LoTA and traffic parks
2023/1/18	WG4-Battambang Province Campaign	Battambang Province DPWT	• Discussions with DPWT on support for the campaign in BTB Province (scheduled for March)
2023/1/19	WG4-BMC Province Campaign	BMC Province	• Campaign implemented in BMC Province
2023/1/26	WG4-Battambang Province Campaign	Battambang Province DPWT	• Discussed with the Director regarding campaign in BTB Province (scheduled for March) and location of traffic park.
2023/2/2	Inspection of National Road No.5	Kampong Chhnang Province	• Inspection of the accident site (bypass) and confirmation of traffic congestion during rush hour in the factory area
2023/2/7	Battambang Province Campaign	Online	• Discussed with Director regarding campaign in BTB Province (scheduled for March 20 and 21)
2023/2/17	WG4-DRTS/MoEYS	Online	• Discussions on WG4 WS scheduled for early March
2023/3/3	WG4-WS in Kampong Chhnang Province	Two schools in KCH	• Implementation of a pilot behavioral change program

Date	Meeting Title	Venue or C/P	Agenda
2023/3/10	WG4-WS in Kampong Chhnang Province	Two schools in KCH	<ul style="list-style-type: none"> Workshop on questionnaires developed by IATSS to measure behavioral change
2023/3/13	WG4-DRTS • MoEYS meeting	MPWT	<ul style="list-style-type: none"> Activity report to DRTS and MoEYS by IATSS
2023/3/13	WG4-LoTA meeting	MPWT	<ul style="list-style-type: none"> Discussion of LoTA Activity Plan by JET
2023/3/16	WG4 meeting	DRTS Online	<ul style="list-style-type: none"> Future plans for developing behavior change programs Discussion of the contents of the 3rd JCC presentation
2023/4/28	WG4 meeting	Project office	<ul style="list-style-type: none"> Meeting for a traffic safety awareness campaign scheduled to be held in KCH Province in the first week of June
2023/5/30	WG4 meeting	Online	<ul style="list-style-type: none"> Meeting for a traffic safety awareness campaign scheduled to be held in KCH Province on June 13
2023/6/5	WG4-KCH Province Campaign	Japan Eye Hospital	<ul style="list-style-type: none"> Meeting for a traffic safety awareness campaign to be held in KCH Province on June 14
2023/6/7	WG4-LoTA	Online	<ul style="list-style-type: none"> Confirmation of LoTA activity overview Survey on traffic accident experiences in KCH Future plans
2023/6/8	WG1,3,4-Meeting with MOI, KCH Police, KCH DPWT	KCH	<ul style="list-style-type: none"> Implementation of Traffic Safety Campaign Warning and instruction for drivers who violate stop signs
2023/6/9	WG4-KCH Province Campaign	Online	<ul style="list-style-type: none"> Meeting with KCH Police for a traffic safety awareness campaign to be held in KCH Province on June 14
2023/6/13	KCH Province Campaign	KCH	<ul style="list-style-type: none"> Implementation of traffic safety campaign Warning and instruction for drivers who violate stop signs Safety education for drivers without helmets
2023/6/16	WG4-Behavioral Change	JET	<ul style="list-style-type: none"> WG4 members discussed the content of educational materials and programs for junior high school students aimed at behavioral change, as well as the future schedule
2023/7/3	WG4-Traffic safety educational materials	MoEYS	<ul style="list-style-type: none"> Currently published teaching materials
2023/7/18	WG4-Behavioral Change (IATSS-JET)	Online	<ul style="list-style-type: none"> Meeting with IATSS Research Team on educational materials and programs for junior high school students regarding behavioral change
2023/7/28	WG4-LoTA 2nd meeting	Online	<ul style="list-style-type: none"> LoTA Explanation of activities and assignment of responsibilities, review of IATSS questionnaire forms
2023/8/2	LoTA-research meeting	MPWT	<ul style="list-style-type: none"> LoTA Discussion of research

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Meeting Title	Venue or C/P	Agenda
			activities at school
2023/8/3	LoTA-coordination meeting	MPWT	• LoTA Discussion of logistics arrangements
2023/8/7	WG4-Behavioral Change	MoEYS	• LoTA Discussion of overall activities and school activities
2023/8/8	LoTA-preliminary coordination meeting	Online	• LoTA Discussion on program development
2023/8/9	LoTA-coordination meeting	MPWT	• LoTA Discussion of logistics arrangements
2023/8/10	LoTA-questionnaire meeting	MPWT	• Discussion on IATSS questionnaire forms
2023/8/15	LoTA 3rd meeting	Online	• LoTA Discussions on research activities at school and program development
2023/8/16	LoTA-coordination meeting	Online	• LoTA Discussion of logistics arrangements
2023/8/23	WG4-Behavioral Change	Online	• Discussions with the IATSS Research Team on educational materials and programs for junior high school students aimed at behavioral change, and surveys to assess their effectiveness
2023/9/11	WG4-LoTA coordinator meeting	Online	• LoTA Confirmation of activities and discussion of future activities
2023/9/12	WG4-LoTA overall meeting	Online	• LoTA Confirmation of activities, • Discussions regarding the workshop and press tour on October 3-4
2023/9/20	WG4-LoTA discussion	Online	• Discussions regarding the workshop and press tour on October 3-4
2023/9/27	WG4-LoTA discussion	Online	• Discussions regarding the workshop and press tour on October 3-4
2023/10/3	Press tour	KCH	• WG4 Observation of behavior change activities
2023/10/3, 4	WG4-WS	KCH	• Workshop for developing educational materials for behavioral change (discussion of structure and content)
2023/10/18	WG4-IATSS meeting	Online	• Coordination of BTB survey in late October
2023/10/19	WG4-LoTA coordinator meeting	Online	• LoTA Coordination of administrative tasks related to operations
2023/10/20	WG4-LoTA monthly meeting	Online	• LoTA Activity progress, coordination of BTB survey in late October
2023/10/30	Collaboration with private company on traffic safety activity	Online	• Exchange of opinions with Minami Driving School on cooperation in traffic safety initiatives
2023/10/31	WG4-LoTA coordinator meeting	Online	• LoTA Coordination of administrative tasks related to operations
2023/11/15	WG4-LoTA coordinator meeting	Online	• Discussion on developing educational materials
2023/11/22	WG4-LoTA monthly meeting	Online	• Progress reports on each activity and discussion on future plans
2023/12/1	WG4-DRTS progress report	DRTS	• Progress reports on WG4 activity

Date	Meeting Title	Venue or C/P	Agenda
2023/12/1	WG4-MoETS progress report	MoEYS	<ul style="list-style-type: none"> Progress reports on WG4 activity
2023/12/4	WG4-LoTA monthly meeting	Hybrid	<ul style="list-style-type: none"> Progress reports on LoTA activity
2023/12/6	WG4-Lecture on behavior change	DRTS	<ul style="list-style-type: none"> Technical lecture on behavioral change
2023/12/7	WG4-BTB-WS briefing	DRTS	<ul style="list-style-type: none"> Briefing on BTB-WS
2023/12/11	WG4-BTB-WS briefing	BTB-Classy Hotel	<ul style="list-style-type: none"> Explanation on BTB-WS for teachers and DPWT
2023/12/12	WG4-BTB-WS preliminary coordination	BTB-Classy Hotel	<ul style="list-style-type: none"> Final coordination for BTB-WS
2023/12/13-15	WG4-BTB-WS 1st School	Ou-taki School	<ul style="list-style-type: none"> Behavior change workshop for Grade 9 students
2023/12/18-20	WG4-BTB-WS 2nd School	Pretoh School	<ul style="list-style-type: none"> Behavior change workshop for Grade 9 students
2024/1/26	Eighth LoTA meeting	Online	<ul style="list-style-type: none"> Confirm progress of each activity Confirm revision of teaching materials Methods for building a community
2024/3/6	WG4-Pre-workshop meeting	DRTS	<ul style="list-style-type: none"> Meeting regarding the workshop on March 20
2024/3/15	WG4-Pre-workshop meeting	Bun Rany Hun Sen Rolea Bier High School and Secondary School	<ul style="list-style-type: none"> Meeting regarding the workshop on March 20
2024/3/20	WG4-Behavior change workshop	KCH	<ul style="list-style-type: none"> Behavior change workshop in junior high school
2024/3/29	WG4-JCC presentation material	DRTS	<ul style="list-style-type: none"> Explanation and confirmation of JCC presentation materials Opinion exchange on future activities and the direction to take after the project
2024/4/29	WG4-Explanation of card game	Online	<ul style="list-style-type: none"> Overview of the behavior change card game
2024/6/5	WG4- DRTS/MoEYS	MPWT	<ul style="list-style-type: none"> Confirmation of the School Zone Pilot Project Plan
2024/6/7	Minami Driving School	Minami Driving School / Online	<ul style="list-style-type: none"> Discussion on cooperation in traffic safety in Cambodia
2024/6/10	WG4-KCH Police & DPWT	KCH DPWT	<ul style="list-style-type: none"> Explanation and exchange of opinions on the school zone pilot project (Kampong Chhnang Provincial Police and Road Administrators)
2024/6/12	WG4-Interview survey on primary school students' routes to school	Andong Snay Primary School	<ul style="list-style-type: none"> Interview survey on primary school students' routes to school (targeted Grade 5 Students)
2024/6/13	WG4-Local Stakeholder Meeting	KCH DPWT	<ul style="list-style-type: none"> Explanation of the school zone pilot project and exchange of opinions (participates includes school principals, community representatives, and other school zone stakeholders)
2024/6/14	WG4-DRTS	MPWT	<ul style="list-style-type: none"> Confirmation of progress and future plans for the school zone pilot project
2024/6/19	WG4-DRTS	MPWT	<ul style="list-style-type: none"> Preparation for the next stakeholder meeting

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Meeting Title	Venue or C/P	Agenda
2024/6/26	WG4-Local Stakeholder Meeting	KCH DPWT	<ul style="list-style-type: none"> Confirmation of the activities and roles of the school zone pilot project
2024/7/1	WG4-MEYS (Mr. Borith)	MPWT	<ul style="list-style-type: none"> Explained progress of the school zone pilot project to Mr. Borith and requested coordination with schools
2024/7/2	WG4-DRTS	MPWT	<ul style="list-style-type: none"> Confirmation of progress and exchange of opinions on preparations for the pilot project
2024/7/8	WG4-DRTS	MPWT	<ul style="list-style-type: none"> Confirmation of progress and exchange of opinions on preparations for the pilot project
2024/7/8	IATSS	Online	<ul style="list-style-type: none"> Information sharing on the school zone pilot project
2024/7/11	WG4-RID(Mr.Kompheak)	MPWT	<ul style="list-style-type: none"> Explanation of road improvement plans for areas around primary school, including National Road No.5, in relation to the school zone pilot project
2024/7/12	WG4-Local Stakeholder Meeting	KCH Andong Snay Primary School	<ul style="list-style-type: none"> Explanation of the school zone pilot project and exchange of opinions
2024/7/16	WG4-DRTS	MPWT/Online	<ul style="list-style-type: none"> Confirmation of progress and exchange of opinions on preparations for the pilot project
2024/7/17	WG4-DRTS	MPWT/Online	<ul style="list-style-type: none"> Confirmation of progress and exchange of opinions on preparations for the pilot project
2024/7/17	WG4-DRTS (Mr.Vantha)	MPWT/Online	<ul style="list-style-type: none"> Report on the Behavioral Change Textbook
2024/7/18	WG4-Minami Cambodia. CO., LTD	Online	<ul style="list-style-type: none"> Discussing collaboration with Minami Driving School on instructor training for a behavioral change pilot project
2024/7/23	WG4-DRTS	Online	<ul style="list-style-type: none"> Exchange opinions on the campaign
2024/7/30	WG4-DRTS	Online	<ul style="list-style-type: none"> Confirmation of progress and exchange of opinions on preparations for the pilot project
2024/8/1	WG4-RID (Mr.Kompheak)	MPWT	<ul style="list-style-type: none"> Discussion on road improvement plans for areas around primary school, including National Road No.5, in relation to the school zone pilot project
2024/8/6	WG4-DRTS	MPWT	<ul style="list-style-type: none"> Confirmation of progress and exchange of opinions on preparations for the pilot project
2024/8/7	WG4-Local Stakeholder Meeting1	KCH Bunnary Hunsen Roleapiea High School	<ul style="list-style-type: none"> Explanation of the school zone pilot project and exchange of opinions
2024/8/7	WG4-Local Stakeholder Meeting2	KCH Andong Snay Primary School	<ul style="list-style-type: none"> Discussion on school zone pilot project
2024/8/8	WG4-Factory	KCH Horizon-Outdoor (Cambodia) Co., Ltd.	<ul style="list-style-type: none"> Explanation of factory pilot project and exchange of opinions
2024/8/16	WG4-RID (Mr.Kompheak)	MPWT	<ul style="list-style-type: none"> Discussion on road improvement plans for areas around primary

Date	Meeting Title	Venue or C/P	Agenda
			school, including National Road No.5, in relation to the school zone pilot project
2024/8/23	WG4-DRTS	MPWT	• Confirmation of progress and exchange of opinions on preparations for the pilot project
2024/8/27	IATSS	MPWT	• Information sharing on the school zone pilot project
2024/8/28	IATSS Survey	KCH Hun Sen Kampong Tralach High School	• IATSS preliminary survey (Control School)
2024/8/28	IATSS Survey	KCH Sala Lekh Pram Primary School	• IATSS preliminary survey (Control School)
2024/8/28	IATSS Survey	KCH Bunnary Hunsen Roleapiea High School	• IATSS preliminary survey (Treatment School)
2024/8/28	IATSS Survey	KCH Andong Snay Primary School	• IATSS preliminary survey (Treatment School)
2024/8/28	WG4-Local Stakeholder Meeting2	KCH Andong Snay Primary School	• Discussion on the school zone pilot project with school principal
2024/9/17	Collaboration with private companies on traffic safety activities	JMG	• Exchange information on traffic safety activities of private companies, especially logistics companies that are the main users of National Road No.5
2024/9/25	Collaboration with private companies on traffic safety activities	MPWT (DRTS)	• Discussions on the collaboration between NRSC and private companies, including past activities and future plans
2024/9/27	Traffic safety education for factory workers	Phnom Penh	• Exchange of opinions with two Japanese companies on the development of traffic safety education materials for factory workers
2024/10/8	Collaboration with private company	Phnom Penh	• Safety awareness among drivers and workers at logistics companies
2024/10/17	WG4 Meeting with Minami Driving School	Online	• Discussion with Minami Driving School for a pilot project in March
2024/10/17 ~ 10/25	Traffic safety education for factory workers	Phnom Penh	• Safety awareness among workers
2024/10/31	WG4 Meeting with Minami Driving School	Online	• Discussion with Minami Driving School for a pilot project in March
2024/10/31	WG4 Meeting with DRTS	Online (DRTS)	• Discussion with DRTS for a pilot project in March
2024/11/12	Collaboration with private company	Online	• GS Electech (Cambodia) Inc Initiatives
2024/11/20	Collaboration with private company	Minami Driving School	• Discussion with Minami Driving School for a pilot project in March
2024/11/25	Collaboration with private company	GS Electech (Cambodia) Inc	• Conduct interviews to survey employees' commuting situation
2024/11/28	WG4 Meeting	MPWT(DRTS)	• Discussion regarding JCC presentation and pilot project in March
2024/12/10	WG4 Meeting with	Minami Driving	• Confirmation of implementation

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

Date	Meeting Title	Venue or C/P	Agenda
	Minami Driving School	School	policy and details regarding WG4's School Zone Pilot Project and factory activities
2024/12/10	WG4 Meeting	Project Office	• Confirmation of upcoming activities of WG4
2024/12/12	WG4 Meeting with GS Electech (Cambodia) Inc	GS Electech (Cambodia) Inc	• Discussion on factory activities
2024/12/12	Kdei Takoy Primary School Site Visit	Kdei Takoy Primary School	• Visited Kdei Takoy Primary School, which conducts watch-over activities for primary school students on their way to school, to hear about their activities and exchange opinions.
2024/12/20	WG4 Meeting (DRTS)	Online	• Confirmation of future activities and plans for WG4
2024/12/26	WG4 Meeting with Minami Driving School	Online	• Confirmation of future activities and plans for WG4
2024/12/26	WG4 Meeting (MoEYS)	Online	• Confirmation of future activities and plans for WG4
2025/1/15	IATSS	Online	• Reports on the results of the IATSS survey and the progress of WG4 activities
2025/1/15	WG4 Meeting	MPWT (DRTS)	• Deliberation on the agenda for meetings at KCH and Pursat • Confirmation of requests to DRTS
2025/1/16	WG4 Pillar1 Kickoff Meeting	Andong Snay Primary School	• Review of KCH watch-over activities and explanation to local traffic leader candidates
2025/1/16	WG4 Pillar3/4 Kickoff Meeting	Tapang Smach Primary School	• Pursat school visit and explanation of activities
2025/1/16	WG4 Pillar4 Kickoff Meeting	Hum Sen Krokro High School	• Pursat school visit and explanation of activities
2025/1/21	WG4 Pillar1 Training Session	Andong Snay Primary School	• Dangerous spots and traffic issues in the area
2025/1/21	WG4 Pillar3	Tapang Smach Primary School	• Confirmation of watch-over locations in Pursat and briefing of the activity
2025/2/7	WG4 Meeting with DRTS	Online	• Confirmation of Pursat pilot project
2025/2/12	WG4 Meeting	Minami Driving School	• Confirmation of Pursat pilot project
2025/2/14	WG4 Meeting with DRTS	MPWT	• Confirmation of Pursat pilot project
2025/2/17	WG4 Pillar3 Training Session	Tapang Smach Primary School	• Explanation and training for people participating in the watch-over activity in Pursat
2025/2/18	WG4 Pillar4 Workshop Session	Tapang Smach Primary School	• Training for primary school teachers in Pursat
2025/2/18	WG4 Pillar4 Workshop Session	Hum Sen Krokro High School	• Training for high school teachers in Pursat
2025/2/19-21	WG4 Pillar4 Classroom Activity	Tapang Smach Primary School	• Implementation of behavioral change program
2025/2/19-21	WG4 Pillar4 Classroom Activity	Hum Sen Krokro High School	• Implementation of behavioral change program
2025/2/19	Collaboration with JICA expert for education sector	JICA Cambodia Office	• Discussions on collaboration with the education sector

Date	Meeting Title	Venue or C/P	Agenda
2025/2/19	Courtesy visit by JICA HQ (MOI)	MOI	• MOI's efforts in traffic safety (Mr. Hot)
2025/2/19	Courtesy visit by JICA HQ (Minami Driving School)	Minami Driving School	• Minami Driving School's Initiatives
2025/2/21	Courtesy visit by JICA HQ (Andong Snay Primary School)	Andong Snay Primary School	• Activities since the pilot project in September last year
2025/2/21	WG4 Pillar3 Wrap-up Meeting	Tapang Smach Primary School	• Feedback from watch-over activities in Pursat
2025/2/24	Courtesy visit by JICA HQ (RID)	MPWT	• RID's Initiatives (Mr. Kompheak)
2025/2/25	Courtesy visit by JICA HQ (DRTS)	MPWT	• DRTS's Initiatives (H.E.)
2025/2/25	Courtesy visit by JICA HQ (Minister)	MPWT	• Report on JICA Project Results
2025/3/4	Meeting with DRTS	Online	• Discussion with Director Vantha on the details of the seminar
2025/3/7	WG4 Meeting With DRTS	Online	• Discuss the details of the pilot project
2025/3/10	Meeting with IATSS	Online	• Confirmation of seminar presentation and travel arrangements
2025/3/12	WG4 Pillar1 Training Session	Andong Snay Primary School	• Explanation and training for local traffic leaders
2025/3/13	WG4 Pillar2 Workshop Session	Andong Snay Primary School	• Training for primary school teachers
2025/3/13	WG4 Pillar2 Workshop Session	Rolea Baear Tbong Secondary School	• Training for secondary school teachers
2025/3/14	WG4 Pillar2 Classroom Activity	Andong Snay Primary School	• Implementation of behavioral change program
2025/3/14	WG4 Pillar2 Classroom Activity	Rolea Baear Tbong Secondary School	• Implementation of behavioral change program
2025/3/18	Meeting with LoTA	MPWT	• Sharing of IATSS survey results • Discussion on continuing LoTA activities
2025/3/20	WG4 Meeting With DRTS	MPWT	• Review of the results and challenges of WG 4
2025/4/30	WG4 Meeting With DRTS	Online	• Preparation of Technical Documents

Source: JET

7.3 Activities

7.3.1 Consider Traffic Safety Education Policy and Make the Policy Recommendations

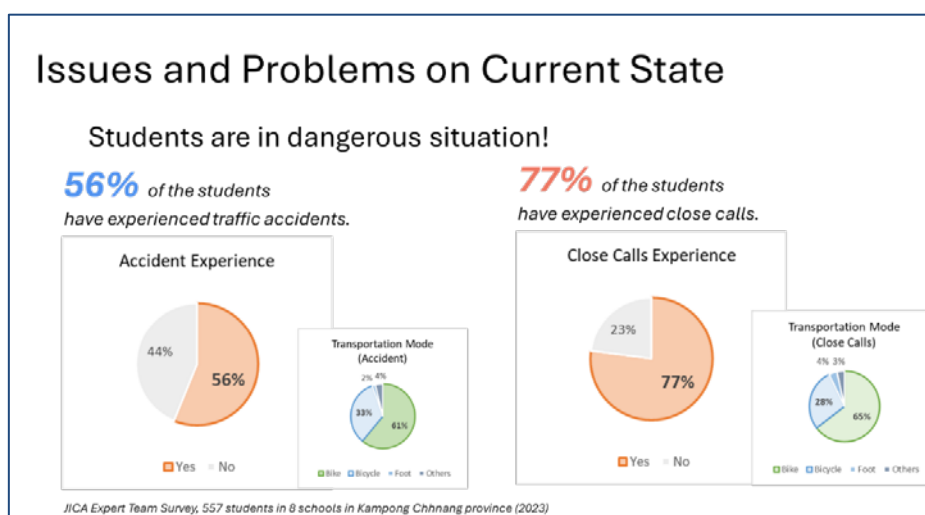
Traffic safety education is multifaceted, with various challenges present in each area. For example, issues exist within the education system, the driver licensing system, and the operations management system for commercial vehicles, all of which require consensus-building and policy decisions.

Since this project focused on a specific route and region, namely NR5 and its surrounding areas, a comprehensive review of the national traffic safety education policy was beyond this project's scope. However, it was recognized that conducting indicative or pilot activities on road safety education could still contribute meaningfully to the country's road safety administration. Therefore, the following activities were carried out under Activity 4-1, which was designated as "Study and compilation of recommendations on policies related to road safety education".

- Survey and analyze local residents' traffic safety awareness level and behavior along NR5.
- Through the activities of WG4, share the results of the above analysis with those involved in traffic safety education.
- Discuss with government agencies and the private sector the current situation, issues, and future direction of traffic safety education to build consensus.

In the "Study on Road Safety Awareness and Behavioral Habits," a questionnaire survey was conducted among secondary school students and teachers in Kampong Chhnang and Battambang provinces. The results are as follows:

- Road safety education differs from school to school, while some do not provide road safety education.
- Inappropriate behaviors, such as not wearing helmets and riding motorcycles with three other people, are often observed among students.
- Knowledge of traffic rules is overwhelmingly lacking among students.
- School officials are intensely aware of the need for traffic safety education for students.
- Many students have experienced traffic accidents.



Source: Survey results conducted by LoTA from 31st August to 4th September 2023. Total of 557 students at 8 secondary schools in Kampong Chhnang Province.

Figure 7.3.1 Results of a Survey on Accident Experiences among Junior High School Students in Kampong Chhnang Province

At the seminar for cross-sectoral collaboration on road safety education held in March 2025, the Ministry of Education identified the issues in road safety education, policies for addressing these issues, and other recommendations, as follows:

(1) Issues in Traffic Safety Education

- Insufficient time to teach traffic safety to students.
- Lack of practical learning opportunities, such as traffic parks.
- Limited dissemination of traffic safety awareness in the community.
- The parent-teacher association (PTA) still lacks a good understanding of traffic safety and needs more support to enable students to cross the road safely in school zones.
- Students lack the knowledge and awareness of traffic safety.

(2) Policies for Addressing Issues

- Develop a comprehensive road safety curriculum for motorcyclists. Create learning content to promote safe motorcycle use.
- Expand cooperation with relevant domestic and international organizations to promote road safety.
- Develop Japanese good practices in Cambodia.
- Disseminate the results of JICA projects to schools and communities, such as organizing PTAs to conduct road safety education in school zones.
- Continue to improve and disseminate the textbooks (Behavior Change Textbook and

Traffic Rule Book) created by the JICA project.

- Establish a traffic safety park in schools to promote traffic safety education. Collaborate and cooperate with relevant partners in the promotion of road safety education through the use of road safety parks.

(3) Proposal

- JICA was requested to assist in promoting road safety activities, enhancing road safety education in schools, and operating road safety parks in schools. (Request for JICA was proposed by His Excellency Sar Sokha, Deputy Prime Minister and Minister of the Interior, and His Excellency Peng Ponea, Minister of Public Works and Transport.)
- Request Cambodian domestic parties to cooperate in the construction and operation of school safety parks.
- Continue to develop an action plan to improve road safety in school areas.

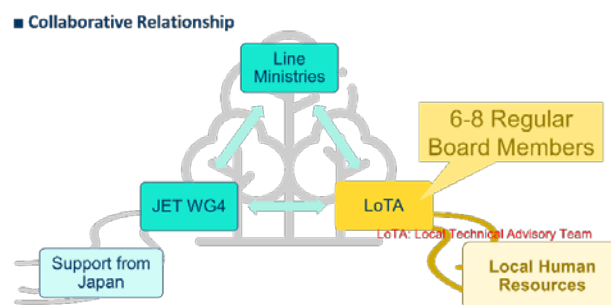
7.3.2 Establish Implementation Structure and Skills of Behavioral Change Programs

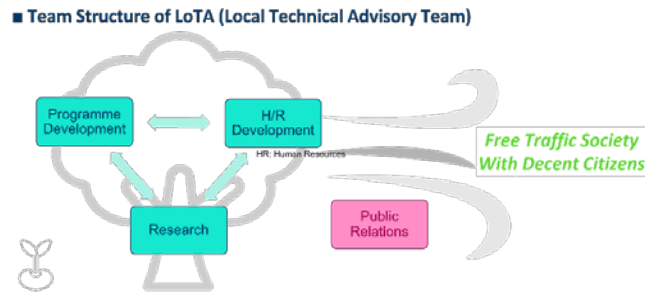
Regarding the implementation structure, Local Technical Advisory (LoTA) Team consisting of local academic experts (Royal University of Phnom Penh), IATSS alumni, CJCC (Cambodia Japanese Human Resource Development Center), and local consultants was established to promote the development and implementation of behavior change programs.

The key functions of LoTA are to provide appropriate input to program development and implementation in the local context and to ensure sustainability. From the perspective of sustainability, the project team envisages the prospects of LoTA as shown in Figure 7.3.3.

The establishment of skills was promoted through a combination of structural and human resource approaches. The structural approach involved creating standardized manuals to ensure that a certain level of results could be achieved through their use.

After repeated discussions involving LoTA, education materials were created, and a behavior change program was developed.





Source: JET

Figure 7.3.2 Image of LoTA



Source: JET

Figure 7.3.3 Prospects of LoTA

7.3.3 Conduct a Behavior Change Pilot Project along the National Road No. 5

(1) Development of a Behavior Change Program

Through field research conducted with IATSS in August 2022, three schools in Battambang Province were selected as pilot project schools for a behavior change program. Subsequently, two schools in Battambang Province and three schools in Kampong Chhnang Province were selected for related research and trials.

The outline of the implementation was approved by the relevant organizations, and preliminary research was conducted in November 2022 to review literature, obtain an overview of local schools, and develop a psychological model.

Preliminary discussions with counterparts and the LoTA Team regarding the proposed program were completed in January 2023. In March 2023, a workshop to review the training materials on behavioral change was held in Battambang Province with the participation of MoEYS, DRTS, DPWT, and junior high school teachers from Battambang and Kampong Chhnang.

Following this, another workshop was held in October 2023, where DRTS, MoEYS, and LoTA members, along with teachers and the DPWT, discussed teaching materials and developed two types of materials (knowledge textbook and behavior change textbook). In addition to the teaching materials, the overall structure of the behavior change program was also discussed.

In developing the program, the Trans-theoretical Model was utilized. This model assumes that human behavior consists of five stages: Precontemplation, Contemplation, Preparation, Action, and Maintenance. In this project, interventions (implementation of behavior change programs) were carried out with the aim of moving from each stage to the next. At that time, the program should be structured to gradually change students' awareness and behavior, while referring to the content of existing traffic safety education materials in Cambodia. In particular, topics that were not necessarily emphasized in existing programs, such as motivation, are also included. In addition, since students were at different stages, the program was designed so that all students can transition to the Action and Maintenance phases. In program development, pre- and post-evaluations were conducted, and improvements were made to the program. Questionnaires designed for each stage of behavioral change were created, and evaluations were conducted after each workshop.

(2) Implementation of Behavior Change Programs

1) 1st Workshop: Kampong Chhnang Province

On 3 March 2023, behavior change program workshops were conducted at two junior high schools in Kampong Chhnang Province, targeting a total of 14 participants, including Red Cross members and Boy Scouts. The behavior change program implemented was primarily

designed to encourage participants to consider the consequences of traffic accidents and to motivate them to learn about traffic safety. Although the sample size was small, a trend was observed where many participants showed an increased willingness to learn about traffic safety in response to questions assessing their motivation to learn.



Source: JET

Figure 7.3.4 Scenes from the March 2023 Workshop in Kampong Chhnang Province

2) 2nd Workshop: Kampong Chhnang Province

A second workshop for junior high school students was held on June 12 and 13, 2023. The workshop was used to verify the logistics of workshops and observe student participation, and the workshop materials were improved based on the findings.



Source: JET

Figure 7.3.5 Scenes from the June 2023 Workshop in Kampong Chhnang Province

3) 3rd Workshop: Kampong Chhnang Province

A third workshop for junior high school students was held on October 3 and 4, 2023. In addition to DRTS, MoEYS, and LoTA members, discussions on teaching materials were held with faculty members and DPWT. A press tour was also conducted on October 3, 2023.



Source: JET

Figure 7.3.6 Scene from the October 2023 Workshop in Kampong Chhnang Province

4) Behavior Change Pilot Project: Battambang Province

As part of a behavior change program, two types of training materials (knowledge-based and behavior change-based) have been developed. To implement the program using these materials, a workshop for teachers was conducted on December 11, 2023. Following this, pilot implementations of the behavior change program were conducted at the first school in Battambang Province from December 13 to 15, and at the second school in Battambang Province from December 18 to 20. Additionally, traffic safety activities were carried out at the same schools. Stickers, reflective badges, and notebooks (180 each) were distributed. The schedule of workshop and trial is shown below.

Table 7.3.1 Workshop for Teachers on the Pilot Implementation of the Behavior Change Program

<i>Time</i>	<i>Content</i>	<i>Action by</i>
9:30-9:50 AM	Self-Introduction of Participants	Participants
9:50-10:10	Explanation on Behavior Change Program Outline Explanation on Objective of Two Textbooks	DRTS, MoEYS
10:10-10:50	Explanation on Textbook for Behavior Change	DRTS, MoEYS (JET)
10:50-11:00	Break	
11:00-12:00	Explanation on Textbook for Behaviour Change	DRTS, MoEYS (JET)
12:00-13:00	Lunch Break	
13:00-14:00	Explanation on Textbook for Knowledge Development	DRTS, MoEYS
14:00-14:30	Explanation on Workshop Schedule	DRTS, MoEYS

Source: JET

Table 7.3.2 Schedule of the Pilot Implementation of the Behavior Change Program in Two Schools in Battambang Province

Day 1:

<i>Time</i>	<i>Content</i>	<i>Action by</i>
9:00-9:05	Self-Introduction of Participants	DRTS, MoEYS, JET and Teachers/Students
9:05-9:10	Explanation on Road Traffic Safety Project	DRTS, MoEYS
9:10-10:00	Behavior Change Lesson (Situation 1)	Teachers (DRTS, MoEYS)
10:00-10:10	Break	
10:10-10:30	Practice Session (Situation 1)	Students/Teachers (DRTS, MoEYS)

Day 2:

<i>Time</i>	<i>Content</i>	<i>Action by</i>
9:00 -9:40	Behavior Change Lesson (Situation 2)	Teachers (DRTS, MoEYS)
9:40-10:00	Practice Session (Situation 2)	Students/Teachers (DRTS, MoEYS)
10:00-10:10	Break	
10:10-10:30	Lesson on Knowledge Textbook	Teachers (DRTS, MoEYS)

Day 3:

<i>Time</i>	<i>Content</i>	<i>Action by</i>
9:00-9:40	Behavior Change Lesson (Situation 3)	Teachers (DRTS, MoEYS)
9:40-10:00	Practice Session (Situation 3)	Students/Teachers (DRTS, MoEYS)
10:00-10:10	Break	
10:10-10:30+	Feedback on Textbooks	DRTS, MoEYS, JET

Source: JET



Source: JET

Figure 7.3.7 December 2023 Workshop for Teachers in Battambang Province



Source: JET

Figure 7.3.8 Pilot Implementation in Battambang Province

5) School Zone Pilot Project: Kampong Chhnang Province

A School Zone Pilot Project was implemented over a two-week period from 9 to 20 September 2024 in Kampong Chhnang Province. The project consisted of two pillars: Pillar 1, which focused on watch-over activities during students' commute, and Pillar 2, which focused on classroom activities and games aimed at promoting behavioral change.

Pilot Project Period: 2024/9/9 – 2024/9/20

		Day 1 (9/9)	Day 2 (9/10)	Day 3 (9/11)	Day 4 (9/12)	Day 5 (9/13)
Pillar 1	AM		Watch over activities	Watch over activities	Watch over activities	Watch over activities
	PM	Training session @Primary School				Interim MTG @Primary School
Pillar 2	AM	Explanation session @DPWT	Implementation for Behavioral Change Program at Bunrany Hun Sen Roleapiea high school (AM)			Card game training @Primary School
	PM				Wrap-up meeting @High School (AM)	
		Day 6 (9/16)	Day 7 (9/17)	Day 8 (9/18)	Day 9 (9/19)	Day 10 (9/20)
Pillar 1	AM	Watch over activities	Watch over activities	Watch over activities	Watch over activities	Watch over activities
	PM				Wrap-up meeting @Primary School (AM)	
Pillar 2	AM	Explanation session @Primary School	Implementation for Behavioral Change Program at Andong Snay primary school (AM)			Campaign Activity Morning Session
	PM				Wrap-up meeting @Primary School (AM)	Campaign Activity Afternoon Session

Source: JET

Figure 7.3.9 Schedule of the School Zone Pilot Project

Details of each pillar's activities are as follows.

Pillar 1 : Watch-Over Activity

As part of Pillar 1 activities, established Parents and Teachers Association (PTA) and police conducted watch-over activities at three locations (marked ① to ③ in the figure below) around Andong Snay Primary School during children's commuting hours. The locations for

the watch-over activities were determined by identifying black spots based on interviews with 5 grade students regarding their commuting routes.

As part of the PTA activities, teachers, parents, and community members participated in four sessions daily - two in the morning and two in the afternoon - during the children’s commute times.

Additionally, in conjunction with the watch-over activities, road improvement measures were implemented around the school in collaboration with WG2. These included: ① installing a pedestrian crossing on National Road No.5 in front of Andong Snay Primary School, and ② and ③ installing road markings and speed humps at dangerous intersections on the local roads used as commuting routes by the children.

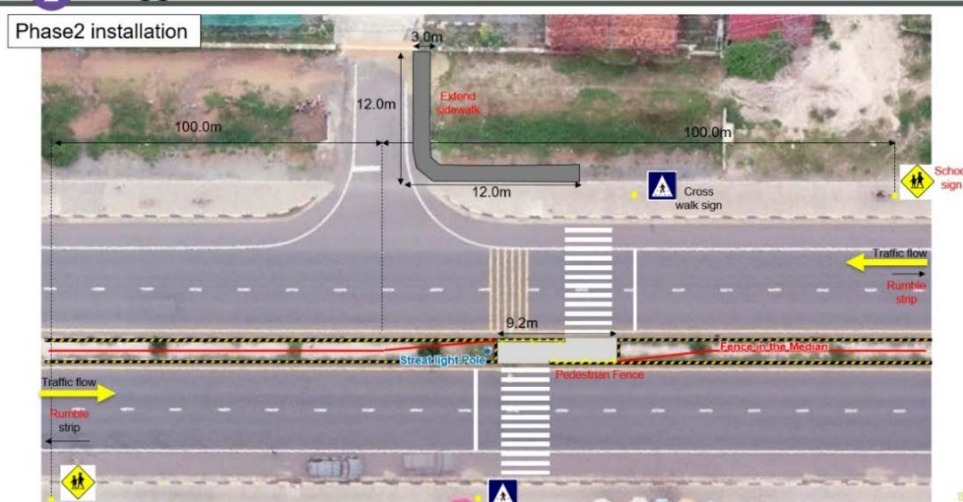
Proposed Location for the Activities



Source: JET

Figure 7.3.10 Watch-Over Activity Locations

2 Staggered Crosswalk Measures



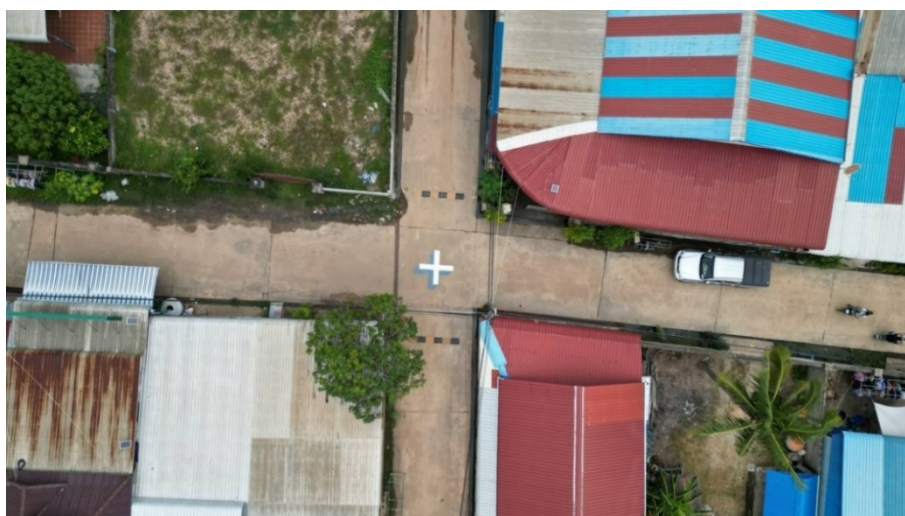
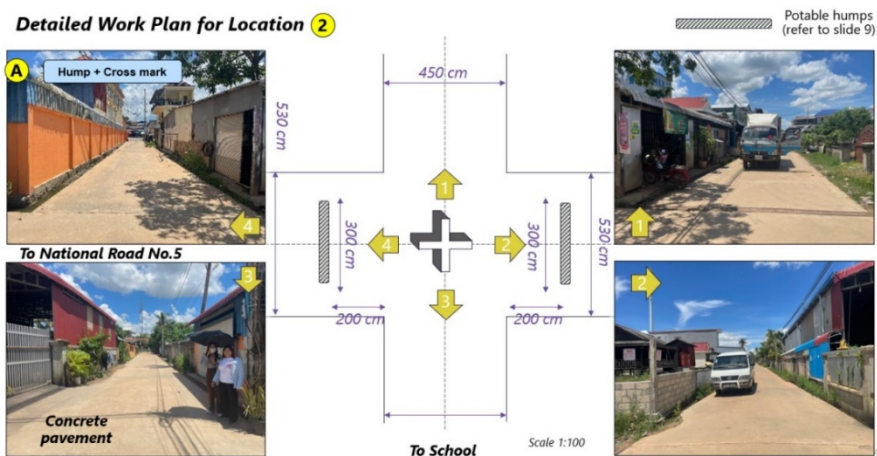
Source: JET

Figure 7.3.11 Road Improvement Plan at Location 1



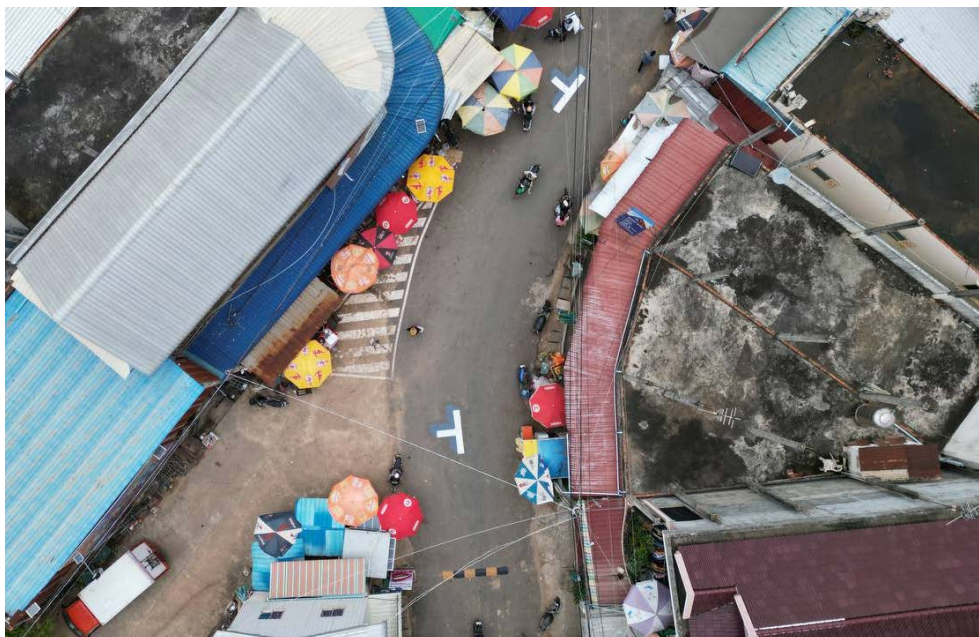
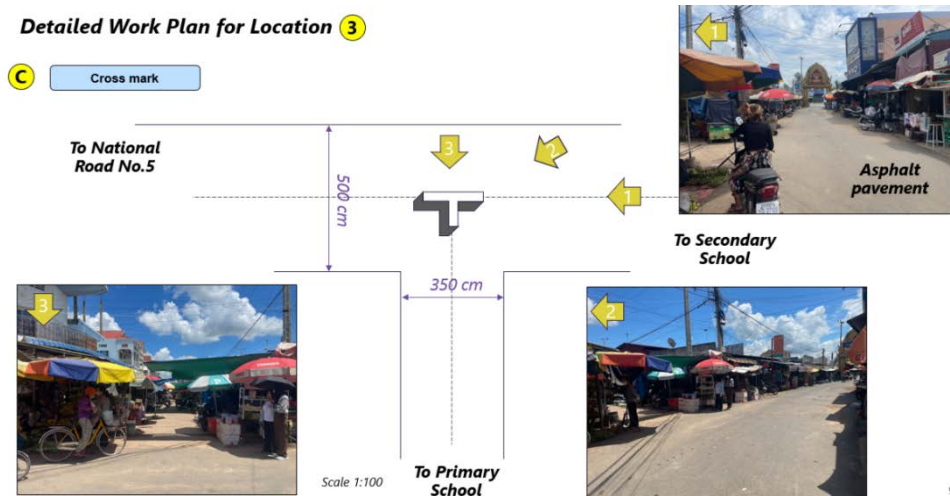
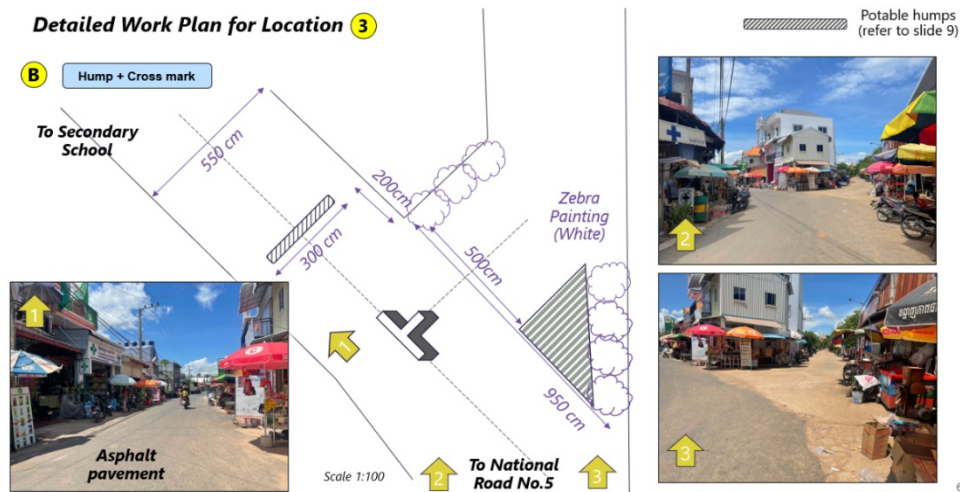
Source: JET

Figure 7.3.12 Construction at Location 1



Source: JET

Figure 7.3.13 Road Improvement Plan (top) and Construction (above) at Location 2



Source: JET

Figure 7.3.14 Road Improvement Plans (top) and Construction (above) at Location 3



Source: JET

Figure 7.3.15 Watch-Over Activity in Kampong Chhnang Province

Pillar 2 : Classroom Activity

As part of Pillar 2 activities, traffic safety education was conducted for grade 8 students at Bunrany Hunsen Roleapiea High School and grade 5 students at Andong Snay Primary School. The traffic safety education program began with DRTS/JET providing training to teachers, who then conduct the training for students over a three-day period. The traffic safety education for grade 8 students is based on the “Behavior Change Textbook” and “Traffic Rules Book” developed within the project. In addition, traffic safety education for grade 5 students was provided using teaching materials created by summarizing the contents of two textbooks.

The schedules of the workshop for 8th grade teachers and training for students are shown below.

Table 7.3.3 Workshop for Grade 8 Teachers

Time	Content	Responsibility
9:30-9:50	Self-Introduction of Participants	Participants
9:50-10:10	Explanation on Behavior Change Program Outline Explanation on Objective of Two Textbooks	JET (Mr. Ohno)
10:10-10:50	Explanation on Textbook for Behavior Change	DRTS (Ms. Leakhena)
10.50-11:00	Break	
11:00-12:00	Explanation on Textbook for Behavior Change	DRTS (Ms. Leakhena)
12:00-1:00	Lunch Break	
01: 00-02:00	Explanation on Textbook for Knowledge Development	DRTS (Ms. Leakhena)
02:00-02:30	Explanation on program schedule	DRTS (Ms. Leakhena)

Source: JET

Table 7.3.4 Training for Grade 8 Students

Day1 (10-Sep):

Time	Content	Responsibility
8:30 -8:40 AM	Self-Introduction of Participants	DRTS, MoEYS, JET And Teachers/Students
8:40-9:10	Explanation on Road Traffic Safety Project	MoEYS (Mr. Borith)
9:10-9:40	Behavior Change Lesson (Situation 1)	Teachers (DRTS, MoEYS)
9:40-9:50	Break	
9:50-10:00	Practice Session (Situation 1)	Students/Teachers (DRTS, MoEYS)

Day2 (11-Sep):

Time	Content	Responsibility
8:30 -9:10	Behavior Change Lesson (Situation 2)	Teachers (DRTS, MoEYS)
9:10-9:20	Practice Session (Situation 2)	Students/Teachers (DRTS, MoEYS)
9:20-9:30	Break	
9:30-10:00	Lesson on Knowledge Textbook	Teachers (DRTS, MoEYS)

Day3 (12-Sep):

Time	Content	Responsibility
8:30-9:10	Behavior Change Lesson (Situation 3)	Teachers (DRTS, MoEYS)
9:10-9:20	Practice Session (Situation 3)	Students/Teachers (DRTS, MoEYS)
9:20-9:30	Break	
9:30-9:50	Practical lesson by JET	JET
9:50-10:10	Feedback from students	JET

Source: JET



Source: JET

Figure 7.3.16 Classroom Activity for Grade 8 Students in Kampong Chhnang Province

The schedules of the workshop for 5th grade teachers and training for students are shown below.

Table 7.3.5 Workshop for Grade 5 Teachers

Time	Content	Responsibility
9:00-9:20 AM	Self-Introduction of Participants	Participants
9:20-9:50	Explanation on Behavior Change Programme Outline	JET (Mr. Ohno)
9:50-10:30	Explanation on lesson	DRTS (Ms. Leakhena)
10:30-10:40	Break	
10:40-11:20	Explanation on lesson	DRTS (Ms. Leakhena)

Source: JET

Table 7.3.6 Training for Grade 5 Students

Day1 (17-Sep): Information that students need now.

Time	Content	Responsibility
8:30 -8:40 AM	Self-Introduction of Participants	DRTS, MoEYS, JET And Teachers/Students
8:40-9:10	Explanation on Road Traffic Safety Project	MoEYS (Mr. Borith)
9:10-9:30	Brainstorming Searching for dangerous spots using a poster	Teachers (DRTS, MoEYS)
9:30-9:50	Break	
9:50-10:10	Lesson on Traffic Light	Teachers (DRTS, MoEYS)
10:10-10:20	Lesson on Pedestrian Safety	Teachers (DRTS, MoEYS)
10:20-10:30	Lesson on Bicycle Safety	Teachers (DRTS, MoEYS)

Day2 (18-Sep): Practical lessons

Time	Content	Responsibility
8:30 -8:40 AM	Reviewing lesson	Teachers/Students
8:40-9:10	Lesson on benefit of helmet and bicycle safety	Teachers (DRTS, MoEYS)
9:10-9:20	Practice Session (helmet wearing)	Teachers (DRTS, MoEYS)
9:20-9:30	Break	
9:30-10:00	Practice Session (bicycle checking and crossing the road)	Teachers (DRTS, MoEYS)
10:00-10:30	Behavior change activity “Difficulty managing multiple things at once”	Teachers (DRTS, MoEYS)

Day3 (19-Sep): Information that students need near future.

Time	Content	Responsibility
8:30 -8:40 AM	Reviewing lesson	Teachers/Students
8:40-9:10	Lesson on Traffic Sign and Road Marking	Teachers (DRTS, MoEYS)
9:10-9:20	Break	
9:20-10:20	Practice Session (card game)	Teachers (DRTS, MoEYS)
10:20-10:30	Feedback from students	JET

Source: JET



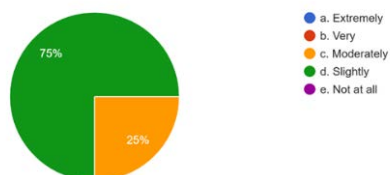
Source: JET

Figure 7.3.17 Classroom Activity for Grade 5 Students in Kampong Chhnang Province

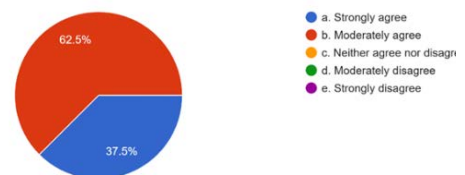
Effectiveness Evaluation

To evaluate the effectiveness of the school zone pilot project, two types of survey were conducted, 1. video recording survey to observe behavioral changes and 2. questionnaire survey to assess changes in awareness. In the video survey, behavior was analyzed at three locations where watch-over activities were conducted before and during the pilot project. In the questionnaire survey, changes in traffic safety awareness resulting from the pilot project were confirmed.

Q11. To what extent were you interested in road safety before this activity?
 8 responses



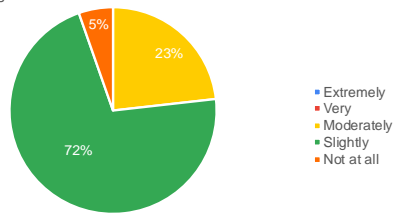
Q12. Do you think your awareness of road safety has improved after this activity?
 8 responses



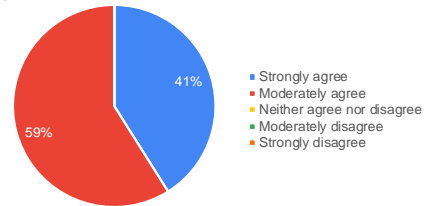
Source: JET

Figure 7.3.18 Changes in Traffic Safety Awareness among Teachers

Q1. To what extent were you interested in road safety before this activity?
 56 responses



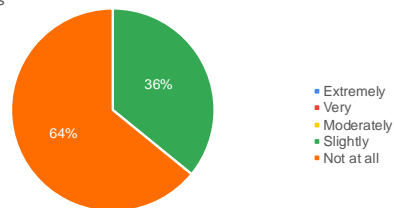
Q2. Do you think your awareness of road safety has improved after this activity?
 56 responses



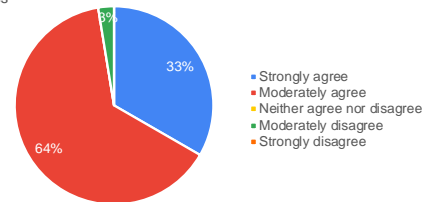
Source: JET

Figure 7.3.19 Changes in Traffic Safety Awareness among Grade 8 Students

Q2. To what extent were you interested in road safety before this activity?
 39 responses



Q3. Do you think your awareness of road safety has improved after this activity?
 39 responses



Source: JET

Figure 7.3.20 Changes in Traffic Safety Awareness among Grade 5 Students

6) Factory Pilot Project: Kampong Chhnang Province

Horizon Outdoor was selected as the target factory, and a factory pilot project was implemented on September 23, 2024. Similar to the school zone scheme, in the morning of the same day, training on teaching methods of the behavior change textbook was provided to the working group (WG) responsible for training in the factory, and in the afternoon, the WG provided lectures to factory workers. The lectures for factory workers were conducted by selected contents from a behavioral change textbook that were adapted to the knowledge level of factory workers. However, the factory chief suggested that factory workers only have the knowledge level of primary school students, so it is necessary to use easy-to-understand materials.

Based on the pilot project and interviews with the factory, a guideline for the factory to promote traffic safety was prepared. The guidelines were designed as a collection of case studies that the factory can refer to and implement. The case studies include measures from Japanese companies in Cambodia, as well as initiatives implemented by transportation companies in Japan.

7) School Zone Pilot Project: Pursat Province

A school zone pilot project, watch-over activities, and classroom activities were conducted from 17 to 21 February 2025 in Pursat Province, targeting 10th graders at Hum Sen Kroker High School and 5th graders at Tapang Smach Primary School. Table 7.3.7 shows the schedule, and Figure 7.3.21 shows the activities conducted during visits to the target schools in January 2025.

Table 7.3.7 Schedule of the School Zone Pilot Project in Pursat Province

	Day1 (17th Feb)	Day2 (18th Feb)	Day3 (19th Feb)	Day4 (20th Feb)	Day5 (21st Feb)
AM	Travel to Pursat	Workshop at Primary School	Implementing behavioral change program at Trapang Smach Primary School		
PM	Training Session for Watching Over Activity	Workshop at High School	Implementing behavioral change program at Hun Sen KrarKor High School		

Source: JET



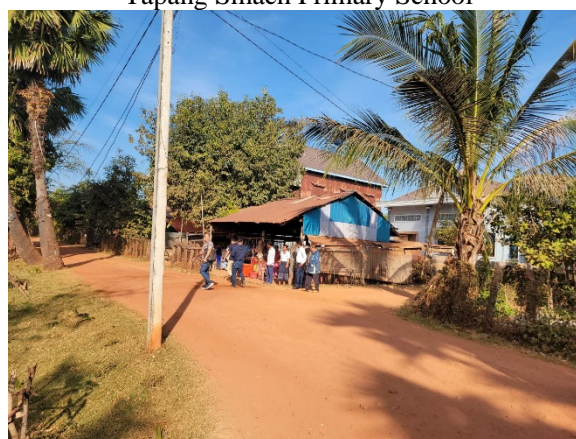
Hum Sen Kroker High School



Tapang Smach Primary School



Asking children about dangerous areas



Check dangerous area

Source: JET

Figure 7.3.21 Scenes from the January 2025 Visit to Target Schools in Pursat Province

Classroom Activity

Similar to the classroom activity conducted in Kampong Chhnang in September 2024, DRTS/JET first provided training to teachers. Teachers who received training then provided training to students over a three-day period. The program was implemented in three 10th grade classes (approximately 200 students) at Hum Sen Krokro High School. Details of the program are shown below. A comprehension test was conducted on the final day.

Table 7.3.8 Workshop for Grade 10 Teachers

Time	Content	Responsibility
2:00-2:10 PM	Self-Introduction of Participants	Participants
2:10-3:30	Explanation on Behavior Change Program Outline Explanation on Objective of Two Textbooks	MoEYS (Mr. Borith)
3:30-4:10	Explanation on Textbook for Behavior Change	DRTS (Ms. Leakhena)
4:10-4:20	Break	Participants
4:20-4:50	Explanation on Textbook for Behavior Change	DRTS (Ms. Leakhena)
4:50-5:30	Explanation on Textbook for Knowledge Development	DRTS (Ms. Leakhena)

Source: JET

Table 7.3.9 Training for Grade 10 Students

Day1 (19-Feb):

Time	Content	Responsibility
2:30 -2:40 PM	Self-Introduction of Participants	DRTS, MoEYS, JET And Teachers/Students
2:40-3:10	Explanation on Road Traffic Safety Project	MoEYS (Mr. Borith)
3:10-3:50	Behavior Change Lesson (Situation 1)	Teachers (DRTS, MoEYS)
3:50-4:00	Break	
4:00-4:30	Practice Session (Situation 1)	Students/Teachers (DRTS, MoEYS)

Day2 (20-Feb):

Time	Content	Responsibility
2:30 -3:00 PM	Behavior Change Lesson (Situation 2)	Teachers (DRTS, MoEYS)
3:00-3:30	Practice Session (Situation 2)	Students/Teachers (DRTS, MoEYS)
3:30-3:40	Break	
3:40-4:30	Lesson on Knowledge Textbook	Teachers (DRTS, MoEYS)

Day3 (21-Feb):

Time	Content	Responsibility
2:30 -3:00 PM	Behavior Change Lesson (Situation 3)	Teachers (DRTS, MoEYS)
3:00-3:30	Practice Session (Situation 3)	Students/Teachers (DRTS, MoEYS)
3:30-3:40	Break	
3:40-3:50	Feedback from students	JET

Source: JET



Workshop for teachers



Training for Grade 10 students

Source: JET

Figure 7.3.22 Workshop for Teachers and Classroom Activity for Grade 10 Students in Pursat Province

The program was implemented for two fifth-grade classes (approximately 90 students) at Tapang Smach Primary School. Details of the program are shown below. A comprehension test was conducted on the final day.

Table 7.3.10 Workshop for Grade 5 Teachers

Time	Content	Responsibility
9:00-9:20 AM	Self-Introduction of Participants	Participants
9:20-9:50	Explanation on Behavior Change Program Outline	MoEYS (Mr. Borith)
9:50-10:50	Explanation on lesson	DRTS (Ms. Leakhena)
10:50-11:00	Break	Participants
11:00-12:00	Explanation on lesson	DRTS (Ms. Leakhena)

Source: JET

Table 7.3.11 Training for Grade 5 Students

Day1 (19-Feb):

Time	Content	Responsibility
8:30 -8:40 AM	Self-Introduction of Participants	DRTS, MoEYS, JET And Teachers/Students
8:40-9:10	Explanation on Road Traffic Safety Project	MoEYS (Mr. Borith)
9:10-9:30	Brainstorming Searching for dangerous spots using a poster	Teachers (DRTS, MoEYS)
9:30-9:50	Break	
9:50-10:10	Lesson on Traffic Light	Teachers (DRTS, MoEYS)
10:10-10:20	Lesson on Pedestrian Safety	Teachers (DRTS, MoEYS)
10:20-10:30	Lesson on Bicycle Safety	Teachers (DRTS, MoEYS)

Day2 (20-Feb):

Time	Content	Responsibility
8:30 -8:40 AM	Reviewing lesson	Teachers/Students
8:40-9:10	Lesson on benefit of helmet and bicycle safety	Teachers (DRTS, MoEYS)
9:10-9:20	Practice Session (helmet wearing)	Teachers (DRTS, MoEYS)

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

9:20-9:30	Break	
9:30-10:00	Practice Session (bicycle checking and crossing the road)	Teachers (DRTS, MoEYS)
10:00-10:30	Behavior change activity “Difficulty managing multiple things at once”	Teachers (DRTS, MoEYS)

Day3 (21-Feb):

Time	Content	Responsibility
8:30 -8:40 AM	Reviewing lesson	Teachers/Students
8:40-9:10	Lesson on Traffic Sign and Road Marking	Teachers (DRTS, MoEYS)
9:10-9:20	Break	
9:20-10:20	Practice Session (card game)	Teachers (DRTS, MoEYS)
10:20-10:30	Feedback from students	JET

Source: JET



Workshop for teachers



Training for grade 5 students



Training for grade 5 students



Practice Session (card game)

Source: JET

Figure 7.3.23 Workshop for Teachers and Classroom Activity for Grade 5 Students in Pursat Province

Watch-Over Activity

Watch-over activities were conducted at the pedestrian crossing NR5 in front of Hum Sen Kroker High School, which is used by children and students. Following an orientation session and on-site training for participants, three sessions were conducted during pilot project period: in the morning commute to school and in the afternoon commute to/from school. Participants

in the watch-over activity included members of the Commune Council, Village Chief, Deputy Village Chief, Guardian, Primary School Principal, Primary School Teacher, DPWT Officer, and Local Police.



Orientation session



On-site training session



Trial Activity



Feedback from Participants

Source: JET

Figure 7.3.24 Watch-Over Activity in Pursat Province

8) School Zone Pilot Project: Kampong Chhnang Province

In March 2025, a school zone pilot project was implemented in Kampong Chhnang Province with two pillars: Pillar 1: Developing local traffic leaders, and Pillar 2: Supplementary training on behavior change program.

Pillar 1: Developing local traffic leaders

The goal of this pillar is to enable local traffic leaders to warn children about dangerous behavior during watch-over activities. The kickoff meeting and the first training session (identifying dangerous areas and traffic issues in the community) were held in January 2025. In March 2025, the second training session was conducted in collaboration with Minami Driving School, followed by a pilot activity.



Kickoff meeting



1st training session



2nd training session



On-site training

Source: JET

Figure 7.3.25 Developing Local Traffic Leaders in Kampong Chhnang Province

Pillar 2: Supplementary Lessons on Behavior Change

Comprehension tests were conducted in January 2025 at pilot project schools (as treatment schools) and nearby primary and junior high schools (as control schools) that were selected for comparison in order to assess the level of understanding of the pilot project in September 2024 and to provide supplementary lessons. The comprehension test was designed to assess children's knowledge and attitudes toward traffic safety using a combination of multiple-choice and essay questions based on the developed teaching materials.



Source: JET

Figure 7.3.26 Conducting Comprehension Tests

The supplementary lessons were conducted in March 2025 and targeted at sixth graders (formerly fifth graders) and ninth graders (formerly eighth graders) who participated in the pilot project. The lesson contents were created based on the results of the comprehension test. On the first day, DRTS provided instruction to primary and junior high school teachers, and on the second day, teachers conducted lessons to students. Participation-based learning was observed, with students being encouraged to think, raise their hands, and answer questions when called on, rather than receiving one-way instruction. The schedule is outlined below.

Table 7.3.12 Schedule for Supplementary Lessons

Additional Class Activity for Grade 6 (14 March 2025)

Time	Content	Responsibility
8:00 - 8:10 AM	Self-Introduction of Participants	All participants
8:10 - 9:00	Test Results	Teachers/Students
9:00 - 9:10	Break	
9:10 - 9:20	Vehicle Stopping Distance	Teachers/Students
9:20 - 9:30	Black Spot	DRTS, Teachers/Students
9:30 - 9:45	Risk Prediction	Teachers/Students
9:45-10:00	Practical Session (Vehicle Stopping Distance)	JET

Additional Class Activity for Grade 9 (14 March 2025)

Time	Content	Responsibility
2:00 - 2:10 PM	Self-Introduction of Participants	All participants
2:10 - 3:00	Test Results	Teachers/Students
3:00 - 3:10	Break	
3:10 - 3:20	Vehicle Stopping Distance	Teachers/Students
3:20 - 3:30	Black Spot	DRTS, Teachers/Students
3:30 - 3:45	Risk Prediction	Teachers/Students
3:45 - 4:00	Practical Session (Vehicle Stopping Distance)	JET

Source: JET



Workshop for primary teachers



Workshop for junior high school teachers



Supplemental lecture at primary school



Supplemental lecture at junior high school

Source: JET

Figure 7.3.27 Supplemental Lessons at Schools

7.3.4 Support Traffic Safety Campaigns on the National Road No. 5

(1) Results of Traffic Safety Campaigns in each Province

The table below shows the results of traffic safety campaigns in four provinces. Each province implemented the campaigns using materials such as “Road Traffic Law books” and “Motorcycle books that motorcyclists need to know.” Only Battambang Province provided information on its budget, but all provinces operate on limited budgets and rely on donations from NGOs, the Red Cross, and private companies.

1) Banteay Meanchey Province in 2020

No.	Description	Target	Frequency of each program	Remarks
1	Promoting road traffic safety	School	6	
2	Disseminate the road traffic safety when celebrating important festivals	Festivals: 1. Pchum Ben Festival 2. National Road Safety Day 3. International Day of Remembrance the Road accidents Victims	3	
3	Promoting road traffic safety	Factory	1	
4	Providing training course in road traffic safety	Motorcycles have a capacity of more than	19	

		125cc, Motorcycles, trailers and tricycles/tuk tuk		
5	Inspecting at driving school	Banteay Meanchey Province	2	
6	Promoting road traffic safety	Radio and TV	5	
7	Making banners/ slogan related to road traffic safety	For any events or festivals	4	
8	Promoting road traffic safety	Vehicle repair garage, parking place, roundabout, gasoline stations	12	
Total			52	

2) Battambang Province

No.	Description	Frequency of each program	Budget (riels)	Total (riels)
1	National Road Safety Day	1	2,000,000	2,000,000
2	Promoting road traffic safety, provide slogan or newsletter related to road traffic safety or policy	12	200,000	2,400,000
3	Checking the traffic sign at curve and black spot area	4	100,000	400,000
4	On-site inspection of technical problems for the heavy truck	192	500,000	96,000,000
5	Promoting road traffic safety at driving school	4	200,000	800,000

3) Pursat Province in 2021

No.	Activity	Date	Number of participants	Remarks
1	Promoting road traffic safety at vehicle repair garage (6 locations)	4-Jan-21		
2	Putting banners/ slogan related to road traffic safety (7 banners)	15-Jan-21		
3	Putting banners/ slogan related to road traffic safety (9 banners)	11-Feb-21		
4	Promoting road traffic safety at vehicle repair garage (6 locations)	19-Feb-21		
5	Promoting road traffic safety at Kroavanh high school	18-Mar-21	168	
6	Promoting road traffic safety at vehicle repair garage (2 locations)	19-Mar-21		
7	Putting banners/ slogan related to road traffic safety (9 banners)	9-Apr-21		
8	Promoting road traffic safety at vehicle repair garage (1 locations)	20-Apr-21		
9	Promoting road traffic safety at vehicle repair garage (4 locations)	18-Apr-21		
10	Promoting on the road traffic safety at parking place	7-Jun-21	94	
11	Promoting road traffic safety at vehicle	16-Jun-21		

THE PROJECT FOR IMPROVEMENT OF ROAD TRAFFIC SAFETY ON TRUNK ROADS IN THE KINGDOM OF CAMBODIA
Project Completion Report

	repair garage (6 locations)			
12	Promoting road traffic safety in DPWT	2-Jul-21	457	
13	Promoting road traffic safety at vehicle repair garage (9 locations)	19-Jul-21		
14	Promoting road traffic safety at vehicle repair garage (4 locations)	17-Aug-21		
15	Promoting road traffic safety in DPWT	17-Sep-21		
16	Promoting road traffic safety at vehicle repair garage (8 locations)	21-Sep-21		
17	Putting banners/ slogan related to road traffic safety (8 banners)	9-Oct-21		
18	Promoting road traffic safety at vehicle repair garage (6 locations)	21-Oct-21		
19	Promoting road traffic safety at vehicle repair garage (8 locations)	11-Nov-21		
20	Promoting road traffic safety at Toul Krous secondary school	17-Nov-21	53	
21	Promoting road traffic safety at vehicle repair garage (11 locations)	10-Dec-21		
22	Promoting road traffic safety in DPWT	17-Dec-21		

4) Kampong Chhnang Province

No.	Activity	Target/Place	Number of frequencies	Remarks
1	Promoting road traffic safety	School		
2	Promoting road traffic safety	Factory		
3	Promoting road traffic safety	City hall		
4	Promoting road traffic safety	Radio, TV and Microphone	5	
5	Making banners/ slogan related to road traffic safety	All 8 districts, and city	5	
6	Campaign on promoting road traffic safety on helmet restriction practices	All 8 districts, and city	1	
7	Providing the training on road traffic safety to the road user, motorcycles have capacity of more than 125cc, Motorcycles, trailers and tricycles /tuk-tuk	DPWT		
8	Provide road traffic safety training to the provincial units	DPWT	14	
9	Promoting road traffic safety and traffic law to the driving school	All 8 districts, and city	15	
10	Promoting road traffic safety	Kampong Chhnang Province		
11	National Road Safety Day	Kampong Chhnang Province		
12	International Day of Remembrance the Road accidents Victims	Rolar Pa Ear district	everyday	
Total			40	

(2) Project Team’s Participation in Traffic Safety Campaigns

The following shows the results of traffic safety campaigns in which the project team participated.

1) Campaign in Battambang Province on 16 September 2022

A. Target	Residents and road users in Battambang Province	
B. Organizer and implementers	<ul style="list-style-type: none"> • 15 members from Battambang Province Red Cross Youth • 5 members from Battambang Province DPWT (Organizer) • 5 members from Battambang Province Police • 1 member from JICA Expert Team • 2 members from Buddy's Marketing JP Co.,Ltd. 	
C. Visitors	<ul style="list-style-type: none"> • Approximately 100 residents of Battambang Province • Approximately 30 truck drivers 	
D. Location	Intersection of Battambang Bypass and National Road 154	
E. Purpose	Raise awareness of traffic safety during Puchunbang	
F. Main Program	1. Prepared traffic safety goods	
	No.	Description
	1	Safety helmet
	2	Road safety leaflets
	3	Road Traffic safety banners
	4	3M Reflective tape
	5	Road Traffic Law books
	6	Motorcycle books that motorcyclists need to know
	7	Books of Important things that drivers need to know
	8	Quiz panel
	2. Awareness raising activities for target groups n/a	
	3. Visitors' reactions	
	<ul style="list-style-type: none"> ➢ Low awareness of traffic rules and low helmet wearing rate ➢ Truck drivers have a high awareness of the dangers of entering the bypass. 	
G. Budget	1. The Red Cross did not cover the costs 2. DPWT (no expense): MPWT provided necessary materials such as traffic rule book	
H. Challenges	✓ Understanding Red Cross activities	



2) Campaign in Battambang Province on 9-10 October 2022

A. Target	Residents in Battambang Province																																																
B. Organizer and implementers	<ul style="list-style-type: none"> • Battambang Province (Organizer) • H.E. Prunh Ritha Director and 15 members from DPWT Battambang Province (Organizer) • DRTS Director and 3 members from MPWT • 30 members from Battambang Province Red Cross Youth • 10 members from Battambang Province Police • Deputy Mayor of Battambang City and 30 members from Union of Youth Federations of Cambodia (UYFC) • 2 members from JICA Expert Team 																																																
C. Visitors	Approximately 500 residents of Battambang Province																																																
D. Location	Intersection of Street 207 and 159D in Battambang City (in front of Classy Hotel)																																																
E. Purpose	By organizing the event during the Battambang Water Festival, traffic safety awareness will be raised among many citizens.																																																
F. Main Program	<p>1. Prepared traffic safety goods</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">No.</th> <th style="width: 75%;">Description</th> <th style="width: 20%;">Remarks</th> </tr> </thead> <tbody> <tr><td>1</td><td>Safety helmet</td><td>40 pcs</td></tr> <tr><td>2</td><td>Road safety leaflets</td><td>500 copies</td></tr> <tr><td>3</td><td>Road Traffic safety banners</td><td>6 sheets</td></tr> <tr><td>4</td><td>Traffic sign stickers</td><td>300 pcs</td></tr> <tr><td>5</td><td>Hand fans with traffic signs</td><td>500 pcs</td></tr> <tr><td>6</td><td>3M Reflective tape</td><td>100 pcs</td></tr> <tr><td>7</td><td>Reflective stickers</td><td>200 pcs</td></tr> <tr><td>8</td><td>Notebooks</td><td>100 pcs</td></tr> <tr><td>9</td><td>Road Traffic Law books</td><td>120 pcs</td></tr> <tr><td>10</td><td>Motorcycle books that motorcyclists need to know</td><td>300 pcs</td></tr> <tr><td>11</td><td>Books of Important things that drivers need to know</td><td>300 pcs</td></tr> <tr><td>12</td><td>Batch</td><td>500 pcs</td></tr> <tr><td>13</td><td>Quiz panel</td><td>4 sets</td></tr> <tr><td>14</td><td>Traffic rules app.</td><td>-</td></tr> <tr><td>15</td><td>SNS (Traffic safety video utilizing influencers)</td><td>4 minutes</td></tr> </tbody> </table> <p>*JET provided 500 hand fans, 20 helmets, 200 reflective stickers, and traffic safety awareness videos, and conducted a questionnaire survey and feedback survey</p> <p>2. Awareness raising activities for target groups</p> <ul style="list-style-type: none"> ➤ A video was posted on DPWT and the project team's Facebook page, "Our Road Safety" Telegram ➤ Ques using panels related to traffic rules such as signs, and traffic rules using the "Traffic Rules App" developed by DRTS. <p>3. Visitors' reactions</p> <ul style="list-style-type: none"> ➤ The correct answer rate for questions related to traffic rules was approximately 20% (out of three questions, three were answered correctly). ➤ There was a significant level of interest in the "Traffic Rules App," and students participated in a playful manner; so, the correct answer rate was low. <p>4. Feedback methods</p> <ul style="list-style-type: none"> ➤ Evaluate the effectiveness of the campaign and traffic enforcement measures implemented from 24th to 28th October. ➤ Questionnaire survey of 10 items for prefectural residents who used Facebook ads ➤ Analysis of questionnaire survey 	No.	Description	Remarks	1	Safety helmet	40 pcs	2	Road safety leaflets	500 copies	3	Road Traffic safety banners	6 sheets	4	Traffic sign stickers	300 pcs	5	Hand fans with traffic signs	500 pcs	6	3M Reflective tape	100 pcs	7	Reflective stickers	200 pcs	8	Notebooks	100 pcs	9	Road Traffic Law books	120 pcs	10	Motorcycle books that motorcyclists need to know	300 pcs	11	Books of Important things that drivers need to know	300 pcs	12	Batch	500 pcs	13	Quiz panel	4 sets	14	Traffic rules app.	-	15	SNS (Traffic safety video utilizing influencers)	4 minutes
No.	Description	Remarks																																															
1	Safety helmet	40 pcs																																															
2	Road safety leaflets	500 copies																																															
3	Road Traffic safety banners	6 sheets																																															
4	Traffic sign stickers	300 pcs																																															
5	Hand fans with traffic signs	500 pcs																																															
6	3M Reflective tape	100 pcs																																															
7	Reflective stickers	200 pcs																																															
8	Notebooks	100 pcs																																															
9	Road Traffic Law books	120 pcs																																															
10	Motorcycle books that motorcyclists need to know	300 pcs																																															
11	Books of Important things that drivers need to know	300 pcs																																															
12	Batch	500 pcs																																															
13	Quiz panel	4 sets																																															
14	Traffic rules app.	-																																															
15	SNS (Traffic safety video utilizing influencers)	4 minutes																																															
G. Budget	<p>1. JET : Video production, Facebook advertising, and analysis report creation costs, Printing costs for flyers, banners, etc.</p> <p>2. DPWT (no expense): Exhibition booth provided by the provincial government</p>																																																

	3. MPWT provided necessary materials such as traffic rule book
H. Challenges	<ul style="list-style-type: none"> ✓ Keeping an eye on visitor numbers ✓ Methods for raising safety awareness (many people don't really understand traffic rules) ✓ Need to develop a “Traffic Rules App” for students (they're interested, but don't understand the rules)



3) Campaign in Battambang Province on 24-25 October 2022

A. Target	Road users and residents along National Road No.5 (motorcycle and truck drivers)																																	
B. Organizer and implementers	<ul style="list-style-type: none"> • 10 members from DPWT Battambang Province • 5 members from Battambang Province Red Cross Youth • 2 member from JICA Expert Team 																																	
C. Visitors	Approximately 200 residents of Battambang Province																																	
D. Location	Intersection of Battambang Bypass and National Road 154																																	
E. Purpose	Call for drivers to stop temporarily before entering the intersection from National Road 154, and raise road users' awareness of traffic safety																																	
F. Main Program	<p>1. Prepared traffic safety goods</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Description</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Safety helmet</td> <td>20 pcs</td> </tr> <tr> <td>2</td> <td>Road safety leaflets</td> <td>500 copies</td> </tr> <tr> <td>3</td> <td>Traffic sign stickers</td> <td>300 pcs</td> </tr> <tr> <td>4</td> <td>Hand fans with traffic signs</td> <td>500 pcs</td> </tr> <tr> <td>5</td> <td>Reflective stickers</td> <td>200 pcs</td> </tr> <tr> <td>6</td> <td>Notebooks</td> <td>300 pcs</td> </tr> <tr> <td>7</td> <td>Road Traffic Law books</td> <td>300 pcs</td> </tr> <tr> <td>8</td> <td>Batch</td> <td>300 pcs</td> </tr> <tr> <td>9</td> <td>Quiz panel</td> <td>4 sets</td> </tr> <tr> <td>10</td> <td>Traffic rules app.</td> <td>-</td> </tr> </tbody> </table> <p>*JET provided 500 hand fans, 300 notebooks, 20 helmets, and 200 reflective stickers.</p> <p>2. Awareness raising activities for target groups</p> <ul style="list-style-type: none"> ➢ Ques using panels related to traffic rules such as signs, and traffic rules using the “Traffic Rules App” developed by DRTS. <p>3. Visitors' reactions</p> <ul style="list-style-type: none"> ➢ The correct answer rate for questions related to traffic rules was approximately 30% (out of three questions, three were answered correctly). <p>4. Feedback methods</p> <ul style="list-style-type: none"> ➢ Questionnaire survey of 10 items for prefectural residents who used Facebook ads 	No.	Description	Remarks	1	Safety helmet	20 pcs	2	Road safety leaflets	500 copies	3	Traffic sign stickers	300 pcs	4	Hand fans with traffic signs	500 pcs	5	Reflective stickers	200 pcs	6	Notebooks	300 pcs	7	Road Traffic Law books	300 pcs	8	Batch	300 pcs	9	Quiz panel	4 sets	10	Traffic rules app.	-
No.	Description	Remarks																																
1	Safety helmet	20 pcs																																
2	Road safety leaflets	500 copies																																
3	Traffic sign stickers	300 pcs																																
4	Hand fans with traffic signs	500 pcs																																
5	Reflective stickers	200 pcs																																
6	Notebooks	300 pcs																																
7	Road Traffic Law books	300 pcs																																
8	Batch	300 pcs																																
9	Quiz panel	4 sets																																
10	Traffic rules app.	-																																

5) Campaign in Banteay Meanchey Province on 19 January 2023

A. Target	Road users and residents along National Road No.5 (motorcycle and truck drivers)																								
B. Organizer and implementers	<ul style="list-style-type: none"> • DPWT/Banteay Meanchey Official • Provincial Traffic Police • Red Cross and UYFC student • JICA Expert Team 40 people in total 																								
C. Visitors	Residents of Banteay Meanchey Province																								
D. Location	Near the entrance to the Sisophon Bypass in Banteay Meanchey Province																								
E. Purpose	Distribute flyers to drivers, students, and users of National Road No. 5 to reduce traffic accidents and promote general education on traffic laws.																								
F. Main Program	<p>1. Prepared traffic safety goods</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Description</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Law on Road Traffic</td> <td>60</td> </tr> <tr> <td>2</td> <td>Traffic Manual for Motorbike</td> <td>150</td> </tr> <tr> <td>3</td> <td>Life Protection Pamphlet</td> <td>150</td> </tr> <tr> <td>4</td> <td>Road Safety Reminder</td> <td>150</td> </tr> <tr> <td>5</td> <td>Traffic Safety Reminder</td> <td>400</td> </tr> <tr> <td>6</td> <td>Bundle of Traffic Safety Education Leaflet includes stickers, a notebook, a fan & reflective sticker</td> <td>300</td> </tr> <tr> <td>7</td> <td>Helmet</td> <td>40</td> </tr> </tbody> </table> <p>*DPWT prepared 1 to 5, JET prepared 6 and 7</p> <p>2. Awareness raising activities for target groups</p> <ul style="list-style-type: none"> ➢ BMC Province DPWT conducted a traffic safety quiz for motorcyclists not wearing helmets and presented helmets to those who answered all questions correctly. <p>3. Visitors' reactions</p> <ul style="list-style-type: none"> ➢ The correct answer rate for the traffic safety quiz was approximately 65%. 	No.	Description	Remarks	1	Law on Road Traffic	60	2	Traffic Manual for Motorbike	150	3	Life Protection Pamphlet	150	4	Road Safety Reminder	150	5	Traffic Safety Reminder	400	6	Bundle of Traffic Safety Education Leaflet includes stickers, a notebook, a fan & reflective sticker	300	7	Helmet	40
No.	Description	Remarks																							
1	Law on Road Traffic	60																							
2	Traffic Manual for Motorbike	150																							
3	Life Protection Pamphlet	150																							
4	Road Safety Reminder	150																							
5	Traffic Safety Reminder	400																							
6	Bundle of Traffic Safety Education Leaflet includes stickers, a notebook, a fan & reflective sticker	300																							
7	Helmet	40																							



6) Campaign in Battambang Province on 20 March 2023

A. Target	Road users and residents along National Road No.5 (motorcycle and truck drivers)																									
B. Organizer and implementers	<ul style="list-style-type: none"> • DPWT/Battambang Official • Provincial Traffic Police • JICA Expert Team 40 people in total 																									
C. Visitors	Residents of Battambang Province																									
D. Location	Battambang Bypass No. 3 Intersection																									
E. Purpose	Instructions regarding stop sign violations and helmet wearing																									
F. Main Program	<p>1. Prepared traffic safety goods</p> <table border="1"> <thead> <tr> <th>No.</th> <th>Description</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Law on Road Traffic</td> <td>100</td> </tr> <tr> <td>2</td> <td>Traffic Manual for Motorbike</td> <td>150</td> </tr> <tr> <td>3</td> <td>Life Protection Pamphlet</td> <td>150</td> </tr> <tr> <td>4</td> <td>Road Safety Reminder</td> <td>150</td> </tr> <tr> <td>5</td> <td>Traffic Safety Reminder</td> <td>400</td> </tr> <tr> <td>6</td> <td>Bundle of Traffic Safety Education Leaflet includes sticker, notebook, fan & Reflective Stickers</td> <td>300</td> </tr> <tr> <td>7</td> <td>Safety helmet</td> <td>20</td> </tr> </tbody> </table> <p>*DPWT prepared 1 to 5, JET prepared 6 and 7</p> <p>2. Awareness raising activities for target groups</p> <ul style="list-style-type: none"> ➢ Distributed traffic safety leaflets to drivers, students, and users of National Road No.5 and conducted a campaign. ➢ Motorcyclists not wearing helmets were asked traffic safety questions, and those who answered all three questions correctly were presented with helmets. <p>3. Visitors' reactions</p> <ul style="list-style-type: none"> ➢ The quiz was conducted using the “Driving Rule 2” app developed by DPWT, and the correct answer rate was approximately 65%. 		No.	Description	Remarks	1	Law on Road Traffic	100	2	Traffic Manual for Motorbike	150	3	Life Protection Pamphlet	150	4	Road Safety Reminder	150	5	Traffic Safety Reminder	400	6	Bundle of Traffic Safety Education Leaflet includes sticker, notebook, fan & Reflective Stickers	300	7	Safety helmet	20
No.	Description	Remarks																								
1	Law on Road Traffic	100																								
2	Traffic Manual for Motorbike	150																								
3	Life Protection Pamphlet	150																								
4	Road Safety Reminder	150																								
5	Traffic Safety Reminder	400																								
6	Bundle of Traffic Safety Education Leaflet includes sticker, notebook, fan & Reflective Stickers	300																								
7	Safety helmet	20																								



7) Campaign in Battambang Province on 21 March 2023

After the seminar reporting on the first year of activities held in Battambang Province, a walking rally was held in central Battambang Province to promote traffic safety. The seminar and walking rally were reported by the media (CNC TV, Bayon TV, and Fresh News) and the activities were broadcast on television and in the news.



Source: JET

Figure 7.3.29 Traffic Safety March in Battambang Province

8) Campaign in Kampong Chhnang Province on 13 June 2023

A. Target	Road users and residents along National Road No.5 (motorcycle and truck drivers)																								
B. Organizer and implementers	<ul style="list-style-type: none"> • MOI • DPWT/KCH • Provincial Traffic Police • Japan Eye Hospital • JICA Expert Team 50 people in total 																								
C. Visitors	Residents of Kampong Chhnang Province																								
D. Location	Intersection of KCH bypass and National Road 53																								
E. Purpose	Instructions regarding stop sign violations and helmet wearing																								
F. Main Program	<p>1. Prepared traffic safety goods</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">No.</th> <th style="width: 75%;">Description</th> <th style="width: 20%;">Remarks</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Law on Road Traffic</td> <td>200</td> </tr> <tr> <td>2</td> <td>Traffic Manual for Motorbike</td> <td>200</td> </tr> <tr> <td>3</td> <td>Life Protection Pamphlet</td> <td>200</td> </tr> <tr> <td>4</td> <td>Road Safety Reminder</td> <td>200</td> </tr> <tr> <td>5</td> <td>Traffic Safety Reminder</td> <td>200</td> </tr> <tr> <td>6</td> <td>Bundle of Traffic Safety Education Leaflet includes sticker, notebook, fan & Reflective Stickers</td> <td>200</td> </tr> <tr> <td>7</td> <td>Safety helmet</td> <td>20</td> </tr> </tbody> </table> <p>*DPWT prepared 1 to 5, JET prepared 6 and 7</p> <p>2. Awareness raising activities for target groups</p> <ul style="list-style-type: none"> ➢ Distributed traffic safety leaflets to drivers, students, and users of National Road No.5 and conducted a campaign. ➢ Motorcyclists not wearing helmets were asked traffic safety questions, and those who answered all three questions correctly were presented with helmets. ➢ Vision tests were conducted with the cooperation of a private company (Japan Eye Hospital). It was an experimental trial to investigate whether there was a correlation between vision and traffic violations, but no clear relationship could be verified. <p>3. Visitors' reactions</p>	No.	Description	Remarks	1	Law on Road Traffic	200	2	Traffic Manual for Motorbike	200	3	Life Protection Pamphlet	200	4	Road Safety Reminder	200	5	Traffic Safety Reminder	200	6	Bundle of Traffic Safety Education Leaflet includes sticker, notebook, fan & Reflective Stickers	200	7	Safety helmet	20
No.	Description	Remarks																							
1	Law on Road Traffic	200																							
2	Traffic Manual for Motorbike	200																							
3	Life Protection Pamphlet	200																							
4	Road Safety Reminder	200																							
5	Traffic Safety Reminder	200																							
6	Bundle of Traffic Safety Education Leaflet includes sticker, notebook, fan & Reflective Stickers	200																							
7	Safety helmet	20																							

	<p>➤ The quiz was conducted by DPWT, and the correct answer rate was about 60%.</p>
	
	
	

9) Campaign in Battambang Province on 28-29 October 2023

At the Battambang Water Festival, DPWT set up a traffic safety booth and conducted a campaign. JET provided DPWT with traffic safety leaflets, notebooks (100 copies each), character stickers, and helmets.

10) Campaign in Kampong Chhnang Province on 20 March 2024

On 20 March 2024, a workshop was held at Bun Rany Hun Sen Rolea Bie High School and Secondary School in Kampong Chhnang Province, where a quiz and a pilot program on road crossing were conducted for students. The program is outlined below. Additionally, the workshop and seminar were broadcast on multiple media outlets (MYFM News, TVK, CNC) on the same day.

Table 7.3.13 Schedule of Workshop in Kampong Chhnang Province
Morning Workshops at Bun Rany Hun Sen Rolea Bier High School and
Secondary School (South)

For March 20, 2024 (Morning Program)

Agenda

Time	Process	Responsible
09 : 00 – 9:30 AM	Arrival of the Guests and Distinguished Guests	The team
09 : 30 – 9 : 35	Respect the National Anthem of the Kingdom of Cambodia	The team
09 : 35 – 9:40	Principal Welcome	Principal
09 : 40 – 9:45	Opening Remark of JICA	JET
09 : 45 – 9:55	Remark of H.E Min Manvy Secretary of State	H.E Secretary of State
09 : 55 – 9:50	Introducing game and game activities: <ul style="list-style-type: none"> ➢ About 90 to 100 students are required to attend the auditorium. ➢ Answer all the questions for all the students (there are 10 questions, from easy to difficult questions). ➢ Those who have answered incorrect will move aside and the remaining students will be rewarded, while those who do not answer correctly will receive a notebook. 	Road Safety Team (DRTS)
09 : 50– 10: 20	Cross-Road pilot (road use): <ul style="list-style-type: none"> ➢ The number of road traffic police officers needed is 4. ➢ Facilitate traffic for students leaving the school (especially 100 students) who are ready to cross the road. ➢ Using Road Barricades for Traffic Safety and explaining to students how to cross the road safely before crossing. 	Road Traffic Police
10 : 20 – 10 : 30 AM	End of program	

Source: JET





Source: JET

Figure 7.3.30 Workshop and Media Report Scenes

11) Campaign in Kampong Chhnang Province on 20 September 2024

In line with the implementation of the School Zone Pilot Project, on 20 September 2024, a campaign was conducted at Andong Snay Primary School, combining a “Knowledge Sharing Campaign” in which fifth-grade students who had participated in the lessons shared their knowledge with other grades, and public relations activities involving the media. The overview is as follows.

Table 7.3.14 Program for the Knowledge Sharing Campaign in Kampong Chhnang Province

Time	Content	Responsibility
13:30-14:00	Observation of the Watching over activity	All participants
14:00-14:15	Opening remarks	<ul style="list-style-type: none"> - Mr. Takagi Michimasa, Project team leader - His Excellency, Provincial Governor of Kampong Chhang Province - Ms. MIURA Yoshiko, Senior Representative, JICA Cambodia Office - Her Excellency. Min Meanvy, Secretary of State, Ministry of Public Works and Transport (MPWT)
14:15-14:30	Explanation of Pilot Project activity using a short movie	Mr. PRUM Vantha, Director of Road Traffic Safety Department, MPWT

14:30-14:45	Comments from School Principal, Student and Parent	<ul style="list-style-type: none"> - School Principal - Grade 5 student - Parent conducted watching over activity
14:45-15:00	Hand-over campaign material*	From H.E. Min Meanvy to School Principal
15:00- 15:30	Observation of Knowledge Sharing Campaign	Grade 5 Students, other grades students

Source: JET



Source: JET

Figure 7.3.31 Knowledge Sharing Campaign

7.3.5 Develop a Draft of Medium Long-Term Strategic Plan for Road Safety

In this project, the JICA expert team and the IATSS research team collaborated in the activity (Outcome 4: Behavior Change) to develop a behavior change program based on a psychological approach implemented as a pilot activity. Long-term and continuous efforts are needed to spread awareness of road safety among the Cambodian people by utilizing the scheme established in the project, and to lead to behavioral change among the people.

To sustain road safety education over a long period, developing the necessary human resources and establishing a mechanism, including a system, is essential. Given the limited budget of the Cambodian government for road safety, it is desirable to utilize external resources through collaboration with the private sector, etc. However, the counterparts do not

have sufficient experience and know-how in this area.

In view of the above situation, it is necessary to examine ways to link with the private sector for traffic safety education and clarify guidelines for continuing traffic safety education to realize the sustainability of activities after the completion of this project and to expand the activities in all areas.

As described in Activity 4-1 (Policy Consideration), the Ministry of Public Works and Transport (MPWT) and the Ministry of Education (MoEYS) of Cambodia have set as a priority the strengthening of road safety education at schools and the development of education using traffic parks built in schools.

Based on these policies, a “Draft Medium- and Long-term Plan for Road Safety” was compiled for road safety education in Cambodia.

Table 7.3.15 Table of Contents of the Draft Medium- to Long-Term Traffic Safety Plan

Draft of Medium Long-term Strategic Plan for Road Safety Table of Content	
1	Introduction
1.1	Purpose of Traffic Accident Analysis
2	Current Situation of Road Traffic Education
2.1	Overview of Traffic Accidents and Traffic Safety Education in Schools
2.2	Organizations related to traffic safety education
2.3	Survey results on "driving knowledge and awareness of driving behavior" and "traffic laws"
2.4	Survey Results on Junior High School Students' Traffic Accident Experiences
2.5	Challenges
3	Industry-Government-Academia Collaboration
4	Proposed Target-Specific Approach to Traffic Safety Education
5	Promotion of traffic safety education in school zones centered on schools
6	Promotion of traffic safety education using traffic parks
6.1	Background
6.2	Methodology of Traffic Safety Education Using Traffic Parks
6.3	Implementation Structure

Source: JET

7.3.6 Conduct a Seminar on Public-Private Partnerships in Traffic Safety Education

The seminar on cross-sectoral collaboration on road safety education was held on 19 March 2025. Following the opening remarks by the MPWT, Professor Kitamura, JET member and member of the IATSS research team, delivered a keynote speech, followed by a report on the project results and presentations by the vice principal of Andong Snay Primary School, a pilot school for WG4, and other project stakeholders from MOI and MoEYS. Based on the presentations from various institutions, a panel discussion was held with representatives from government agencies including MPWT, MoEYS, and MOI, as well as Ms. Omuoy, a member of LoTA, Mr. Kobayashi, President of Minami Cambodia, Professor Nakamura from the

IATSS Research Team, and Mr. Ito from JET. The discussion focused on challenges related to cross-sectoral collaboration for the promotion of road safety education.



Source: JET

Figure 7.3.32 Seminar on Cross-Sectoral Collaboration on Road Safety Education

7.4 Future Issues

In order to sustain traffic safety education over a long period of time and encourage people to change their behavior toward traffic safety, it is necessary to develop human resources and mechanisms, including systems. Future issues to be addressed are as follows

- Road safety is taught as a part of moral education in schools, but there is not enough time to teach it to students. MPWT and MoEYS need to collaborate to secure time for education and to implement the behavior change program developed in this project continuously.
- Given the limited dissemination of traffic safety awareness in the community, more support needs to be provided to ensure that students are safe on the roads in school zones. In addition, efforts such as organizing PTAs and conducting traffic safety education in school zones, as was done in the pilot project, need to be expanded to the local community.
- The textbooks (Behavior Change Textbook and Traffic Rule Textbook) and manuals created by the project need to be improved to make their contents more user-friendly, and activities for their dissemination must be continued.
- The Cambodian government has a limited budget for road safety, and it is desirable to utilize external resources for road safety education in cooperation with the private sector.
- Collaborate and cooperate with relevant partners in the promotion of traffic safety education using traffic safety parks as a place to practice traffic safety.

8. Project Review

8.1 Objectives

The objectives of the project review are as follows:

- to review project outputs and achievements based on the PDM,
- to understand the positive and negative factors which affected the implementation,
- to extract lessons that can be applied to other projects, and
- to clarify action plans by the Cambodian counterparts to achieve the overall goal of the Project after its completion.

8.2 Outputs and Achievements

8.2.1 Evaluation Indicators for Each Output

Output 1: The capacity of the relevant organizations for research & analysis for road safety is improved.

Indicator 1-1: Trainings on both accident investigation and investigation analysis will be conducted more than three times for each.

Three sets of the training in accident investigation and investigation analysis for Provincial Police were conducted in Battambang, Kampong Chhnang, and Pursat provinces. Training in accident analysis for the DRTS was conducted five times in total by introducing Japan's traffic accident macro analysis. As an advanced training, more than 35 sessions of the training in cross-tabulation analysis were also conducted.

Indicator 1-2: Manual on both accident investigation and investigation analysis will be prepared.

Accident Investigation Manual was prepared based on the investigation practices in Japan. The contents of the Manual will be incorporated into the existing manual by MOI. Traffic Accident Analysis Manual was also prepared based on the traffic analysis statistics published in Japan and other countries.

Indicator 1-3: Accident report will be issued more than once a year.

The accident report of 2021 was issued, the report of 2022 was under the review from NRSC, and DRTS prepares the report of 2023.

Indicator 1-4: White paper on traffic safety will be published once a year.

Necessity of periodical publication of the report on the status and evaluation of traffic safety measures in Cambodia was recognized through project activities. It is expected that this increased awareness will lead to the publication of the white paper on traffic safety.

Indicator 1-5: Self evaluation of the officers in the relevant organizations on accident investigation capacity will be improved more than 20%.

A questionnaire survey on the self-evaluation on accident investigation of MOI and Provincial Police was conducted. The result shows that more than 60% of the management class and 50% of the non-management class dramatically improved their knowledge and abilities related to accident investigation through project activities.

Indicator 1-6: Self evaluation of the officers in the relevant organizations on accident analysis and plan formulation capacity will be improved more than 20%.

A questionnaire survey on the self-evaluation on accident analysis and plan formulation of DRTS was conducted. Results show that more than 20% of DRTS staff significantly improved their ability on each topic related to accident analysis such as crosstabulation analysis, motorbike and speeding accident analysis.

Output 2: The capacity of the relevant organizations for road safety engineering is improved through activities in the pilot area on the National Road No.5

Indicator 2-1: Road safety assessment (RSA) will be conducted more than three times.

Road Safety Assessment (RSA), containing site survey, preparation of RSA report and RSA meetings was conducted in Battambang, Kampong Chhnang and Pursat Provinces respectively.

Indicator 2-2: Manual for RSA and manual for road safety facility measures will be prepared.

The RSA manual and the Road Traffic Safety Guidebook (road safety facility manual) were prepared based on the results of the project activities. The RSA manual is expected to be used by road administrators to conduct RSA, while the Road Traffic Safety Guidebook is for highway engineers and traffic experts to plan, design, and operate highways.

Indicator 2-3: Based on RSA, traffic safety facility measures will be implemented in more than two places.

Based on the RSA report prepared in the first and second year of this JICA project, traffic safety measures were implemented in two places in Battambang and Kampong Chhnang provinces.

Indicator 2-4: Self evaluation of the officers in the relevant organizations on road safety capacity will be improved more than 20%.

A questionnaire survey on the self-evaluation on road safety of RID was conducted. The result shows that about 50% of the respondents significantly improved overall implementation capacity, and around or more than 30% of them significantly improved each skill related to traffic safety engineering such as black spot identification and planning of road traffic safety measures.

Output 3: The capacity of the relevant organizations for traffic enforcement is improved through activities in the pilot area on the National Road No.5

Indicator 3-1: Violated driving behaviors will be reduced more than 30%.

The number of vehicles exceeding 80 km/h, which was targeted as a violative behavior, at the intersection of NR5 and bypass 53 in Kampong Chhnang Province decreased by 45% by strengthening enforcement.

Indicator 3-2: Traffic enforcement manual will be prepared.

A traffic enforcement manual was prepared based on the trainings in traffic enforcement in Kampong Chhnang and Pursat Provinces.

Indicator 3-3: Self evaluation of the officers in the relevant organizations on traffic enforcement capacity will be improved more than 20%.

A questionnaire survey on the self-evaluation on traffic enforcement of MOI and Provincial Police was conducted. The result shows that the knowledge and abilities in traffic enforcement of more than 40% of police managers and frontline police officers dramatically improved through project activities.

Output 4: The capacity of the relevant organizations for the promotion of the safe behavioral manners for road traffic is improved through activities in the pilot area on the National Road No.5

Indicator 4-1: Basic principles on traffic safety education revision will be examined and agreed.

Through discussions at the seminar and LoTA, the status of traffic safety education, priority issues, and policies for addressing the problems were confirmed.

Indicator 4-2: Manual for behavioral change on traffic safety behaviors will be prepared.

The Behavioral Change Textbook and Road Traffic Safety Knowledge Textbook were prepared. A manual on behavioral change to promote traffic safety at school zones and guidelines for behavioral change to promote traffic safety in factories were prepared, based on the insights gained from pilot projects.

Indicator 4-3: Pilot projects on behavioral change will be implemented more than three times.

Pilot projects on behavioral change were implemented five times at schools in Battambang, Kampong Chhnang and Pursat provinces and a factory in Kampong Chhnang province.

Indicator 4-4: Motorcycle users' helmet-wearing rate will increase by 20%, and pedestrian crossing use rate when crossing the street will increase by 20%.

A questionnaire survey results show that helmet wearing rates among high school students who commute by motorcycle and participated in the pilot project, targeted grade 10 students in Hun Sen KrarKor High School in Pursat province and was held in February 2025, increased by 30%. After the installation of pedestrian crossing in front of Andong Snay Primary School, pedestrian crossing rate is increased from 0% to 99%.

Indicator 4-5: Supporting traffic safety campaigns more than three times.

Project team supported traffic safety campaigns along NR5 seven times in total, in Battambang, Kampong Chhnang, and Banteay Meanchey Provinces, along with police enforcement activities and events such as the Cambodian Water Festival and Khmer New Year.

Indicator 4-6: Traffic safety activity in the pilot area will be conducted in cooperation with private sector.

In Kampong Chhnang Province, training local traffic leaders in traffic safety was conducted in collaboration with the Minami Driving School.

Indicator 4-7: Draft of medium long-term strategic plan for road traffic safety will be prepared.

The draft of a medium- to long-term strategic plan on road safety was prepared.

Indicator 4-8: Seminar containing knowledge sharing from private companies will be held.

The Seminar for Cross-Sectoral Collaboration on Road Safety Education was held on 19 March 2025 in collaboration with the private sector.

8.2.2 Evaluation Indicator for the Project Purpose

Project Purpose: The number of fatalities due to traffic accidents on the National Road No.5 will decrease

Indicator: The number of traffic accident fatality on National Road No. 5 will be reduced by 25% in 2024 in comparison with 2019.

The number of traffic accident fatalities on NR5, the target area of the project, in 2024 was 122, a 22% decrease from 156 in 2019. The target of 25% reduction was not achieved. However, when compared to the national average in Cambodia from 2020 to 2022, this figure was still higher. Therefore, once the national fatality figures for 2024 are available, it will be necessary to compare again the national average and the NR5 figure.

Table 8.2.1 Number of Traffic Accident Fatalities on NR5, 2019-2024

Year	NR5		Nationwide	
	The number of traffic accident fatalities	Decrease ratio compared to 2019	The number of traffic accident fatalities	Decrease ratio compared to 2019
2019	157	—	2152	—
2020	103	34%	1794	17%
2021	66	58%	1749	19%
2022	90	43%	1736	19%
2023	116	26%	1622	25%
2024	122	22%	-	-

Source: RCVIS

8.3 Overall Goal

The overall goals of this JICA project are: “The number of vehicles in the target area will be increased,” and “The vehicle travel time in the target area will be reduced”.

This technical cooperation project was implemented to support the JICA loan project "National Road No.5 Improvement Project (Battambang–Sri Sophorn Section), (Thlea Ma’am–Battambang and Sri Sophorn Section) and (Prek Kdam Thlea Ma’am Section)." The indicators for the overall goals defined in the JICA loan projects above were utilized. The overall goals will be evaluated through a post evaluation to be conducted three years after the completion of the project, but the status is presented here.

As for traffic volume, Table 8.3.1 shows that 14-hour traffic volumes in Battambang Province has increased between 2022 and 2025. Regarding the travel time from Phnom Penh to

Battambang Province, which is about 300 km, it has decreased from about 7 hours at the beginning of the loan project to about 5 hours.

Table 8.3.1 Traffic Volume in Battambang Province

Location	Baseline Survey (2022)	Endline Survey (2025)	Increase ratio
BTB Bypass	3,213	5,875	+ 83%
BTB City	21,692	22,736	+ 5%
Ou Taki	13,863	19,158	+ 38%
BTB-BMC Border	9,109	13,419	+ 47%

* Traffic volume between 6am to 8pm (14 hours).

Source: JET

8.4 Ingenuity, Challenges, and Lessons Learned

8.4.1 Ingenuity

(3) Collaboration with Various Stakeholders

The project engaged with various stakeholders, including several Cambodian government ministries (MPWT, MoI, MoEYS), academia (IATSS, Royal University of Phnom Penh), and the private sector (Minami Driving School) to solve challenges. In addition, for Outcome 4 (behavior change) activities, PTAs (parents, teachers, local police, etc.) were organized to directly approach the local community.

(4) Approach to High-Level Officials

Through H.E. Min Meanvy, JCC Chair and Project Director, the Minister of MPWT, H.E. Peng Ponea, was also involved in the project. A project briefing session was held for the Minister on 25 February 2025, and the Minister attended a seminar on 19 March 2025. The following positive effects are expected as a result of high-ranking officials such as the Minister understanding the importance of JICA projects and road safety:

- Road traffic safety policy priorities will be improved, and the implementation of legal and budgetary measures will be facilitated.
- Coordination among relevant ministries and agencies will be improved to enable comprehensive planning and implementation of measures.
- Media attention and public interest will be stimulated, leading to greater public awareness of traffic safety.
- Officials from the ministry, related agencies, and local government will be motivated to promote road traffic safety policies.
- The promotion of long-term, structural institutional reforms, rather than short-term results, will become achievable.

(5) Implement Project Activities with a Strong Emphasis on Ensuring Their Sustainability after the Completion of the JICA project

To sustain traffic safety measures in Cambodia after the project's completion, relevant factors were considered in promoting activities under each outcome.

- The PDCA cycle for each outcome: In particular, the importance of evaluating the effectiveness of the measures to be implemented, as well as the methods for their verification, was communicated to the participants.
- Establishment of an implementation system for each outcome: For Outcome 4 (Behavioral change), a Local Technical Advisory (LoTA) Team was established, comprising representatives from government, academia, and private consultants, thereby laying the foundation for industry-government-academia collaboration.
- Preparation of various manuals for each outcome: A total of seven manuals/guidelines were developed in Khmer, including the Accident Analysis Guideline and the Enforcement Manual.

(6) Promotion of Horizontal Deployment of Transferred Technologies

The technologies transferred through this project are not confined to a specific region or organization but are intended for deployment across other regions and institutions, thereby maximizing the project's overall impact. This horizontal deployment approach is expected to enhance both the utilization and sustainability of the transferred technologies, ultimately strengthening traffic safety measures throughout Cambodia and contributing to a reduction in traffic accidents. In this context, the JET consistently worked to raise awareness among the counterparts. As a result, the following points were confirmed during the final JCC meeting of the project.

- The RSA approach, road construction techniques, and effectiveness measurement methods transferred under Outcome 2 have been applied to other routes, such as National Road No. 3 and National Road No. 57.
- Based on the technology transfer under Outcome 3, the MOI has been training local police in 20 provinces on how to conduct speeding enforcement at intersections and safely stop vehicles.
- The behavior change program in school zones - including traffic safety classroom activities and watch-over activities by the PTA - implemented under Outcome 4, has been disseminated to schools along NR5 through the pilot schools.

8.4.2 Challenges

(1) Securing Funding for Traffic Safety

Securing a budget from relevant ministries and agencies is essential for the sustainable

implementation on traffic safety measures in Cambodia. To achieve this, each ministry and agency must allocate the necessary funds annually and plan for continuous investment in the traffic safety sector. Furthermore, given the constraints of limited budgets, it is important to quantify and demonstrate the effectiveness of implemented measures to ensure policy impact. In line with these objectives, this project transferred technology for evaluating effectiveness. Additionally, diversifying funding sources is necessary, including mechanisms to leverage the private sector's potential, as well as the establishment of institutional frameworks to allocate tax revenues and fines collected from traffic violations toward traffic safety initiatives.

8.4.3 Lessons Learned

(1) Road Design

Based on the insights obtained from the project (outlined below), it is essential to integrate traffic safety considerations into the early planning stage of road design. In particular, flexible designs that accommodate local traffic conditions - such as mixed vehicle types, pedestrian safety, and access control – are crucial.

- On roads with a speed limit of 90 km/h, large vehicles travelling at high speeds coexist with motorcycles and tractors travelling at low speeds. Therefore, it is necessary to consider implementing access control and evaluate the feasibility of installing side roads based on traffic volume and the usage patterns of roadside facilities.
- Due to the high volume of motorcycles traveling in the opposite direction, flexible planning and design tailored to local traffic conditions are necessary, including installation of safe U-turn area and dedicated motorcycle lanes.
- In areas with high pedestrian traffic, such as near schools and markets, waiting space for pedestrians is often insufficient. Therefore, measures like reducing pedestrian crossing distances by compacting intersections and providing waiting areas in road medians are expected to be effective.

(2) Evidence-Based Policy Making

Effective traffic safety measures require the formulation and evaluation of policies grounded in objective evidence, such as accident and traffic flow data. While this project has transferred effective assessment methods, it remains necessary to continue developing policy cycles that utilize these data.

(3) Capacity Building for Local Government and Field Staff

The primary counterparts for this project were national-level entities such as MPWT, MOI, and MoEYS. As the implementation of traffic safety measures expands from central to local levels, there is an ongoing need for human resource development and institutional support at the provincial level. Especially, capacity building for police officers, education officials, and local government personnel responsible for field activities is essential.

8.5 Conclusion

Based on the knowledge and experience gained through the project, JET encourages the Cambodian government to take the lead in advancing traffic safety and proposes several recommendations for future action.

JET also hopes that NR5 will become a model on road safety in Cambodia, as stated by the MPWT, and that traffic safety will be ensured on all national roads in Cambodia.

(1) Capacity Building of Local Organizations

As road safety measures need to be designed to meet local traffic conditions and land use along the roads, local organizations and residents who are familiar with these conditions need to play a central role in such undertaking. Although this technical cooperation project focused on technology transfer to the MPWT, MOI, MoEYS, and other central government agencies, JET hopes that the counterparts in this project will take the lead in building the capacity of local organizations to further strengthen road safety measures.

(2) Accumulation of Efforts Year by Year

Cambodia has a 10-year road safety plan. However, road safety cannot be achieved through one-time measures alone; it requires continuous, sustained efforts. Therefore, it is essential to plan and implement activities on an annual basis while reviewing the progress and outcomes each year to ensure steady advancement toward long-term goals.

(3) NR5 Traffic Safety Committee

Although road safety measures are mainly implemented by organizations and residents along the subject roads, there is a need for interregional cooperation to make the implementation more effective. Toward this end, JET proposes that National Road No.5 Road Safety Committee be established to monitor road safety on this road through regional cooperation and to take appropriate actions to make NR5 a model route for traffic safety.

(4) Cooperation with the Private Sector and Automobile Industry

Road safety measures are not the sole responsibility of the government; it should be shouldered by all, including road users and the automobile industry. JET further hopes that Japanese companies with various businesses in Cambodia will also participate in traffic safety activities.

