

Post Disaster Needs Assessment Guidelines

Road Sector in Cambodia

TRANSPORT



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This guidance has been prepared by independent consultant Dr. Prerna Singh, under the overall supervision and technical guidance of Ms. Rita Missal, UNDP Recovery Advisor a.i., Ms. Joana Sampainho, UNDP's Recovery Analyst, Mr. Sovanny Chhum, UNDP Cambodia Program Analyst, and in close collaboration with Mr. Sophal SAM, the National Project Coordinator in Cambodia.

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List of Acronyms

ADB	Asian Development Bank
CamDi	Cambodia Disaster Damage and Loss Database
CCDM	Commune Committee for Disaster Management
DCDM	District Committee for Disaster Management
DRF	Disaster Recovery Framework
DRR	Disaster Response and Recovery
EU	European Union
GFDRR	Global Facility for Disaster Reduction and Recovery
HRF	Humanitarian Response Forum
IRI	International Roughness Index
LDC	Least Developed Countries
MEF	Ministry of Economy and Finance
MoE	Ministry of Environment
MoWRAM	Ministry of Water Resources and Meteorology
MPWT	Ministry of Public Works and Transport
MRD	Ministry of Rural Development
NCDM	National Committee for Disaster Management
NGO	Non-Governmental Organization
PCDM	Provincial Committee for Disaster Management
PDNA	Post Disaster Needs Assessment
PSR	Present Serviceability Rating
RGC	Royal Government of Cambodia
UNDG	United Nations Development Group
UNDP	United Nations Development Program
WB	World Bank

1

Introduction and Background

The post-disaster setting is a complex and demanding environment, which needs a fast-paced response for assessing immediate needs and providing life-saving relief while also assessing the damages and losses and effectively planning for recovery to ensure a sustainable development process where risk reduction in the face of disasters is explicitly considered. In the past, such assessment and recovery planning have been conducted in silos by various individuals, public agencies, and humanitarian donor groups. This creates duplicated parallel efforts with varied scope and rigor, thereby utilizing more resources with less streamlined outcomes.

With the need for a quick and efficient response after a disaster, a comprehensive and streamlined strategy across all relevant stakeholders for post-disaster needs assessment is critical.

Understanding this need, in 2008, the European Union (EU), the World Bank (WB), and the United Nations Development Group (UNDG) agreed to mobilize member institutions and resources to harmonize post-disaster assessment methods to better support governments and affected populations with a coordinated approach. This agreement led to the establishment of PDNA (Post-disaster Needs Assessment) procedural and technical guidelines and the Disaster Recovery Framework (DRF) guide, officially launched at the Sendai Third World Conference on DRR on 14 March 2015. This is part of the systematic approach to developing global stakeholder consensus on PDNA and DRF, particularly for regions most vulnerable to disaster impacts. (GFDRR, 2013).

PDNA is a government-led exercise that estimates post-disaster damage and losses across all sectors of the economy as well as the recovery, relief, reconstruction, and risk management needs. PDNA also provides guidance to the government and international donor community on the country's short, medium, and long-term recovery priorities (Khim, 2020). It serves as a common action-oriented platform for analysis within and across sectors. It provides a comprehensive picture of post-disaster conditions and the distinct needs and priorities of different sectors, social- and sub-groups. PDNA is jointly developed and promoted by the WB, EU, and UN systems and agencies. GFDRR hosts general guidance on the PDNA process, where the PDNA Guidelines Volume A (GFDRR, 2013) covers the general methodology, and the Volume B (GFDRR, 2014) has guidelines focused on various specific sectors. This guidance uses the Volume B general guidelines for the road sector as the base to develop Cambodia's context specific road sector guidelines for PDNA.

The key objective of a PDNA is to provide an empirical basis for evaluating the effects and impacts of the disaster and identifying the post disaster recovery and reconstruction needs. This informs the donors, national and international, to support post disaster recovery. The Disaster Recovery Framework (DRF), which is developed following a PDNA, uses the needs identified in the PDNA process to identify realistic measures and streamline the available resources to facilitate the recovery process through a 'build back better' approach and manage the identified needs. The DRF goes into further details on the recovery measures that reduce future risk and vulnerability and their implementation and focuses on the financial resources available for recovery.

The Assessment and Recovery Strategy developed during the PDNA is completed in a relatively short period and hence requires more comprehensive proactive planning, particularly in the case of large-scale disasters. As the general PDNA guidelines cater to a broad range of countries, the difference in institutional, cultural, and infrastructural systems across different countries presents a challenge to apply the guidelines. To bridge the gap, this guidance presents one of the country and sector-specific guidelines for PDNA and Disaster Recovery, derived from the general guidelines and contextualized for Cambodia's road sector. The guidance can be used by the government officials of Cambodia focused on disaster management and the road sector officials to collaboratively conduct comprehensive post-disaster needs assessments.

2

Context

Cambodia’s disaster profile includes floods, storms, fire, drought, and lightning, as indicated by the distribution of disaster events since 1996 (figure 2), with floods causing the most direct and indirect damages (figure 1) (UNDP, 2022).

About 80 percent of Cambodia’s territory lies within the Mekong River and Tonle Sap Basin, known to have large fluctuations of water levels between the dry and wet seasons, causing an annual cycle of droughts and floods. Damage related to the October 2013 flooding alone, caused by heavy rain and the seasonal swelling of the Mekong River, is estimated at \$356 million and has affected 20 out of 24 provinces and 1.7 million people; 297,600 hectares of rice paddies were inundated, and more than 28,100 hectares of rice were immediately destroyed. Recovery from such events puts strain on the least developed countries (LDC’s) limited resources and forces shifts in development priorities - hindering Cambodia’s ability to progress and achieve its development goals.

Roads are Cambodia’s largest sub-sector, with a total road length of more than 61,000 kilometers. Roads are also one of the most affected by disasters, especially floods. Data from the Cambodia Disaster Damage and Loss Database (CamDi) shows that from 2000 to 2014, a combined length of 10,191 km of roads has been submerged in floods or rainwater, 47 percent of which were damaged, and 21 percent were destroyed.

Typhoon Ketsana in 2009 caused damage to road networks in 18 provinces in Cambodia, in particular 48.5 km (0.92% of total length) of national and urban roads, 38.2 km (0.59% of total length) of provincial roads, and 543 km (1.94% of total length) of rural roads estimated at \$14.38 million. Losses amounting to \$11.07 million were primarily attributed to higher vehicle operating costs and longer freight and passenger travel times associated with worsened road conditions. In 2011, floods affected 18 out of 24 provinces in Cambodia, with 363 km of national and provincial roads, 4,470 km of rural roads, and 177 bridges and culverts (equivalent to 562 km) damaged. Damage was estimated to be about eight times higher at \$328.6 million and loss doubled (\$23.3 million) than Typhoon Retsina in 2009.

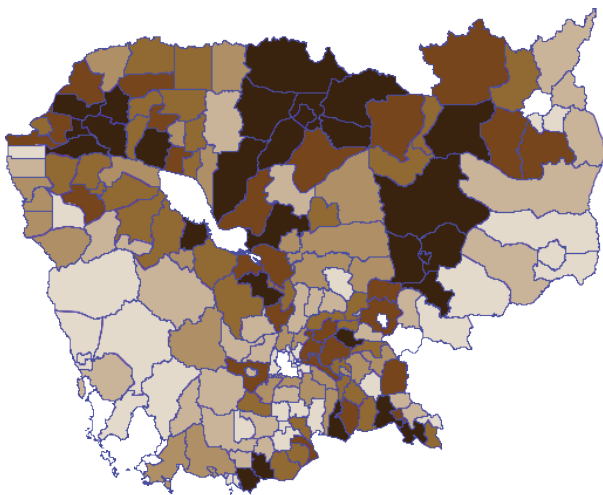


Figure 1: Cambodia flood count by province since 1960.

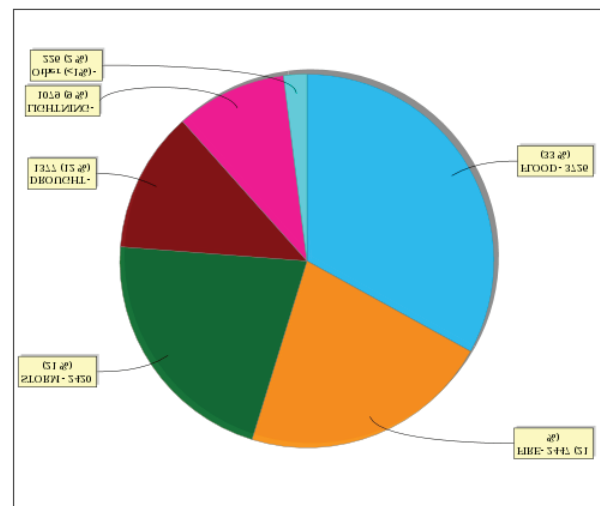


Figure 2: Cambodia disaster count by type since 1960.

Conducting PDNAs, being a multi-stakeholder led process, reduces duplication and harmonizes assessment efforts, which is a critical need in the aftermath of a disaster. It also serves as a tool for planning and programming recovery and resource mobilization. For Cambodia, the PDNA conducted after Typhoon Ketsana was instrumental in highlighting the key gaps in the then-existing disaster recovery approach of Cambodia and established a setup for streamlined reconstruction and recovery efforts. The assessment of damage and loss in various sectors of Cambodia highlighted which sectors to be prioritized in the disaster recovery framework and how to streamline the short, medium, and long-term needs of recovery that align with Cambodia’s overall growth directions. The PDNA also highlighted the need for a structured process of data collection and management for assessing damages and losses and for capacity building of the line ministries such as MPWT & MRD, and national and sub-national committees of disaster management such as NCDM, PCDMs, and CCDMs to facilitate their participation in the recovery process. Assessment of previous PDNA practices in Cambodia has indicated that capacity and technical knowledge have constrained the conduction of PDNAs in the past. The PDNA, following the 2013 floods, while successfully coordinating the overall process, used a range of tools such as forms, field surveys, and household interviews, focus groups, and national validation, but the tools were not standardized. This resulted in an assortment of data that would be challenging to synthesize. The review also indicates that the previous PDNA data collection forms and tools used by NCDM need to include more details on how to estimate damage and losses, along with being consistent across all provinces.

This guidance will support the Cambodian government officials in conducting a systemic PDNA and developing context-specific Disaster Recovery Guidelines for the road sector of Cambodia by serving as a shared approach and common platform for analysis and action to undertake the PDNA and start the recovery planning process in Cambodia.

3 Cambodia’s Current Post Disaster Assessment and Recovery Approach

The approach of disaster management in Cambodia, as of 2020 (Khim, 2020) begins at the provincial level by the Provincial Committee for Disaster Management (PCDMs), with the first focus on providing emergency assistance, and assessing immediate needs, followed by assessment of recovery and rehabilitation needs. The local authorities at the district and commune levels, such as District Committee for Disaster Management (DCDMs) and Commune Committee for Disaster Management (CCDMs) support this process along with other stakeholders such as Humanitarian Response Forum (HRF) and local NGOs. Based on the intensity of the disaster and corresponding damages, PCDMs then identify the need for a PDNA and request the National Committee for Disaster Management (NCDM) to initiate the process. The broad information flow of disaster management, especially for a disaster of a major scale, can be presented in figure 3 (Khim, 2020).

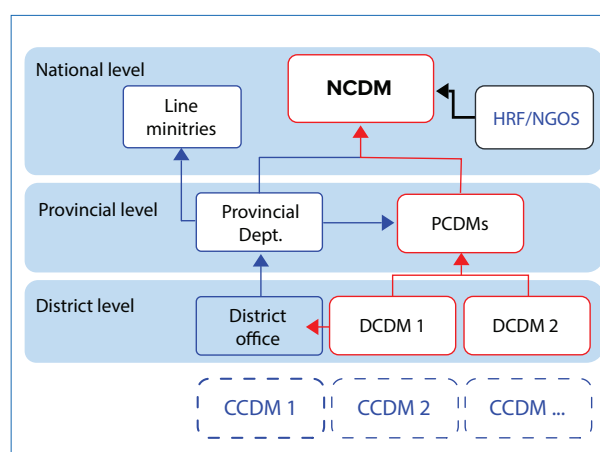


Figure 3: Information flow in a national PDNA process in Cambodia

The blue arrows indicate information flow between sector-specific and region-specific departments and line ministries to their corresponding committees on disaster management. The red arrows indicate direct information flow between the different committees of disaster management, starting from the commune level to the provincial level, to finally the national level. The NCDM also receives direct information from NGOs and HRF.

4

Overall Approach

The overall approach of PDNA, as outlined in figure 4, has four key components – reviewing pre-disaster conditions, collecting data, estimating effects and impacts, and identifying recovery needs. The overall process is preceded by a standard procedure of identifying if a PDNA is needed based on the disaster context, and while conducting PDNA for a specific sector (in this case, the road sector), accounting for cross-sectoral linkages is critical throughout the impact, and effect assessment and recovery needs identification.

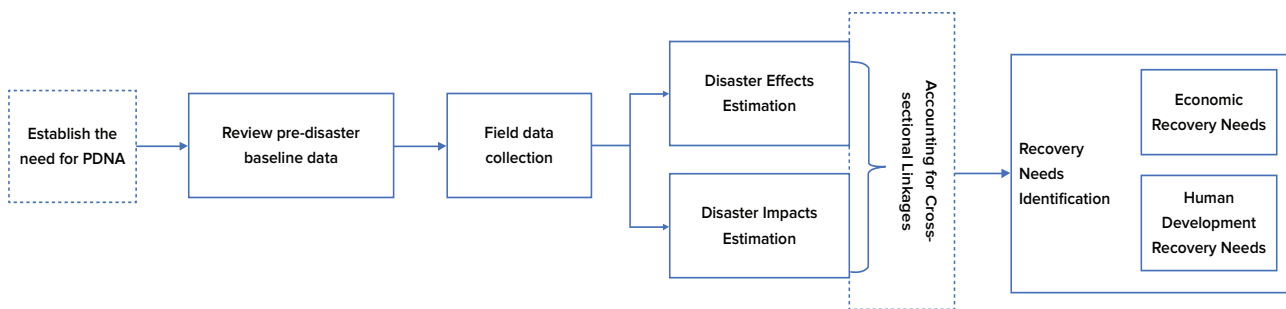


Figure 4: PDNA Approach

The presented approach follows the PDNA approach presented in Volume A and B of the PDNA guides developed by the tripartite partners (GFDRR, 2013) (GFDRR, 2014), where Volume A presents the general PDNA guidelines, and Volume B presents the transportation sector-specific guidelines, generic to all countries for application.

In this guidance, specific standard operating procedures (SOPs) to carry out each section are presented, tailored to the context of the road sector in Cambodia. The next section (section 5) goes over the specific process to be followed to successfully execute the framework, followed by a detailed methodology describing each step in detail. The overall approach and each methodology step incorporate intentional action steps for the agencies for dynamic reviews of various process aspects over time. This is essential to ensure that the guidance is helpful over a long period.

The first step in the PDNA process (after its need has been identified) is to assess the pre-disaster situation, creating a baseline to compare the post-disaster damages and impacts. This process also supports optimized recovery efforts by pairing the damage assessment with the existing vulnerability assessment of the system, thus allowing to prioritize high-damage-high vulnerability assets for building back better.

The pre-disaster baseline assessment also guides inviting the context-relevant stakeholders into the assessment process. After verifying the baseline data and identifying the key stakeholders to be involved in the PDNA, the next step is to collect the post-disaster data. This includes training the PDNA team on the process, drafting the logistics plan of data collection, involving but not limited to an aerial assessment, identification of the best mode of transportation to the affected regions, and establishing communication systems and backups for the logistics.

Once the data is collected, it will be integrated into a digital platform with the baseline data to assess the damages and losses. The assessment includes estimating immediate effects on physical infrastructure systems, traffic flows, governance and decision-making processes, and the change in the general vulnerabilities of the region due to the specific disaster. The assessment also includes estimating the disaster's long-term macroeconomic and human impacts. Estimating immediate and long-term impacts consists of an overarching understanding of the cross-sectional linkages and associated impacts. The outcomes are then used to inform the disaster response and recovery process. The Disaster Recovery guidelines are presented in a separate guidebook, while this guide walks through the process of conducting the PDNA and supporting efficient disaster recovery application.

5

Standard Operating Procedures for PDNA

This section goes over the standard operating procedures necessary to initiate and conduct a successful PDNA in Cambodia. This includes the chronological assignment of relevant ministries and officials for different stages of the PDNA process.

5.1 Key stakeholders

At the overall disaster management scale, the NCDM, PCDMs, and CCDMs (the National, Provincial, and Commune Committees on Disaster Management respectively) will be leading the disaster assessment and response planning. Specifically for the transportation sector, the key stakeholders collaborating with the NCDMs, PCDMs, and CCDMs will be representatives from the Ministry of Public Works and Transportation (MPWT) and the Ministry of Rural Development (MRD). The highlighted departments in the organizational chart (figure 5) of the MPWT will be critical for the road sector PDNA.

Other stakeholders relevant to the PDNA assessment and recovery planning for the road sector will be from Ministry of Economy and Finance (MEF), Ministry of Water Resources and Meteorology (MoWRAM), and Ministry of Environment (MoE). Where MoWRAM will be useful in providing expert input on the water-related damages, and along with MoE can also support the identification of changing risk and vulnerability profiles of the road assets based on the changing environmental conditions. This will be useful input for drafting the recovery needs of the system. Given that the road sector is closely linked to Cambodia’s economy (Asian Development Bank, 2019), the MEF should be kept in the loop of damage and loss assessment to ensure they have the most accurate information to assess the economic impacts of the road damages.

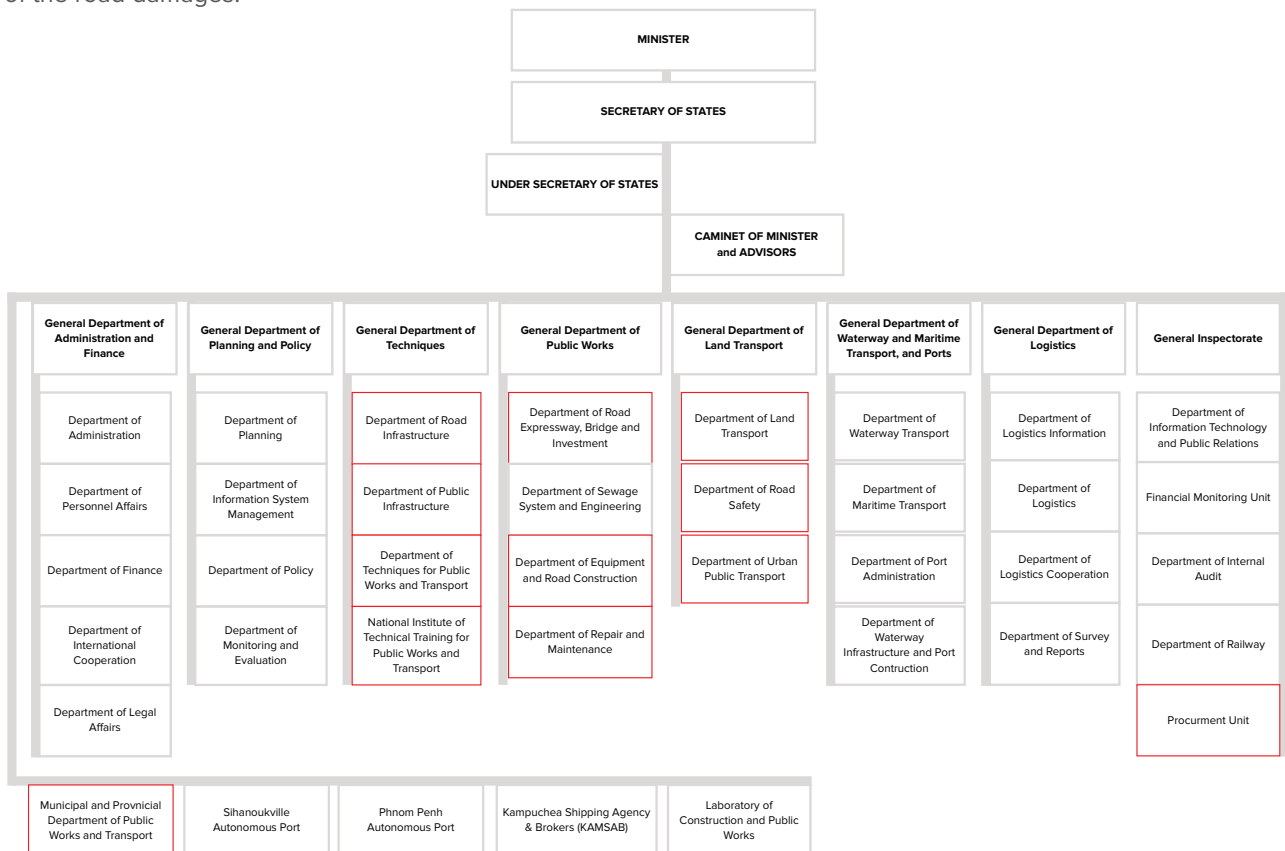


Figure 5: MPWT Organizational Chart - red highlighted boxes indicate the departments relevant to road sector PDNA assessment process

5.2 Timeline of PDNA

The process of PDNA is presented along with the recommended timeline in table 1. The tasks are divided into 6 categories – pre-PDNA activities, PDNA preparation, data collection, analysis, review, and finally, PDNA completion. The completed PDNA is then used to develop the recovery strategy, the process of which is outlined in the disaster recovery framework guidelines document. The chronological process is developed based on the timeline in the PDNA working document (Khim, 2020) and is contextualized here for the road sector’s PDNA process.

It is important to note that timely completion of PDNA is critical for a successful recovery process, as the DRF is built on the outcomes of the PDNA, which is the foundation of disaster recovery. The timeline presented in this table, if to be followed successfully by Cambodian officials, will have to rely on quality baseline data already collected and frequently updated. Learnings from previous PDNAs have indicated the lack of pre-existing reliable baseline data as a major roadblock in successfully conducting PDNA in a timely manner.

Table 1: PDNA process and timeline tailored to the road sector

Task Category	Task	Time needed	Outcome	Lead Agency	Other involved agencies
Pre-PDNA Activities	Immediately after the disaster (emergency state), PCDM coordinates immediate needs and identifies if a PDNA is needed.	1-2 weeks	-	PCDM	
	If a need is identified, PCDM sends request to NCDM for a PDNA	1 day	PDNA Request Letter identifying the need.	PCDM	NCDM
	NCDM (on behalf of RGC) makes a decision to conduct the PDNA including one for the road sector. NCDM immediately communicates the decision to the relevant line ministries (MPWT and MRD), along with relevant PCDMs, DCDMs, CCDMs, and other local and global agencies such as UN, ADB, and the World Bank.	1 day	Official Letter indicating intent to conduct PDNA	NCDM	MPWT, MRD, PCDMs, DCDMs, CCDMs, UN, ADB, the World Bank, and other relevant agencies
	NCDM schedules coordination meetings with the representatives from the identified stakeholder list (MPWT, MRD, PCDM, DCDM, CCDM, and international disaster management experts in the road sector from the global agencies)	1 day	Meeting invitation to the representatives of the stakeholder agencies	NCDM	MPWT, MRD, PCDMs, DCDMs, CCDMs, UN, ADB, the World Bank, and other relevant agencies
	In the coordination meeting, NCDM, using the information from PCDMs, presents a brief on the disaster situation, presents the need to conduct PDNA for the road sector (among other identified sectors), and proposes/identified the team for the broader PDNA and for the road sector PDNA (in coordination with the sector-specific representatives)	1-2 days	Coordination meeting minutes; PDNA agreement; tentative national and road sector PDNA team (along with other sector specific teams)	NCDM	MPWT, MRD, PCDMs, DCDMs, CCDMs, UN, ADB, the World Bank, and other relevant agencies

PDNA Preparation	NCDM prepares logistics such as budgeting, human resources, information systems, and training to conduct PDNA in the road sector (similar steps will be going on in parallel for other identified sectors). The preparation is done in collaboration with PCDM, MPWT, and MRD.	1-2 days	Budget agreement; resource agreement (information and human resources); training plan agreement	NCDM, PCDM, MPWT, MRD	DCDMs, CCDMs, UN, ADB, the World Bank, and other relevant agencies
	NCDM and PCDM conduct the PDNA training for the MPWT and MRD team for assessment of the collected data (training to the assessment team for road sector)	1 day	PDNA training notes; Official nomination and mission letters with TOR for the assessment team	NCDM, PCDM	MPWT, MRD, PCDMs, DCDMs, CCDMs, UN, ADB, the World Bank, and other relevant agencies
PDNA Data Collection	PDNA team reviews and updates baseline data on road sector	1 day	Updated baseline data	MPWT, MRD (PDNA Team)	PCDM, DCDMs, CCDMs and local NGOs
	National PDNA team briefs local road sector PDNA teams on the schedule of field data collection by the road sector team	1 day	Data collection schedule; travel plans	MPWT, MRD (PDNA Team)	PCDM, DCDMs, and CCDMs
PDNA Data Collection	Data collection by the local authorities under the supervision of the PDNA team and consultation of the public and other agencies, field visits of the road sector PDNA team	4-7 days	Field damage and loss data sheets	MPWT, MRD (PDNA Team)	PCDM, DCDMs, CCDMs and local NGOs
PDNA Data Analysis	The PDNA team cross-checks, validates, and synthesizes the collected disaster and loss data into aggregate assessments	1-2 days	Synthesized damage and loss assessments at the provincial and national level	MPWT, MRD (PDNA Team)	PCDMs, DCDMs, CCDMs, UN, ADB, the World Bank, and other relevant agencies (disaster specialists)
PDNA Review	PCDM validates the damage and loss assessment done by the PDNA team	1 day	Reviewed damage and loss assessment	PCDM	MPWT, MRD (PDNA Team)
	The road sector PDNA team submits the PDNA report to PCDM and NCDM	1 day	Draft PDNA report for road sector	MPWT, MRD (PDNA Team)	NCDM, PCDM
	NCDM cross-checks the road sector PDNA report with other sectors interfacing with the road sector to ensure cross-cutting priorities and identified and recovery needs are synchronized across sectors. Once complete, NCDM endorses the revised PDNA report and shares it with all relevant ministries and other stakeholders	1 day	revised PDNA report for road sector	NCDM	MPWT, MRD, MEF, MoWRAM, and MoE, PCDMs, DCDMs, CCDMs, UN, ADB, the World Bank, and other relevant agencies (disaster specialists)

PDNA Completion	NCDM synthesizes reviews from all consultations and creates and signs the final PDNA report	1 day	Final signed PDNA report	NCDM	PCDM, MPWT, MRD (PDNA Team)
24-37 days					

As the focal point of PDNA is the data on damage and loss, which is the foundation for the response, reconstruction, and recovery, it is important to keep in mind the standard operating procedures associated with collecting, analyzing, updating, and sharing the data. The PDNA Data Analysis and Review steps discussed in the SOP table above mention the procedures that the Cambodian officials need to take to 1) review and update the baseline data, 2) collect and validate the damage data, 3) and assess and aggregate the damage and loss data at various levels (provincial and national levels). As part of the PDNA completion, the data collected needs to be disseminated to all relevant stakeholders and needs to be stored at an accessible location for any stakeholder to use at a later time period. It also needs to be accessible in case of a future disaster where this dataset might be useful for gaining insights.

It is helpful to note that a robust baseline dataset of the transport sector has been developed as part of the UNDP-ADB Project - Building Disaster-Resilient Infrastructure through Enhanced Knowledge. The database is hosted and continuously updated by the NCDM, and the data is contributed by MPWT, MRD, and NCDM. NCDM Department of Research and Planning can provide access to data upon request.

6

PDNA Methodology

The Post Disaster Needs Assessment (PDNA) provides a methodology to assess damages and post-disaster recovery needs in a way that can provide a framework for the planning of coordinated recovery efforts with a risk reduction focus.

The conduction of PDNA involves a range of steps, starting with understanding the pre-disaster situation. This involves

- 1 collecting (when not already available) or reviewing and updating the baseline data.
- 2 collecting the damage and loss data through the line ministries, in this case, MPWT and MRD,
- 3 verifying the damage and loss data through field visits
- 4 integrating damage and loss data with the baseline data
- 5 conduct the damage and loss assessments using the baseline(pre-disaster) and damage (post-disaster) data. This includes calculating and aggregating the damage and loss data at national and sub-national levels
- 6 assess disaster effects and impacts based on the damage and loss data
- 7 identify the key recovery needs based on the evidence gathered,
- 8 formulate a recovery strategy that will then be used as a foundation to develop the Disaster Recovery Framework.

The next sections describe in detail the steps needed for Cambodian officials to apply the PDNA methodology for the road sector.

6.1 Pre-disaster Situation

To accurately assess the damages caused by a disaster, it is critical to establish the baseline pre-disaster conditions of the system. The key steps for this process are presented in figure 6, starting from identifying the provinces affected by the disaster, thus focusing on those regions for baseline data review and damage data collection. The next step is to bring together the government officials from these provinces who manage the road sector assets who can provide accurate information about the pre-disaster conditions in the regions.

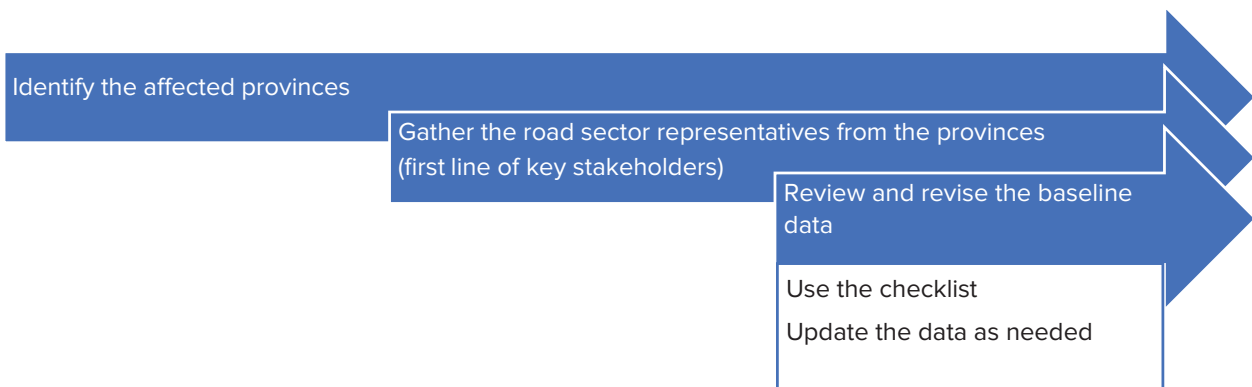


Figure 6: Steps to assess the pre-disaster situation

With UNDP and the Cambodian government’s collaborative efforts as part of the UNDP-ADB Project: Building disaster-resilient Infrastructure through Enhanced Knowledge, a detailed inventory of Cambodia’s road infrastructure already exists and can be obtained from the NCDM, which will serve as the starting point of the baseline data. This existing baseline data inventory reduces the effort needed to gather the baseline data as part of the PDNA process and also supports the reliability of the data, as collecting pre-disaster information after a disaster might depend on reliance on memory, which could lead to human errors in the damage estimation. As the damage and loss assessment is done relative to the baseline pre-disaster situation, the asset inventory is collected in the baseline dataset will serve as the inventory to do a check for damages and loss. For example, having the inventory of all the critical road segments will allow for the PDNA assessment team to ensure these road segments are assessed for any damages. Hence a comprehensive inventory of road assets in the baseline data collection process is important for more reliable PDNA results. As the first baseline data inventory development through this project is dated for the year 2022, to utilize the data for any future PDNA it will be important to ensure that the database is updated. Table 2 presents a quick checklist to be distributed to the province road sector government officials to identify the places in the existing baseline data that might need updates before post-disaster data collection.

Once the review and revision of the baseline data on the pre-disaster conditions of the road sector is complete, this baseline data is set to be shared with the PDNA team, the formulation of which is outlined in the next section (section 8).

Table 2: Baseline data review sheet

Baseline data review sheet (for each province’s transport department)			
<ul style="list-style-type: none"> • Province • Year of the last update to the baseline data: XXXX • Year of disaster: YYYY Select the actions conducted between years XXXX and YYYY:			
Action	Check	If checked, updates needed in the section	Relevant ministries/org to get updates from
New national roads constructed	<input type="checkbox"/>	Entire Cambodia, Nat_Road	MPWT
New provincial roads constructed	<input type="checkbox"/>	Entire Cambodia, Provincial_Road	MPWT
New rural roads constructed	<input type="checkbox"/>	Entire Cambodia, Rural Road Network	MRD
New equipment acquired	<input type="checkbox"/>	Other Public Assets	MPWT/MRD

6.2 Data Collection Process

The steps of the data collection process are presented below:

1. PDNA team formation
2. Training
 - a. Team collaboration training
 - b. Baseline data usage training
 - c. Damage and loss templates usage training
3. Field visit
4. Data integration

With four main components, the data collection process begins with the formulation of the PDNA team, training the team on the PDNA process (including the cross-sectoral collaboration processes, baseline data use, and field data collection template use), the PDNA team conducting the field visit, and then finally integrating the collected data with the baseline data from the previous step. The data collection process through field visits for the PDNA should

also serve as a way to triangulate the existing information, especially in the case of incomplete or obsolete existing baseline datasets. Each step of the data collection process is described below.

6.2.1 PDNA Team Formation

The formulation of the PDNA team is the first step in the post-disaster data collection process. The team should be comprised of the set of stakeholders identified in section 5.1. It is important to maintain a balance between creating a comprehensive set of stakeholders involved in this process and keeping the team size manageable to ensure swift processing. The PDNA team needs to be constituted of members with the expertise presented in table 3.

Table 3: Required expertise for the PDNA team

Personnel	Role in PDNA implementation
PDNA-trained technical staff (road engineers, city planners, transport economists strongly encouraged) assigned by their line ministries. All must be familiar with procurement, construction, and repair, costs of equipment and materials, and replacement of other assets. Knowledge of economic flows or losses, including estimating forgone incomes and additional costs and impacts on respective sectors, is also recommended.	Lead and coordinate
Staff from local road departments familiar with physical infrastructure, building/construction, equipment, unit costs, procurement etc. in the road sector.	Provide baseline information validation and facilitate field assessment of damage and losses.
Extension local government officials/officers (from the affected commune/district) who are conversant with the affected areas, and are a part of a sector closely connected with the road sector	Facilitate field assessment of indirect losses and impacts on other systems due to the road sector damage.
Development partners, private sector (if active in the sector)	Participate in field assessment and provide input and validation of the immediate effects and long-term impact on community due to the road sector damages

(Adopted from the PDNA Working Document (Khim, 2020).

6.2.2 Training

The PDNA team needs to be trained on some critical aspects of the PDNA process before the data collection field visits are conducted. As some team members will have previous training or experience in the process, they can be leveraged as in-house training resources. The key aspects of training the team on include presenting a shared understating of the collaborative nature of the PDNA process, establishing a clear understanding of the baseline pre-disaster conditions, and reviewing the data collection templates for efficient application in the field.

As the transportation PDNA fits within the overall PDNA of the country, to ensure cross-sectoral collaboration, the road sector PDNA team needs to be aware of the other PDNA representatives. The overall PDNA organization structure, as presented in figure 7, can be used to identify the critical cross-sectoral representations available to collaborate with in the process of PDNA. The road sector PDNA team needs to track the representatives from each team segment in figure 7. The broader teams such as the communication team, NCDM support team, and governmental and development partners coordination teams can be utilized for the various aspects of

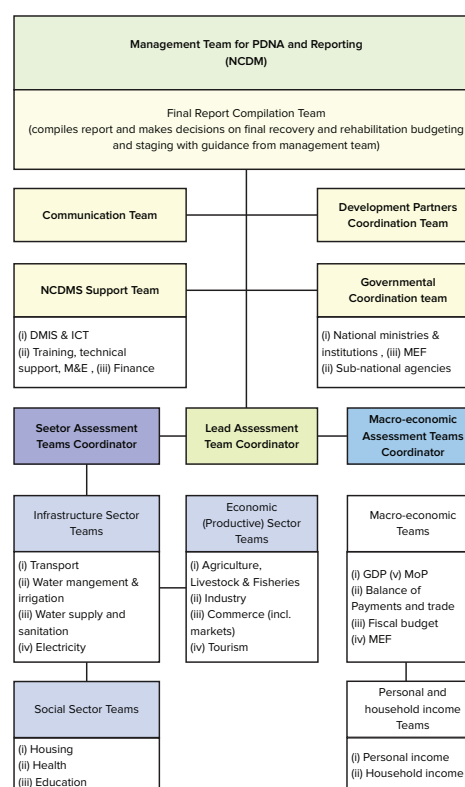


Figure 7: Overall PDNA structure across sectors

PDNA for the road sector by leveraging their resources such as training and communication support.

Having established an understanding of the overall PDNA team with the road sector team, the following steps are to present the updated baseline data, get it validated, present the damage and loss data collection templates, and explain the overall process of data collection, integration with the baseline data, and application in effects and impacts assessment. A short presentation demonstrating this process and potentially some pre-recorded videos accompanying a live training session with a Q&A focus will ensure a more efficient training process.

The appendix presents the baseline data with examples and the damage and loss data collection templates.

6.2.3 Field Visit

Field visits of the PDNA team, along with synthesizing data collected from the local officials, are the base of the damage and loss assessment and must be conducted comprehensively to ensure accurate estimates. This uses a gap analysis approach, where the difference between the post-disaster condition and the pre-disaster condition provides an estimate of the damage and losses. If the majority of data collection is to be done by the local officials, a small training of them in the local language through the PDNA team will be helpful in ensuring quality data collection. It is also important to consider the case where a comprehensive field visit is not possible. In such cases, sample data collection on a representative section of the region (assessing a set of road segments that have an average traffic count and serve a representative population) is needed, accompanied by projections for the rest of the affected areas.

After a disaster, the standard procedures for a field visit will include an initial aerial survey (when possible) to locate regions with maximum damage and plan for an optimal route of data collection. The following steps will focus on establishing the logistics of the field visit, including but not limited to planning to use different available modes of transportation for the team, communication redundancies, data collection materials printing, and distribution. As the field visit will be happening after a significant disaster, regular transportation modes and communication systems might be damaged. Hence, back-up plans will be needed to ensure a smooth data collection process. While assessing the damages to the road assets, it will be necessary for the data collection team to be aware of the indirect damages caused by the disaster to the systems, such as weakening of the substructure, increased susceptibility to erosion of pavements, weakened foundations of bridges, destroyed traffic signs and signals, etc. The technical expertise of the transportation engineers in the team will be helpful in these aspects. The transportation economist and city planner will also need to observe the changes in the travel patterns with additional detours or complete disconnection of communities to access essential services and similar disruptions to the freight movement due to the observed road damages.

6.2.4 Data Integration

Once the data is collected in the damage and loss templates from the field visit, the team will consolidate the data with the baseline data on the pre-disaster conditions and the associated costs of replacement and rehabilitation to estimate the damage and losses. The cost values in the baseline data set should reflect the pre-disaster cost values (i.e., unaffected by the disaster conditions). A review of unit costs of repair and replacement in the light of changes in the prices over time since the baseline data collection is needed to estimate the accurate damage values better. In the absence of new information, the unit cost estimates collected in the baseline data collection can be used.

The field data collected using the templates provided in the appendix should then be aggregated in the following tabular format (Table 4):

Table 4: Roads damage data synthesis template

	Paved			Gravel			Dirt		
	Length with complete damage (km)	Length with medium damage (km)	Length with light damage (km)	Length with complete damage (km)	Length with medium damage (km)	Length with light damage (km)	Length with complete damage (km)	Length with medium damage (km)	Length with light damage (km)
National Roads									

	Paved	Gravel	Dirt
Provincial Roads			
Town road			
Rural Roads			
Total			

Categorization of damage into complete damage, medium, and light damage is consistent with the existing damage assessment approach of the MPWT. Description of what constitutes each type of damage is provided in the appendix along with the field data collection sheet, to ensure the information is available readily to the officials doing the data collection.

Using the baseline data on the cost of reconstruction (for completely damaged roads) and rehabilitation (for partially damaged roads), the damage cost for each category of road segment can be calculated.

Similar integration of the data on bridges, culverts, and other road sector assets will provide total damage costs in each category.

As transportation is based on derived demand, the data integration should also look into integrating the road damage data with the impacts on other sectors such as health (access to hospitals), education (access to schools), and economy (agriculture and other sectors affected by reduced mobility). Integrating this information will need collaboration with the PDNA representatives of the other sectors, and the outcome will derive the immediate effects and long-term impacts assessment, and support prioritizing recovery efforts accordingly.

6.3 Disaster Effects Estimation

The immediate effects of the disaster on the road sector can be categorized into four key segments:

- Total or partial destruction of physical assets (damages)
- Disruption of the production of and access to goods and services and change in transportation flow, and direct losses to the transport sector (losses)
 - Effect on governance and decision making
 - Effect on general risk and vulnerabilities

The monetary effects of the disaster primarily cover the first two segments. Damage refers to the partial or total destruction of infrastructure, physical assets, equipment, stocks, and capital. Damages are valued first in physical terms—number, size (length, area, surface, or weight) and then in monetary value. Damage is estimated through the repair cost of partially destroyed structures, equipment, and other assets from pre-disaster condition, and replacement cost of totally destroyed structures, equipment, materials, supplies and other assets to pre-disaster condition, valued at market prices prevailing just before the disaster; and any additional costs to upgrade or improve the condition of buildings and its content is computed in a later stage when addressing recovery needs (Khim, 2020). Typhoon Ketsana, in 2009, caused damage to a total of about 630 kms of road, with approximately 543 km of rural roads, 38 km of provincial roads, and 48 km of urban and national roads damaged, along with indirect damage to the transport infrastructure in terms of drainage structures and connecting systems like culverts. The total direct damage cost for the transport sector was estimated to be USD 14.39 million (RGC, 2010).

The loss refers to changes in economic flow (income and expenditure) arising from the disaster. Losses are expressed in current monetary values of foregone revenues or income during the recovery and rehabilitation stages, at the current value of goods and services that were not and/or will not be produced over a time span due to the disaster until full recovery is attained including:

- A decline in output in the productive sectors, higher production and operational costs, lower revenues, and increased demand for social services by the affected population.
- Changes in the production of and access to goods and services, at the current market price.

- Additional costs to maintain the administrative, policy, and planning functions of the government.
- Additional expenses to clean up the debris of destruction, retrieval of buried assets, facilities, roads, water systems, buildings, etc.
- Increased expenditures for managing new risks arising from the disaster.

The direct loss to the transport sector includes loss in revenue from disrupted toll centers and loss in fuel taxes income due to reduction in travel. The impact of the disaster on the tourism industry, which is a major source of income for Cambodia, also leads to direct loss to the transport sector by contributing to reduced travel, hence reduced toll collections and fuel tax income. The loss estimation primarily focuses on the second segment of the assessment of the effects, but also touches on the next two, especially looking at the monetary effects of changes in the administration and increased risk and vulnerabilities due to the disaster. The 2009 typhoon loss to transport sector was estimated to be about USD 11 million. This constituted higher vehicle operating costs and longer freight and passenger travel times, along with the use of temporary means such as boats and koyun and improvised sub-standard repairs for short term transport needs. The increased travel time, especially on worsened road conditions, also resulted in higher fuel consumption and faster vehicle deterioration. The 2010 PDNA of typhoon Ketsana faced challenges in estimating the losses due to a lack of traffic data. Hence it is critical to collect such data as a baseline for faster and more accurate PDNA (RGC, 2010).

The value of damages and loss is assessed using the field data collected post-disaster, and the baseline cost and condition data collected pre-PDNA. The table presented in the data integration section (section 8.4) is used, along with similar integrated tables of other road infrastructure to estimate the total damages, by summing up the damages across different components.

To estimate the losses, the key details to gather are the volume of traffic flows, the resulting higher unit operating costs of vehicles that occur after the disaster, and the time required for the rehabilitation or reconstruction.

The volume of traffic flows is gathered in the baseline condition data, with average daily users for the key roads and bridges recorded. To calculate the higher unit operating costs, the PDNA team will need to identify the time it will take for the roads to be reconstructed/rehabilitated. The usually accepted time periods range from a minimum of three months for full rehabilitation, to about six months for the construction of alternate short road sections, through one to five years for full reconstruction (which may involve mitigation works through redesign and reinforcement) of the entire road sections (GFDRR, 2014). The change in operating cost can be estimated using the standard values of marginal operating costs based on type of vehicle. The UN-ECLAC’s information on the subject is presented in table 5. The data uses the cost values of US Cents Per Vehicle-Kilometer, in 2003. To use the data, the costs should be adjusted for inflation based on the year the PDNA is conducted.

Table 5: Marginal operating costs in cents based on vehicle and road type (2003 \$)

Type of road	Type of terrain	Type of vehicle				
		Cars and other light vehicles	Medium size buses	Large buses	Flatbed and other trucks	Rigs and trailer trucks
Paved roads	Flat	29 – 32	63 - 69	80 - 91	107 - 126	139 - 154
	Undulating	30 – 33	65 - 75	112 - 120	125 - 156	155 - 181
	Mountainous	31 – 34	69 - 80	144 - 157	156 - 182	156 - 225
Gravel roads	Flat	44 – 56	106 - 126	135 - 163	179 - 220	203 - 243
	Undulating	49 – 63	111 - 136	157 - 189	180 - 225	204 - 267
	Mountainous	46 – 67	114 - 144	197 - 234	184 - 249	207 - 246
Dirt roads	Flat	44 – 56	90 - 111	125 - 147	179 - 223	203 - 243
	Undulating	45 – 63	92 - 113	127 - 162	180 - 226	206 - 246
	Mountainous	46 – 57	96 - 113	134 - 176	184 - 249	207 - 267

(GFDRR, 2014)

The transportation experts of the region can also use a different source for this information, if more updated and

contextually focused information is available. Academic research in the neighborhood universities might be a good source of such information.

Another significant component of loss is the cost of debris removal. The volume of debris can be obtained from the field data, and the unit costs of debris removal can be obtained from the baseline data or expert input.

To estimate the loss to the administrative and government systems due to the disaster, inputs from the NCDM and PCDM teams are needed. The losses include but are not limited to added costs to manage the post-disaster planning and compensation to the temporary staff required for immediate support.

Major disasters such as extreme flooding and storms can cause long-term vulnerabilities in the system, both infrastructurally and socially. With the disruption to the regular economy, lack of mode of transportation for the working class to ensure their jobs, disconnect from hospitals and other critical services, and disconnect with schools, such disasters reduce the capacity of the community to respond to another similar or even minor event in the near term. The physical infrastructure also sustains long-term vulnerability. For example, a significant flood event can weaken the substructure of a roadway and cause landslides in the future with event smaller rain events. To manage the immediate effects of the disaster on the general risk and vulnerability of the system, it is essential for the PDNA team to be able to identify the nuances across different overlapping disasters in the affected region, understand the socio-economic demographics of the region, and account for the effects in their assessment.

After the disaster, a re-assessment of the major disaster maps is needed. This will also ensure disaster mapping of the regions previously not flagged as under risk.

6.4 Disaster Impact Assessment

While the main objective of the road sector PDNA is to estimate the damage and losses, the road sector assessment team also needs to look to conduct a cursory estimation of the impacts of the disaster and subsequent transportation disruptions on the macroeconomy and human development of the country. The detailed macroeconomic assessment is carried out by a separate team focused on the specific task of assessing the overall impact of the disaster across all sectors on the macroeconomy and human development of the country. The transport sector PDNA team needs to provide the necessary information so that the macroeconomic assessment team can accurately attribute the road sector's impacts.

With agriculture, tourism, and manufacturing being Cambodia's three main economic sectors, transportation serves a key role in their proper functioning. The agriculture sector relies on-road and maritime transport for exports, the tourism sector depends on international air carriers and road transport, and manufacturing relies on road and water transport to deliver the materials needed and export finished products. The construction sector relies on water and road transport to deliver materials (Asian Development Bank, 2019). Hence, disruption to the transportation facilities can directly impact the revenue generated from these sectors. The road sector PDNA team should assess if some of the key economic corridors and centers such as the Industrial Corridor, the Southern Economic Corridor, the GMA Southern Coastal Corridor, and the four logistics hubs (Royal Government of Cambodia, 2015) are affected by the disaster damage and what will be the estimated recovery timeline.

As the macroeconomic assessment team is developing their assessment, the road sector PDNA team needs to be aware of the elements being assessed and contribute their road sector input for each segment.

To estimate total disaster impact, two components are typically assessed:

- 1) Macro-economic impacts look at-post disaster performance of 3 key indicators:
 - a) Gross Domestic Product (GDP): The impact on GDP refers to temporary negative repercussions of disaster losses and positive effects on construction and other sectors on the economy's performance. The impact of damage on gross investments is measured in the following years as asset restoration or replacement commences (depending on construction sector capacity and available financial resources). The labor needed for road sector rehabilitation should be included in this assessment.
 - b) The Balance of Payment (BOP): The impact on the BOP involves estimating possible increase/decrease in imports/exports arising from the disaster, as well as possible reinsurance payments and relief donations from the international community. The Transport Sector damage assessment should include the necessary breakdowns

so that estimations can be made of the value of rehabilitation and reconstruction items that must be imported from abroad – including equipment, machinery, construction materials, and skilled labor – due to the absence of domestic production (GFDRR, 2014).

- c) The Fiscal Sector: The analysis of disaster impact on the public-sector budget is estimated in terms of increased operational costs and lower revenues; wherever the public sector directly owns sectoral enterprises, its budget would sustain losses. The impact of losses on the government budget must be ascertained in terms of increased operational costs and lower revenues when the government directly owns transport enterprises and services.
- 2) Human and social impacts represent the disruption of normal livelihoods and income, as well as access to goods and basic services persisting long after complete physical reconstruction. Human impact is measured using social and personal welfare indicators such as changes to living conditions, livelihoods and employment opportunities, food security, women’s participation in decision-making processes, and social inclusion. Personal and household income loss and employment may also be measured. The effect of accessibility loss to the workplace, accounting for lost jobs, should be assessed as part of this segment. Additionally, when the Transport Sector Assessment Team has completed the estimation of higher transport costs faced by households and individuals when using private transport means (i.e., their vehicles), such additional expenses are to be delivered to the assessment team in charge of analyzing disaster impact on human development (GFDRR, 2014). Previous disasters in Cambodia have demonstrated the significant impacts on a region with September–October, coincide with the harvest season, thereby directly affecting the livelihood of the majority of people working daily wages on agriculture-related informal jobs. Transport sector damages can worsen this by blocking the distribution routes and also access to key social services such as health and education. For the transport sector PDNA officials, it is important to take note of the social services and informal job spaces being disrupted due to road damage and to share the information with the human impact analysis team. The information on resumption of job opportunities and essential services due to a road recovery is a valuable information in recovery planning for the human impact assessment team (RGC, 2014).

6.5 Recovery and Reconstruction Needs Estimation

The financial requirements or needs for the economic recovery of the Transport Sector are defined as the amounts of financing required to ensure the progressive return of the service to normalcy.

Human development recovery needs in the Transport Sector are the amounts of financing required for affected individual households during the recovery and reconstruction stages to continue to have adequate access to transport services without incurring additional costs of living (GFDRR, 2014).

The higher costs associated with these two needs should not be accounted for in the transportation damage and losses but are to be assessed and accounted for in the separate assessment focused on the economy and human recovery needs assessment. Nevertheless, the transport sector PDNA team needs to provide their input in defining the needs related to the transportation sector, as they are the closest to the disaster impacts and the road sector.

The critical elements of recovery needs, accounting for the intention to build back better, are presented in the figure 8 below:

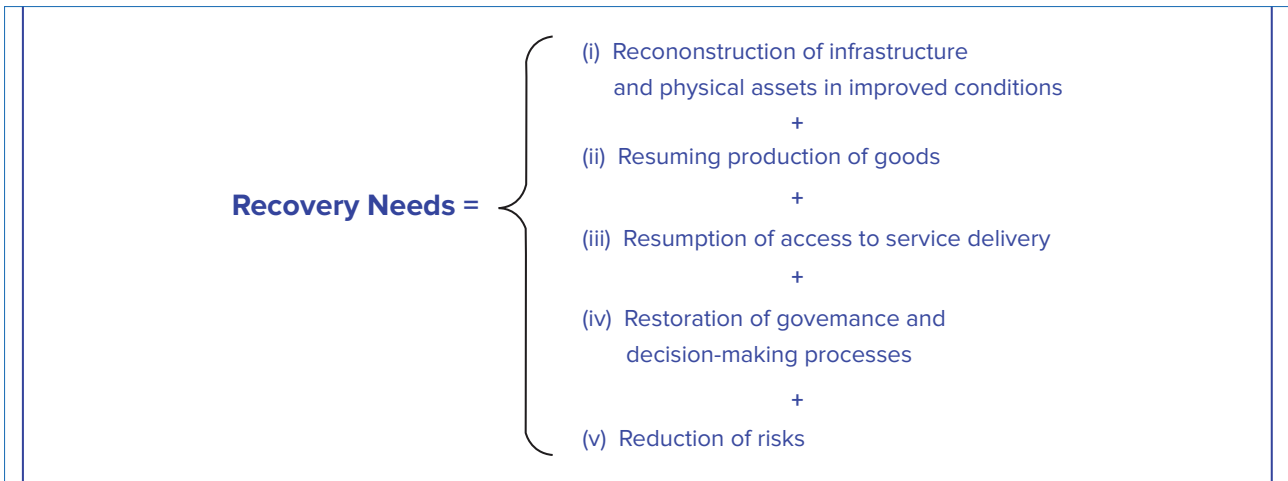


Figure 8: Generic elements to be estimated for Recovery Needs

For each of these elements, the recovery needs should be planned for short term (1-2 years), medium terms (~5 years), and long term (10-20 years). This timeline should be scaled up for assets that have a longer lifespan. The recovery needs are built on the damage costs but should also incorporate the costs associated with building back better. Hence for each of these categories, the transport PDNA team needs to identify what ‘building back better’ looks like and provide estimates of the required costs. For example, elevating certain road segments, and establishing sensors and other monitoring systems on the most vulnerable bridges, rehabilitating the road segments to a better quality, or establishing a task force to dynamically assess and update the disaster maps – all need capital investment and should be accounted for in the recovery needs as per the judgement of the transport PDNA team. Using international standards of road condition performance such as IRI (International Roughness Index – used to assess the quality of the road segment, and subsequently used in road maintenance and management programs) (Arhin, Noel, & Ribbiso, 2015), and PSR (Present Serviceability Rating – a visual inspection-based rating system for highways, primarily used in the US for pavement management) (FHWA, 2014), and integrating them in the general maintenance of the roadways will reduce future damage to the system due to disasters.

With the estimation of the impacts of disaster in each category, the next steps are to prioritize different regions and assets for recovery. This is important due to budget and time constraints, bring the need to prioritize and sequence recovery actions. Various prioritization approaches can be used, but the key aspect to consider while prioritizing recovery projects is to ensure that recovery and reconstruction protect communities from future disaster risks, however, while additional costs and capacities to reduce disaster risks are included in the recovery budget, it should be done so without inflating the recovery budget to address long term development problems/deficits (Khim, 2020).

6.6 Recovery Strategy Development

The damage and loss assessment conducted in the PDNA process needs to be summarized into a Recovery Strategy, which will feed into a detailed recovery framework that provides guidance on the successful implementation of the strategy. The Recovery Strategy, as part of the PDNA process, should focus on identifying priorities, a cost structure, the key stakeholders, and an estimated time frame of reconstruction -based on the post-disaster assessment of the affected region. The Disaster Recovery Framework, for which separate guidance is available, will then utilize this strategy and will include information on policy and institutional arrangements, financial mechanisms, monitoring, and evaluation of the recovery systems. The Recovery Strategy should serve as the link between the PDNA assessment results and the Recovery Framework (GFDRR, 2013).

The main elements to include in developing a recovery strategy are:

- **Identify and outline recovery and reconstruction needs** for the four elements outlined in figure 9: reconstruction of physical assets, restoring access to goods and services, restoring governance and decision making, and reducing risk and vulnerabilities. Section 11 covers the process of identifying the recovery needs in detail.
- **Identify the overall vision and guiding principles** agreed upon across stakeholders.
- **Identify intended sectoral results**, specifically the priority needs and interventions, recovery costs, expected outputs, and intended outcomes.

- **Develop a broad sectoral implementation strategy** accounting for cross-cutting themes and key assumptions and constraints of the region, focusing on partnership coordination and management, and linking the strategy to development plans.

For the road sector, the approach should follow the outline identified in the Volume A PDNA guideline, where the key elements focus on the path between identifying priority needs and identifying intended outcomes by identifying the interventions required, the expected outcomes, and the recovery costs. For example, the priority need of rehabilitating the transport sector is focused on the intended outcome of providing mobility and access to goods, services, and occupations for the general public. To do so, the specific interventions that might be required can include road reconstruction supplies, workforce, temporary alternate transport modes, etc. The expected outputs of such interventions might include the ability of sick people to reach the hospitals, farmers able to distribute their produce, children able to reach their schools etc. The cost of interventions will be the cost of recovery and investing that much amount in the recovery process will lead to the intended outcomes.

Based on the sector most affected by the disaster, the prioritization of identified needs should change. For instance, if the disaster majorly affects the agriculture sector, which has been the case for many previous disasters, the road sector team will need to prioritize the road segments that are most relevant to the agricultural sector in terms of distribution and work-home trips of the workers. On the other hand, if the key sector affected by the disaster is the manufacturing and production industry, the road sector team will need to prioritize the freight routes rehabilitation. Essentially, the prioritization needs to use the gap analysis between the pre and post disaster conditions.

A key guiding principle here is to ensure that the recovery and reconstruction efforts protect the community from future risk, hence incorporating the building-back better paradigm within the budget constraints so as not to inflate the recovery budget and create long-term deficits. Phasing the Build-Back-Better plan is potentially an efficient solution to ensure long-term financial stability while actively reducing future disaster risks. This will involve planning the road sector development accounting for future risks, intentionally incorporating resilient elements in future rehabilitation plans, but phasing the different regions and assets based on priority and incorporating some of the resilience-building efforts in the regular operation and maintenance plan.

Segregating the recovery and reconstruction needs into short, medium, and long-term phases, identifying the stakeholder who will be leading the activity, and assigning a tentative budget estimate to each need will be helpful in operationalizing the recovery process. Table 6 presents the template that can be used to prioritize the reconstruction and recovery needs accordingly.

Table 6: Reconstruction and Recovery Needs Template

Province/Region	Short-term Needs	Medium-term Needs	Long-term Needs
Infrastructure needs: To repair / rebuild damaged infrastructure and physical assets (Restore to pre-disaster level with BBB for reconstruction of infrastructure and physical assets).			
Governance Needs – BBB needs for Governance and DRM			
Risk Management Needs - Mitigation risks and vulnerabilities to future disasters			

The implementation arrangements of the recovery strategy should include the stakeholders identified in section 5.1, and a management system needs to be developed for coordination between these stakeholders. This will include the distribution of leadership of various interventions to the different stakeholders, establishing a recurring meeting

timeline for the group, and setting up corresponding services such as offices.

The implementation plans also need to consider the cross-cutting sectors themes, which for road sector will include employment disruption due to lack of a way to travel to and from work, access to health and education services, disruption of water supply during the road reconstruction process, and disproportionate impact of accessibility based on gender, age, and income.

The recovery strategy should be implemented in a way such that it aligns with and enhances the development goals of Cambodia. A review of the transportation sector assessment, strategy and road map report (Asian Development Bank, 2019) while drafting the recovery strategy and implementation plans will help orient the plans with the overall road sector development goals.

Additionally, the recovery strategy should aim towards mobilizing the resources needed to conduct the recovery. Accurate and detailed damage and loss assessments and the recovery costs information will be critical in securing funds for the recovery program. The resource mobilization plan should include provisions of involving donor round tables or conferences if the internal or national resources are insufficient. A pre-planned conference might save valuable time post disaster if the need of it arises. The conference should be planned to be convened by the Royal Government of Cambodia, along with MPWT, MRD, and NCDM.

It is important to note that this guidance, and the successful completion of a PDNA is based on certain assumptions, such as active participation of the key stakeholders, no after-shocks after the main disaster, and sufficient stability in the institutional system of Cambodia and administrative capacity of the road sector to conduct the interagency PDNA process. These assumptions need to be reviewed, and interventions need to be made where possible to account for any deviations. These assumptions, along with a potential lack of financial and human resources might limit the successful or timely application of the recovery strategy.

Finally, it is critical for the assessment to be validated by a broader audience beyond the PDNA team. As part of a collaborative effort with all other sectoral PDNA teams, the transport sector PDNA should be shared across all relevant stakeholders for validation and revisions as necessary. This set of stakeholders will include NCDM and PCDM representatives, the road sector representatives from MPWT and MRD, other relevant line ministries, and local NGOs.

7

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8

Appendix

The appendix includes illustrative examples and templates of the baseline data and the field data collection templates.

8.1 Baseline Data

Cost Estimates: Roads

Table 7: Baseline Data - Cost Estimates for Roads

Terrain _Road type	Flat			Undulating			Mountainous		
	Rebuild cost (per km)	Major repair cost (per km)	Minor repair cost (per km)	Rebuild cost (per km)	Major repair cost (per km)	Minor repair cost (per km)	Rebuild cost (per km)	Major re- pair cost (per km)	Minor repair cost (per km)
Paved**	\$	\$	\$	\$	\$	\$	\$	\$	\$
Gravel	\$	\$	\$	\$	\$	\$	\$	\$	\$
Dirt	\$	\$	\$	\$	\$	\$	\$	\$	\$

*Similar table for rehabilitation cost should be created.

** Further detailed cost estimates can be generated in future, segregated by the type of pavement materials (concrete, asphalt etc.), if data exists for the same.

Unit Costs: While the baseline data should have a regular estimate of these costs, it is important for the PDNA team to review and adjust the costs as per the time of the disruption.

Cost estimates: Bridges

Table 8: Baseline data - Cost estimates of Bridges

Bridge type	Rebuild cost for complete bridge	Major repair cost per meter of span length	Minor repair cost per meter of the span length
Cable-style	\$	\$	\$
Girder	\$	\$	\$
Arch	\$	\$	\$
Rigid frame	\$	\$	\$
Truss	\$	\$	\$

Cost estimates: Culverts

Table 9: Baseline Data - Cost estimates of Culverts

Culvert type by material	Rebuild cost	Major repair cost	Minor repair cost
Corrugated Steel Pipe (CSP)	\$	\$	\$
Concrete Pipe	\$	\$	\$
Concrete Box	\$	\$	\$

Cost estimates: Other Road sector public assets

Table 10: Baseline data - cost estimates of other road infrastructure assets

Equipment and assets	Average acquisition value per unit (\$)	Average replacement cost per unit (\$)	Average repair cost per unit (\$)
1. Heavy equipment			
1.1. Bulldozers			
1.2 Graders			
1.3 Loaders			
1.4 Trucks			
1.5 Others (Enumerate)			
2. Other equipment			
2.1 Communication			
2.2 Security (Cameras)			
2.3 Others (Enumerate)			
3. Roadside assets			
3.1 Sign boards			
3.2 Light Polls			
3. 3 Others (Enumerate)			
4. Private Vehicles			
4.1 Cars			
4.2 Motorcycles			
4.3 Bicycles			
4.4 Buses			
4.5 Taxis			
4.6 Trucks			
4.7 Other Vehicles			
5. Bus Companies			
5.1 Busses			
5.2 Garage			
5.3 Equipment			
5.4 Bus stations			
6. Taxi companies			
6.1 Taxis			
6.2 Garage			
6.3 Equipment			
7. Tuk Companies			
7.1 Tuk tuks			
7.2 Garage			
7.3 Equipment			

Baseline condition and usage data

To use the pre-disaster conditions of the road sector to establish a baseline for comparing the post-disaster conditions, regular condition assessment of the key road sector infrastructure is helpful. This can include a 5-year assessment of the road conditions, with categorizing the conditions into one of the categories: good, fair, poor, and bad. The classification can be used based on sample calculations of the roughness index (Arhin, Noel, & Ribbiso, 2015), or by expert opinion of the data collection personal in the absence of IRI data. This data, along with the year of construction, last year of major rehabilitation, and the usage information will be helpful in identifying the general vulnerabilities of the system. This information will help in prioritizing response and recovery efforts. The user's information can be obtained from the most recent travel surveys or census data.

Table 11: Baseline data - Road condition and usage

Road no.	Starting point	End Point	Length	Year constructed	Year of last major rehab	Condition (as per year XXX)	Users	
							Person	Vehicles

Similar baseline condition data for major bridges and culvers is developed and available in the baseline dataset compiled by the UNDP Cambodia team in collaboration with NCDM.

8.2 Damage and Loss Assessment – Field Data Collection Templates

Roads

The road number/district code can be used to map the data with the baseline data, providing geospatial understanding of the damages, and the type of road, terrain information, and estimated detour and debris volume can be used to integrate the unit cost baseline data to estimate the damages and losses. The damage categorization into complete, medium and light damage can be done using the following guide:

Light damage: slight erosion of the road surface, small surface level potholes, signboards damaged – minor repair needed

Medium damage: surface eroded completely, partial damage to the subgrade – rehabilitation needed

Complete damage: road damaged all the way to the subgrade – need of complete replacement of the road

National and Provincial roads – Damage and loss field data template

Table 12: Damage and Loss Data – Roads (National and Provincial)

Road N°*	Route (Town A-Town B)	Length with complete damage (km)	Length with medium damage (km)	Length with light damage (km)	Estimated detour length (in km)	Estimated Debris Volume (Cu. meters)	Type of road (Paved/ Gravel/ Dirt)	Terrain (Flat /Undulating /Mountainous)

* The road number will identify whether the road is national or provincial, as the national road numbers are 1 or 2 digits, and provincial road numbers are 3-4 digits.

Rural Roads - Damage and loss field data template

As rural roads are not indexed like national and provincial roads, aggregate data for rural roads can be collected based on their district code. Instead of the route identification, a more useful data here would be the names of the villages affected by the road damage. The table presented below is a template to be used for rural road damage and loss data collection.

Table 13: Damage and Loss Data – Roads (Rural)

District code	Villages affected	Road name	Length with complete damage (km)	Length with medium damage (km)	Length with light damage (km)	Estimated detour length (in km)	Estimated Debris Volume (Cu. meters)	Type of road (Paved/ Gravel/ Dirt)	Terrain (Flat /Undulating /Mountainous)

Bridges and culverts - Damage and loss field data template

If an indexed inventory of bridges on various national and provincial routes exists, the damage can be categorized as complete damage, in which case the entire bridge would need replacement, or partially damaged, in which case, the length of damage will be measured.

If the baseline data does not have an index related to the bridge, an identifier along with the road number will be helpful.

Table 14: Damage and Loss Data – Bridges

Rd No.	Route	Bridge no./Identifier	Damage Type	Length damaged* (Km)
78	Town A-Town B	3	Light damage	0.5
79	Town B-Town C	7	Complete Damage	-
73	Town A-Town B	Landmark/River	Complete Damage	-

For culverts, a count of culverts by type with complete damage and partial damage per route will be sufficient to calculate the damage data. The table below can be used to gather data on culvert damage.

Table 15: Damage and Loss Data – Culverts

Rd No.	Route	#Culverts partially damaged			#culverts completely damaged		
		Steel	Concrete	Plastic	Steel	Concrete	Plastic
73	Town A-Town B	3	1	0	3	2	4

Additional assets and equipment- Damage and loss field data template

For additional assets and equipment, number of units completely damaged (needing replacement) and partially damaged (needing repair) for each province will be useful. The following table can be used in the field to collect the damage data for each province.

Table 16: Damage and Loss Data – Additional Road Infrastructure Assets

Province number and name: Province A (P No. 1)		
	# Units completely damaged	#Units in partially damaged
1. Heavy equipment		
1.1 Bulldozers		
1.2 Graders		
1.3 Loaders		
1.4 Trucks		
1.5 Others (Enumerate)		
2. Other equipment		
2.1 Communication		
2.2 Security (Cameras)		
2.3 Others (Enumerate)		
3. Roadside assets		
3.1 Sign boards		
3.2 Light Polls		
3. 3 Others (Enumerate)		
4. Private Vehicles		
4.1 Cars		
4.2 Motorcycles		
4.3 Bicycles		
4.4 Buses		
4.5 Taxis		
4.6 Trucks		
Other Vehicles		
5. Bus Companies		
5.1 Busses		
5.2 Garage		
5.3 Equipment		
5.4 Bus stations		
6. Taxi companies		
Taxis		
6.2 Garage		
6.3 Equipment		
7. Tuk Companies		
7.1 Tuk tuks		
7.2 Garage		
7.3 Equipment		



Baseline Data on Transport Sector in Cambodia for Road Recovery

Baseline Data on Transport Sector in Cambodia for Road Recovery

(a) Description of information provided and its alignment with PDNA indicators and standards:

a.1. About the Baseline Dataset

The pre-disaster baseline datasets and templates on the road sector were customized for the Cambodia context. The complete set of data was collected and entered in the baseline dataset template. The baseline dataset is useful for the preparation of disaster rehabilitation of the road sector after a disaster such as floods. The dataset is categorized into 9 tables:

- **Table 1** - Total road network in Cambodia: Road categories (National Road, Provincial Road, and Rural Road), total length of each road category, number of road lines and lengths, number of bridges, % share network, and % paved.
- **Table 2** – National road in Cambodia: National road 1 digit, national road 2 digit, length of each national road, starting point, and ending point.
- **Table 3** – Provincial road in Cambodia: Name of provincial road by province, national road connected, provincial road connected, provinces passed through, length of passed provinces (km), paved length and unpaved length (km), and % unpaved.
- Link to detailed map of national road and provincial road in Cambodia:
<https://drive.google.com/file/d/1PIqOfNPxA6WGOF-TtByXUjC-jrSO2nZC/view?usp=sharing>
- **Table 4** – District wise rural network in Cambodia: Length of the rural road (RR) by district, total length of RR by district, length paved and unpaved, and % unpaved.
- Link to detail rural road inventory provinces. The rural inventory has more details of the reach road line, including when the road was constructed, when the road was repaired, and the road status of paved and unpaved:
https://drive.google.com/drive/folders/1NbnuhBuNSeC1z7xwF8nO5-yOb8G5F_EX?usp=sharing .
- **Table 5:** Length of Rural Road in Planning for Repairing, New Constructed, and Rehabilitation.
- **Table 6** - Major Provincial Roads and Bridge Built (2020 and 2021): This table provide information on the national road and provincial road repair in 2020 and 2021 from the severe flood in 2020, using national budget chapter 61 (road maintenance budget) and budget chapter 21 (investment/improvement budget).
- **Table 7** - Budget Chapter 21 (Investment Fund using for 2020 flood rural road repaired): This table provides information on the national road and provincial road repair in 2020 from the severe flood in 2020, national budget chapter 21 (investment/improvement budget).
- **Table 8** - Material locations and other Public Buildings available with the Provincial Department of Public Works and Transport (2021). Name of Provinces, Number of materials location and material available, and link to the map of materials location.
- **Table 9** - Road repair/construction machinery available with the Provincial Department of Public Works and Transport (2021).
- **Table 10** - Sources of data on disaster-related transport sector inventory: Type of baseline data, availability of data of all 25 provinces, and specific data sources (where data can be found).

The source data of national, and provincial road, machinery, and national road and provincial road repairing costs from flood 2020 is the Ministry of Public Works and Transport (MPWT, 2020); and the source of rural data is the Ministry of Rural Development (MRD, 2020).

a.2. Responsible Ministries of the Baseline Dataset

- **Hosting of the Baseline Database:** The database is maintained and continuously updated by the National Committee for Disaster Management (NCDM), Department of Research and Planning. NCDM is the coordination committee for all sectors, including road sectors from the two line Ministries.

- **Data Contributors:** There are two key line Ministries in charge of providing the updated data to NCDM for updating to the latest version of the dataset. The two key line Ministries are: (1) the Ministry of Public Works and Transport (MPWT), and the Ministry of Rural Development (MRD).
 - **NCDM**, Department of Research and Planning, in charge of coordination in collecting the updated data from MPWT and MRD.
 - **MPWT**, Department of Road, in charge of providing data related to National Road, Provincial Road, and Town Road. The data contents to be provided are listed in Table 1, Table 2, Table 3, Table 6, Table 8, and Table 9.
 - **MRD**, Department of Rural Road, in charge of providing data related to rural road. The data contents to be provided are listed in Table 4, Table 5, and Table 7.
- **Schedule of Dataset Updating:** At the start the fiscal year, i.e. January, NCDM need to send a letter to MPWT and MRD requesting the latest updates data for the baseline dataset.
- **Accessible of Baseline Dataset:** Data users who need the baseline dataset shall contact NCDM Department of Research and Planning for accessing dataset by mentioning the purpose of using the dataset.

(b) Assessment of data needs and gaps, including issues that impeded data availability, quality, and completeness:

Since MPWT has no road inventory system to keep record of complete set of national road, provincial road, and town road; the data of latest year of road repaired, improved, and constructed is currently not available. The records of number of vehicles using on each road line is also not available.

In order to sustain the usefulness of the baseline dataset, the information of road infrastructure should be maintained and kept updated annually by the National Committee for Disaster Management (NCDM). The commitment of NCDM in collecting and updating the dataset and the commitment of MRD and MPWT to provide the updated data are crucial for the baseline dataset.

(c) Recommendations on integration/updating data collection mechanisms in alignment with PDNA requirements, including development of appropriate templates and tools for data collection.

Timely and reliable pre-disaster baseline data is critical in conducting PDNAs and developing appropriate recovery strategies.

While NCDM is taking the lead of annually collecting and updating the road sector baseline dataset, the source of data is at the line Ministries, i.e. MPWT and MRD. Hence to ensure quality baseline data, it is important to establish a data management system for road infrastructure inventory at the line ministry level.

To effectively do so, the following recommendations are suggested:

- **Capacity building at the line Ministry level** – NCDM should work with MPWT and MRD to train the line Ministry leads, and their provincial and communal officials to collect and record road infrastructure inventory on a recurring basis. The training should include a review of the baseline data templates, ways to collect the data, frequency of updates necessary, and establishing the benefits of such effort.
- **Establishing a Data Dissemination System** – Based on the recommendations of GFDRR on pre-disaster baseline data for effective recovery, having a National Pre-disaster Data Dissemination System (NPDDS) will support the baseline data integration and updates in alignment with PDNA needs. A cloud platform such as Google, IBM, Microsoft Azure, or AWS can be identified based on a review of costs and benefits. As NCDM is already using google drive based data storage option, a google cloud platform for pre-disaster baseline data, shared with MPWT and MRD will be helpful. A web-based interface where all stakeholders (NCDM, MPWT, & MRD) can download and upload data will allow for continuous updates to the baseline data and quick access for faster PDNA and recovery.
- **Adding road usage metrics to capture loss** – MPWT and MRD should capture the average daily traffic count for critical roads, starting with the national roads, and eventually capturing the traffic count for all provincial roads. This data will help identify how many people/businesses were affected due to road damage after a disaster such as floods. A separate count of passenger cars and freight trucks should be captured. Based on the available

budget, various options can be explored to capture the traffic count. These could range from automated traffic counter, hiring an observer to record traffic, or licensing estimated counts from GPS data providers. Some automated counters collect data continuously, which can be set up on highly critical national roads and bridges. For other road segments, manual short terms data collection, such as coverage count data collection, could be done at frequent intervals of time (~3-5 years). This data, combined with an estimated growth factor over the 3-5 year period, can give a decent estimate of the traffic count on the road segment.

Table 1: Total road network in Cambodia

Road Length (in Kms)		Share in Network (%)	Number of	Number of	Bridge	Paved with DBST, Asphalt Concrete, or Cement Concrete (%)	Agency
Category	Total Length		Road Lines	Bridges	Length (m)		
National (1 digit)	2,254	4	9	589	17,643	100	MPWT
National (2 digit)	5,007	8	66	395	8,892	74	MPWT
Provincial (3 & 4 digit)	10,863	15	627	1,368	26,032	36	MPWT
Rural Roads	47,920	74	15,209	2,128	30,245	5	MRD
Total	66,044	100	15,911	4,480	82,812		

Notes: MPWT: Ministry of Public Works and Transport; MRD: Ministry of Rural Development

Sources: MPWT (2022) & MRD (2020)

Table 2: National Road in Cambodia

No.	National Highway Number	Length (Kms)	Starting Points	Ending Points
National Road (1 digit)				
1	1	166.850	WatPhnom (PK00), Phnom Penh	Bavet (Svay Rieng Province, Vietnamese border)
2	2	120.695	Kbal Thnal, NR1 PK5+75, Phnom Penh	Phnom Den, Vietnamese Border
3	3	201.589	PK00, Phnom Penh	Veal Rinh, NR4 PK182+280
4	4	214.200	Chom Chao, NR3 PK12+400, Phnom Penh	Sihanoukville, Preah Sihanouk
5	5	407.450	PK00, Phnom Penh	Poipet, Thai boarder
6	6	415.477	PK00, Phnom Penh	Krong Serey Sorphorn, Banteay Meanchey Provinces
7	7	460.830	Skun, NR6 PK75, Kampong Cham	Tropang Kreal, Lao Border
8	8	124.400	Preak Takmak, NR6 PK179+530, Kandal	Krek, NR7 PK179+530, Tbong Khmum Provinces
9	9	142.755	Krong Steung Treng, NR7 PK458, Steung Treng	PK130, Krong Preah Vihear
Sub Total		2254.246		
National Road (2 digit)				
10	11	90.280	Nak Leung, NR PK61+150	Thnal TorTeung, NR7 PK138+822
11	13	62.400	Svay Rieng, NR PK126+500	Korbao, NR8 PK122+870
12	14	42.528	Nak Leung, NR1 PK59+300	Kaarm Samnor, Vietnam border
13	18	25.660	Svay Teap, NR1 PK135+540	Prey Vorl, Vietnam border
14	20	9.624	Krang Svay, NR1 PK19+930	Kampong Toul, PK24+350

15	21	65.562	Takmao,NR2 PK11+090	Chery Thum, Vietnam border
16	21A	20.050	Takmao,NR2 PK10+020	Choung Leap Pagoda, NR21 PK11+340
17	21B	12.330	Prek Hau, NR2 PK14+467	Taprum Village, NR1 PK12+445
18	22	9.615	Au Chambak, NR PK74+010	Angtasome, NR3 PK74+820
19	23	53.500	Deum Tlork, NR2 PK52+200	Peam Rang, PR118 PK18+910
20	31	54.810	Bambek Kus, NR3 PK81+920	Kampong Trach, NR33 PK35+680
21	31A	30.880	Chhouk Market, NR3 PK107+930	Kampong Trach, NR33 PK35+600
22	32	33.320	Keb Thmey, NR3 PK148+100	Bokor National Park
23	33	52.270	Kampot, NR3 PK148+100	Lork Border Entrance
24	33A	19.240	Ses Sor, NR33 PK14+900	Damnak Chang-er, NR33 PK18+400
25	41	96.450	Thnal Torteung, NR4 PK31+050	La-ang, NR2 PK126+410
26	42	69.000	Bek Charn, NR4 PK14+000	Teuk Phos, NR5 PK28+500
27	43	78.880	Treng Troyeung, NR4 PK87+877	Tve Tmey, NR3 PK130+490
28	44	140.000	Chbar Morn, NR4 PK49+000	Udong, NR5 PK39+480
29	45	9.300	Kang Keng, NR4 PK209+100	Ream
30	46	26.990	Treng Troyeung, NR4 PK87+877	Kirirum Park
31	48	161.270	Chamkar Loung, NR4 PK142+350	Cham Yeam, Thai Border
32	48-5	60.000	Au Makak, NR48 PK55+950	Kiri Sakor (Koh Sdach)
33	51	38.010	Udong, NR5 PK38+560	Thnal TorTeung, NR4 PK31+50
34	52	8.010	Ponley, NR5 PK123+640	Chhnok Trou
35	53	62.000	Kampong Chhnang, NR5 PK90+800	Am Lang, NR44 PK87+610
36	53A	29.280	Psar Commune, NR5 PK166+100	Kdol
37	53B	22.300	KroKor, NR5 PK153+750	Kamreng
38	54	4.870	KroKor, NR5 PK153+750	Kampong Lung, Tonlesab
39	55	182.166	Svay At, NR5 PK191+750	Thmar Dar, Thai Border
40	55-1	120.370	Koh Kong, NR5 PK146+560	Veal Veng, NR5 PK-160+600
41	55-4	66.000	Veal Veng, NR5 PK106+000	Samlot, NR57 PK37+85
42	56	113.620	BMC, NR5 PK359+780	UMC, NR68 PK73+670
43	56D	18.050	Kaub Nimit, NR5 PK383+150	Aubey Chann, Thai Border
44	57	103.340	BTB, NR5 PK288+000	Thai Border
45	57B	90.200	Tmore Korl, NR5 PK316+580	Sapov Lone, PR59 PK60+440
46	57B1	69.750	Bovel, PR57B PK24+590	Phnom Preok, PR PK87+360
47	57B2	16.400	SamSeb Village, PR57 PK40+050	AuDa, PR59 PK108+517
48	57-7	55.000	Pchear, NR57 PK338+420	Coorider 400, Thai border
49	58	166.000	Au Chrov, NR5 PK400+124	Pa-ung, NR68 PK101+550
50	59	140.250	Kaun Darey, NR5 PK392+820	Sampov Loun, PR57 PK91+100

51	60	19.990	Sampong Chey, PR6 PK91+430	Prey TorTeung, PR7 PK95+120
52	60B	140.250	Kampong Thmar, NR6 PK129+000	Kla Stus, PR PK331+250
53	61	15.890	Thnal Keng, NR6 PK46+590	PrekKdam, NR5 PK31+000
54	62	252.660	Thanl Bambek, NR6 PK170+950	Preah Vihear Temple
55	62-3	93.070	Phnum Dangrek, PR62 PK67+00	Beung Mealea, PR64 PK30+350
56	63	14.310	Siem Reap, NR6 PK312+610	Chong Kneas, Phnum Krome
57	64	112.160	Dam Dek, NR6 PK279+310	Thnal Bambek, NR6 PK150+600
58	67	133.780	Svay Thum, NR6 PK296+560	Cham, Thai Border
59	68	116.860	Kralanh, NR6 PK365+170	Au Smac, Thai Border
60	70	13.530	Prey Torteng, NR7 PK95+200	Peam Chikang
61	70B	150.000	Tonlebet, NR7 PK126+422	Lvaem-Peamror, PR11 PK06+000
62	71	57.830	Treng, NR7 PK105+822	Kampong Thmor, NR6 PK128+240
63	71C	102.718	Sro Lob, NR7 PK150+722	Steung Trang-Chamkar Ler, PR71 PK30+390
64	72	13.500	Krek, NR7 PK179+530	Tropang Plong, Vientname Border
65	73	92.400	Preh Theat, NR7 PK164+652	Kratie
66	74	21.120	Srey Char, NR7 PK246+700	Trapang Sre, VietName border
67	76	306.180	Snoul, NR7 PK254+930	Ta Ang, PR78 PK575+000
68	76-4	27.000	Au Spean, PR76 PK122+023	Dak Dam, Vientname Border
69	78	191.700	Au Pong Man, PR76 PK459+700	Au Yadav, Vietnam Border
70	78-C	132.970	Dung Kralar, NR7 PK527+700	Au Chum, PR78 PK7+800
71	78-5	191.000	Banlung, PR78 PK584+570	Kuntuy Neak
72	88	5.630	Krobao, NR8 PK122+370	Meun Chey, Veitname Border
73	92	136.940	Sam Ang, NR9 PK489+110	MumBei, Thai Border
74	94	65.540	Chheb, NR9 PK541+150	Kampong Sralao 1
75	95	80.700	Chheb1, NR7 PK547+491	Phnom Dek, PR62 PK67+000
Sub Total		5017.303		

Sources: MPWT (2019)

Table 3: Provincial Road in Cambodia

[Link to all Provincial Road Map](#)

NO	Provincial Road	PK to PK	National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved	
1. Banteay Meanchey (BM)										
Link to BM Road Map										
1	156C	000+000	030+700	NR5	BMC	Mongkol Borei, Preah Netr Preah	30.70	16.25	14.45	47.07%
2	156D	000+000	024+400	NR5, NR6	BMC	Mongkol Borei, Preah Netr Preah	24.40	24.40	0	0.00%
3	159C	000+000	019+800	NR5, NR57B	BMC,BTB	Mongkol Borei, Bavel	19.80	19.80	0	0.00%
4	159E	000+000	016+100	NR5, NR59	BMC	Au Chrov, Malai	16.10	0	16.10	100.00%
5	159G	000+000	020+800	NR5	BMC	Au Chrov, Malai, Mongkol Borei	20.80	0.12	20.68	99.42%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
6	258B	000+000	045+960	NR56D	BMC	Au Chrov, Svay Chek, Thma Puok	45.96	0	45.96	100.00%
7	258E	000+000	018+000	NR5, NR58	BMC	Au Chrov	18.00	0.44	17.56	97.56%
8	268A	000+000	045+700	NR6	BMC	Preah Netr Preah, Phnom Srok, Svay Chek	45.70	35.90	9.80	21.44%
9	2561	000+000	025+600	NR56, NR58	BMC	Svay Chek	25.60	0	25.60	100.00%
10	2561A	000+000	025+420	NR56, NR58	BMC	Svay Chek	25.42	0	25.42	100.00%
11	2563	000+000	024+600	NR56, NR58	BMC	Thma Puok	24.60	24.60	0	0.00%
12	2563A	000+000	022+800	NR56, NR58	BMC	Thma Puok	22.80	0	22.80	100.00%
13	2563B	000+000	010+700	NR56, NR58	BMC	Thma Puok	10.70	10.70	0	0.00%
14	2566	000+000	015+000	NR56, NR68	BMC,ODM	Thma Puok, Banteay Ampil, Chong Kal	15.00	0	15.00	100.00%
15	2566A	000+000	005+950	NR56	BMC	Thma Puok	5.95	0	5.95	100.00%
Total length							351.53	132.21	219.32	62.39%
2. Battambang (BB)								Link to BB Road Map		
1	154H	000+000	010+000	NR5	BTB	Krong Battambang, Sangkae	10.00	10.00	0	0.00%
2	154H1	000+000	004+900	NR5	BTB	Krong Battambang, Sangkae	4.90	4.90	0	0.00%
3	154H2	000+000	011+600	NR5	BTB	Sangkae	11.60	7.00	4.60	39.66%
4	156	000+000	022+500	NR5	BTB	Krong Battambang, Aek Phnom	22.50	11.00	11.50	51.11%
5	156A	000+000	019+500	NR5	BTB	Krong Battambang, Aek Phnom	19.50	13.00	6.50	33.33%
6	156A1	000+000	012+900	-	BTB	Aek Phnom	12.90	12.90	0	0.00%
7	156BB2	000+000	023+200	-	BTB	Aek Phnom, Sangkae	23.20	18.50	4.70	20.26%
8	157	000+000	023+600	NR5	BTB	Moung Ruessei, Kaoh Kralor	23.60	23.60	0	0.00%
9	157A	000+000	020+900	NR5	BTB	Sangkae, Banan	20.90	9.00	11.90	56.94%
10	157B1	000+000	018+000	NR57B, NR57B1	BTB	Phnom Proek, Kamrieng	18.00	5.00	13.00	72.22%
11	157B2	000+000	032+000	NR57B, NR57B1	BTB	Phnom Proek, Bavel	32.00	0	32.00	100.00%
12	159A	000+000	004+100	NR5	BTB	Krong Battambang	4.10	4.10	0	0.00%
13	159B	000+000	006+500	NR5, NR57	BTB	Krong Battambang	6.50	6.50	0	0.00%
14	159B1	000+000	013+000	NR5	BTB	Thma Koul, Banan	13.00	0	13.00	100.00%
15	159C	019+800	034+600	NR5, NR57B	BMC,BTB	Mongkol Borei, Bavel	14.80	14.80	0	0.00%
16	1570	000+000	035+000	NR57, NR57B1	BTB	Banan	35.00	20.20	14.80	42.29%
17	1570A	000+000	017+300	-	BTB	Bavel	17.30	0	17.30	100.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
18	1571	000+000	041+400	NR57	BTB	Banan	41.40	41.40	0	0.00%
19	1571A	000+000	055+600	NR57	BTB	Sangkae, Banan, Kaos Krala	55.60	11.70	43.90	78.96%
20	1571B	000+000	009+100	NR57	BTB	Banan	9.10	0	9.10	100.00%
21	1573	000+000	018+500	NR57	BTB	Ratanak Mondol, Banan	18.50	0	18.50	100.00%
22	1573A	000+000	027+800	NR10	BTB	Banan, Kaoh Krala, Samlout	27.80	0	27.80	100.00%
23	1577A	000+000	023+000	NR57	BTB,PLN	Krong Pailin, Samlout	23.00	0	23.00	100.00%
24	1577A1	024+200	058+700	NR10	BTB	Samlout, Kaoh Krala	34.50	0	34.50	100.00%
25	1577A2	000+000	014+400	NR57-7	BTB	Samlout	14.40	0	14.40	100.00%
26	1577B1	000+000	018+900	NR57-7	BTB	Ratanak Mondol	18.90	0	18.90	100.00%
27	1591(BIB)	000+000	028+000	NR59,N-R57B,N-R57B1,N-R57B2	BTB	Sampov Loun, Phnom Proek, Kamrieng	28.00	0	28.00	100.00%
28	1594(BIB)	029+550	039+050	NR59	BTB	Kamrieng	9.50	9.50	0	0.00%
29	1594A	000+000	017+700	-	BTB	Ratanak Mondol, Bavel	17.70	0	17.70	100.00%
Total length							588.20	223.10	365.10	62.07%
3. Kampong Cham (KC)										
Link to KC Road Map										
1	260A	000+000	028+000	NR6	KCM	Batheay, Kang Meas	28.00	0	28.00	100.00%
2	260A1	000+000	006+450	NR6	KCM	Batheay, Cheung Prey	6.45	0.24	6.21	96.28%
3	260B	000+000	017+260	NR6	KCM	Batheay, Cheung Prey	17.26	0	17.26	100.00%
4	263	000+000	013+000	NR6	KCM	Batheay	13.00	13.00	0	0.00%
5	263A	000+000	015+300	NR6	KCM	Cheung Prey	15.30	0	15.30	100.00%
6	264	009+450	021+250	NR6, NR71	KCM,KTH	Baray, Chamkar Leu	11.80	11.80	0	0.00%
7	264A	004+800	015+800	NR6, NR71	KCM,KTH	Baray, Chamkar Leu	11.00	11.00	0	0.00%
8	270	000+000	062+680	NR7	KCM	Krong Kompong Cham, Kampong Siem, Kang Meas	62.68	62.68	0	0.00%
9	271C3	000+000	025+500	NR71C	KCM	Stueng Trang	25.50	0	25.50	100.00%
10	277	000+000	039+836	NR7, NR71C	KCM	Krong Kompong Cham, Kampong Siem, Stueng Trang	39.836	10.70	29.14	73.15%
11	278	000+000	006+820	NR7	KCM	Kampong Siem	6.82	6.82	0	0.00%
12	279	000+000	064+145	NR7	KCM,KRT	Kampong Siem,Stueng Trang,Prek Prasab,Sambour	64.15	64.15	0	0.00%
13	279A	000+000	021+200	-	KCM	Stueng Trang	21.20	12.00	9.20	43.40%
14	279B	000+000	012+800	-	KCM	Stueng Trang	12.80	0	12.80	100.00%
15	279B1	000+000	009+500	-	KCM	Stueng Trang	9.50	0	9.50	100.00%
16	2KC2	000+000	020+200	-	KCM	Cheung Prey, Batheay	20.20	8.20	12.00	59.41%
17	2KC3	000+000	029+500	NR71	KCM	Chamkar Leu, Kampong Siem	29.50	13.50	16.00	54.24%
18	2KC4	000+000	009+500	NR71C	KCM	Stueng Trang	9.50	0	9.50	100.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
19	3KC4	000+000	005+800	NR70B	KCM	Koh Soutin	5.80	5.80	0	0.00%
20	3KC5	000+000	009+350	NR70B	KCM	Koh Soutin	9.35	0	9.35	100.00%
21	3KD1	004+500	008+830	NR70B	KCM	Srei Santhor	4.33	2.63	1.70	39.26%
22	3KD2(KCM)	002+850	014+070	NR70B	KCM	Srei Santhor	11.22	3.52	7.70	68.63%
23	3KD12	002+880	018+480	NR70B	KCM	Khsach Kandal	15.60	4.73	10.87	69.68%
24	2601	000+000	015+600	NR60, NR71	KCM	Prey Chor, Chamkar Leu	15.60	8.70	6.90	44.23%
25	2602	000+000	008+500	NR60	KCM	Prey Chor	8.50	8.50	0	0.00%
26	2710	000+000	009+238	NR71	KCM	Kampong Siem	9.238	0	9.24	100.02%
27	2712	000+000	008+410	NR71	KCM	Chamkar Leu	8.410	0	8.41	100.00%
28	2715	000+000	003+500	NR71	KCM	Chamkar Leu	3.500	0	3.50	100.00%
29	2716	000+000	014+200	NR71, NR71C	KCM	Chamkar Leu	14.20	14.20	0	0.00%
Total length							510.24	262.17	248.07	48.62%
4. Kampong Chhnang (KCh)									KCh Road Map	
1	150	000+000	006+870	NR5	KCH,KDL	Ponhea Lueu, Kampong Tralach	6.87	4.70	2.17	31.59%
2	150A	000+000	007+300	NR5	KCH	Kampong Tralach	7.30	7.30	0	0.00%
3	150A1	000+000	006+580	NR5	KCH	Kampong Tralach	6.58	0.13	6.45	98.02%
4	150B	000+000	005+800	NR5	KCH	Kampong Tralach	5.80	5.80	0	0.00%
5	151B	000+000	035+000	NR5, NR44	KCH	Sammeakki Mean Chey	35.00	35.00	0	0.00%
6	151C	000+000	010+224	NR5	KCH	Sammeakki Mean Chey	10.22	0	10.22	100.00%
7	151C1	000+000	026+800	NR5	KCH	Sammeakki Mean Chey	26.80	12.37	14.43	53.84%
8	152	000+000	005+300	NR5	KCH	Kampong Tralach	5.30	0	5.30	100.00%
9	152A	000+000	003+100	NR5	KCH	Rolea B'ier	3.10	3.10	0	0.00%
10	152A5	000+000	005+700	NR5	KCH	Rolea B'ier	5.70	0	5.70	100.00%
11	152B	000+000	013+820	NR5	KCH	Rolea B'ier	13.82	0	13.82	100.00%
12	153	000+000	034+800	NR5, NR53	KCH	Kampong Tralach, Sammeakki Mean Chey, Tuek Phos	34.80	17.00	17.80	51.15%
13	153A	000+000	014+680	NR5, NR53	KCH	Rolea B'ier, Tuek Phos	14.68	14.68	0	0.00%
14	153A4	000+000	025+600	NR5, NR53	KCH	Kampong Tralach, Sammeakki Mean Chey, Tuek Phos	25.60	25.60	0	0.00%
15	153A5	000+000	020+200	NR5	KCH	Kampong Tralach, Sammeakki Mean Chey, Tuek Phos	20.20	0	20.20	100.00%
16	153B	000+000	024+540	NR5	KCH	Rolea B'ier, Tuek Phos	24.54	5.04	19.50	79.46%
17	153C	000+000	025+300	NR5	KCH	Rolea B'ier, Tuek Phos	25.30	25.30	0	0.00%
18	153C4	000+000	026+890	NR5	KCH	Rolea B'ier, Tuek Phos	26.89	26.89	0	0.00%
19	153C6	000+000	042+820	NR5	KCH	Baribour, Tuek Phos	42.82	10.90	31.92	74.54%
20	153C8	000+000	016+550	NR5, NR53A	KCH	Baribour	16.55	0	16.55	100.00%

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21	263A1	000+000	018+860	-	KCH	Chol Kiri, Kampong Tralach	18.86	13.33	5.53	29.32%
22	1532	000+000	023+500	NR53	KCH	Tuek Phos, Rolea B'ier	23.50	0	23.50	100.00%
23	1534	000+000	042+950	NR53	KCH,PST	Tuek Phos, Krakor	42.95	0	42.95	100.00%
24	1534A	000+000	008+549	NR53	KCH	Tuek Phos	8.55	0	8.55	100.00%
25	1536	000+000	027+900	NR53	KCH	Tuek Phos	27.90	0.90	27.00	96.77%
26	1536A	000+000	007+720	NR53	KCH	Tuek Phos	7.72	0	7.72	100.00%
27	1538	000+000	003+850	NR53	KCH	Tuek Phos	3.85	0	3.85	100.00%
28	1KCH1	000+000	012+000	-	KCH	Sameakki Mean Chey, Tuek Phos	12.00	12.00	0	0.00%
29	1KCH2	000+000	007+724	-	KCH	Tuek Phos	7.724	0	7.72	99.95%
30	1KCH3	000+000	003+450	NR53	KCH	Tuek Phos	3.45	0	3.45	100.00%
31	1KCH4	000+000	009+000	NR53	KCH	Tuek Phos	9.00	0	9.00	100.00%
32	1KCH5	000+000	012+000	-	KCH	Tuek Phos	12.00	0	12.00	100.00%
33	1KCH6	000+000	005+300	-	KCH	Kampong Leaeng	5.30	0	5.30	100.00%
34	1KCH7	000+000	005+730	-	KCH	Tuek Phos	5.73	0	5.73	100.00%
35	1KCH8	000+000	016+520	-	KCH	Kampong Chhnang, Kampong Leaeng, Chol Kiri	16.52	0	16.52	100.00%
36	1KCH9	000+000	008+490	-	KCH	Rolea B'ier, Kampong Chhnang	8.49	0	8.49	100.00%
37	1KCH10	000+000	010+820	NR53	KCH	Tuek Phos	10.82	0	10.82	100.00%
38	1KCH11	000+000	002+335	NR53	KCH	Tuek Phos	2.335	0	2.34	100.21%
39	1KCH12	000+000	000+600	-	KCH	Rolea B'ier	0.60	0.60	0	0.00%
40	1KCH13	000+000	004+700	NR5	KCH	Rolea B'ier	4.70	4.70	0	0.00%
41	1KCH14	000+000	006+200	NR5	KCH	Rolea B'ier	6.20	2.70	3.50	56.45%
42	1KCH15	000+000	012+240	NR44	KCH	Sameakki Mean Chey	12.24	12.24	0	0.00%
43	1KCH17	000+000	003+000	NR53	KCH	Tuek Phos	3.00	3.00	0	0.00%
44	1KCH18	000+000	004+000	-	KCH	Kampong Chhnang, rolea B'ier	4.00	0	4.00	100.00%
45	1KCH20	000+000	005+371	-	KCH	Tuek Phos, Rolea B'ier	5.371	0	5.37	99.98%
46	1KCH22	000+000	005+585	NR5	KCH	Sameakki Mean Chey	5.585	0	5.59	100.09%
47	1KCH23	000+000	006+250	NR5	KCH	Kampong Tralach	6.25	6.25	0	0.00%
48	1KCH24	000+000	009+130	NR5	KCH	Rolea B'ier	9.13	0	9.13	100.00%
49	1KCH25	000+000	007+420	NR5	KCH	Rolea B'ier	7.42	1.00	6.42	86.52%
50	1KCH26	000+000	005+830	NR5	KCH	Rolea B'ier	5.83	0	5.83	100.00%
51	1KCH27	000+000	014+620	-	KCH	Rolea B'ier	14.62	14.62	0	0.00%
52	1KCH28	000+000	006+490	NR5	KCH	Baribour	6.49	6.49	0	0.00%
53	1KCH29	000+000	007+400	NR5	KCH	Kampong Tralach	7.40	0	7.40	100.00%
54	1KCH30	000+000	008+480	NR5	KCH	Rolea B'ier	8.48	0	8.48	100.00%
55	1KCH31	000+000	006+700	NR5	KCH	Rolea B'ier	6.70	0	6.70	100.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
56	1KCH32	000+000	002+800	NR5	KCH	Rolea B'ier	2.80	2.80	0	0.00%
57	1KCH33	000+000	009+230	-	KCH	Tuek Phos	9.23	0	9.23	100.00%
58	1KCH34	000+000	001+340	-	KCH	Tuek Phos	1.34	0	1.34	100.00%
Total length							711.96	274.44	437.52	61.45%
5. Kampong Speu (KS)										Link to KS Road Map
1	130	000+000	030+820	NR3, NR41	KSP	Kong Pisei, Samroung Torng	30.82	30.82	0	0.00%
2	130B	000+000	018+700	NR3, NR41	KSP	Basedth	18.70	0	18.70	100.00%
3	130C	000+000	007+750	NR3	KSP	Basedth	7.75	0	7.75	100.00%
4	132	052+115	074+115	NR3, NR41, NR43	KSP,TAK	Tram Kak, Phnom Srouch	22.00	0	22.00	100.00%
5	140	000+000	017+500	NR4	KSP	Samroun Torng, Odongk	17.50	11.20	6.30	36.00%
6	140A	000+000	006+020	NR4	KSP	Samroun Torng (krong Chbar Morn)	6.02	2.50	3.52	58.47%
7	141	000+000	004+200	NR4	KSP	Samroun Torng	4.20	4.20	0	0.00%
8	142	000+000	030+800	NR4	KSP	Phnom Srouch, Aoral	30.80	9.73	21.07	68.41%
9	142B	000+000	056+300	NR4, NR44	KSP	Phnom Srouch, Aoral	56.30	0	56.30	100.00%
10	143	000+000	034+600	NR4, NR41, NR3	KSP	Chbar Morn, Samroung Tong, Korng Pisei	34.60	17.60	17.00	49.13%
11	147	000+000	022+000	NR4, NR43	KSP	Phnom Srouch	22.00	22.00	0	0.00%
12	1440	000+000	034+465	NR44	KSP	Krong Chbar Morn, Samroung Tong, Odongk	34.465	20.50	13.97	40.53%
13	1441	000+000	025+230	NR44	KSP	Krong Chbar Morn, Samroung Tong, Phnom Sruoch	25.230	2.20	23.03	91.28%
14	1442	000+000	012+290	NR44	KSP	Samroung Tong, Odongk	12.290	0	12.29	100.00%
15	1KS1	000+000	027+720	NR44	KSP	Odongk, Thpong	27.72	19.00	8.72	31.46%
16	1KS2	000+000	015+050	NR44	KSP	Thpong, Odongk	15.05	0	15.05	100.00%
17	1KS3	000+000	018+000	NR44	KSP	Aoral	18.00	0	18.00	100.00%
18	1KS4	000+000	022+240	NR44	KSP	Thpong, Odongk	22.24	0	22.24	100.00%
19	1KS5	000+000	007+210	-	KSP	Odongk, Samraong Tong	7.21	0	7.21	100.00%
20	1KS6	000+000	017+000	-	KSP	Samraong Tong	17.00	0	17.00	100.00%
21	1446	000+000	020+000	NR44	KSP	Samroung Tong, Thpong	20.00	0	20.00	100.00%
23	2KT3	000+000	009+871	-	KTH	Prasat Balangk	9.871	0	9.87	99.99%
24	2KT4	000+000	026+857	-	KTH	Sandan	26.857	0	26.86	100.01%
Total length							663.80	185.18	478.62	0.72
6. Kampong Thom (KT)										Link to KT Road Map
1	263A4	000+000	003+100	NR6	KTH	Baray	3.10	3.10	0	0.00%
2	263A5	000+000	028+970	NR6	KTH	Krong Stueng Sen, Kampong Svay	28.97	0	28.97	100.00%
3	264	000+000	009+450	NR6, NR71	KCM,KTH	Baray, Chamkar Leu	9.45	9.45	0	0.00%
4	264A	000+000	004+800	NR6, NR71	KCM,KTH	Baray, Chamkar Leu	4.80	4.80	0	0.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
5	264B	000+000	028+500	NR6	KTH	Santuk, Sandan	28.50	0	28.50	100.00%
6	264C	000+000	041+670	NR6	KTH	Santuk, Prasat Sambour	41.67	1.70	39.97	95.92%
7	264C3	000+000	008+050	NR6	KTH	Kompong Svay	8.05	8.05	0	0.00%
8	264C4	000+000	017+432	NR6	KTH	Kompong Svay, Prasat Balangk	17.43	17.43	0	0.00%
9	264D	000+000	055+040	NR6	KTH	Stoung, Kampong Svay, Prasat Balangk	55.04	7.50	47.54	86.37%
10	264E	000+000	056+589	NR6	KTH	Stoung, Prasat Balangk	56.589	0	56.59	100.00%
11	264 F	000+000	030+144	NR6	KTH	Stoung, Prasat Balangk	30.14	0	30.14	100.00%
12	264G	000+000	031+520	NR6	KTH	Stoung	31.52	0	31.52	100.00%
13	264H	000+000	014+740	NR6	KTH	Stoung	14.74	0	14.74	100.00%
14	264I	000+000	015+340	NR6	KTH	Stoung	15.34	5.83	9.51	61.99%
15	265	000+000	021+000	NR6	KTH	Stoung	21.00	0	21.00	100.00%
16	2620	000+000	058+169	NR62	KTH	Kampong Svay, Prasat Sambour, Sandan	58.17	42.67	15.50	26.65%
17	2620-1	003+000	015+500	NR62	KTH	Kampong Svay	12.50	10.80	1.70	13.60%
18	2620A	000+000	002+000	-	KTH	Sandan	2.00	2.00	0	0.00%
19	2622	000+000	048+199	NR62	KTH	Prasat Balangk, Prasat Sambour, Sandan	48.199	29.00	19.20	39.83%
20	2718	000+000	113+500	NR71	KTH	Baray, Santuk	113.50	42.85	70.65	62.25%
21	2KT1	000+000	012+500	-	KTH	Prasat Balangk, Prasat Sambour	12.50	0	12.50	100.00%
22	2KT2	000+000	013+855	NR62	KTH	Kampong Svay, Prasat Sambour	13.855	0	13.86	100.04%
23	2KT3	000+000	009+871	-	KTH	Prasat Balangk	9.871	0	9.87	99.99%
24	2KT4	000+000	026+857	-	KTH	Sandan	26.857	0	26.86	100.01%
Total length							663.80	185.18	478.62	72.10%
7. Kampot (KP)								Link to Kampot Road Map		
1	126	009+550	016+300	NR2, NR31	KPT,TAK	Traing, Angkor Chey	6.75	6.75	0	0.00%
2	133	000+000	006+380	NR3	KPT	Chhouk	6.38	0	6.38	100.00%
3	133A	000+000	020+400	NR3, NR31	KPT	Chhouk, Angkor Chey	20.40	0	20.40	100.00%
4	134A	000+000	020+200	NR3, NR41	KPT	Chhouk ,Chum Kiri	20.20	0	20.20	100.00%
5	134B	000+000	012+000	NR3, NR41	KPT	Chhouk ,Chum Kiri	12.00	12.00	0	0.00%
6	134C	000+000	015+000	NR3, NR41, NR43	KPT	Dang Tong, Chhouk	15.00	0	15.00	100.00%
7	134D	000+000	013+400	NR3	KPT	Chhouk, Chum Kiri	13.40	0	13.40	100.00%
8	136	000+000	019+700	NR3	KPT	Tuek Chou (krong kom-pot)	19.70	3.00	16.70	84.77%
9	136A	000+000	001+370	NR3	KPT	Tuek Chou (krong kom-pot)	1.37	1.37	0	0.00%
10	137	000+000	030+500	NR3, NR31A, NR31	KPT	Dang Tong, Banteay Meas	30.50	0	30.50	100.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
11	137A	000+000	016+050	NR3, NR31A	KPT	Dang Tong	16.05	0	16.05	100.00%
12	138	000+000	009+400	NR3	KPT	Krong Kompot, Tuek Chhou	9.40	0	9.40	100.00%
13	139	000+000	011+500	NR3, NR33	KPT	Tuek Chhou	11.50	0	11.50	100.00%
14	139A	000+000	003+690	NR3, NR33	KPT	Krong Kompot	3.69	0	3.69	100.00%
15	1311	000+000	025+500	NR31	KPT	Angor Chey, Banteay Meas	25.50	0	25.50	100.00%
16	1311A	000+000	009+600	NR31	KPT	Banteay Meas, Angor Chey	9.60	0	9.60	100.00%
17	1311B	000+000	013+000	NR31	KPT	Banteay Meas	13.00	0	13.00	100.00%
18	1313	000+000	004+500	NR31	KPT	Kampong Trach, Banteay Meas	4.50	0	4.50	100.00%
19	1315	000+000	011+243	NR31	KPT	Kampong Trach	11.243	11.24	0	0.00%
20	1322	000+000	004+200	NR32	KPT	Teuk Chhou (Bok Kor)	4.20	4.20	0	0.00%
21	1331	000+000	006+500	NR33	KPT	Teuk Chhou	6.50	0	6.50	100.00%
22	1335	007+050	019+050	NR33	KPT,KEP	Damnak Chang Aeur, Dang Tong	12.00	0	12.00	100.00%
23	1337	000+000	013+000	NR33	KPT	Kampong Trach	13.00	0	13.00	100.00%
Total length							285.88	38.56	247.32	86.51%
8. Kandal (KD)								Link to KD Road Map		
1	110	013+900	092+670	NR1	KDL,PNH	Phnom penh, Kien svay, S'ang, Koh thum	78.77	78.77	0	0.00%
2	116	000+000	007+800	NR1	KDL	Kien svay	7.80	0	7.80	100.00%
3	116A	000+000	008+300	NR1	KDL	Kien svay	8.30	0	8.30	100.00%
4	116B	000+000	013+100	NR1	KDL	Kien svay	13.10	0	13.10	100.00%
5	120	000+000	006+800	NR2, NR20	KDL	Kandal Steung	6.80	6.80	0	0.00%
6	129	039+295	042+595	NR2, NR21	KDL,TAK	Samroung, Prey Kabas, Koh Thom	3.30	3.30	0	0.00%
7	150	006+870	012+070	NR5	KCH,KDL	Ponhea Lueu, Kampong Tralach	5.20	0	5.20	100.00%
8	151A	036+980	060+580	NR5	KDL	Kampong Tralach, Phnom penh	23.60	7.70	15.90	67.37%
9	261	000+000	027+025	NR6	KDL,PNH	Mukh Kampul, Phnom Penh	27.025	27.03	0	0.00%
10	261A	000+000	002+786	NR6	KDL	Mukh Kampul	2.786	2.79	0	0.00%
11	261B	000+000	001+310	NR6	KDL	Mukh Kampul	1.31	1.31	0	0.00%
12	262	000+000	007+500	NR6	KDL	Mukh Kampul	7.50	7.50	0	0.00%
13	262A	000+000	001+080	NR6	KDL	Mukh Kampul	1.08	1.08	0	0.00%
14	380A	000+000	004+205	NR8	KDL	Khsach Kandal	4.205	4.21	0	0.00%
15	380A1	000+000	004+500	NR70B	KDL	Lvea Aem	4.50	4.50	0	0.00%
16	382	000+000	022+755	NR8, NR70B	KDL	Khsach Kandal, Lvea Aem	22.755	13.43	9.32	40.96%
17	383	000+000	012+500	NR8	KDL	Khsach Kandal	12.50	0	12.50	100.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
18	383A(KD)	000+000	005+600	NR8	KDL	Khsach Kandal	5.60	5.60	0	0.00%
19	383B	000+000	001+340	NR8	KDL	Khsach Kandal	1.34	0	1.34	100.00%
20	383C	000+000	001+340	NR8	KDL	Khsach Kandal	1.34	0	1.34	100.00%
21	383D	000+000	000+570	NR8	KDL	Khsach Kandal	0.57	0	0.57	100.00%
22	383E	000+000	000+720	NR8	KDL	Khsach Kandal	0.72	0	0.72	100.00%
23	383 F	000+000	001+360	NR8	KDL	Khsach Kandal	1.36	0	1.36	100.00%
24	383G	000+000	001+030	NR8	KDL	Khsach Kandal	1.03	0	1.03	100.00%
25	383H	000+000	001+360	NR8	KDL	Khsach Kandal	1.36	0	1.36	100.00%
26	383I	000+000	002+010	NR8	KDL	Khsach Kandal	2.01	0	2.01	100.00%
27	383J	000+000	002+585	NR8	KDL	Khsach Kandal	2.585	0	2.59	100.19%
28	383K	000+000	004+415	NR8	KDL	Khsach Kandal	4.415	4.42	0	0.00%
29	383L	000+000	002+250	NR8	KDL	Khsach Kandal	2.25	0	2.25	100.00%
30	1KD9(34)	000+000	017+500	NR3, NR41	KDL	Kandal Stueng	17.50	17.50	0	0.00%
31	1KD10(143)	000+000	007+100	NR4	KDL	Angk Snuol	7.100	7.10	0	0.00%
32	1KD11(145)	000+000	005+270	NR4	KDL	Angk Snuol	5.27	5.27	0	0.00%
33	2KD1(260)	000+000	002+820	NR6	KDL	Mukh Kampul	2.82	2.82	0	0.00%
34	2KD2(260A)	000+000	003+654	NR6	KDL	Mukh Kampul	3.654	3.65	0	0.00%
35	2KD3(260B)	000+000	001+600	NR6	KDL	Mukh Kampul	1.60	0	1.60	100.00%
36	2KD7(70A)	035+384	039+634	NR6	KDL	Mukh Kampul	4.25	4.25	0	0.00%
37	3KD2	000+000	013+028	NR70B	KDL	Khsach Kandal	13.028	5.36	7.67	58.87%
38	3KD3	000+000	007+716	NR70B	KDL	Lvea Aem	7.716	0	7.72	100.05%
39	1210	000+000	008+150	NR21	KDL	S'ang	8.15	8.15	0	0.00%
40	1211	000+000	008+200	NR21, NR21A	KDL	Krong Ta Khmao	8.20	1.90	6.30	76.83%
41	1212	000+000	018+600	NR21	KDL	S'ang	18.60	18.60	0	0.00%
42	1214	000+000	010+600	NR21	KDL	S'ang	10.60	10.60	0	0.00%
43	1218	000+000	007+400	NR21	KDL	Koh Thom	7.40	0	7.40	100.00%
44	1218A	000+000	002+900	NR21	KDL	Koh Thom	2.90	0	2.90	100.00%
45	1218B	000+000	003+500	NR21	KDL	Koh Thom	3.50	0	3.50	100.00%
46	1218C	000+000	005+400	NR21	KDL	Koh Thom	5.40	0	5.40	100.00%
47	1218D	000+000	002+400	NR21	KDL	Koh Thom	2.40	0	2.40	100.00%
48	2618	000+000	009+850	NR61	KDL	Ponhea Lueu	9.85	6.40	3.45	35.03%
49	1101	000+000	013+170	-	KDL	S'ang	13.17	0	13.17	100.00%
50	1102	000+000	004+280	-	KDL	S'ang	4.28	0	4.28	100.00%
24	383G	000+000	001+030	NR8	KDL	Khsach Kandal	1.03	0	1.03	100.00%
25	383H	000+000	001+360	NR8	KDL	Khsach Kandal	1.36	0	1.36	100.00%
26	383I	000+000	002+010	NR8	KDL	Khsach Kandal	2.01	0	2.01	100.00%
27	383J	000+000	002+585	NR8	KDL	Khsach Kandal	2.585	0	2.59	100.19%
28	383K	000+000	004+415	NR8	KDL	Khsach Kandal	4.415	4.42	0	0.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
29	383L	000+000	002+250	NR8	KDL	Khsach Kandal	2.25	0	2.25	100.00%
30	1KD9(34)	000+000	017+500	NR3, NR41	KDL	Kandal Stueng	17.50	17.50	0	0.00%
31	1KD10(143)	000+000	007+100	NR4	KDL	Angk Snuol	7.100	7.10	0	0.00%
32	1KD11(145)	000+000	005+270	NR4	KDL	Angk Snuol	5.27	5.27	0	0.00%
33	2KD1(260)	000+000	002+820	NR6	KDL	Mukh Kampul	2.82	2.82	0	0.00%
34	2KD2(260A)	000+000	003+654	NR6	KDL	Mukh Kampul	3.654	3.65	0	0.00%
35	2KD3(260B)	000+000	001+600	NR6	KDL	Mukh Kampul	1.60	0	1.60	100.00%
36	2KD7(70A)	035+384	039+634	NR6	KDL	Mukh Kampul	4.25	4.25	0	0.00%
37	3KD2	000+000	013+028	NR70B	KDL	Khsach Kandal	13.028	5.36	7.67	58.87%
38	3KD3	000+000	007+716	NR70B	KDL	Lvea Aem	7.716	0	7.72	100.05%
39	1210	000+000	008+150	NR21	KDL	S'ang	8.15	8.15	0	0.00%
40	1211	000+000	008+200	NR21, NR21A	KDL	Krong Ta Khmao	8.20	1.90	6.30	76.83%
41	1212	000+000	018+600	NR21	KDL	S'ang	18.60	18.60	0	0.00%
42	1214	000+000	010+600	NR21	KDL	S'ang	10.60	10.60	0	0.00%
43	1218	000+000	007+400	NR21	KDL	Koh Thom	7.40	0	7.40	100.00%
44	1218A	000+000	002+900	NR21	KDL	Koh Thom	2.90	0	2.90	100.00%
45	1218B	000+000	003+500	NR21	KDL	Koh Thom	3.50	0	3.50	100.00%
46	1218C	000+000	005+400	NR21	KDL	Koh Thom	5.40	0	5.40	100.00%
47	1218D	000+000	002+400	NR21	KDL	Koh Thom	2.40	0	2.40	100.00%
48	2618	000+000	009+850	NR61	KDL	Ponhea Lueu	9.85	6.40	3.45	35.03%
49	1101	000+000	013+170	-	KDL	S'ang	13.17	0	13.17	100.00%
50	1102	000+000	004+280	-	KDL	S'ang	4.28	0	4.28	100.00%
51	1103	000+000	010+500	-	KDL	S'ang	10.50	0	10.50	100.00%
52	1105	000+000	008+340	-	KDL	Koh Thom	8.34	0	8.34	100.00%
53	1107	000+000	008+810	-	KDL	S'ang	8.81	8.81	0	0.00%
54	1109	000+000	011+300	-	KDL	Koh Thom, Leuk Daek	11.30	0	11.30	100.00%
Total length							451.45	268.84	182.61	40.45%
9. Kep								Link to Kep Road Map		
1	133A(kep)	000+000	014+630	NR33A	KEP	Damnak Chang eur	14.63	0	14.63	100.00%
2	1332	000+000	013+420	NR33	KEP	Damnak Chang Aeur	13.42	13.42	0	0.00%
3	1333	000+000	011+000	NR33	KEP	Damnak Chang Aeur	11.00	2.70	8.30	75.45%
4	1333A	000+000	003+800	-	KEP	Damnak Chang Aeur	3.80	0	3.80	100.00%
5	1335	000+000	007+050	NR33	KPT,KEP	Damnak Chang Aeur, Dang Tong	7.05	4.90	2.15	30.50%
Total length							49.90	21.02	28.88	57.88%
10. Koh Kong (KK)								Link to KK Road Map		
1	1483	000+000	008+340	NR48	KOH	Srae Ambel	8.34	8.34	0	0.00%
2	1485A	000+000	058+400	NR48-5	KOH	Botum Sakor	58.40	4.30	54.10	92.64%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
3	1486	000+000	038+200	NR48	KOH	Koh Kong, Thma Bang	38.20	0	38.20	100.00%
4	1489	000+000	012+400	NR48	KOH	Krong Kemrak Phoumin, Mondol Seima	12.40	0	12.40	100.00%
5	1489A	000+000	008+630	NR48	KOH	Mondol Seima	8.63	8.63	0	0.00%
Total length							125.97	21.27	104.70	83.12%
11. Kratie (KRT)										
Link to KRT Road Map										
1	260B6	000+000	008+500	NR60B	KRT	Prek Prasab	8.50	0	8.50	100.00%
2	260B6A	000+000	027+950	NR60B	KRT	Prek Prasab	27.95	0	27.95	100.00%
3	260B7A	000+000	032+700	NR60B	KRT	Prek Prasab, Sambau	32.70	0	32.70	100.00%
4	260B8	000+000	023+800	NR60B	KRT	Prek Prasab	23.80	0	23.80	100.00%
5	279	064+145	137+645	NR7	KCM,KRT	Kampong Siem,Stueng Trang,Prek Prasab,Sambour	73.50	12.30	61.20	83.27%
6	371	073+900	087+850	NR7, NR73	KRT,TBK	Tboung Khmum, Krouch Chhmar, Chhloung	13.95	13.95	0	0.00%
7	372D	000+000	004+000	NR7	KRT	Snuol	4.00	0	4.00	100.00%
8	373D	000+000	017+300	NR7	KRT,TBK	Snuol, Memot	17.30	0	17.30	100.00%
9	373E	000+000	028+430	NR7	KRT	Snuol	28.43	0	28.43	100.00%
10	373 F	000+000	021+000	NR7	KRT	Snuol	21.00	2.20	18.80	89.52%
11	374	000+000	018+060	NR7, NR76	KRT	Snuol	18.06	0	18.06	100.00%
12	374A	000+000	025+000	NR7	KRT	Snuol	25.00	0	25.00	100.00%
13	374A1	000+000	027+000	NR7	KRT	Snuol	27.00	0	27.00	100.00%
14	375	000+000	048+000	NR7	KRT	Snuol	48.00	0	48.00	100.00%
15	376A	000+000	030+500	NR7	KRT	Kracheh	30.50	0	30.50	100.00%
16	376D	000+000	036+250	NR7	KRT	Sambour	36.25	0	36.25	100.00%
17	376E	000+000	029+350	NR7	KRT	Sambour	29.35	0	29.35	100.00%
18	377	000+000	040+960	NR7	KRT	Kracheh, Sambour	40.96	40.96	0	0.00%
19	377A	000+000	013+440	NR7	KRT	Sambour	13.44	13.44	0	0.00%
20	377A1	000+000	046+300	NR7	KRT	Sambour	46.30	0	46.30	100.00%
21	377B	000+000	026+100	NR7	KRT	Sambour	26.10	0	26.10	100.00%
22	3734	000+000	009+850	NR73	KRT	Chhloung	9.85	0	9.85	100.00%
23	3734A	000+000	005+150	NR73	KRT	Chhloung	5.15	0	5.15	100.00%
24	3734B	000+000	005+100	NR73	KRT	Chhloung	5.10	0	5.10	100.00%
25	3736	000+000	013+300	NR73	KRT	Kracheh	13.30	0	13.30	100.00%
26	3738	000+000	009+000	NR73	KRT	Kracheh	9.00	0	9.00	100.00%
27	3762	000+000	021+500	NR76	KRT	Snuol	21.50	0	21.50	100.00%
28	2KRT1	000+000	006+000	-	KRT	Preaek Prasab	6.00	0	6.00	100.00%
29	2KRT3	000+000	016+600	-	KRT	Preaek Prasab	16.60	0	16.60	100.00%
30	2KRT6	000+000	032+000	-	KRT	Preaek Prasab	32.00	0	32.00	100.00%
31	2KRT7	000+000	013+000	-	KRT	Preaek Prasab	13.00	0	13.00	100.00%

NO	Provincial Road	PK to PK		National Raod Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
32	2KRT8	000+000	013+800	-	KRT	Sambour	13.80	0	13.80	100.00%
33	3KRT10	000+000	010+400	-	KRT	Kracheh	10.40	0	10.40	100.00%
34	3KRT11	000+000	008+000	NR7	KRT	Kracheh	8.00	0	8.00	100.00%
35	3KRT12	000+000	012+600	-	KRT	Kracheh	12.60	0	12.60	100.00%
36	3KRT13	000+000	010+400	-	KRT	Chhloung, Kracheh	10.40	0	10.40	100.00%
37	3KRT14	000+000	018+000	-	KRT	Snuol, Kracheh	18.00	0	18.00	100.00%
38	3KRT16	000+000	010+000	-	KRT	Chhloung	10.00	0	10.00	100.00%
39	3KRT17	000+000	008+000	-	KRT	Chhloung	8.00	0	8.00	100.00%
40	3KRT18	000+000	008+600	-	KRT	Chhloung	8.60	0	8.60	100.00%
41	3KRT20	000+000	011+000	-	KRT	Snuol, Chhloung	11.00	0	11.00	100.00%
42	3KRT21	000+000	005+500	-	KRT	Snuol	5.50	0	5.50	100.00%
43	3KRT22	000+000	009+500	-	KRT	Snuol	9.50	0	9.50	100.00%
44	3KRT23	000+000	005+130	-	KRT	Snuol	5.13	0	5.13	100.00%
45	3KRT24	000+000	022+000	NR76	KRT	Snuol	22.00	0	22.00	100.00%
Total length							876.52	82.85	793.67	90.55%
12. Mondul Kiri (MK)							Link to Mondulkiri Road Map			
1	3760	000+000	008+590	NR76	MDK	Keo Seima	8.59	8.59	0	0.00%
2	3760D	000+000	000+950	NR76	MDK	Keo Seima	0.95	0.95	0	0.00%
3	3761	000+000	043+770	NR76	MDK	Ou Reang, Keo Seima	43.77	0	43.77	100.00%
4	3761A	000+000	044+180	NR76	MDK	Keo Seima	44.18	0	44.18	100.00%
5	3761B	000+000	061+000	NR76	MDK	Ou Reang, Keo Seima	61.00	0	61.00	100.00%
6	3761C	000+000	054+000	-	MDK	Keo Seima	54.00	0	54.00	100.00%
7	3762A	000+000	016+600	NR76	MDK	Keo Seima	16.60	0	16.60	100.00%
8	3763	000+000	006+900	NR76	MDK	Krong Saen Monourom	6.90	6.90	0	0.00%
9	3764	000+000	052+000	NR76	MDK	Saen Monourom, Pechreada, Ou Reang	52.00	34.50	17.50	33.65%
10	3766(MDK)	000+000	095+000	NR76	MDK	Koh Nheak	95.00	0	95.00	100.00%
Total length							382.99	50.94	332.05	86.70%
13. Odor Meanchey (OM)							Link to OM Raod Map			
1	2567	000+000	022+500	NR56, NR58	ODM	Banteay Ampil	22.50	22.50	0	0.00%
2	2625	016+600	080+300	NR62, NR67	ODM,PVH	Choam Khsant, Trapeang Prasat, Anlong Veng	63.70	63.70	0	0.00%
3	2678	000+000	007+350	NR67	ODM	Anlong Veng	7.35	7.35	0	0.00%
4	2685	000+000	038+800	NR68	ODM	Chong Kal, Krong Samroung	38.80	32.55	6.25	16.11%
5	2686	000+000	052+500	NR68, NR67	ODM	Samroung, Anlong Veng	52.50	52.50	0	0.00%
6	2565	000+000	026+750	NR56, NR58	ODM	Banteay Ampil	26.75	4.55	22.20	82.99%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
7	2566	015+000	055+000	NR56, NR68	BMC,ODM	Thma Puok, Banteay Ampil, Chong Kal	40.00	0	40.00	100.00%
8	2568	000+000	016+800	NR56	ODM	Banteay Ampil, Chong Kal	16.80	0	16.80	100.00%
9	2569	000+000	020+650	NR56, NR58	ODM	Banteay Ampil	20.65	0	20.65	100.00%
10	2586	000+000	028+200	NR58	ODM	Banteay Ampil	28.20	0	28.20	100.00%
11	2588	000+000	024+000	NR58, NR56	ODM	Banteay Ampil	24.00	0	24.00	100.00%
12	2627	013+800	112+450	NR62, NR67, NR68	ODM,PVH	Choam Khsant, Trapeang Prasat, Anlong Veng, samroung	98.65	0	98.65	100.00%
13	2647	040+000	068+000	NR64	ODM,REP	Svay Leu, Trapeang Prasat	28.00	2.20	25.80	92.14%
14	2687	000+000	008+250	NR68	ODM	Samroung	8.25	0	8.25	100.00%
15	2688	000+000	010+200	NR68	ODM	Samroung	10.20	1.80	8.40	82.35%
16	2ODM1	000+000	020+600	-	ODM	Samraong, Banteay Ampil	20.60	0	20.60	100.00%
17	2ODM2	000+000	011+600	-	ODM	Banteay Ampil	11.60	3.40	8.20	70.69%
18	2ODM10	000+000	004+300	-	ODM	Samraong	4.30	0	4.30	100.00%
19	2ODM11	000+000	007+800	-	ODM	Samraong	7.80	0	7.80	100.00%
20	2ODM12	000+000	005+700	-	ODM	Samraong	5.70	0	5.70	100.00%
21	2ODM14	000+000	007+350	-	ODM	Anlong Veng	7.35	0	7.35	100.00%
22	2ODM15	000+000	026+150	-	ODM	Anlong Veng	26.15	0	26.15	100.00%
23	2ODM16	000+000	009+600	-	ODM	Anlong Veng	9.60	0	9.60	100.00%
24	2ODM19	000+000	005+700	-	ODM	Anlong Veng	5.70	0	5.70	100.00%
25	2ODM23	000+000	010+800	-	ODM	Trapeang Prasat	10.80	0	10.80	100.00%
26	2ODM24	000+000	016+600	-	ODM	Trapeang Prasat	16.60	0	16.60	100.00%
27	2ODM26	000+000	010+700	-	ODM	Trapeang Prasat	10.70	0	10.70	100.00%
Total length							623.25	190.55	432.70	69.43%
14. Pailin (PL)									Link to PL Road Map	
1	1576	000+000	018+460	NR57	PLN	Krong Pailin	18.46	0	18.46	100.00%
2	1576A	000+000	009+080	NR57	PLN	Krong Pailin	9.08	0	9.08	100.00%
3	1576B	000+000	012+670	NR57, NR59	PLN	Krong Pailin, Sala Krao	12.67	12.67	0	0.00%
4	1576B1	000+000	004+200	-	PLN	Krong Pailin	4.20	0	4.20	100.00%
5	1576B2	000+000	019+150	-	PLN	Sala Krao	19.15	0	19.15	100.00%
6	1576C	000+000	003+600	NR57	PLN	Krong Pailin	3.60	0	3.60	100.00%
7	1576D	000+000	005+180	NR57	PLN	Krong Pailin	5.18	0	5.18	100.00%
8	1,576 F	000+000	000+790	NR57	PLN	Krong Pailin	0.79	0.79	0	0.00%
9	1576G	000+000	002+800	NR57	PLN	Krong Pailin	2.80	0	2.80	100.00%
10	1576I	000+000	002+500	NR57	PLN	Krong Pailin	2.50	0	2.50	100.00%
11	1576J	000+000	004+500	NR57	PLN	Krong Pailin	4.50	0	4.50	100.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
12	1576K	000+000	000+990	NR57	PLN	Krong Pailin	0.99	0	0.99	100.00%
13	1577A	000+000	005+000	NR57	BTB,PLN	Krong Pailin, Samlout	5.00	0	5.00	100.00%
14	1578	000+000	018+000	NR57	PLN	Sala Krao	18.00	5.00	13.00	72.22%
15	1579	000+000	014+130	NR57	PLN	Krong Pailin	14.13	14.13	0	0.00%
16	1579A	000+000	008+000	NR57	PLN	Krong Pailin	8.00	0	8.00	100.00%
17	1579B	000+000	004+500	NR57	PLN	Krong Pailin	4.50	0	4.50	100.00%
18	1579C	000+000	007+200	NR57	PLN	Krong Pailin	7.20	7.20	0	0.00%
19	1579D	000+000	000+780	NR57	PLN	Krong Pailin	0.78	0	0.78	100.00%
20	1579E	000+000	000+760	NR57	PLN	Krong Pailin	0.76	0	0.76	100.00%
21	1,579 F	000+000	009+462	NR57	PLN	Krong Pailin	9.46	9.46	0	0.00%
22	1579G	000+000	003+800	NR57	PLN	Krong Pailin	3.80	0	3.80	100.00%
23	1579H	000+000	003+200	NR57	PLN	Krong Pailin	3.20	0	3.20	100.00%
24	1579I	000+000	003+000	NR57	PLN	Krong Pailin	3.00	0	3.00	100.00%
25	1579J	000+000	002+800	NR57	PLN	Krong Pailin	2.80	0	2.80	100.00%
26	1579K	000+000	003+800	NR57	PLN	Krong Pailin	3.80	0	3.80	100.00%
27	1579L	000+000	003+000	NR57	PLN	Krong Pailin	3.00	0	3.00	100.00%
28	1579M	000+000	000+850	NR57	PLN	Krong Pailin	0.85	0	0.85	100.00%
29	1591(PL)	000+000	001+700	NR59	PLN	Sala Krao	1.70	0	1.70	100.00%
30	1593	000+000	007+020	NR59, NR57	PLN	Sala Krao	7.02	7.02	0	0.00%
31	1594(PL)	000+000	045+250	-	PLN	Sala Krao	45.25	0	45.25	100.00%
32	1597A	000+000	008+000	NR59	PLN	Sala Krao	8.00	8.00	0	0.00%
33	1597C	000+000	001+200	NR59	PLN	Sala Krao	1.20	0	1.20	100.00%
34	1597D	000+000	002+800	NR59	PLN	Sala Krao	2.80	0	2.80	100.00%
35	1597E	000+000	000+600	NR59	PLN	Sala Krao	0.60	0	0.60	100.00%
36	1598A	000+000	004+700	NR59	PLN	Sala Krao	4.70	0	4.70	100.00%
37	1598B	000+000	002+500	NR59	PLN	Sala Krao	2.50	0	2.50	100.00%
38	1598D	000+000	002+500	NR59	PLN	Sala Krao	2.50	0	2.50	100.00%
39	1599	000+000	016+600	NR59	PLN	Sala Krao	16.60	0	16.60	100.00%
40	1PL1	000+000	005+700	NR57	PLN	Krong Pailin	5.70	0	5.70	100.00%
41	1PL3	000+000	012+720	NR57	PLN	Krong Pailin, Sala Krao	12.72	0	12.72	100.00%
42	PL5762	000+000	025+080	NR57	PLN	Krong Pailin	25.08	0	25.08	100.00%
Total length							308.57	64.27	244.30	79.17%
15. Preah Sihanouk (KPS)									Link to KPS Map	
1	144	000+000	009+000	NR4	SHV	Kompong Seila	9.00	0	9.00	100.00%
2	144A	000+000	002+420	NR4	SHV	Kompong Seila	2.42	0	2.42	100.00%
3	146	000+000	023+180	NR4	SHV	Kompong Seila	23.18	0	23.18	100.00%
4	146A	000+000	015+600	NR4	SHV	Prey Nob	15.60	15.60	0	0.00%
5	146B	000+000	024+490	NR4	SHV	Prey Nob, Stueng Hav	24.49	24.49	0	0.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
6	146C	000+000	019+000	NR4	SHV	Prey Nob, Stueng Hav	19.00	0	19.00	100.00%
7	148	000+000	023+000	NR4	SHV	Krong Preah Sihanu, Stueng Hav	23.00	23.00	0	0.00%
8	149	000+000	055+590	NR4, NR3	SHV	Kompong Seila, Prey Nob	55.59	0	55.59	100.00%
9	149A	000+000	007+190	NR4	SHV	Prey Nob	7.19	7.19	0	0.00%
10	149B	000+000	009+500	NR4	SHV	Prey Nob	9.50	9.50	0	0.00%
11	149C	000+000	006+506	NR4	SHV	Prey Nob	6.506	6.51	0	0.00%
Total length							195.48	86.29	109.19	55.86%
16. Preah Vihea (PVH)										
Link to PVH Road Map										
1	298	000+000	017+350	NR9	PVH	Tbaeng Meanchey, Choam Khsant	17.35	0	17.35	100.00%
2	2625	000+000	016+600	NR62, NR67	ODM, PVH	Choam Khsant, Trapeang Prasat, Anlong Veng	16.60	16.60	0	0.00%
3	2626	000+000	052+700	NR62, NR92	PVH	Choam Khsant	52.70	52.70	0	0.00%
4	2627	000+000	013+800	NR62, NR67, NR68	ODM, PVH	Choam Khsant, Trapeang Prasat, Anlong Veng, samroung	13.80	0	13.80	100.00%
5	2628	000+000	010+350	NR62	PVH	Choam Khsant	10.35	10.35	0	0.00%
6	2649	037+500	042+500	NR64	PVH, REP	Koulaen, Svay Leu	5.00	5.00	0	0.00%
7	2PVH1	000+000	009+500	-	PVH	Choam Khsant	9.50	0	9.50	100.00%
8	2PVH2	000+000	015+430	NR62	PVH	Choam Khsant	15.43	15.43	0	0.00%
9	2PVH3	000+000	017+000	NR62	PVH	Choam Khsant	17.00	0	17.00	100.00%
10	2PVH4	000+000	032+000	NR62	PVH	Choam Khsant	32.00	0	32.00	100.00%
11	2PVH5	000+000	018+570	-	PVH	Choam Khsant	18.57	18.57	0	0.00%
12	2PVH7	000+000	019+790	NR92	PVH	Choam Khsant	19.79	0	19.79	100.00%
13	2PVH9	000+000	015+000	-	PVH	Kuleaen	15.00	15.00	0	0.00%
Total length							243.09	133.65	109.44	45.02%
17. Prey Veng (PV)										
Link to PV Road Map										
1	310	000+000	041+895	NR11	PRV	Peam Chor	41.895	41.20	0.70	1.67%
2	310A	000+000	016+000	NR1	PRV	Preah Sdach	16.00	0	16.00	100.00%
3	311	000+000	009+000	NR1	PRV	Preah Sdach, Ba Phnum	9.00	9.00	0	0.00%
4	311A	000+000	006+300	-	PRV	Ba Phnum	6.30	6.30	0	0.00%
5	312	000+000	028+500	NR1	PRV	Preah Sdach	28.50	28.50	0	0.00%
6	312A	000+000	023+865	NR1	PRV	Preah Sdach	23.87	0	23.87	100.00%
7	313	000+000	041+130	NR1, NR11	PRV	Kampong Trabaek, Ba Phnum, Peam Ro	41.13	41.13	0	0.00%
8	313A	000+000	028+600	NR1	PRV	Kampong Trabaek, Ba Phnum	28.60	0	28.60	100.00%
9	315	056+675	061+745	NR1	PRV, SVR	Krong Svay Rieng, Svay Chrum, Romeas Haek, Kamchay Mear	5.07	0	5.07	100.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
10	382D	000+000	017+400	NR8	PRV	Pea Reang, Kampong Leav	17.40	10.00	7.40	42.53%
11	383A(PV)	000+000	015+655	NR8	PRV	Pea Reang	15.655	15.66	0	0.00%
12	384	000+000	012+200	NR8, NR11	PRV	Pea Reang, Prey Veng, Kampong Leav	12.20	12.20	0	0.00%
13	384B	000+000	031+770	NR8	PRV	Prey Veng, Ba Phnum	31.77	31.77	0	0.00%
14	385	000+000	022+910	NR8	PRV	Pea Reang, Sithor Kandal	22.91	16.25	6.66	29.07%
15	386	000+000	025+100	NR8	PRV	Prey Veng, Me Sang	25.10	10.30	14.80	58.96%
16	386A	000+000	021+400	NR8	PRV	Kamchay Mear, Prey Veng	21.40	0	21.40	100.00%
17	387	000+000	028+350	NR8	PRV	Kamchay Mear	28.35	0	28.35	100.00%
18	387A	000+000	026+600	NR8	PRV,TBK	Kamchay Mear, Kanh Chriech	26.60	19.85	6.75	25.38%
19	388	000+000	024+800	NR8	PRV	Kamchay Mear, Me Sang	24.80	0	24.80	100.00%
20	388A	000+000	003+400	NR8	PRV	Kamchay Mear	3.40	0	3.40	100.00%
21	370B	013+450	026+450	NR7, NR8	PRV,TBK	Ponhea Kraek, Kamchay Mear	13.00	13.00	0	0.00%
22	3110	000+000	004+350	NR11, NR8	PRV	Prey Veng	4.35	4.35	0	0.00%
23	3110A	000+000	020+000	NR11	PRV	Krong Prey Veng, Prey Veng	20.00	1.80	18.20	91.00%
24	3110B	000+000	010+940	NR11	PRV	Prey Veng	10.94	0.90	10.04	91.77%
25	3111	000+000	014+000	NR11	PRV	Sithor Kandal	14.00	14.00	0	0.00%
26	3133	012+413	017+623	NR13, NR8	PRV,SVR	Romeas Haek, Kamchay Mear	5.21	0	5.21	100.00%
27	3PV1	000+000	018+000	-	PRV	Ba Phnum, Me Sang	18.00	18.00	0	0.00%
28	3PV4	000+000	009+670	-	PRV	Kamchay Mear, Kanhchriech	9.67	0	9.67	100.00%
29	3PV7	000+000	027+750	NR8	PRV	Pea Reang	27.75	20.40	7.35	26.49%
30	3PV7A	000+000	025+700	NR8	PRV	Pea Reang	25.70	21.35	4.35	16.93%
31	3PV8	000+000	005+300	-	PRV	Prey Veng	5.30	0	5.30	100.00%
32	3PV9	000+000	009+400	NR11	PRV	Peam Ro	9.40	0	9.40	100.00%
33	3PV10	000+000	010+500	-	PRV	Pea Reang	10.50	0	10.50	100.00%
Total length							603.77	335.95	267.82	44.36%

18. Pursat (PS)

[Link to PS Road Map](#)

1	152B4	000+000		NR5	PST	Krakor	4.95	0	4.95	100.00%
2	152B6	000+000	002+610	NR5	PST	Krakor	2.61	0	2.61	100.00%
3	152B8	000+000	001+900	NR5	PST	Krakor	1.90	1.90	0	0.00%
4	152B9	000+000	002+210	NR5	PST	Krakor	2.21	0	2.21	100.00%
5	152C	000+000	009+100	NR5	PST	Krakor	9.10	0	9.10	100.00%
6	152D	000+000	009+070	NR5	PST	Krakor	9.07	9.07	0	0.00%
7	152E	000+000	007+820	NR5	PST	Krakor	7.82	7.82	0	0.00%
8	152 F	000+000	011+090	NR5	PST	Krakor, Kandieng	11.09	0	11.09	100.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
9	152G	000+000	004+340	NR5	PST	Krong Pursat, Kandieng	4.34	0.50	3.84	88.48%
10	152H	000+000	015+850	NR5	PST	Krong Pursat, Kandieng	15.85	12.15	3.70	23.34%
11	153B1	000+000	025+660	NR53B	PST	Krakor	25.66	25.66	0	0.00%
12	153D	000+000	009+750	NR5	PST	Krakor	9.75	0	9.75	100.00%
13	153D2	000+000	003+480	NR5	PST	Krakor	3.48	0	3.48	100.00%
14	153D3	000+000	003+150	NR5	PST	Krakor	3.15	0	3.15	100.00%
15	153D4	000+000	003+400	NR5	PST	Krakor	3.40	0	3.40	100.00%
16	153D6	000+000	011+900	NR5	PST	Krakor	11.90	11.90	0	0.00%
17	153D7	000+000	002+690	NR5, NR53B	PST	Krakor	2.69	2.69	0	0.00%
18	153D8	000+000	009+100	NR5	PST	Krakor	9.10	9.10	0	0.00%
19	153D9	000+000	006+820	NR5	PST	Krakor	6.82	0	6.82	100.00%
20	153D10	000+000	010+600	NR5	PST	Krakor	10.60	9.75	0.85	8.02%
21	153E	000+000	009+500	NR5	PST	Krakor	9.50	0	9.50	100.00%
22	153 F	000+000	010+800	NR5	PST	Krakor	10.80	10.80	0	0.00%
23	153G	000+000	012+700	NR5	PST	Krong Pursat	12.70	0	12.70	100.00%
24	153H	000+000	009+870	NR5	PST	Krong Pursat	9.87	0	9.87	100.00%
25	154	000+000	026+990	NR5	PST	Krong Pursat, Kandieng	26.99	20.75	6.24	23.12%
26	154A	000+000	018+130	NR5	PST	Krong Pursat, Kandieng	18.13	18.13	0	0.00%
27	154B	000+000	015+562	NR5	PST	Bakan	15.562	0	15.56	99.99%
28	154C	000+000	016+700	NR5	PST	Bakan	16.70	16.70	0	0.00%
29	154D	000+000	012+293	NR5	PST	Bakan	12.293	12.29	0	0.00%
30	154E	000+000	018+000	NR5	PST	Bakan	18.00	0	18.00	100.00%
31	154 F	000+000	011+248	NR5	PST	Bakan	11.248	0	11.25	100.02%
32	155	000+000	031+620	NR5, NR55	PST	Krong Pursat, Phnum Kravanh	31.62	31.62	0	0.00%
33	155A	000+000	013+960	NR5	PST	Krong Pursat	13.96	11.30	2.66	19.05%
34	155A1	000+000	009+390	NR5, NR55	PST	Krong Pursat	9.39	9.39	0	0.00%
35	155B	000+000	010+700	NR5, NR55	PST	Bakan, Krong Pursat	10.70	0	10.70	100.00%
36	155C	000+000	026+074	NR5	PST	Bakan, Phnum Kravanh	26.074	26.07	0	0.00%
37	155D	000+000	038+200	NR5, NR55	PST	Bakan, Phnum Kravanh	38.20	38.20	0	0.00%
38	1534	042+950	071+200	NR53	KCH,PST	Tuek Phos, Krakor	28.25	0.80	27.45	97.17%
39	1551	000+000	006+100	NR55	PST	Phnum Kravanh	6.10	6.10	0	0.00%
40	1552	000+000	030+720	NR55, NR10	PST	Veal Veng	30.72	0	30.72	100.00%
41	1552A	000+000	011+290	NR55	PST	Veal Veng	11.29	0	11.29	100.00%
42	1554	000+000	006+600	NR55, NR10	PST	Veal Veng	6.60	0	6.60	100.00%
43	1488A	000+000	018+180	NR48	PST	Mondol Seima	18.18	0	18.18	100.00%
44	1PS1	000+000	013+289	-	PST	Kandieng	13.289	13.29	0	0.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
45	1PS2	000+000	004+280	-	PST	Kandieng	4.28	0	4.28	100.00%
46	1PS3	000+000	034+410	-	PST	Phnum Kravanh, Krakor	34.41	0	34.41	100.00%
47	1PS4	000+000	014+700	-	PST	Krakor, Phnum Kravanh	14.70	0	14.70	100.00%
48	1PS5	000+000	026+590	-	PST	Phnum Kravanh	26.59	0	26.59	100.00%
49	1PS6	000+000	061+080	-	PST	Phnum Kravanh, Krakor	61.08	0	61.08	100.00%
50	1PS7	000+000	004+800	-	PST	Krakor	4.80	0	4.80	100.00%
Total length							707.52	305.99	401.53	56.75%
19. Phnom Penh (PP)									Link to PP Road Map	
1	110	000+000	013+900	NR1	KDL,PNH	Phnom penh, Kien svay, S'ang, Koh thum	13.90	13.90	0	0
2	261	027+025	028+920	NR6	KDL,PNH	Mukh Kampul, Phnom Penh	1.895	1.90	0	0
Total length							15.80	15.80	0	0
20. Rattanak Kiri (RK)									Link to RK Road Map	
1	3766(RNK)	000+000	045+000	NR76, NR78	RNK	Lumphat, Bar Keo	45.00	45.00	0	0.00%
2	3767	000+000	011+710	NR76	RNK	Lumphat	11.71	0	11.71	100.00%
3	3781B	037+400	056+400	NR78	RNK	Koun Mom	19.00	0	19.00	100.00%
4	3783	000+000	039+943	NR78	RNK	Banlung, Koun Mom, Veun Sai	39.943	0	39.94	99.99%
5	3784	000+000	030+512	NR78	RNK	Krong Banlung, Lumphat	30.512	7.10	23.41	76.72%
6	3786	000+000	020+000	NR78	RNK	Krong Banlung	20.00	0	20.00	100.00%
7	3787	000+000	025+830	NR78	RNK	Ou Chum	25.83	0	25.83	100.00%
8	3788	000+000	017+500	NR78	RNK	Bar Kaev	17.50	0	17.50	100.00%
9	3789	000+000	031+650	NR78	RNK	Bar Kaev, Andoung Meas	31.65	31.65	0	0.00%
Total length							241.15	83.75	157.40	65.27%
20. Siem Reap (SR)									Link to SR Map	
1	265A	000+000	014+700	NR6	REP	Chi Kraeng	14.7	0	14.7	100.00%
2	265B	000+000	012+200	NR6	REP	Chi Kraeng	12.20	12.20	0	0.00%
3	265C	000+000	016+000	NR6	REP	Soutr Nikum	16.00	13.17	2.83	17.69%
4	265D	000+000	007+200	NR6	REP	Soutr Nikum	7.20	6.40	0.80	11.11%
5	265E	000+000	015+000	NR6	REP	Prasat Bakong	15.00	4.00	11.00	73.33%
6	265 F	000+000	011+500	NR6, NR63	REP	Prasat Bakong, Krong Siemreap	11.50	11.50	0	0.00%
7	265G	000+000	014+900	NR6	REP	Krong Siemreap	14.90	14.90	0	0.00%
8	265H	000+000	019+000	NR6	REP	Puok	19.00	0	19.00	100.00%
9	266	000+000	039+500	NR6, NR62-3	REP	Chi Kraeng	39.50	39.50	0	0.00%
10	266A	000+000	038+500	NR6, NR62-3	REP	Chi Kraeng, Svay Leu	38.50	9.00	29.50	76.62%
11	266B	000+000	018+500	NR6	REP	Prasat Bakong, Soutr Nikum, Banteay Srei	18.50	9.20	9.30	50.27%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
12	266C	000+000	028+000	NR6, NR67	REP	Prasat Bakong, Krong Siemreap, Banteay Srei	28.00	28.00	0	0.00%
13	266D	000+000	028+500	NR6	REP	Puok, Angkor Thom, Banteay Srei	28.50	12.20	16.30	57.19%
14	266E	000+000	029+500	NR6	REP	Puok, Angkor Chum	29.50	29.50	0	0.00%
15	266 F	000+000	020+000	NR6	REP	Puok, Angkor Chum	20.00	20.00	0	0.00%
16	267	000+000	020+300	NR6, NR63	REP	Puok, Krong Siemreap	20.30	20.30	0	0.00%
17	267C	000+000	020+600	NR6	REP	Puok	20.60	0	20.60	100.00%
18	268	000+000	018+000	NR6	REP	Kralanh	18.00	0	18.00	100.00%
19	269	000+000	019+700	NR6	REP	Kralanh	19.70	7.90	11.80	59.90%
20	2632	000+000	007+000	NR63	REP	Krong Siemreap	7.00	7.00	0	0.00%
21	2641	000+000	011+600	NR64	REP	Soutr Nikom	11.60	11.60	0	0.00%
22	2641A	000+000	036+200	NR64, NR67	REP	Soutr Nikom, Banteay Srei	36.20	26.10	10.10	27.90%
23	2643	000+000	040+500	NR64, NR67	REP	Svay Leu, Banteay Srei	40.50	31.60	8.90	21.98%
24	2644	000+000	009+000	NR64	REP	Soutr Nikom, Chi Kraeng	9.00	0	9.00	100.00%
25	2645	000+000	046+500	NR64, NR67	REP	Svay Leu, Varin	46.50	0	46.50	100.00%
26	2647	000+000	040+000	NR64	ODM,REP	Svay Leu, Trapeang Prasat	40.00	0	40.00	100.00%
27	2649	000+000	037+500	NR64	PVH,REP	Koulaen, Svay Leu	37.50	0	37.50	100.00%
28	2671	000+000	011+500	NR67	REP	Prasat Bakong	11.50	0	11.50	100.00%
29	2671A	000+000	011+500	NR67	REP	Banteay Srei	11.50	11.50	0	0.00%
30	2671B	000+000	006+800	NR67	REP	Banteay Srei	6.80	1.80	5.00	73.53%
31	2672	000+000	015+000	NR67, NR64	REP	Prasat Bakong, Soutr Nikom	15.00	3.10	11.90	79.33%
32	2672A	000+000	010+000	NR67	REP	Banteay Srei	10.00	10.00	0	0.00%
33	2673	000+000	071+000	NR67, NR68	REP	Varin, Angkor Chum, Kralanh	71.00	44.25	26.75	37.68%
34	2674	000+000	011+000	NR67	REP	Banteay Srei	11.00	4.00	7.00	63.64%
35	2675	000+000	012+500	NR67	REP	Varin	12.50	0	12.50	100.00%
36	2676	000+000	034+200	NR67	REP	Banteay Srei, Svay Leu	34.20	0	34.20	100.00%
37	2684	000+000	018+000	NR68	REP	Kralanh	18.00	0	18.00	100.00%
38	2682B	000+000	013+000	NR68	REP	Kralanh, Angkor Chum	13.00	0	13.00	100.00%
39	2SR1	000+000	010+000	NR6	REP	Chi Kraeng	10.00	0	10.00	100.00%
40	2SR2	000+000	023+000	NR6	REP	Chi Kraeng	23.00	4.00	19.00	82.61%
41	2SR3	000+000	008+000	NR6	REP	Chi Kraeng	8.00	0	8.00	100.00%
42	2SR4	000+000	022+000	NR6, NR64	REP	Chi Kraeng, Soutr Nikom	22.00	0	22.00	100.00%
43	2SR5	000+000	007+000	NR6	REP	Chi Kraeng	7.00	0	7.00	100.00%
44	2SR6	000+000	018+500	-	REP	Chi Kraeng	18.50	0	18.50	100.00%
45	2SR7	000+000	017+200	NR6	REP	Soutr Nikom	17.20	6.70	10.50	61.05%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
46	2SR8	000+000	008+500	NR6	REP	Soutr Nikom	8.50	0	8.50	100.00%
47	2SR10	000+000	004+800	NR64	REP	Soutr Nikom	4.80	0	4.80	100.00%
48	2SR11	000+000	003+500	NR6	REP	Soutr Nikom	3.50	0	3.50	100.00%
49	2SR12	000+000	009+300	NR6	REP	Soutr Nikom	9.30	9.30	0	0.00%
50	2SR13	000+000	003+000	NR6	REP	Soutr Nikom	3.00	0	3.00	100.00%
51	2SR14	000+000	013+700	NR6	REP	Prasat Bakong, Soutr Nikom	13.70	13.70	0	0.00%
52	2SR15	000+000	010+000	NR6	REP	Soutr Nikom	10.00	2.00	8.00	80.00%
53	2SR16	000+000	007+000	-	REP	Prasat Bakong, Soutr Nikom	7.00	7.00	0	0.00%
54	2SR17	000+000	005+500	NR6	REP	Prasat Bakong	5.50	0	5.50	100.00%
55	2SR18	000+000	007+000	NR67	REP	Prasat Bakong	7.00	3.00	4.00	57.14%
56	2SR19	000+000	006+000	NR6	REP	Prasat Bakong	6.00	2.50	3.50	58.33%
57	2SR21	000+000	008+200	-	REP	Prasat Bakong	8.20	0	8.20	100.00%
58	2SR22	000+000	012+600	NR6	REP	Prasat Bakong, Banteay Srei	12.60	3.60	9.00	71.43%
59	2SR24	000+000	004+800	NR67	REP	Banteay Srei	4.80	4.80	0	0.00%
60	2SR26	000+000	005+600	-	REP	Banteay Srei	5.60	0	5.60	100.00%
61	2SR30	000+000	046+500	-	REP	Angkor Thum, Angkor Chum, Varin	46.50	46.50	0	0.00%
62	2SR31	000+000	003+600	-	REP	Krong Siemreap	3.60	3.60	0	0.00%
63	2SR32	000+000	008+300	-	REP	Banteay Srei, Angkor Thum	8.30	0	8.30	100.00%
64	2SR33	000+000	006+500	-	REP	Puok, Krong Siemreap	6.50	6.50	0	0.00%
65	2SR34	000+000	017+500	-	REP	Varin	17.50	10.00	7.50	42.86%
66	2SR35	000+000	004+700	NR6	REP	Puok	4.70	0	4.70	100.00%
67	2SR36	000+000	011+600	-	REP	Varin	11.60	0	11.60	100.00%
68	2SR42	000+000	017+000	-	REP	Angkor Chum	17.00	0	17.00	100.00%
69	2SR44	000+000	025+500	-	REP	Angkor Chum	25.50	0	25.50	100.00%
70	2SR46	000+000	004+600	NR6	REP	Kralanh	4.60	4.60	0	0.00%
71	2SR48	000+000	019+500	NR68	REP	Srei Snam	19.50	0	19.50	100.00%
Total length							1,214.90	516.52	698.38	57.48%
22. Steung Traeng (ST)										
Link to ST Road Map										
1	293	000+000	009+000	NR9	STR	Thala Barivat	9.00	0	9.00	100.00%
2	376 F	000+000	021+000	NR7	STR	Krong Stung Treng, Sesan	21.00	20.28	0.72	3.43%
3	377E	000+000	015+100	NR7	STR	Siem Bouk	15.10	15.10	0	0.00%
4	379	000+000	027+150	NR7	STR	Kracheh, Siem Bouk	27.15	3.65	23.50	86.56%
5	379A	000+000	012+100	NR7	STR	Stung Traeng, Thala Barivat	12.10	4.40	7.70	63.64%
6	379B	000+000	004+600	NR7	STR	Stung Traeng, Thala Barivat	4.60	4.60	0	0.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
7	2648	000+000	044+600	-	STR	Thala Barivat	44.60	0	44.60	100.00%
8	3785	000+000	006+770	-	STR	Sesan	6.77	0	6.77	100.00%
9	3787(STR)	000+000	011+150	-	STR	Sesan	11.15	0	11.15	100.00%
Total length							151.47	48.03	103.44	68.29%
23. Svay Rieng (SVR)										Link to SVR Road Map
1	312C	000+000	022+600	NR1	SVR	Svay Chrum	22.60	6.00	16.60	73.45%
2	312 F	000+000	010+303	NR1	SVR	Svay Chrum	10.303	0	10.30	99.97%
3	313B	000+000	011+044	NR1	SVR	Svay Chrum	11.04	0	11.04	100.00%
4	313C	000+000	009+533	NR1	SVR	Svay Chrum	9.53	2.50	7.03	73.77%
5	314	000+000	011+005	NR1	SVR	Svay Chrum	11.01	0.75	10.26	93.19%
6	314A	000+000	009+604	NR1	SVR	Krong Svay Rieng, Svay Chrum	9.60	0	9.60	100.00%
7	314B	000+000	014+850	NR1	SVR	Krong Svay Rieng, Svay Chrum	14.85	6.97	7.88	53.06%
8	314C	000+000	045+875	NR1, NR18	SVR	Krong Svay Rieng, Svay Chrum, Kampong Rou	45.875	11.85	34.03	74.18%
9	314E	000+000	013+880	NR1	SVR	Svay Teab, Kampong Rou	13.88	5.00	8.88	63.98%
10	315	000+000	056+675	NR1	PRV,SVR	Krong Svay Rieng, Svay Chrum, Romeas Haek, Kamchay Mear	56.675	18.20	38.48	67.90%
11	316	000+000	013+120	NR1	SVR	Kampong Rou	13.12	10.70	2.42	18.45%
12	316A	000+000	014+470	NR1	SVR	Chantrea	14.47	14.47	0	0.00%
13	316B	000+000	016+150	NR1	SVR	Chantrea	16.15	0	16.15	100.00%
14	316D	000+000	008+890	NR1	SVR	Chantrea	8.89	0	8.89	100.00%
15	317	000+000	008+550	NR1	SVR	Svay Teab	8.55	8.55	0	0.00%
16	317A	000+000	022+409	NR1	SVR	Svay Teab	22.409	0	22.41	100.00%
17	317B	000+000	015+798	NR1	SVR	Svay Teab	15.80	15.80	0	0.00%
18	317C	000+000	006+922	NR1	SVR	Svay Teab	6.922	0	6.92	99.97%
19	319	000+000	013+193	NR1	SVR	Svay Teab	13.193	0	13.19	99.98%
20	319A	000+000	001+772	NR1	SVR	Svay Teab	1.772	1.77	0	0.00%
21	319B	000+000	003+500	NR1	SVR	Chantrea	3.50	3.50	0	0.00%
22	319C	000+000	009+300	NR1	SVR	Chantrea, Svay Teab	9.30	9.30	0	0.00%
23	3130	000+000	021+892	NR13	SVR	Svay Teab	21.89	17.89	4.00	18.27%
24	3131	000+000	009+516	NR13	SVR	Romeas Haek	9.52	1.30	8.22	86.34%
25	3133	000+000	012+413	NR13, NR8	PRV,SVR	Romeas Haek, Kamchay Mear	12.413	0	12.41	99.98%
26	3134	000+000	010+152	NR13	SVR	Rumduol	10.152	0	10.15	99.98%
27	3135	000+000	007+170	NR13	SVR	Romeas Haek	7.17	2.90	4.27	59.55%
28	3136	000+000	010+500	NR13	SVR	Romeas Haek	10.50	0	10.50	100.00%
29	3138	000+000	008+178	NR13	SVR	Romeas Haek	8.178	0	8.18	100.02%
30	3138A	000+000	012+080	NR13	SVR	Romeas Haek	12.08	0	12.08	100.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
31	3140	000+000	010+070	NR13	SVR	Romeas Haek	10.07	0	10.07	100.00%
32	3SVR1	000+000	008+122	-	SVR	Svay Chrum	8.122	0	8.12	99.98%
33	3SVR2	000+000	009+772	-	SVR	Svay Chrum	9.772	0	9.77	99.98%
34	3SVR3	000+000	011+992	NR18	SVR	Kampong Rou	11.992	0	11.99	99.98%
35	3SVR4	000+000	022+820	-	SVR	Chantrea	22.82	11.70	11.12	48.73%
36	3SVR5	000+000	013+360	-	SVR	Svay Chrum	13.36	0	13.36	100.00%
37	3SVR6	000+000	014+930	-	SVR	Svay Teab, Romduol	14.93	0	14.93	100.00%
38	3SVR7	000+000	019+970	-	SVR	Chantrea	19.97	13.65	6.32	31.65%
39	3SVR8	000+000	007+100	NR13	SVR	Romeas Haek	7.10	0	7.10	100.00%
40	3SVR9	000+000	006+900	-	SVR	Romeas Haek	6.90	0	6.90	100.00%
41	3SVR10	000+000	013+250	NR13	SVR	Rumduol	13.25	0	13.25	100.00%
42	3SVR11	000+000	011+400	NR13	SVR	Rumduol	11.40	0	11.40	100.00%
43	3SVR12	000+000	008+350	-	SVR	Chantrea, Krong Bavet	8.35	0	8.35	100.00%
44	3SVR13	000+000	007+300	-	SVR	Krong Svayrieng, Svay Chrum	7.30	0	7.30	100.00%
45	3SVR14	000+000	011+410	-	SVR	Romeas Haek	11.41	0	11.41	100.00%
46	3SVR15	000+000	011+210	-	SVR	Romeas Haek	11.21	0	11.21	100.00%
47	3SVR16	000+000	003+000	-	SVR	Svay Chrum	3.00	0	3.00	100.00%
Total length							622.30	162.80	459.50	73.84%
24. Takeo (TK)									Link to TK Road Map	
1	121	000+000	008+950	NR2	TAK	Bati	8.95	0	8.95	100.00%
2	123	000+000	019+100	NR2, NR23	TAK	Bati, Prey Kabas	19.10	12.20	6.90	36.13%
3	125	000+000	005+510	NR2	TAK	Bati	5.51	3.31	2.20	39.93%
4	129	000+000	017+300	NR2, NR21	KDL,TAK	Samroung, Prey Kabas, Koh Thom	17.30	17.30	0	0.00%
5	129A	000+000	011+300	NR2	TAK	Krong Doun Kaev, Traing	11.30	11.30	0	0.00%
6	129B	000+000	028+240	NR2	TAK	Traing, Borey Cholsar	28.24	18.21	10.03	35.52%
7	129D	000+000	020+390	NR2	TAK	Traing, Borey Cholsar	20.39	12.00	8.39	41.15%
8	129E	000+000	015+000	NR2	TAK	Traing, Koh Andet	15.00	15.00	0	0.00%
9	129 F	000+000	009+950	NR2	TAK	Koh Andet	9.95	0	9.95	100.00%
10	129H	000+000	007+460	NR2	TAK	Kiri Vong	7.46	0	7.46	100.00%
11	129I	000+000	008+870	NR2	TAK	Kiri Vong	8.87	0	8.87	100.00%
12	120B	000+000	008+400	NR2, NR3	TAK	Bati	8.40	8.40	0	0.00%
13	122	000+000	013+950	NR2, NR3	TAK	Bati	13.95	13.95	0	0.00%
14	122A	000+000	012+220	NR2, NR3	TAK	Bati	12.22	12.22	0	0.00%
15	124	000+000	010+220	NR2, NR3	TAK	Samroung	10.22	10.22	0	0.00%
16	124A	000+000	008+980	NR2, NR3	TAK	Samroung, Tram kak	8.98	0	8.98	100.00%
17	124B	000+000	005+520	NR2	TAK	Krong Doun Kaev	5.52	1.57	3.95	71.56%
18	126	000+000	009+550	NR2, NR31	KPT,TAK	Traing, Angkor Chey	9.55	9.55	0	0.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
19	126A	000+000	023+500	NR2	TAK	Kiri Vong	23.50	16.20	7.30	31.06%
20	128	000+000	028+220	NR2	TAK	Kiri Vong	28.22	28.22	0	0.00%
21	132	000+000	052+115	NR3, NR41, NR43	KSP,TAK	Tram Kak, Phnom Srouch	52.115	35.00	17.12	32.85%
22	134	000+000	016+450	NR3	TAK	Tram Kak	16.45	16.45	0	0.00%
23	131	000+000	002+500	NR3, NR31	TAK	Tram Kak, Angkor Chey	2.50	0	2.50	100.00%
24	122B	000+000	010+190	NR2, NR3	TAK	Samrourng	10.19	0	10.19	100.00%
25	120C	000+000	009+020	NR2	TAK	Bati	9.02	4.90	4.12	45.68%
26	1TK1	000+000	032+400	NR23	TAK	Prey Kabbas, Angkor Borei	32.40	24.40	8.00	24.69%
27	1TK2	000+000	028+500	-	TAK	Kiri Vong	28.50	0	28.50	100.00%
28	1TK3	000+000	010+850	-	TAK	Kiri Vong	10.85	4.45	6.40	58.99%
29	1TK4	000+000	005+500	-	TAK	Samraong, Doun Keo	5.50	2.90	2.60	47.27%
30	1TK5	000+000	009+160	-	TAK	Borei Cholsar	9.16	0	9.16	100.00%
31	1TK6	000+000	023+330	NR2	TAK	Samraong , Prey Kabbas	23.33	8.15	15.18	65.07%
32	1TK7	000+000	011+550	-	TAK	Bati	11.55	0	11.55	100.00%
Total length							484.20	285.90	198.30	40.95%
25. Tboung Khmum (TBK)										
Link to TBK Road Map										
1	370	000+000	029+450	NR7	TBK	Tboung Khmum, Ou Reang Ov	29.45	29.45	0	0.00%
2	370A	000+000	017+200	NR7	TBK	Tboung Khmum, Ponhea Kraek	17.20	15.30	1.90	11.05%
3	370A1	000+000	008+150	NR7	TBK	Tboung Khmum, Ponhea Kraek	8.15	0	8.15	100.00%
4	370A2A3	000+000	005+700	NR7	TBK	Ponhea Kraek	5.70	5.70	0	0.00%
5	370B	000+000	013+450	NR7, NR8	PRV,TBK	Ponhea Kraek, Kamchay Mear	13.45	13.45	0	0.00%
6	370C	000+000	021+700	NR7, NR8	TBK	Ponhea Kraek	21.70	20.10	1.60	7.37%
7	371	000+000	073+900	NR7, NR73	KRT,TBK	Tboung Khmum, Krouch Chhmar, Chhloung	73.90	73.90	0	0.00%
8	371A	000+000	006+350	NR7	TBK	Tboung Khmum	6.35	0	6.35	100.00%
9	371B	000+000	030+000	NR7	TBK	Tboung Khmum, Krouch Chhmar	30.00	30.00	0	0.00%
10	371C	000+000	008+250	NR7, NR71C	TBK	Tboung Khmum	8.25	0	8.25	100.00%
11	371D	000+000	046+650	NR7	TBK	Tboung Khmum	46.65	15.00	31.65	67.85%
12	372	000+000	010+200	NR7	TBK	Memot	10.20	10.20	0	0.00%
13	372A	000+000	031+000	NR7	TBK	Memot	31.00	3.66	27.34	88.19%
14	373	000+000	015+250	NR7	TBK	Ponhea Kraek, Dambae	15.25	5.95	9.30	60.98%
15	373A	000+000	023+050	NR7, NR73	TBK	Ponhea Kraek, Dambae	23.05	23.05	0	0.00%
16	373B	000+000	028+600	NR7	TBK	Memot	28.60	28.60	0	0.00%
17	373C	000+000	053+600	NR7, NR73	TBK	Memot, Dambae	53.60	53.60	0	0.00%
18	373D	017+300	027+300	NR7	KRT,TBK	Snuol, Memot	10.00	0	10.00	100.00%

NO	Provincial Road	PK to PK		National Road Connected	Province Passed Through	District Passed Through	Length Passed Province (km)	Paved Road (km)	Unpaved Road (km)	% Unpaved
19	387A	026+600	029+600	NR8	PRV,TBK	Kamchay Mear, Kanh Chriech	3.00	3.00	0	0.00%
20	387E	000+000	004+800	NR8	TBK	Ponhea Kraek	4.80	0	4.80	100.00%
21	3113	000+000	014+050	NR11	TBK	Ou Reang Ov	14.05	0	14.05	100.00%
22	3115	000+000	009+850	NR11	TBK	Ou Reang Ov	9.85	0	9.85	100.00%
23	3117	000+000	012+200	NR11	TBK	Ou Reang Ov	12.20	12.20	0	0.00%
24	3730	000+000	009+100	NR73	TBK	Dambae	9.10	0	9.10	100.00%
25	3731	000+000	005+100	NR73	TBK	Dambae	5.10	0	5.10	100.00%
26	370C &388	000+000	017+000	-	TBK	Ponhea Kraek	17.00	0	17.00	100.00%
27	3TBK2	000+000	005+600	-	TBK	Tboung Khmum	5.60	1.00	4.60	82.14%
Total							513.20	344.16	169.04	32.94%

Sources: MPWT (2022)

Table 4: District-wise Rural Road (RR) Network (data illustrative) length in kms

[Link to all Rural Road Inventory](#)

Sl. No.	District	2010-20 paved (m)	2010-2020 unpaved (m)	% Unpaved	Total length (m)	Structure	
						Culverts	Bridges
01	Banteay Meanchey (BM)					Link to BM RR Inventory	
0101	Monkol Borey	24,697	371,506	93.77%	396,203	320	48
0102	Phnom Srok	197,536	45,804	18.82%	243,340	371	23
0103	Preah Neathpreah	104,500	273,276	72.34%	377,776	466	56
0104	Ouchrov	69,835	188,511	72.97%	258,346	276	23
0105	Krong Sereysorphorn	225,269	15,651	6.50%	240,920	421	19
0106	Thmor Pouk	147,600	291,961	66.42%	439,561	398	17
0107	Svay Chek	273,329	72,578	20.98%	345,907	330	12
0108	Malai	6,100	206,096	97.13%	212,196	90	6
0109	Poipet	73,835	342,421	82.26%	416,256	148	1
Total		1,122,701	1,807,804	61.69%	2,930,505	2,820	205
02	Batambang (BB)					Link to BB RR Inventory	
0201	Banorn	85,500	639,543	88.21%	725,043	675	41
0202	Thmor Korl	-	595,466	100.00%	595,466	569	15
0203	Krong Batambang	25,257	134,074	84.15%	159,331	208	1
0204	Borvel	28,700	571,594	95.22%	600,294	531	43
0205	Eak Phnom	23,609	89,244	79.08%	112,853	116	11
0206	Morning Reusey	105,500	447,379	80.92%	552,879	619	44

0207	Rotanak Mondul	64,600	376,410	85.35%	441,010	369	36
0208	Sangke	137,909	357,787	72.18%	495,696	490	22
0209	Samlot	-	409,240	100.00%	409,240	534	126
0210	Sampov Lone	2,322	213,331	98.92%	215,653	265	5
0211	Phnom Preuk	-	252,801	100.00%	252,801	279	13
0212	Kamreang	-	278,830	100.00%	278,830	290	31
0213	Kors Kralor	27,100	293,501	91.55%	320,601	333	15
0214	Rokha Kiri	39,500	355,113	89.99%	394,613	366	18
Total		539,997	5,014,313	90.28%	5,554,310	5,644	421
03 Kampong Cham (KC)		Link to KC RR Inventory					
0301	Batheay	33,100	150,018	81.92%	183,118	173	7
0302	Chamkar Ler	27,300	112,996	80.54%	140,296	97	4
0303	Cherng Prey	12,700	169,275	93.02%	181,975	237	9
0304	Krong Kampong Cham	3,473	22,632	86.70%	26,105	3	2
0305	Kampong Siem	84,494	184,009	68.53%	268,503	203	28
0306	Kang Meas	26,100	118,899	82.00%	144,999	67	31
0307	Koh Sothin	48,473	106,529	68.73%	155,002	26	32
0308	Prey Chhor	21,593	276,539	92.76%	298,132	264	44
0309	Srey Santhor	35,300	98,747	73.67%	134,047	38	29
0310	Steung Trang	43,190	1,764,513	97.61%	1,807,703	1,249	199
Total		335,723	3,004,157	89.95%	3,339,880	2,357	385
04 Kampong Chhnang(KCh)		Link to KCh RR Inventory					
0401	Boribo	1,200	196,631	99.39%	197,831	355	28
0402	Chulkiri	-	65,330	100.00%	65,330	59	13
0403	Krong Kampong Chhnang	2,605	2,260	46.45%	4,865	10	-
0404	Kampong Leang	-	129,193	100.00%	129,193	259	2
0405	Kampong Tralach	4,600	281,340	98.39%	285,940	466	19
0406	Rolar Paea	120,360	432,147	78.22%	552,507	764	56
0407	Samki Meanchey	53,100	358,514	87.10%	411,614	633	62
0408	Teuk Phos	64,030	144,600	69.31%	208,630	309	31
Total		245,895	1,610,015	86.75%	1,855,910	2,855	211
05 Kampong Speu (KS)		Link to KS RR Inventory					
0501	Baset	37,020	288,720	88.64%	325,740	522	19
0502	Krong Chbarmorn	5,137	73,517	93.47%	78,654	127	9
0503	Korong Pisey	20,400	289,300	93.41%	309,700	603	17
0504	Oral	35,260	279,130	88.78%	314,390	312	19
0505	Udong	42,080	411,134	90.72%	453,214	830	28
0506	Phnom Srouch	215,930	582,010	72.94%	797,940	914	65

0507	Samrong Torng	28,650	452,280	94.04%	480,930	812	52
0508	Tporng	17,000	10,910	39.09%	27,910	382	22
Total		401,477	2,387,001	85.60%	2,788,478	4,502	231
06	Kampong Thom (KT)	Link to KT RR Inventory					
0601	Baray	14,500	254,508	94.61%	269,008	306	6
0602	Kampong Svay	20,026	414,015	95.39%	434,041	542	39
0603	Krong Steung Sen	4,160	143,381	97.18%	147,541	157	8
0604	Prasat Balang	-	304,259	100.00%	304,259	309	13
0605	Prasat Sambo	94,289	229,361	70.87%	323,650	459	25
0606	Sandan	-	172,678	100.00%	172,678	119	22
0607	Santuk	11,400	429,607	97.42%	441,007	502	32
0608	Storng	74,900	300,934	80.07%	375,834	583	39
0609	Tang Kork	9,500	168,199	94.65%	177,699	171	1
Total		228,775	2,416,942	91.35%	2,645,717	3,148	185
07	Kampot (KP)	Link to KP RR Inventory					
0701	Angkor Chey	9,150	287,538	96.92%	296,688	476	12
0702	Banteay Meas	4,200	302,522	98.63%	306,722	341	63
0703	Chhouk	-	353,779	100.00%	353,779	592	67
0704	Chumkiri	3,900	214,209	98.21%	218,109	356	25
0705	Dang Tung	-	246,194	100.00%	246,194	437	50
0706	Kampog Trach	-	331,471	100.00%	331,471	499	33
0707	Teuk Chhou	2,897	301,580	99.05%	304,477	343	33
0708	Krong Kampot	1,839	47,384	96.26%	49,223	49	-
Total		21,986	2,084,677	98.96%	2,106,663	3,093	283
08	Kandal (KD)	Link to KD RR Inventory					
0801	Kandal Steung	1,100	296,525	99.63%	297,625	195	43
0802	Kien Svay	-	191,905	100.00%	191,905	19	27
0803	Ksach Kandal	7,152	212,370	96.74%	219,522	119	19
0804	Koh Thom	-	93,891	100.00%	93,891	2	44
0805	Lerk Dek	-	87,182	100.00%	87,182	2	7
0806	Lvea Em	-	78,228	100.00%	78,228	8	14
0807	Muk Kampoul	28,150	73,547	72.32%	101,697	5	17
0808	Ang Snoul	8,305	253,637	96.83%	261,942	205	32
0809	Ponh Leu	22,300	202,181	90.07%	224,481	53	14
Total		67,007	1,489,466	95.69%	1,556,473	608	217
09	Koh Kong (KK)	Link to KK RR Inventory					
0901	Botum Sakor	1,300	74,947	98.30%	76,247	42	8
0902	Kiri Sarkor	1,537	8,608	84.85%	10,145	1	1
0903	Koh Kong	-	47,390	100.00%	47,390	36	1

0904	Khemara Phoumin	-	21,101	100.00%	21,101	7	1
0905	Mondul Seima	9,700	84,530	89.71%	94,230	139	7
0906	Sre Ambil	1,400	175,989	99.21%	177,389	88	19
0907	Thmar Bang	-	97,445	100.00%	97,445	24	2
Total		13,937	510,010	97.34%	523,947	337	39
10	Kratie (KRT)						Link to KRT RR Inventory
1001	Chhlaung	-	261,985	100.00%	261,985	131	16
1002	Krong Kratie	-	13,752	100.00%	13,752	14	3
1003	Prek Prosob	-	460,066	100.00%	460,066	294	33
1004	Sambo	-	754,501	100.00%	754,501	349	109
1005	Snoul	-	316,867	100.00%	316,867	254	32
1006	Chetr Borey	-	437,168	100.00%	437,168	384	46
Total		-	2,244,339	100.00%	2,244,339	1,426	239
11	Mondul Kiri (MK)						Link to MK RR Inventory
1101	Keo Seima	-	123,300	100.00%	123,300	95	20
1102	Koh Nhek	-	196,400	100.00%	196,400	105	28
1103	Au Rang	-	37,800	100.00%	37,800	24	2
1104	Pichrea Da	-	41,000	100.00%	41,000	19	3
1105	Krong Sen Mnorum	-	83,840	100.00%	83,840	77	3
Total		-	482,340	100.00%	482,340	320	56
12	Phnom Penh (PP)						Link to PP RR Inventory
1205	Dangkor	24,094	78,629	76.54%	102,723	9	9
1208	Sen Sok	20,700	42,719	67.36%	63,419	4	0
1209	Pursenchey	61,060	157,214	72.03%	218,274	61	6
1210	Chbar Ampov	24,210	34,080	58.47%	58,290	1	1
1211	Chroy Changva	32,923	35,200	51.67%	68,123	0	6
1212	Preak Phnov	25,030	38,134	60.37%	63,164	25	1
1214	Kambol	27,850	81,078	74.43%	108,928	38	5
Total		215,867	467,054	68.39%	682,921	138	28
13	Preah Vihear (PVH)						Link to PVH RR Inventory
1301	Sen Chey	-	173,197	100.00%	173,197	116	37
1302	Chhaeb	-	201,532	100.00%	201,532	148	13
1303	Cham Ksarn	504,529	7,300	1.43%	511,829	532	101
1304	Kou Len	-	166,801	100.00%	166,801	215	30
1305	Roveang	24,920	221,094	89.87%	246,014	195	42
1306	Sangkum Thmey	-	127,833	100.00%	127,833	173	17
1307	Tbeng Meanchey	37,200	41,967	53.01%	79,167	123	5
1308	Krong Preah Vihear	-	80,486	100.00%	80,486	58	9
Total		566,649	1,020,210	64.29%	1,586,859	1,560	254

14 Prey Veng (PV)		Link to PV RR Inventory					
1401	Bar Phnom	34,900	394,059	91.86%	428,959	700	14
1402	Kampchay Mear	4,693	422,007	98.90%	426,700	723	20
1403	Kampong Trabaek	63,400	558,488	89.81%	621,888	824	61
1404	Kanh Chreach	26,700	247,933	90.28%	274,633	457	30
1405	Mesang	1,000	353,157	99.72%	354,157	690	11
1406	Peam Chor	-	133,277	100.00%	133,277	112	23
1407	Peam Ror	-	82,213	100.00%	82,213	63	20
1408	Prearang	63,000	172,476	73.25%	235,476	137	24
1409	Preah Sdach	39,900	352,841	89.84%	392,741	673	15
1410	Krong Prey Veng	7,300	24,773	77.24%	32,073	40	1
1411	Pur Rieng	6,790	79,324	92.12%	86,114	84	8
1412	Sithor Kandal	23,200	110,211	82.61%	133,411	160	31
1413	Svay Antor	45,637	310,140	87.17%	355,777	467	20
Total		316,520	3,240,899	91.10%	3,557,419	5,130	278
15 Pursat (PS)		Link to PS RR Inventory					
1501	Bakarn	228,238	256,919		485,157	770	60
1502	Kandiang	83,600	123,796		207,396	262	72
1503	Kro Kor	414,759	22,045		436,804	536	78
1504	Phnom Kravanh	131,666	207,667		339,333	397	57
1505	Pursat	4,700	163,255		167,955	208	26
1506	Veal Veng	1,700	78,825		80,525	101	15
1507	Talor Sen Chey	8,300	228,339		236,639	272	40
Total		872,963	1,080,846		1,953,809	2,546	348
16 Ratanakiri (RK)		Link to RK RR Inventory					
1601	Andaung Meas	-	9,615	100.00%	9,615	31	27
1602	Banlung	5,082	110,615	95.61%	115,697	32	8
1603	Bor Keo	-	142,044	100.00%	142,044	60	20
1604	Kaun Mum	-	142,278	100.00%	142,278	115	25
1605	Lumphat	-	147,483	100.00%	147,483	82	27
1606	Au Chum	3,900	180,642	97.89%	184,542	61	23
1607	Au Yadav	-	96,592	100.00%	96,592	40	10
1608	Taveng	-	28,916	100.00%	28,916	15	12
1609	Ven Sai	-	93,467	100.00%	93,467	74	34
Total		8,982	951,652	99.06%	960,634	510	186
17 Siem Reap (SR)		Link to SR RR Inventory					
1701	Angkor Chum	173,159	112,360	39.35%	285,519	495	23
1702	Angkor Thum	53,600	70,910	56.95%	124,510	167	7
1703	Banteay Srey	-	246,221	100.00%	246,221	173	11

1704	Chi Krong	26,881	297,808	91.72%	324,689	421	19
1705	Kro Lanh	13,442	192,456	93.47%	205,898	342	24
1706	Pouk	77,119	286,382	78.78%	363,501	696	39
1707	Prasat Bakorng	14,200	143,600	91.00%	157,800	254	16
1708	Krong Siem Reap	4,305	165,595	97.47%	169,900	175	7
1709	Sautr Nikum	18,600	295,179	94.07%	313,779	457	35
1710	Srey Snam	9,200	172,346	94.93%	181,546	334	12
1711	Svay Ler	-	182,486	100.00%	182,486	145	17
1712	Varin	33,300	234,050	100.00%	234,050	192	27
Total		423,806	2,399,393	86.00%	2,789,899	3,851	237
18	Preah Sihanouk (KPS)	Link to KPS RR Inventory					
1801	Krong Preah Sihanouk	11,394	20,100	63.82%	31,494	39	5
1802	Prey Nub	125,594	78,904	38.58%	204,498	408	13
1803	Steung Hav	49,365	21,757	30.59%	71,122	149	3
1804	Kampong Seila	4,050	75,305	100.00%	75,305	89	22
1805	Koh Rong	-	0	0.00%	0	0	0
Total		190,403	196,066	51.27%	382,419	685	43
19	Steung Treng (ST)	Link to ST RR Inventory					
1901	Se San	-	152,952	100.00%	152,952	90	39
1902	Siem Bauk	15,100	182,310	92.35%	197,410	173	62
1903	Siem Pang	-	358,142	100.00%	358,142	173	62
1904	Krong Steung Treng	-	87,953	100.00%	87,953	60	32
1905	Thala Borivat	-	261,666	100.00%	261,666	54	34
1906	Borey AuSvay Senchey	-	99,390	100.00%	99,390	92	15
Total		15,100	1,142,413	98.70%	1,157,513	642	244
20	Svay Rieng (SVR)	Link to SVR RR Inventory					
2001	Chantrea	-	152,725	100.00%	152,725	105	15
2002	Kampong Rou	33,700	253,688	88.27%	287,388	284	14
2003	Rumduol	2,500	334,576	99.26%	337,076	414	27
2004	Rormeas Hek	21,700	755,151	97.21%	776,851	981	44
2005	Svay Chrum	22,784	655,099	96.64%	677,883	625	57
2006	Krong SvayRieng	2,109	107,957	98.08%	110,066	112	1
2007	Svay Teap	8,580	249,846	96.68%	258,426	243	11
2008	Bavet	1,690	130,373	98.72%	132,063	101	6
Total		93,063	2,639,415	96.59%	2,732,478	2,865	175
21	Takeo (TK)	Link to TK RR Inventory					
2101	Angkor Borey	-	88,784	100.00%	88,784	51	53
2102	Baty	288,303	34,945	10.81%	323,248	417	83
2103	Borey Chulsa	-	69,344	100.00%	69,344	48	14

2104	Kiri Vong	46,800	252,670	84.37%	299,470	428	36
2105	Koh Andet	-	177,985	100.00%	177,985	167	19
2106	Prey Kabas	169,400	11,056	6.13%	180,456	153	21
2107	Samrong	10,300	246,909	96.00%	257,209	337	73
2108	Krong Daunkeo	-	34,400	100.00%	34,400	34	5
2109	Tramkok	41,500	659,367	94.08%	700,867	607	105
2110	Trang	1,475	266,701	99.45%	268,176	273	34
Total		557,778	1,842,161	76.76%	2,399,939	2,515	443
22	Oddar Meanchey (OM)	Link to OM RR Inventory					
2201	Anlong Veng	13,430	189,617	93.39%	203,047	107	61
2202	Banteay Ampil	36,640	313,512	89.54%	350,152	393	87
2203	Chong Kal	49,800	181,748	78.49%	231,548	203	16
2204	Krong Samrong	2,400	243,611	99.02%	246,011	211	43
2205	Trapong Prasat	-	192,875	100.00%	192,875	109	40
Total		102,270	1,121,363	91.64%	1,223,633	1,023	247
23	Kep (KEP)	Link to KEP RR Inventory					
2301	Damnak Changer	1,500	111,585	98.67%	113,085	71	7
2302	Krong Kep	2,636	50,172	95.01%	52,808	57	7
Total		4,136	161,757	97.51%	165,893	128	14
24	Pailin (PL)	Link to PL RR Inventory					
2401	Krong Pailin	14,322	240,254	100.00%	240,254	291	12
2402	Sala Krao	2,708	274,129	99.02%	276,837	259	14
Total		17,030	514,383	99.48%	517,091	550	26
25	Tbong Khmum (TBK)	Link to TBK RR Inventory					
2501	Dambe	-	318,240	100.00%	318,240	340	22
2502	Krauchmar	178,507	158,211	46.99%	336,718	138	19
2503	Memot	-	646,417	100.00%	646,417	362	38
2504	Au Rang Ov	20,300	161,074	88.81%	181,374	140	12
2505	Panhea Krek	303,075	60,037	16.53%	363,112	527	35
2506	Krong Soung	18,650	62,226	76.94%	80,876	66	77
2507	Tbong Khmum	466,367	64,908	12.22%	531,275	590	27
Total		485,017	127,134	20.77%	612,151	656	104
Total All Provinces		6,847,082	39,955,810	85.46%	46,751,220	49,909	5,099
%		14.65%	85.46%				

Notes: RR: Rural Road; Paved= DBST, SBST, or Concrete
Sources: MRD (2020)

Table 5: Length of Rural Road in Planning for Repairing, New Constructed, and Rehabilitation

Types of Floor	2020		2021		2022		2023		2024	
	Length of Road (Km)	Implemented	Length of Road (Km)	Planned	Length of Road (Km)	Planned	Length of Road (Km)	Planned	Length of Road (Km)	Planned
All	261	New constructed	300	New Constructed	5,530	Rehabilitated	7,645	Rehabilitated	10,229	Rehabilitated
DBST/SBST	97	New constructed	100	New Constructed	N/A	N/A	N/A	N/A	N/A	N/A

MRD Statagic Budget Plann 2020- 2024 (2021)

Table 6: Major Provincial Roads and Bridge Built (2021)

Data is illustrative

I. Budget Chapter 61 (Repair or Rehabilitation)

Exchange Rate 4065 KHR/1USD

Sl. No.	Namof Scheme under which it built	Road Constructed (Kms)	Bridge Constructed (Nos.)	Expenditure (Currency)	Converted to USD	Unit Prices Per Km (USD)
1	Banteay Meanchey					
	NR 56D (DBST+RC)	1.1		2,185.00	537,515.38	488,650.34
	NR59 (Reseal DBST)	3.5		1,189.00	292,496.92	83,570.55
2	Battambang					
	PR156bb2 (DBST)	5		2,964.00	729,151.29	145,830.26
	PR155 (DBST)	4.6		2,740.06	674,060.27	146,534.84
3	Kampong Cham					
	NR71 (DBST)	2		1,992.00	490,036.90	245,018.45
	NR71C (DBST)	2.6		2,042.00	502,337.02	193,206.55
	NR7 (Overlay AC)	1.8		1,260.00	309,963.10	172,201.72
	NR71 (Reseal DBST)	4		1,172.00	288,314.88	72,078.72
4	Kampong Chhnang					
	NR53 (DBST)	4		1,946.00	478,720.79	119,680.20
	PR150A (DBST)	1.275		1,435.00	353,013.53	276,873.36
	NR53 (Reseal DBST)	7.98		1,910.00	469,864.70	58,880.29
5	Kampong Speu					
	PR143 (DBST)	1.8		1,961.00	482,410.82	268,006.01
	NR44 (Reseal DBST)	3.4		1,169.00	287,576.88	84,581.43
	NR46 (Reseal DBST)	2.88		996.00	245,018.45	85,075.85
	PR1440 (DBST)	1.733		1,050.00	258,302.58	149,049.38
6	Kampong Thom					
	PR264 (Drainage along the road)			1,513.00		
7	Kampot					
	PR136 (DBST)	2.4		1,910.00	469,864.70	195,776.96

8	Kandal					
	NR21A (DBST)	3.251		1,994.00	490,528.91	150,885.54
	PR110 (DBST)	1.405		2,488.00	612,054.12	435,625.71
10	Kratie					
	NR 73 (DBST)	1.85		2,423.00	596,063.96	322,196.74
	NR 73 (Construction of Pipe)			2,383.00		
	NR 73 (Reseal DBST)	2.77		1,044.00	256,826.57	92,717.17
	NR 76 (Reseal DBST)	2.6		1,123.00	276,260.76	106,254.14
11	Mondulkiri					
	NR 76 (DBST)	2.55		1,799.00	442,558.43	173,552.32
12	Preah Vihear					
	NR 62 (DBST)	4.5		2,825.00	694,956.95	154,434.88
	NR 64 (DBST)	2.2		1,573.00	386,961.87	175,891.76
	NR 62-NR 64 (Reseal DBST)	8.5		2,368.00	582,533.83	68,533.39
	NR 62 (Weigh station)			769.00		
13	Prey Veng					
	NR 8 (AC)	1.8		1,847.00	454,366.54	252,425.86
	PR 370B (DBST)	2.4		1,449.00	356,457.56	148,523.99
	PR 311A (DBST)	1.17		1,283.00	315,621.16	269,761.67
	NR 8 (Overlay AC)	2.15		1,986.00	488,560.89	227,237.62
	PR 310 (DBST)	3.07		1,979.00	486,838.87	158,579.44
14	Purat					
	PR 155 (Drainage along the road)			1,965.00		
	PR 154 (Drainage along the road)			1,900.00		
	NR 55 PR152H PR154 (Reseal DBST)	9.3		2,530.00	622,386.22	66,923.25
15	Ratanakiri					
	NR78-5 (DBST)	1.65		2,754.00	677,490.77	410,600.47
	NR78-5 (Reseal DBST)	5		1,555.00	382,533.83	76,506.77
	NR78 (Reseal DBST)	10.5		2,490.00	612,546.13	58,337.73
16	Siem Reap					
	NR6 (AC)	1.52		2,694.00	662,730.63	436,006.99
	NR64 (Reseal DBST)	1		1,442.00	354,735.55	354,735.55
17	Preah Sihanouk					
	PR148 (DBST)	2.81		2,357.00	579,827.80	206,344.41
18	Stueng Treng					
	PR379A (DBST)	4.4		2,951.00	725,953.26	164,989.38
19	Svay Rieng					
	PR3138 (Laterite)	8.18		2,516.00	618,942.19	75,665.30
20	Takeo					

	NR2 (AC)	2.12		4,855.00	1,194,341.94	563,368.84
	PR132 (DBST)	3.34		1,941.00	477,490.77	142,961.31
	NR2 (Overlay AC)	2.969		1,464.00	360,147.60	121,302.66
	PR132 (Reseal DBST)	8.2		1,463.00	359,901.60	43,890.44
21	Utardar Meanchey					
	PR 2686 (DBST)	4.75		2,877.00	707,749.08	148,999.81
	PR2625 (DBST)	3		1,918.00	471,832.72	157,277.57
	NR 68 (Reseal DBST)	9		2,348.00	577,613.78	64,179.31
	PR2625 (DBST)	4.1		1,372.00	337,515.38	82,320.82
22	Kep					
	PR1332 (RC)	0.75		1,947.00	478,966.79	638,622.39
	NR33 (Weight stations)			993.00	244,280.44	
23	Pailin					
	NR57 (DBST)			1,890.00	464,944.65	
	NR59 (Drainage U shape)			1,901.00	467,650.68	
24	Tbong Khmum					
	NR7 (DBST)	2.575		1,913.00	470,602.71	182,758.33
	NR8 (DBST)	2.375		1,924.00	473,308.73	199,287.89
	NR72 (DBST)	2.125		1,448.00	356,211.56	167,628.97
	NR73 (DBST)	2.3		1,439.00	353,997.54	153,911.97
	NR7 (Reseal DBST)	2.05		669.99	164,819.19	80,399.60
	NR8 (Overlay AC)	0.91		887.00	218,204.18	239,784.82
	Total	191.318		122,822.05	30,214,525.22	

II. Budget Chapter 21 (Improve or newly constructed)

Exchange Rate 4054 KHR/1USD

Sl. No.	Namof Scheme under which it built	"Road Constructed (Kms) "	"Bridge Constructed (Nos.)"	"Expenditure (KHR Million)"	Converted to USD	Unit Prices Per Km (USD)
1	Banteay Meanchey					
2	Battambang					
	PR 157A (DBST)	5		2,937.00	722,509.23	144,501.85
3	Kampong Cham					
	NR70B (Brige 40mx10m)		1	1,861.00	457,810.58	
	PR279 (RC)	0.14		247.90	60,984.01	435,600.07
	NR 70B (DBST)	1.7		2,486.00	611,562.12	359,742.42
4	Kampong Chhnang					
	NR52 (DBST)	2.2		2,854.00	702,091.02	319,132.28
	PR 1KCH18 (Laterite)	2.325		2,360.00	580,565.81	249,705.72
5	Kampong Thom					
	PR 2620 (Laterite)	3.7		2,867.00	705,289.05	190,618.66
	PR 264G (Laterite) No budget, under negotiation	8.5				
6	Kampot					

	PR 138 (DBST)	3.5		2,886.00	709,963.10	202,846.60
	NR31A (DBST)	3		2,885.00	709,717.10	236,572.37
7	Kandal					
	NR 34 (DBST)	3.24		3,442.00	846,740.47	261,339.65
	PR1211 (DBST)	1.3		2,990.00	735,547.36	565,805.66
	PR2618 (DBST)	3.499		1,989.00	489,298.89	139,839.64
	NR 42 (DBST)	3.223		3,323.00	817,466.17	253,635.18
8	Kratie					
	PR 279 (DBST)	3.15		2,988.00	735,055.35	233,350.90
	PR 371 (DBST)	1.7		2,988.00	735,055.35	432,385.50
9	Mondul Kiri					
	NR 76 (DBST)	4.38	1	3,872.00	952,521.53	217,470.67
10	Preah Vihear					
	NR 95 (DBST)	3.5		1,915.00	471,094.71	134,598.49
11	Prey Veng					
	PR 3PV7 (DBST)	4.15		3,313.00	815,006.15	196,387.02
	PR 387A (DBST)	4.2		2,869.00	705,781.06	168,043.11
12	Pursat					
	PR 154 (DBST)	2.58		2,856.00	702,583.03	272,319.00
13	Ratanakiri					
	NR 78-5 (Laterite)	8		2,734.00	672,570.73	84,071.34
14	Siem Reap					
	PR 266F (DBST)	4		2,978.00	732,595.33	183,148.83
15	Steung Treng					
	PR 376F (DBST)	2.25		3,508.00	862,976.63	383,545.17
16	Svay Rieng					
	PR 3SVR8 (DBST)	3.6		2,835.00	697,416.97	193,726.94
	PR314C (DBST)	5.27		2,836.00	697,662.98	132,383.87
	NR 18 (RC), (No budget, under negotiation)	2.554				
17						
	PR 129 (DBST)	3.7		2,994.00	736,531.37	199,062.53
	PR 125 (DBST)	3.31		2,987.00	734,809.35	221,996.78
18	Utdar Meanchey					
	PR 2647 (DBST)	3.8		2,988.00	735,055.35	193,435.62
19	Kep					
	PR 1335 (DBST)	2.15		2,363.00	581,303.81	270,373.87
20	Pailin					
	PR 1593 (DBST)	2.87		2,473.00	608,364.08	211,973.55
21	Water way					
	Concrete Port (No budget, under negotiation)					
22	Unit of Machinery Construction					
	NR 1 (Expand to road width), no budget, negotiation	6.3				
23	Unit of Engineering Construction					

PR1577-PR1579 (Laterite)	7.8		3,958.00	973,677.74	124,830.48
PR (Baknam Border) (Sub grade)	1.295		3,976.00	978,105.78	755,294.04
PR 382 (Laterite)	1.667		4,827.00	1,187,453.87	712,329.86
PR 1TK5 (DBST)	4		3,752.00	923,001.23	230,750.31
Total	106.491	2	99,137.90	24,388,167.28	

Major Provincial Roads and Bridge Built (2020)

Data is illustrative

I. Budget Chapter 61 (Repair or Rehabilitation)

Exchange Rate 4054 KHR/1USD

Sl. No.	Namof Scheme under which it built	"Road Constructed (Kms) "	"Bridge Constructed (Nos.)"	"Expenditure (Million KHR)"	Converted to USD	Unit Prices pr Kms (USD)
1	Banteay Meanchey					
	PR 268A (DBST)	5.4		2,225.00	548,840.65	101,637.16
	PR 268A		1 bridge (18m)	905	223,236.31	
2	Battambang					
	PR 1571A (DBST)	7		1,860.00	458,806.12	65,543.73
	"NR5 PR1570 PR1571 (Ovlerlay AC+ Reseal DBST)"	34.2		13,060.00	3,221,509.62	94,196.19
3	Kampong Cham					
	NR71 (DBST)	6		3,373.00	832,017.76	138,669.63
	PR 270	2.68		1,585.00	390,971.88	145,885.03
4	Kampong Chhnang					
	NR53 (DBST)	3.9		1,885.00	464,972.87	119,223.81
5	Kampong Speu					
	PM Road (Laterite)	6.5		2,317.00	571,534.29	87,928.35
6	Kampong Thom					
	PR264 (DBST)	7		3,490.00	860,878.15	122,982.59
	PR2718 (RC)	2.15		3,621.00	893,191.91	415,438.10
7	Kampot					
	NR33 (DBST)	2.48		2,114.00	521,460.29	210,266.24
8	Kandal					
	PR110 (DBST)	3.47		4,913.00	1,211,889.49	349,247.69
	NR 14 (DBST)	1.58		2,404.00	592,994.57	375,313.02
9	Kratie					
	NR 73 (DBST)	2.8		3,039.00	749,630.00	267,725.00
	NR 76 (DBST)	3		4,319.00	1,065,367.54	355,122.51
	NR 76 (Reseal DBST)	9.77		3,415.00	842,377.90	86,220.87
10	Monduliri					
	NR 76 (DBST)	3.1		2,560.00	631,475.09	203,701.64
	PR 3764 (DBST)	4.55		3,867.00	953,872.72	209,642.36
11	Preah Vihear					
	NR 62 (DBST)	5.6		3,221.00	794,523.93	141,879.27
	NR 64 (U Shape Drainage)			2,462.00	607,301.43	
	NR 62 NR 64 (Reseal DBST)	16		4,186.00	1,032,560.43	64,535.03
12	Prey Veng					

	PR 313 (DBST)	3.4		1,890.00	466,206.22	137,119.48
	PR 370B (DBST)	3.3		1,905.00	469,906.27	142,395.84
	NR 8 (Overlay AC)	6.2		2,886.00	711,889.49	114,820.89
13	Pursat					
	PR 155 (U Shape Drainage)			1,680.00	414,405.53	
14	Ratanakiri					
	PR3785 (Laterite)	28.52		2,612.00	644,301.92	22,591.23
	NR78 (Reseal DBST)	5.3		1,234.00	304,390.73	57,432.21
	PR3789 (DBST)	8.5		2,002.00	493,833.25	58,098.03
	PR3789 (Reseal DBST)	6.2		1,453.00	358,411.45	57,808.30
	NR78 (Reseal DBST)	7		2,299.15	567,131.23	81,018.75
15	Preah Vihear					
	NR63 (DBST)	2.86		1,488.00	367,044.89	128,337.38
	NR67 (Reseal DBST)	3.5		2,932.00	723,236.31	206,638.95
16	Steung Treng					
	NR9 (DBST)	2.5		1,475.00	363,838.18	145,535.27
	NR78 (Reseal DBST)	10.5		3,432.00	846,571.29	80,625.84
17	Svay Rieng					
	PR3133 (Laterite)	7.44		2,048.00	505,180.07	67,900.55
	PR314C (Reseal DBST)	5		884.00	218,056.24	43,611.25
18	Takeo					
	PR122 (DBST)	4.32		3,485.00	859,644.80	198,991.85
	PR126 (Reseal DBST)	6		1,316.00	324,617.66	54,102.94
19	Uttar Meanchey					
	NR 68 (DBST)	7.5		5,833.00	1,438,825.85	191,843.45
	PR2625 (DBST)	2.75		1,869.00	461,026.15	167,645.87
20	Kep					
	NR33A (Overlay+Reseal)	6.29		3,720.00	917,612.23	145,884.30
21	Pailin					
	NR57 (DBST)	1.292		4,784.00	1,180,069.07	913,366.15
	NR59 (U Shape Drainage)			1,555.00		
22	Tbong Khmum					
	PR371 (DBST)	2.9		1,596.00	393,685.25	135,753.53
	Total	258.452	1 bridge (18m)	125,199.15	30,882,868.77	118,627.96

II. Budget Chapter 21 (Improve or newly constructed)

Exchange Rate 4054 KHR/1USD

Sl. No.	Namof Scheme under which it built	"Road Constructed (Kms) "	"Bridge Constructed (Nos.)"	"Expenditure (Currency)"	Converted to USD	Unit Prices pr Kms (USD)
1	Banteay Meanchey					
	Suburb Town Road(Bridge)		1	1,027.00	253,330.04	
	Town Road (DBST)	4.025		4301	1,060,927.48	263,584.47
	NR 5 (DBST)	2.1		2741	676,122.35	321,963.02
	NR 5 (DBST)	1.1		960	236,803.16	215,275.60
2	Battamba ng					

	PR 159A (DBST)	2		744.00	183,522.45	91,761.22
	PR 159B1 (DBST)	1.5		982.00	242,229.90	161,486.60
	NR57 (DBST)	9.75		5,767.00	1,422,545.63	145,902.12
3	Kampong Cham					
	NR70B (RC)	1.73		3,388.00	835,717.81	483,073.88
4	Kampong Chhnang					
	NR 50C2 (Laterite)	4.2		1,514.00	373,458.31	88,918.65
	PR 1534 (Replace super structure)		2	1,860.00	458,806.12	229,403.06
5	Kampong Speu					
	PR 1440 (DBST)	4		3,485.00	859,644.80	214,911.20
	PR 132 (Laterite)	6.5		3,604.00	888,998.52	136,769.00
	NR 44 (RC, DBST)	0.8		3,180.00	784,410.46	980,513.07
6	Kampong Thom					
	PR 264G (Laterite)	7.5		2,988.00	737,049.83	98,273.31
	PR 2620 (Laterite)	5.3		2,937.00	724,469.66	136,692.39
7	Kandal					
	PR 1KD11 (DBST)	5.161		3,191.00	787,123.83	152,513.82
	PR 1KD9 (DBST)	1.56		1,991.00	491,119.88	314,820.44
	NR 14 (Bridge 30mx8m)		1	1,350.00	333,004.44	
8	Koh Kong					
	NR 48 (RC)	5.407		3,423.00	844,351.26	156,158.92
9	Kratie					
	PR 371 (DBST)	3.5		3,989.00	983,966.45	281,133.27
	PR 279 (DBST)	3.8		2,993.00	738,283.18	194,285.05
10	Mondul Kiri					
	PR 3764 (Bridge 45mx10m)		1	3,856.00	951,159.35	
11	Prey Veng					
	PR 3PV7 (DBST)	4.5		3,252.00	802,170.70	178,260.15
	PR 3111 (DBST)	2.9		1,966.00	484,953.13	167,225.22
12	Pursat					
	PR 154 (DBST)	3.075		2,663.00	656,882.09	213,620.19
13	Ratanakiri					
	NR 76 (DBST)	5.165		3,445.00	849,778.00	164,526.23
	NR 78 (DBST)	9.8		2,093.00	516,280.22	52,681.65
14	Siem Reap					
	PR 267 (DBST)	1.4		3,485.00	859,644.80	614,032.00
	PR 2SR3 (DBST)	5.2		4,980.00	1,228,416.38	236,233.92
	PR 266F (DBST)	3.3		2,764.00	681,795.76	206,604.77
15	Preah Sihanouk					
	NR 4 (overlay AC)	7.921		6,474.00	1,596,941.29	201,608.55
16	Steung Treng					
	PR 376F (DBST)	3.7		2,490.00	614,208.19	166,002.21
	NR 78 (DBST)	17		5,504.00	1,357,671.44	79,863.03
17	Svay Rieng					
	PR 316 (DBST)	2.38		2,474.00	610,261.47	256,412.38
	PR314C (DBST)	5.2		2,989.00	737,296.50	141,787.79
	NR 1 (AC)	1.7		3,749.00	924,765.66	543,979.80
18	Takeo					

	PR 129 (DBST)	8.355		3,958.00	976,319.68	116,854.54
19	Utdar Meanchey					
	PR 2647 (DBST)	2.2		2,816.00	694,622.59	315,737.54
20	Kep					
	PR 1335 (DBST)	1.9		2,401.00	592,254.56	311,712.93
21	Pailin					
	PR 1593 (DBST)	4.15		3,125.00	770,843.61	185,745.45
22	Water Way					
	Concrete Port (69mx16.5m)			6,300.00	1,554,020.72	
23	Ministry of Interior Civil Engineer Work					
	PR1577-PR1579 (Laterite)	6.25		4,795.00	1,182,782.44	189,245.19
	PR382 (Laterite)	1.9		3,858.00	951,652.69	500,869.84
	PR 1440 (DBST)	2.15		1,095.00	270,103.60	125,629.58
	PR 130 (DBST)	15.125		11,869.00	2,927,725.70	193,568.64
	PR 382D (DBST)	3		4,208.00	1,037,987.17	345,995.72
	Total	159.779	5	153,024.00	37,746,423.29	

**Table 7: Budget Chapter 21 (Investment Fund using for 2020 flood rural road repair)
Exchange Rate 4065 KHR/1USD**

Sl. No.	Namof Scheme under which it built	Road Location	"Road Constructed (Kms) "	"Bridge Constructed (Nos.)"	Culvert Constructed (Nos)	" Expenditure (KHR Million) "	Converted to USD	Unit Prices Per Km (USD)
I. Banteay Meanchey								
1	Repair and reseal the laterite floor of length 12700m, width 6m. Install 1 box culvert and 9 pipe culvert.	Connected from NR56, Kamnorp Village, Slor Kram Commune, Svay Chek District	12.700	0	10	2,000.00	492,004.92	38,740.54
2	Repair and reseal the gravel mixture of length 9300m, width 4m. Install 1 pipe culvert.	AuChrov Village, Nimith Commune, Poy Pet Town.	9.300	0	1	900.00	221,402.21	23,806.69
3	Construct concrete road of length 4000m, width. Install 1 box culvert.	Koh Keo Village, Reusey Krok Commune, Mongkul Borey District.	4.000	0	1	1,800.00	442,804.43	110,701.11
4	Repair and reseal the gravel mixture of length 24600m, width 5m. Install 3 pipe culvert.	Beong Tauch Village, Ser Village, Mongkul-borey District	24.600	0	3	2,400.00	590,405.90	24,000.24
5	Repair and reseal the gravel mixture of length 7400m, width 5m. Install 8 pipe culverts. And construct 1 concrete bridge of 36m, width 8m.	Tasieve village, Korkkthen Commune, Thmor Pouk District	7.400	1	8	2,500.00	615,006.15	83,108.94
6	Repair and reseal the gravel mixture of length 8200m, width 6m. Install 5 pipe culverts.	Balang Village, Takung Commune, Malai District	8.200	0	5	800.00	196,801.97	24,000.24

7	Repair and reseal the gravel mixture of length 6000m. Install 3 pipe culverts.	Anchay Village, Samrong Commune, Auchrov District	6.000	0	3	800.00	196,801.97	32,800.33
8	Repair and reseal the gravel mixture of length 33000m, width 5m. Install 5 pipe culverts.	Tapon-Thmey-Kork-Team Village, Teuk Chor Commune, Preah Neath Preah	33.000	0	5	3,000.00	738,007.38	22,363.86
II. Battambang								
1	Repair and reseal the gravel mixture of length 16200m	NR5 at Boeng Pring Village to Street 58, Lvea Commune, Thmaor Korl District.	16.200	0	0	2,500.00	615,006.15	37,963.34
2	Repair and reseal the stone mixture of length 10000m, width 5m.	Anglong Tamuk-Preah Theat Village, Mongkul Commune, Mornng Reusey District.	10.000	0	0	1,000.00	246,002.46	24,600.25
3	Repair and reseal the gravel mixture of length 14700m. Install 23 pipe culvert, and 2 box culvert.	NR5 at Toul Kpors Village, Au Dambang Village to Kandorl Village Rang Kesey Commune, Sangke District.	14.700	0	25	2,500.00	615,006.15	41,837.15
4	Repair and reseal the gravel mixture of length 14100m, width 5m. Install 5 pipe culvert.	Koh Village and Beung Bey Village, Kor Koh Commune, to Mounng Commune, Mounng Reusey District.	14.100	0	5	1,640.00	403,444.03	28,613.05
5	Repair and reseal the gravel mixture of length 16000m, width 5m. Install 4 pipe culvert.	From NR59 of Kamrieng Village to Au Chrov Village, Kamrieng Commune, Kamrieng District.	16.000	0	4	1,700.00	418,204.18	26,137.76
6	Repair and reseal the gravel mixture of length 15000m.	From NR1577 to Sre leach Village, Sung Commune, Samloat District	15.000	0	0	400.00	98,400.98	6,560.07
7	Repair and reseal the gravel mixture of length 16100m, width 5m. Install 2 pipe culvert.	From Mukwath Village to Korkrka Village, Daun Par Commune, Kors Kralar District	16.100	0	2	1,189.00	292,496.92	18,167.51
8	Repair and reseal the gravel mixture of length 3800m, width 5m. Install 2 pipe culvert.	Korkdaung Village, Peam Ek Commune, Ekphnom District.	3.800	0	2	500.00	123,001.23	32,368.74
9	Repair and reseal the gravel mixture of length 8000m, width 8m.	Kbalthnol Village to Boeng Chumneal Village, Prey Khpos Commune, Borvel District	8.000	0	0	1,000.00	246,002.46	30,750.31
III. Pailin								
1	Repair and reseal the gravel mixture of length 11400m. Install 6 pipe culverts.	From Kes Village, Auteuk Pleav Primery School, Sanagkat Salarkrao, Pailin City	11.400	0	6	2,000.00	492,004.92	43,158.33

2	Repair and reseal the gravel mixture of length 4500m.	Bortangsou to Sangkat Auyakha, Pailin City	4.500	0	0	300.00	73,800.74	16,400.16
IV. Pursat								
1	Repair and reseal the gravel mixture of length 11100m. Install 3 pipe culverts, 3 box culvert, and construct drainage dam 60m.	Takeo Krome Village in Beung Kantout Commune to Rorlous Village in Kampon Ror Commune, Korkor District	11.100	0	6	4,000.00	984,009.84	88,649.54
2	Repair and reseal the gravel mixture of length 9300m. Install 1 pipe culvert and 1 box culvert.	Char Village and Keomony Village in Banteay Dey Commune to Anglung Vel Commune, Kandieng District.	9.300	0	0	1,300.00	319,803.20	34,387.44
3	Repair and reseal the gravel mixture of length 4230m, width 8m and 5m. Install 2 pipe culvert and 5 box culvert.	Bantey Krote Village in Srei Stock Commune to Kampong Sambau Village in Sya Commune, Kandieng District	4.230	0	7	2,000.00	492,004.92	116,313.22
4	Repair DBST road 18100m. Install 2 culverts.	Thnort Treat Village in Sangkat Phteah Prey Krong Pursat to Pur Village, Srei Stock Commune, Kandieng District.	18.100	0	2	1,000.00	246,002.46	13,591.30
5	Construct one concrete of length 18m, width 8m. Install 1 box culvert and 4 pipe culverts.	Au Village, Sangkat Chamreun Phal, Krong Pursat.	-	1	5	1,100.00	270,602.71	-
6	Construct DBST road of length 3600m. Install 3 box culverts and 4 pipe culverts.	Anglung Hap to Dorn Rung Village, Koh Chum Commune, Kandieng District.	3.600	0	7	2,800.00	688,806.89	191,335.25
7	Repair and reseal the gravel mixture of length 17400m, width 8m. Install 17 pipe culverts and 2 box culverts.	Phaktra Village to Svay Park Village, Krongil Commune, Krvanh District.	17.400	0	19	5,500.00	1,353,013.53	77,759.40
V. Kampong Chhnang								
1	Repair and reseal the gravel mixture of length 6400m.	Kak Village, Chhouksar Commune, Kampong Tralach District.	6.400	0	0	189.00	46,494.46	7,264.76
2	Repair and reseal the gravel mixture of length 3700m.	Andaung Tramaung to Sresa Village, Chhouk Sar Commune, Kampong Tralach District.	37.000	0	0	152.00	37,392.37	1,010.60
3	Repair and reseal the gravel mixture of length 2000m.	Toul Tov Village and Tropang Khug Village, Chhouk Sar Commune, Kampong Tralach District.	2.000	0	0	82.00	20,172.20	10,086.10

4	Repair and reseal the gravel mixture of length 6600m.	NR5 to Kampong Prasath Village, Seb Commune, Kampong Tralach.	6.600	0	0	271.00	66,666.67	10,101.01
5	Construct the road and structure, and seal with the gravel mixture of length 5200m.	Aleng to Tropang Kravan Village, Chrey Bak Comune, Rolear District.	5.200			213.00	52,398.52	10,076.64
VI. Kampong Speu								
1	Repair and reseal the gravel mixture of length 10700m. Install 2 box culvert.	From Kandal to Deichen Village, Samrong Commune, Phnom Sroch District.	10.700	0	2	403.00	99,138.99	9,265.33
2	Repair and reseal the gravel mixture of length 2700m. Install 1 pipe culvert.	Tangeal to Kandorl Village, Mohasang Commune, Phnom Srouch District	2.700	0	1	115.00	28,290.28	10,477.88
3	Repair and reseal the gravel mixture of length 10580m. Install 1 box culvert.	Damanak Trach Village, Dambauk Rong Commune, Phnom Srouch District.	10.580	0	1	189.00	46,494.46	4,394.56
4	Repair and reseal the gravel mixture of length 6400m. Install 1 pipe culvert.	Vorlpreg to Champey Village, Tang Kroch Commune, Samrong Torng District.	6.400	0	1	292.00	71,832.72	11,223.86
5	Repair and reseal the gravel mixture of length 3220m. Repair the structure.	Champey to Andaung Slar, Tang Kroch Commune, Samrong Torng District.	3.220	0	0	132.00	32,472.32	10,084.57
6	Repair and reseal the gravel mixture of length 1740m. Repair the structure.	Anglung Thum to Angdaung Sla Village, Dambouk Raung Commune, Phnom Srouch District.	1.740	0	0	71.00	17,466.17	10,038.03
7	Repair and reseal the gravel mixture of length 2000m. Repair the bridge and install 2 pipe culvert.	Chroklong to Thnal Village, Monorum Commune, Tporng District.	2.000	1	2	400.00	98,400.98	49,200.49
8	Repair and reseal the gravel mixture of length 2880m. Install 1 box culverts with water shut-off valve, and one pipe culvert.	Rolors to Roveang Village, Rolang Commune, Samrong Torng Province.	2.880	0	2	493.00	121,279.21	42,110.84
9	Repair and reseal the gravel mixture of length 3690m. Install 1 pipe culvert.	Daun Try to Prey Rmeat Village, Prey Rumdoul Commune, Phnom Srouch District.	3.690	0	1	171.00	42,066.42	11,400.11
VII. Kandal								
1	Repair and reseal the gravel mixture of length 3000m. Repair the structure.	Svay Lech to Svay Kert, Kork Trob Commune, Kandal Stueng District.	3.000	0	0	148.00	36,408.36	12,136.12

2	Repair and reseal the gravel mixture of length 5000m. Repair the structure.	NR34 at Anglung Pring to DeumReusey Village, Derm Rus Commune, Kandal Stueng District.	5.000	0	0	246.00	60,516.61	12,103.32
3	Repair DBST road of length 3000m, width 5m. Repair the structure.	NR2 at Bakou Village, Korktob Commune, Kandal Steung District.	3.000	0	0	148.00	36,408.36	12,136.12
4	Repair DBST road of length 4000m, width 5m. Repair the structure.	NR2 at Srol Pagoda, Beung Kyang Commune, Kandal Stueng District.	4.000	0	0	197.00	48,462.48	12,115.62
5	Repair and reseal the laterite of length 6000m, width 5m. Install 2 pipe culverts.	Kor to Taprum Village, Beung Kyang Commune, Kandal Stueng District	6.000	0	0	179.00	44,034.44	7,339.07
6	Repair and reseal the laterite of length 4000m. Repair the structure.	Damampil Village, Damnak Ampil and Samrong Ler Commune, Kandal Stueng District	4.000	0	0	197.00	48,462.48	12,115.62
7	Repair and reseal the laterite of length 5800m, width 5m. Repair the structure.	NR51 at Paor Pagoda to Toul Pich Commune, Kandal Stueng District.	5.800	0	0	285.00	70,110.70	12,088.05
8	Repair and reseal the laterite of length 2350m, width 5m. Repair the structure.	Prek Samrong to Rumlex, Toul Pich Commune, Angsnoul District.	2.350	0	0	116.00	28,536.29	12,143.10
9	Repair and reseal the laterite of length 2790m, width 5m. Repair the structure.	NR51, Prey Tortortung Village, Toul Pich Commune, Angsnoul District.	2.790	0	0	137.00	33,702.34	12,079.69
10	Repair and reseal the laterite of length 6000m, width 5m. Repair the structure.	NR4 to Kohandeth Pagoda, Krang Makak Commune, Angsnoul District.	6.000	0	0	210.00	51,660.52	8,610.09
11	Repair and reseal the laterite of length 2630m, width 5m. Repair the structure.	Korkrorveang Pagoda road, Prey Prouch and Lumhach Commune, Angsnoul District.	2.630	0	0	129.00	31,734.32	12,066.28
12	Repair and reseal the laterite of length 8500m, width 5m. Repair the structure.	NR51 to Sre Kandori Village, Makak Commune, Angsnoul District.	8.500	0	0	418.00	102,829.03	12,097.53
13	Repair and reseal the laterite of length 6000m, width 5m. Repair the structure.	NR4 to Damnak Kor Koh Village, Krang and Samrong Ler Commune, Angsnoul District.	6.000	0	0	418.00	102,829.03	17,138.17
VIII. Siem Reap								
1	Repair and reseal the gravel mixture of length 10000m, width 6m. Repair the structure.	Reul Commune in Pouk District to Svay Chek Commune in Angkor Thom.	10.000	0	0	150.00	36,900.37	3,690.04

2	Repair and reseal the gravel mixture length 15000m, width 6m. Repair the structure.	Prey Chrouk Village in Prey Chouk Commune to Kdey Run in Kdey Run Commune, Pouk District.	15.000	0	0	250.00	61,500.62	4,100.04
3	Repair and reseal the gravel mixture length 22000m, width 6m. Repair the structure.	Preah Dak Commune, Rumchek Commune, Tbeng Commune and Kna Sanday Commune, Banteay Srey District.	22.000	0	0	200.00	49,200.49	2,236.39
4	Repair and reseal the gravel mixture length 18500m, width 6m. Repair the structure.	Kantreang, Tbeng, and Kna Pourt Commune in Banteay Srey, Prasat Bakorn, and SoutrnikUm District.	18.500	0	0	300.00	73,800.74	3,989.23
5	Repair and reseal the gravel mixture length 7500m, width 5m. Repair the structure.	Ponleu Preahpos Village to Au Krome Village, Kampong Kdey Commune, Chikreng District.	7.500	0	0	300.00	73,800.74	9,840.10
6	Repair and reseal the gravel mixture length 6000m, width 5m. Repair the structure.	Tangoun Village to Lveng Reusey Village, Lveng Reusey Commune, Chikreng District.	6.000	0	0	250.00	61,500.62	10,250.10
7	Repair and reseal the gravel mixture length 4500m, width 5m. Repair the structure.	Tnal Lork and Purserey Village, Spean Thnort Commune, Chikreng District.	4.500	0	0	200.00	49,200.49	10,933.44
8	Repair and reseal the gravel mixture length 18000m, width 6m. Repair the structure.	Tasiem Commune and Svay Ler Commune, Svay Ler district	18.500	0	0	2,500.00	615,006.15	33,243.58
IX Utdar Meanchey								
1	Repair and reseal the gravel mixture length 7800m, width 5m. Repair the structure.	Beng Commune to Banteay Ampil Commune, Banteay Ampil District.	7.800	0	0	100.00	24,600.25	3,153.88
2	Repair and reseal the gravel mixture length 1850m, width 6m. Install 3 pipe culverts.	Char Village, Ampil Commune, Banteay Ampil District.	1.850	0	3	234.00	57,564.58	31,115.99
3	Repair and reseal the gravel mixture length 4500m, width 6m. Repair the structure.	York Village to Harleam Senchey Village, Ampil Commune, Banteay Ampil District.	4.500	0	0	373.00	91,758.92	20,390.87
4	Repair and reseal the gravel mixture length 24700m, width 6m. Install 1 pipe culvert, and 2 box culverts.	Lumtong Village, Anglung Veng Province.	24.700	0	3	2,100.00	516,605.17	20,915.19

Source: MRD (2020)

Table 8: Material locations and other Public Buildings available with Provincial Department of Public Works and Transport (2021)

No.	Provinces	Number of Warehouses/ Materials Location	For Storage of	Link to List of Warehouses
1	Banteay Meanchey	N/A		
2	Battambang	N/A		
3	Kampong Cham	5	All kind of stone, and soil stone	Link
4	Kampong Chhnang			
5	Kampong Speu	11	All kind of stone, and laterite	Link
6	Kampong Thom	4	All kind of stone, and stone mixed with soil	Link
7	Kampot	3	Mixed stone, soil stone, sand,	Link
8	Kandal	8	asphalt, stone, mixed stone, soil (2 in Kandal, 2 in Kampong Speu, and 4 in Kampong Cham).	Link
9	Keb			
10	Koh Kong	4	All types of stone	Link
11	Kratie	3	Mixed stone, 4x6 Stone, Soil	Link
12	Mondulkiri	N/A		
13	Pailin	N/A		
14	Phnom Penh	2	All kind of stone; AC	Link
15	Preah Vihear	N/A		
16	Prey Veng	N/A		
17	Pursat	N/A		
18	Ratanakiri	N/A		
19	Siem Reap	N/A		
20	Preah Sihanouk	9	Asphalt(AC, CSS-1, CRS-A) , stone, mixed stone, soil, laterite, cement, steel, sand	Link
21	Stueng Treng	N/A		
22	Svay Rieng	N/A		
23	Takeo	4	All kind of stone, stone mixed with soil, sand	Link
24	Svay Rieng	N/A		
25	Otdar Meanchey	1	All kind of stone	Link

Sources: MPWT, 2021

Table 9: Infrastructure available with Provincial Department of Public Works and Transport (2021)

No.	Provinces	Category of Machinery																					
		Data Status	Bull dozer	Grader	Air comp.	Road roller	Tipper	Truck	Water Tank Truck	Concrete Mixer	Pickup	Skid street loader	Excavator	Broom Tracker	Mini Track Ex.	Stone Crusher	Bitumen Sprayer (Small)	Tractor	Bitumen Distributor	Crane	Misc.	Insp. Veh.	
1	Banteay Meanchey	N/A																					
2	Battambang	N/A																					
3	Kampong Cham			2	3	11	4	4	2			2	1						1	2	1		
4	Kampong Chhnang	N/A																					
5	Kampong Speu		2	5	2	12	4	2	2	3		5	3		2	2			3	5	13		
6	Kampong Thom																						
7	Kampot			3	3	8	1	1	2	3		2	2		1	3						11	
8	Kandal		4	4		4						4				4			4	4	38		
9	Keb																						
10	Koh Kong		4	2		5	11		1			4			1							21	
11	Kratie		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>					
12	Mondulkiri	N/A																					
13	Pailin			2	1	4	6		1	3		5			1			1				4	
14	Phnom Penh			2	2	4	4					2		2				2	2			14	
15	Preah Vihear	N/A																					
16	Prey Veng	N/A																					
17	Pursat	N/A																					
18	Ratanakiri	N/A																					
19	Siem Reap	N/A																					
20	Preah Sihanouk		2	1	2	5	4	4	4	1				2	1	2	1					4	
21	Stueng Treng																						
22	Svay Rieng	N/A																					
23	Takeo			2	4	4			1			2	1							1		18	
24	Svay Rieng	N/A																					
25	Otdar Meanchey		2	3	2	7	9		3	1		3					3	2	1	2	12		

Sources: List of Materials and Machinery, MPWPT (2021) MPWPT, 2021

Table 10: Sources of data on disaster-related transport sector inventory

Data Requirements	Availability of data for all 25 Provinces (Y/N)	Availability of data for all 25 Provinces (specify missing States/ locations)	Specify data sources (where data can be found)	Data available (Y/N)
			1. Primary sources (government);	
			2. Secondary sources e.g. DPs/NGOs, private sector, etc	
			3. Field visits;	
			4 Imagery	
Baseline;				
1. Infrastructure and assets				
• Location and capacities of each of the transport sub-systems as listed above, and their main individual components;	Y		MPWT, MRD, Provincial Departments	Y
• Number and capacities of the vehicular stock available in each of the sub-systems;	Y		MPWT, MRD, Provincial Departments	Y
• Most recent origin and destination surveys in the affected and nearby areas;	Y		MPWT, MRD, NCDM, Provincial Departments	Y
• Marginal operating costs in each of the transport modes for different types of vehicles; and	N		MPWT, MRD, Provincial Departments	N
• Annual reports of performance of (private or public) transport enterprises.	Y		MPWT, MRD, Provincial Departments	Y
• the traffic patterns and volumes under pre-disaster conditions	N		MPWT, MRD, Provincial Departments	N
Effects Data (Damages);				
1. Infrastructure and assets				
• the extent and cost of rehabilitation or reconstruction of road transport works (road and bridges), based on the type and severity of destruction.	N		MPWT, MRD, Provincial Departments	Y
• Destruction to vehicle stock – including automobiles, buses, trucks and other smaller vehicles	N		MPWT, MRD, Provincial Departments	Y
Road transport typologies				
a. primary roads network,	Y		MPWT, MRD, Provincial Departments	Y
b. secondary roads network,	Y		MPWT, MRD, Provincial Departments	Y

c. tertiary roads network	Y	MPWT, MRD, Provincial Departments	Y
d. Bridges into their categories	Y	MPWT, MRD, Provincial Departments	Y
Losses			
1. Infrastructure			
• Value of time required for the rehabilitation and reconstruction of transport works:	N	MPWT, MRD, Provincial Departments	Y
2. Service delivery and access			
• Gross value of temporary decline in toll receipts in roads under concession agreements;	N		N
• Urgent expenditures made to re-open transport traffic under at least minimum conditions, during the emergency stage, after the disaster has caused traffic interruptions;	Y	MPWT, MRD, Provincial Departments	Y
• Higher cost of transport due to the temporary utilisation of alternative (longer and lower quality) road sections,	N	MPWT, MRD, Provincial Departments	N
• Possible temporary decline in revenues earned by public and private transport enterprises caused by stoppage or slowdown of operations;	N		N
• Possible higher costs of operation of the enterprise caused by the disaster.	N		N
3. Governance			
• Knowledge and skills: technical expertise and institutional information for the sector;	Y	MPWT, MRD, Provincial Departments	Y
• Resources: human, material and financial, including availability of skilled labour, raw materials for processing, cost and price structure, etc	Y	MPWT, MRD, Provincial Departments	Y
• Systems, information management, communications and basic inputs; and	N		N
• Legal authority, monitoring, oversight and reporting.	Y	MPWT, MRD, Provincial Departments	Y
4. Risks and vulnerabilities			
• instability of sloping terrain that may cause further landslides,	N		N



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