

Ministry of Physical Infrastructure & Transport
Department of Roads
Core Road Network
Policy Note

Background and Rationale

1. The main objective of classifying roads under Strategic Road Network (SRN) is to keep these roads under high alerts to serve east to west, north to south movement of international/regional trade and passengers and provide important cultural, strategic, political and administrative linkages to the Provincial/district administrative centers of the country. So far around 14,000 km of roads (including the latest addition of Madan Bhandari Raj Marg) out of road stock of 70,000 have been identified as SRN (comprising highways and feeder roads). The traffic on these roads varies from around 20 vehicles a day to more than 10,000 vehicles a day. Within this wide range of traffic variations, managing roads is a challenge for the Department of Roads (DoR), a federal entity under the Ministry of Physical Infrastructure & Transport (MoPIT).

2. Transport offers substantial support to economic growth by keeping the cost of transport to a minimum. In Nepal, transport has been identified as a growth constraint hindering the basic flow of goods & services. To overcome these difficulties, greater attention is needed to keep the road user cost including vehicle operating costs to a minimum. This applies only in high trafficked roads. Unless and until Road Asset Management (RAM) is operationalized over the road network, the desired results of keeping road user cost to a minimum is a difficult task to achieve. The establishment of RAM in DoR is currently underway but it is expected to take some years for becoming fully functional.

3. Maintenance - a critical aspect of sustainability – has been receiving very low priority. Although GoN has increased budget allocation to the SRN at a compound annual growth rate (CAGR) of 32% during FY14-FY18, reaching up to \$663 million in FY18, the maintenance expenditure increased only at a CAGR of 9%, resulting in a precipitous drop in its share in total expenditure, from 16% to 7%¹.

4. The road condition data and maintenance expenditure trend over the last 5 years demonstrates that there is a necessity of initiating reform in current maintenance practices both at funding as well as planning & programming level. Although, Roads Board Nepal (RBN) has been funding the maintenance activities of SRN under the legislation, but due to limited funding it has not been successful in addressing the funding issue of periodic maintenance of SRN. The case of underfunding of maintenance operation and underspending both are posing a serious challenge in streamlining the maintenance practices in keeping high trafficked roads in good shape and a good serviceable condition.

5. Before initiating reforms, the issue of prioritization can only be addressed by classifying the road in terms of the level of traffic it carries. In economic terms, the level of traffic and travel time are only those indicators that can be directly measured and monitored the improvement in quality of service delivery.

6. This policy note has been prepared to facilitate a policy decision at the highest government level so that an environment is created for maintaining the high trafficked roads in good condition (>90 %) by prioritizing them in terms of the level of traffic. Over the last five years, substantial investment has been made to rehabilitate and upgrade road corridors serving domestic and international trade. These roads, now needs a prioritization efforts to keep them in a good and sustained condition. The current maintenance practices do not adequately address the maintenance

¹ Expenditure data, MoPIT

need of these high traffic volume roads, in the absence of RAM. The issue, at this stage, can be addressed by creating a road hierarchy based on the level of traffic and calling for a dedicated fund flow for maintenance activities and particularly the periodic maintenance at a guaranteed level of annual investment.

Core Road Network (CRN)

7. The concept of Core Road Network (CRN) is:

- To give priority to the roads or road links that command greater economic value to the society and the country in terms of their utilization.
- To provide strict vigilance on these roads as well as commitments to keep it in a good condition, for facilitating the efficient movement of goods and passenger but also providing a guaranteed level of service to the road users
- To initiate and consolidate a periodic maintenance program in a structured format with a commitment to annual funding

8. The proposal is in line with the strategy of the road transport sector of the current 15th Development Plan². The policy statement defines the task stating that “Long-term master plan will be prepared by classifying the national highway based on various criteria, including road carrying capacity, traffic volume and its contribution”.

9. The Department of Roads proposes the selection of CRN based on the traffic threshold. As the Department is conducting regular annual traffic surveys of the SRN, the data availability is handy and in a usable format. Department proposes the selection of CRN based on traffic level of equal or more than 2,000 AADT (PCU)³ excluding M/C and NMTs. Using these selection criteria, the current size of CRN is estimated to be 3,340 km (6,620 lane-km)⁴. The size of 3,340 km of CRN would constitute around 26% of SRN. The present SRN has almost 49.7 %of its roads in a gravel & earthen track condition. The details are given in Annex A.

10. With the CRN selection, DoR proposes to carry out periodic maintenance for 20% of CRN every year. It will mark an institutional commitment of DoR to carry out periodic maintenance of roads in every five-year interval. This will streamline the budgetary as well as the implementation process to a defined practice. As a result, DoR will be facilitated to keep the Core Road Network in “good condition”.

11. A provision of reviewing CRN is proposed to be carried out every two years through updating the traffic database. To ensure the effective implementation of the periodic maintenance program, a procedural guideline⁵ for its prioritization will be developed and implemented.

Periodic Maintenance Program

12. Periodic maintenance is one of the critical maintenance activities that is carried out in a cyclic manner or by interventions based on pavement assessment. As the road surface deteriorates with time and traffic, an additional layer in the form of asphaltic concrete or surface dressing (depending

² 15th Development Plan, Approach Paper, National Planning Commission, 2076.

³ PCU equivalency factor for 3.0 for heavy truck, 1.5 for light truck, 4.0 for multi-axle truck, 3.0 for bus, 2.5 for minibus and 1.5 for microbus. (refer Vol I Traffic Report, Main Report, HMIS, DoR, 2017)

⁴ Taking into considerations of varying width of roads and standardizing it into 3.5 m standard width.

⁵ Procedural guideline to include but not limited to process involved in reviewing CRN, planning and programming of periodic maintenance activities.

upon the structural integrity) on the riding surface is necessary to prevent road slipping into a stage of rehabilitation. If the road slips into the stage of rehabilitation, the society will then have to bear the cost of rehabilitating the road as well as absorbing the additional cost of transport.

13. To guarantee the CRN in good condition, it is necessary to adopt a policy of carrying out periodic maintenance of each road or road section within CRN once in every five years⁶. This helps in preparing a five-year periodic maintenance implementation plan (PMIP) for CRN. The cost of carrying out periodic maintenance for CRN has been estimated to be Rs. 12 billion for 5 years. The annual cost would be Rs. 2.4 billion per year at the current market price. This cost is almost 30% of the current funding level of entire road maintenance funded by RBN. As per the Roads Board Act, funding the maintenance activities (routine, recurrent, specific, emergency, and periodic) of SRN is the responsibility of RBN. SRN maintenance funding constitutes around 70% of the annual fund allocation of RBN.

14. DoR proposes to the government to ensure Rs. 2.4 billion annually for periodic maintenance of CRN based on the current projection. This cost does not include the cost for those programs which are already commenced or committed for road improvement/rehabilitation or periodic maintenance program. The current assessment (details are given in the following table 1.) establishes that 2,940 km out of 3,340 km of CRN would urgently needing periodic maintenance to be covered over the next five-year period.

Network Type	Definition	Current Status			Cost of treatment in Rs. Lakh	
		Pavement category	Length (km)	Lane-km	per Lane-km	Total for single treatment in 5 years
a) Strategic Road Network	As per DOR definition ⁷	STAM, AMGB, STGB, GR, ER	14,913			
b) Core Road Network (CRN)	2,000 AADT excluding MC and NMT (PCU)		3,340	6,620		
c) Deductions (a-b)	Deductions on CRN Roads under various programs for upgrading/rehabilitation or recent PM		(400)	(896)		
d) Current Available CRN			2,940	5,724		
d-1) STAM, AMGB	PM with asphalt overlay	STAM, AMGB	340	762	40	30,680
d-2) STGB	PM with BST	STGB	2,600	4,962	18	89,316
						119,996

Note: STAM= Surface Treatment over Asphalt Mix; AMGB= Asphalt Mix over Granular Base; STGB= Surface Treatment over Granular Base; GR= Gravel Road; ET= Earthen Track; PM=Periodic Maintenance

⁶ When DoR strategy was finalized in 1995, periodic maintenance programs were designed based on cyclic approach. Generally, five years for roads in Hilly/Mountainous terrain and six years in Terai. Environment at that time was the predominant factor inducing road deterioration as traffic was very low in SRN.

⁷ Including Madan Bhandari Raj Marg.

Funding Mechanism

15. For funding the entire periodic maintenance program, the following strategy would be considered at this stage.

- a. Following the Section 8 of Roads Board Rules, the funding for the periodic maintenance program can be ensured. To implement this provision, an earmarked fund from MoF to RBN is necessary. The benefit for such arrangements is that the fund once released stays in the basket fund of RBN and does not return to the treasury after the end of the fiscal year.
- b. In the case of a donor-funded project, the necessary resources the periodic maintenance program will be solicited as one of the components of the project with large portfolios. The counterpart funding, if required will be funded from RBN as per the provision of Article 25 of Roads Board Act.
- c. Further in case of donor-funded project, to assure the development partners that their support for road maintenance would be exclusively used for designated interventions, no agency charges shall be deducted by RBN from the supported fund.

16. To implement a periodic maintenance program, a multi-year fund commitment is very much necessary from both the agencies: MoF and RBN. Out of the maintenance allocations from MoF to the Roads Board, Rs. 2.4 billion⁸ is needed to be set aside to provide funding for periodic maintenance of CRN only. This is almost around 20% of the current RBN funding level for entire road maintenance including local roads. The current setup of RBN may not be conducive as it is reeling under the pressure of local and provincial governments to increase their share for maintenance activities.

Expected Outcome.

17. With the implementation of the periodic maintenance program as outlined, it is expected that 80%⁹ of the Core Road Network will be in a “good condition” at the end of five years. The previous program addressed to carrying out periodic maintenance programs with donor support has demonstrated a significant economic return¹⁰ on investment.

Implementation Arrangements

18. To initiate the reform on maintenance and take up the issue of periodic maintenance on a sustainable basis, Department of Roads will set up a Periodic Maintenance Implementation Support Unit (PMISU) headed by a Senior Divisional Engineer. This unit will be supported by the Project Management Consultants (PMC) and assisting the DROs to implement periodic maintenance activities.

19. The role and responsibilities of PMC will be: a) to review of existing maintenance practices; b) to develop a framework or model for prioritizing roads for periodic maintenance; c) to prepare annually a prioritized list of roads within Core Road Network (CRN) for implementing periodic maintenance program based on agreed prioritized strategies; c) to update and revise existing maintenance strategy for DoR; d) to assist Road Division Offices in planning, designing and

⁸ Any additional funds, if available can be further utilized to carryout periodic maintenance of non-core roads of strategic importance.

⁹ Raising from current 5% of good condition road to 90% at the end of five years, if total CRN is inducted to the periodic maintenance program.

¹⁰ During project selection of RMRP, economic analysis of periodic maintenance was carried out and was found to have IERR ranging from 25% to 35%.

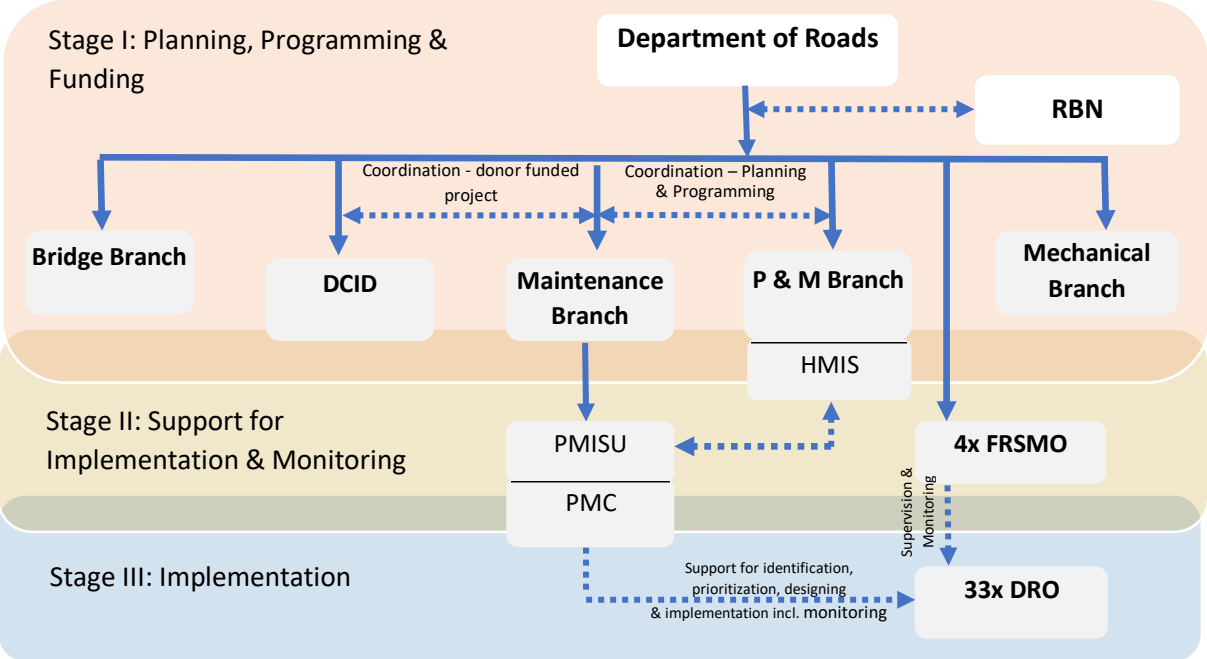
implementing periodic maintenance activities; e) To assist Road Division Offices to develop, plan and implement quality assurance plan; f) to assist DoR in designing and implementing a new contracting approach to reduce unnecessary administrative burdens; g) to assist DoR in carrying out technical and financial audits of periodic maintenance component; h) to carry out field monitoring including verification of results of periodic maintenance activities and submit a regular report to (PMISU), and g) to develop technical notes as and when necessary to support the reform process of road maintenance in DoR.

20. The size of the periodic maintenance contract, for the initial years, will be structured as far as possible to keep it within the range of Rs. 100 million to 200 million. This will eliminate the current practice of awarding small contracts with small road lengths and facing a high number of small contracts to manage. The change in contracting approach will facilitate the effective implementation with good quality output. In the long run, DoR is envisaging the prospects of adopting performance-based maintenance contract which will facilitate the consolidating periodic maintenance program with routine and recurrent maintenance contract.

21. At each DRO, the Division Chief shall assign an engineer with the responsibility of implementing a road maintenance program including periodic maintenance within its jurisdiction. His/her role and responsibilities include a) planning, programming and coordinating all maintenance activities; b) preparing bidding documents in line with the guidance received from Department of Roads; c) procurement of maintenance contracts; d) inspection of quality and standards; e) regular supervision, monitoring, and reporting.

22. The periodic maintenance program will be developed as part of the Annual Road Maintenance Program (ARMP).

23. The following chart provides the details of the implementation arrangements. The implementation risk and its mitigation measures is given in Annex B.



Annual Planning and Project Selection

24. Maintenance Branch of DoR is responsible for implementing the road maintenance activities including periodic maintenance. Maintenance Branch coordinates with Planning Branch, FS&M

Offices and respective DROs to prepare Annual Road Maintenance Plan (ARMP). Every year, the funding requirement of road maintenance is assessed through the road condition survey done centrally. Based on these surveys concerned DRO prepare ARMP with cost projection. DoR finalizes its ARMP through consultative process at the regional and central levels. The final ARMP is then presented to Roads Board for funding maintenance activities. There has always been a serious gap in funding on ARMP projected demand and its availability. Roads Board receives its annual allocation from MoF through the annual budget.

25. The selection of roads for periodic maintenance will be made by the Maintenance Branch in coordination with the Planning & Monitoring Branch. The year-wise priority will then be established based on road condition data, traffic level and age of pavement received from HMIS and cost data from the respective DROs.

Monitoring and Reporting

26. The monitoring of maintenance will be carried at three-level that include.

- a. First at the DRO level, the Division Chief makes a regular check on maintenance activities and its progress. The engineer dedicated at DRO prepares regular progress reports and with the approval of Division Chief sends it to the concerned Federal Roads Supervision and Monitoring Office (FRSMO) of DoR. The PMC stationed at Maintenance Branch at DoR Central office will be assisting providing all technical and implementation guides to the respective DROs in implementing the periodic maintenance program.
- b. The second level monitoring will be carried out by FRSMO. FRSMO checks the respective progress report and makes the necessary fieldwork to verify the quality of work being carried out. FRSMO will be sending a consolidated progress report to the Maintenance Branch at the prescribed format regularly. PMC will be assisting FRSMO in carrying out the task.
- c. The third level monitoring will be carried out by the Maintenance Branch through PMISU and PMC. At this level, the final periodic progress report is prepared and presented to trimester progress review meetings of DoR.

Proposal for Formal Decision of Government on Constituting Core Road Network (CRN)

27. “Under the hierarchical order of Road Network, Core Road Network (CRN) out of Strategic Road Network (SRN) is to be constituted based on the level of traffic of each road or section exceeding 2,000 AADT (PCU) excluding motorcycle and non-motorized transport. The proposal is in line with the strategy of the road transport sector of 15th Development Plan. For the maintenance of CRN the MoF, RBN and DoR ensures and commits a) adequate annual funding level for carrying regular periodic maintenance; and b) continuity of adequate funding for regular, emergency and specific maintenance activities; c) carries out reviews every two-year based on actual traffic survey conducted. RBN and DoR also ensures that a minimum of 80% of the Core Road Network in “good condition” at the end of the first five-year period.

Proposal for Formal Decision of RBN Board on non-deduction of agency charges

28. “The Roads Board Nepal (RBN) shall not deduct any agency charges as allowed under Section 25 of the Roads Board Act from the fund received from international development partners for road maintenance activities.”

Annex A: Core Network

Road Details

Road Class	Link code	Road name	Link name	Pavement type	Length (km)
NH	H16	KTM Ringroad	Manahara River -Manahara River	AMGB/STGB	28
NH	H14	Mahakali Rajmarg (MKRM)		STGB	101.94
NH	H1301-02	Karnali Rajmarga		STGB	114.00
	H12	Ratna Rajmarg		STGB	113.08
NH	H11	Rapti Rajmarg (RPRM)		STGB	47.23
NH	H10	Siddhartha Rajmarg (SRM)		AMGB/STGB	181.22
NH	H09	Sagarmatha Rajmarg (SARM)	Gaighat - Kadmaha Chowk	STGB	33.07
NH	H0801-06	F0010+A971:J987	Rani - Bhendetar	STGB	63.19
NH	H0705-10	Mechi Rajmarg (MERM)	Charali - Phidim	STGB	142.34
NH	H0603-10	Dhulikhel-Sindhuli-Bhittamod Rajmarg(DSRM)		STGB	191.06
NH	H0501-03	Narayanghat-Mugling Rajmarg (NMRM)		AMGB	36.16
NH	H04	Prithvi Rajmarg (PRM)		STGB/STAM	173.43
NH	H0313	Araniko Rajmarg (ARM)	Maitighar - Dolalghat	STGB/STAM	76.14
NH	H0201-05 & 13-16	TRP		STGB/STAM	56.47
NH	H01	MRM		STGB/STAM/AMGB	954.21
FRN	F2101 -03	Pakli(EWH) - Koshi Bridge - Triyuga Bridge-Kanchanpur(EWH)			62.00
FRN	F13003	Bhumahi - Parasi - Bhairahawa	Amawa-Bhairahawa (H10)	STGB	14.75
FRN	F10901	Dharapani (MRM) - Dhanusadham - Janakpur	Dharapani (MRM)-Dhanusadham-Janakpur	STGB	26.00
FRN	F07501	Kalimati - Sitapaila - Bhimdhunga - Dharke	Kalimati-Bahiti	AMGB	2.10
FRN	F07301	Bakhundol (ARM) - Bogatigaun (Ktm University Road)	Bakhundol(ARM)-Bogatigaun(Ktm University Road)	STGB	2.00
FRN	F072	Gwarko - Panauti - DSRM	Lankuri Bhanjyang-Panauti-Namobudha-DSRM (H06)	STGB	40.98
FRN	F069	Galchhi - Debighat	Galchhi (PRM)-Baghmara	STGB	3.00
FRN	F062	Ghinaghat (MRM) - Biratchok	Ghinaghat (MRM)-Biratchok	STGB	23.00
FRN	F060	Bardanga-Urlabari - Madhumalla - Daregaunda	Bardanga-Urlabari (MRM)	STGB	28.00
FRN	F054	Duhabi - Inerwa	Duhabi (KRM)-Inarwa	STGB	14.00
FRN	F052	Mirchaiya - Katari - Okhaldhunga - Salleri	Mudhe Bisana-Salleri	STGB	142.10
FRN	F04802-02	Birendranagar - Dailekh	Dailekh district border-Siyakot-Dailekh	STGB	67.01

Road Class	Link code	Road name	Link name	Pavement type	Length (km)
FRN	F046	Nepalgunj - Gulariya	Man bridge-Gulariya	STGB	35.22
FRN	F044	Bhairahawa - Lumbini - Kakrahawa	Bendebasini - Baglung Border	STGB	30.78
FRN	F042	Pokhara - Baglung - Beni - Jomsom - Ghoktang	Baglung-Myagdi district border	STGB	18.85
FRN	F039	Biratnagar - Rangeli		STGB	23.88
FRN	F038	Fikkal - Pasupatinagar	Fikkal-Pasupatinagar	STGB	10.75
FRN	F036	Dumre - Besisahar - Chame	District border-Besisahar	STGB	43.43
FRN	F031	Dolalghat - Chautara	Dolalghat-Chautara	STGB	25.11
FRN	F030	Panchkhal - Melamchi - Helambu	Panchkhal-Dhad Khola	STGB	10.66
FRN	F029	Banepa - Khopasi	Panauti-Khopasi	STGB	9.54
FRN	F028	Bhaktapur - Nagarkot	Army camp-Nagarkot	STGB	23.00
FRN	F026	Chabahil - Sankhu - Jhule - Chautara		STGB	24.98
FRN	F027	Jor			7.13
FRN	F025	Lainchaur - Maharajgunj - Budhanilkantha	Bansbari-Budhanilkantha	AMGB	9.39
FRN	F024	Satdobato - Phulchoki		STGB	17.88
FRN	F023	Satdobato - Tikabhairab		STGB	11.10
FRN	F022	Balkhu - Dakchhinkali - Kulekhani		STGB	35.59
FRN	F021	Kathmandu - Trisuli - Dhunche - Rasuwagadhi		STGB	6.93
FRN	F019	Bhaise - Bhimphedi	Bhaise-Bhimphedi	STGB	12.00
FRN	F018	Birgunj - Kalaiya		STGB	11.66
FRN	F017	Junga - Rajapur - Bhimapur (IB)		STGB	28.12
FRN	F015	Lamahi - Tulsipur		STGB	46.62
FRN	F0120	Chanauta - Krishnanagar		STGB	20.06
FRN	F009	Sunwal - Parasi - Mahespur		STGB	20.95
FRN	F008	Bardaghat - Surajpur - Harpur	Surajpura-Harpur border	STGB	23.05
FRN	F0073	Chandranigahapur - Gaur - Baiganiya	Gaur-Baiganiya (IB)	STGB	45.44
FRN	F0030	Bhardaha - Rajbiraj		STGB	17.75
FRN	F0020	Damak - Gaurigunj		STGB	21.96
FRN	F0010	Birtamod - Chandragadhi	Birtamod (MRM)- Chandragadhi	STGB	12.53

3,341

Note:

STAM: Surface Treatment over Asphalt

AMGB: Asphalt over Granular Base

STGB: Surface Treatment over Granular Base

ANNEX B: PERIODIC MAINTENANCE PROGRAM IMPLEMENTATION

Risks & Mitigation Measures

Table 1: Present practice for Periodic Maintenance

Agency	Actions	Risks
A. HMIS, Planning Branch, DOR	a. Generates data on traffic and road condition b. AADT, SDI data is sent to each DRO	i Coverage of AADT, SDI and IRI survey ii Low-quality data
B. PMISU, Maintenance Branch, DOR	c. Gets ARMP (road link+cost) from DROs d. Prepares prioritized list of roads for Periodic Maintenance e. Budget request is sent to RBN	iii Criteria other than traffic and road condition creeping in for prioritization
C. RBN	f. Collects revenue from its own sources and budget top-off provided by MOF g. Deduction for its own operational costs from “f” h. Yearly maintenance budget is “f” – “g” i. Provides maintenance budget to each DRO under a single budget heading from “h”. j. Yearly Financial Report to MOF based on compiled reports from DROs	iv RBN has provisions to spend up to 4% of the annual maintenance budget under administrative expenses. v Currently RBN using around 0.5 % of the total maintenance budget allocated by MoF and it is not in a work charge basis. vi In case of RBN charging its administrative cost based on a work charge, project cost increases by that additional amount. Donor-funded projects will have to deal with the situation differently.
D. 33xDRO	k. Executes PM contracts and makes disbursement l. Returns undisbursed amount to RBN m. Undergoes internal and external audits n. Reports physical/financial progress and External Audit Report to P&S Branch and RBN	vii No bids received: no Periodic Maintenance contracts viii Mis-procurement ix Sub-quality works
E. 4xFRSMO	o. Monitoring of executed Periodic Maintenance works p. Supports in solving contractual issues	x Not enough support staff

Table 2: Management of Periodic Maintenance Under Donor Support

Agency	Actions	Risks	Risk Mitigation
A. HMIS, Planning Branch, DOR	a. Generates data on traffic and road condition b. AADT, SDI data is sent to each DRO	i Coverage of AADT, SDI ad IRI survey ii Low quality data	Support on Road Asset Management hardware, software, and expertise
B. PMISU, Maintenance Branch, DOR	c. Gets ARMP (road link+cost) from DROs d. Prepares prioritized list of roads for Periodic Maintenance e. Budget request is sent to RBN	iii Criteria other than traffic and road conditions creeping in for prioritization	PMC to support in transparent PM prioritization
C. RBN	f. Collects revenue from its own sources and budget top-off provided by MOF g. Deduction for its own operational costs from “f” h. Yearly maintenance budget is “f” – “g” i. Provides maintenance budget to each DRO under a single budget heading from “h”. j. Yearly Financial Report to MOF based on compiled reports from DROs k. Monthly Financial Report and Audit Report to DCID based on compiled reports from DROs	iv RBN has provisions to spend up to 4% of the annual maintenance budget under administrative expenses. v Currently RBN using around 0.5 % of the total maintenance budget allocated by MoF and it is not in a work charge basis. vi In case of RBN charging its administrative cost based on a work charge, project cost increases by that additional amount. Donor-funded projects will have to deal with the situation differently.	RBN to clarify that it would not deduct any agency charges from the project account supported by development partners.
D. 33xDRO	l. Executes PM contracts and makes disbursement m. Returns undisbursed amount to RBN n. Undergoes internal and external audits o. Reports physical/financial progress and External Audit Report to P&S Branch and RBN	vii No bids received: no Periodic Maintenance contracts viii Misprocurement ix Sub-quality works	PMC to support in: 01. Industry meetings 02. Bid Document Preparation 03. Pre-Bid Meetings 04. Quality monitoring
E. 4xFRSMO	p. Monitoring of executed Periodic Maintenance works q. Supports in solving contractual issues	x Not enough support staff	PMC to support in Technical Audit

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NH	H1301-02	Karnali Rajmarga		STGB	114.00
NH	H12	Ratna Rajmarg		STGB	113.08
NH	H11	Rapti Rajmarg (RPRM)		STGB	47.23
NH	H10	Siddhartha Rajmarg (SRM)		AMGB/STGB	181.22
NH	H09	Sagarmatha Rajmarg (SARM)	Gaighat - KadmahaChowk	STGB	33.07
NH	H0801-06	Koshi Rajmarg F0010+A971:J987	Rani - Bhendetar	STGB	63.19
NH	H0705-10	Mechi Rajmarg (MERM)	Charali - Phidim	STGB	142.34
NH	H0603-10	Dhulikhel-Sindhuli- Bhittamod Rajmarg (DSRM)		STGB	191.06
NH	H0501-03	Narayanghat-Mugling Rajmarg (NMRM)		AMGB	36.16
NH	H04	Prithvi Rajmarg (PRM)		STGB/STAM	173.43
NH	H0313	Araniko Rajmarg (ARM)	Maitighar - Dolalghat	STGB/STAM	76.14
NH	H0201-05 & 13-16	Trivuwana Rajpath		STGB/STAM	56.47
NH	H01	Mahendra Rajmarg		STGB/STAM/AM GB	954.21
FRN	F2101 -03	Pakli(EWH) - Koshi Bridge - Triyuga Bridge- Kanchanpur(EWH)			62.00
FRN	F13003	Bhumahi - Parasi - Bhairahawa	Amawa-Bhairahawa (H10)	STGB	14.75
FRN	F10901	Dharapani (MRM) - Dhanusadham - Janakpur	Dharapani (MRM)- Dhanusadham-Janakpur	STGB	26.00
FRN	F07501	Kalimati - Sitapaila - Bhimdhunga - Dharke	Kalimati-Bahiti	AMGB	2.10
FRN	F07301	Bakhundol (ARM) - Bogatigaun (Ktm University Road)	Bakhundol(ARM)- Bogatigaun(Ktm University Road)	STGB	2.00
FRN	F072	Gwarko - Panauti - DSRM	Lankuri Bhanjyang-Panauti- Namobudha-DSRM (H06)	STGB	40.98
FRN	F069	Galchhi - Debighat	Galchhi (PRM)-Baghmara	STGB	3.00
FRN	F062	Ghinaghat (MRM) - Biratchok	Ghinaghat (MRM)-Biratchok	STGB	23.00
FRN	F060	Bardanga-Urlabari - Madhumalla - Daregaunda	Bardanga-Urlabari (MRM)	STGB	28.00
FRN	F054	Duhabi - Inarwa	Duhabi (KRM)-Inarwa	STGB	14.00
FRN	F052	Mirchaiya - Katari - Okhaldhunga - Salleri	MudheBisana-Salleri	STGB	142.10
FRN	F04802-02	Birendranagar - Dailekh	Dailekh district border- Siyakot-Dailekh	STGB	67.01

Road Class	Link code	Road name	Link name	Pavement type	Length (km)
FRN	F046	Nepalgunj - Gulariya	Man bridge-Gulariya	STGB	35.22
FRN	F044	Bhairahawa - Lumbini - Kakrahawa	Bendebasini - Baglung Border	STGB	30.78
FRN	F042	Pokhara - Baglung - Beni - Jomsom - Ghoktang	Baglung-Myagdi district border	STGB	18.85
FRN	F039	Biratnagar - Rangeli		STGB	23.88
FRN	F038	Fikkal - Pasupatinagar	Fikkal-Pasupatinagar	STGB	10.75
FRN	F036	Dumre - Besisahar - Chame	District border-Besisahar	STGB	43.43
FRN	F031	Dolalghat - Chautara	Dolalghat-Chautara	STGB	25.11
FRN	F030	Panchkhal - Melamchi - Helambu	Panchkhal-DhadKhola	STGB	10.66
FRN	F029	Banepa - Khopasi	Panauti-Khopasi	STGB	9.54
FRN	F028	Bhaktapur - Nagarkot	Army camp-Nagarkot	STGB	23.00
FRN	F026	Chabahil - Sankhu - Jhule - Chautara		STGB	24.98
FRN	F027	Jorpati - Sundarikal			7.13
FRN	F025	Lainchaur - Maharajgunj - Budhanilkantha	Bansbari-Budhanilkantha	AMGB	9.39
FRN	F024	Satdobato - Phulchoki		STGB	17.88
FRN	F023	Satdobato - Tikabhairab		STGB	11.10
FRN	F022	Balkhu - Dakchhinkali - Kulekhani		STGB	35.59
FRN	F021	Kathmandu - Trisuli - Dhunche - Rasuwagadhi		STGB	6.93
FRN	F019	Bhaise - Bhimphedi	Bhaise-Bhimphedi	STGB	12.00
FRN	F018	Birgunj - Kalaiya		STGB	11.66
FRN	F017	Junga - Rajapur - Bhimapur (IB)		STGB	28.12
FRN	F015	Lamahi - Tulsipur		STGB	46.62
FRN	F0120	Chanauta - Krishnanagar		STGB	20.06
FRN	F009	Sunwal - Parasi - Mahespur		STGB	20.95
FRN	F008	Bardaghat - Surajpur - Harpur	Surajpura-Harpur border	STGB	23.05
FRN	F0073	Chandranigahapur - Gaur - Bairganiya	Gaur-Bairganiya (IB)	STGB	45.44
FRN	F0030	Bhardaha - Rajbiraj		STGB	17.75
FRN	F0020	Damak - Gaurigunj		STGB	21.96
FRN	F0010	Birtamod - Chandragadhi	Birtamod (MRM)- Chandragadhi	STGB	12.53

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Note:

STAM: Surface Treatment over Asphalt

AMGB: Asphalt over Granular Base

STGB: Surface Treatment over Granular Base