



Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity

Department of Roads, Ministry of Public Works and Transport (DOR – MPWT)
Lao Sector Project 2 (LRSP2) – Additional Financing
(Project ID No: P170951; IDA Credit No. 6515-LA)

TERMS OF REFERENCE

Consulting Services for Overloading Control Study and Action Plan
Reference No. AF-C2-20, Component 2

1. Background

The transport sector in Lao PDR is dominantly served by the road sub-sector, which carries about 98 percent of total passenger-km traveled, and about 86 percent of freight moved in the country. Road transport remains at the core of the country's policy "from land-locked to land-linked".

The Ministry of Public Works and Transport (MPWT) has received financing support from the World Bank (WB) and the Nordic Development Fund (NDF) to implement the Lao Road Sector Project 2 (LRSP2) (being implemented from March 2017 to December 2025), which is supporting MPWT to strengthen its capacity at both central and local levels to manage local road improvement and maintenance. The European Investment Bank (EIB) has also expressed interest to provide further financing support to the implementation of the road local road development program designed under LRSP2.

The financing of the LRSP2 includes a credit of approximately USD 25 million by the WB, and a grant for a Technical Assistance (TA) program amounting to EUR 5 million and a loan not exceeding EUR 6 million by the NDF. EIB may provide a loan of approximately EUR 20 million and a grant of EUR 5 million for civil works. In addition, the Road Maintenance Funds (RMF) will contribute approximately USD 7 million, and the 6 participating provinces also will contribute around USD 3 million to LRSP2.

The MPWT is the Executing Agency (EA) for LRSP2. A project management team formed under the Department of Planning and Cooperation (DPC), MPWT is undertaking overall project coordination and monitoring. The Project includes support to strengthen the capacity of the departments concerned in MPWT and the provinces. Department of Finance is responsible for providing procurement support to the concerned departments. Department of Road, with support from a design and supervision consultant, is responsible for managing the road works and road asset management systems development. At provincial level, the six provincial Departments of Public Works and Transport (DPWT) covered by the LRSP2 (Phongsaly, Houaphan, Oudomxay, Xiengkhouang, Xayabouly and Bolikhamxay) are responsible for the implementation.

The LRSP2 is a program to support the strengthening of maintenance systems that will result in improved connectivity. It is supporting institutional development through the preparation of financing and policy frameworks, improved planning and prioritization, and governance systems. It will further contribute to improved technical capacity for the road sector as a whole so as to maximize the effectiveness of public expenditure and enable continual increases in the length of provincial roads in good and fair condition, and steady improvement in climate

resilience and safety. LRSP2 is also financing periodic maintenance and routine maintenance works in the six provinces mentioned above.

The Project Development Objective ("PDO") of LRSP2 is to strengthen maintenance systems to improve reliable road connectivity in Lao PDR, and to provide immediate and effective response in case of an Eligible Crisis or Emergency. LRSP2 consists of four components: (1) Climate Resilient Road Maintenance, (2) Institutional Strengthening, (3) Project Management Support, and (4) Emergency Response. Sub-component 2.1 includes : (a) strengthen the capacity to update and operationalize MPWT's national sector strategy and action plan; (b) strengthen the capacity to improve transport sector policy and financing frameworks; and (c) strengthen the capacity for strategic management at both MPWT and DPWT.

Overloading is much prevalent on Lao road network. Overloading not only significantly accelerates the rate of deterioration of road pavements but, when coupled with inadequate funding for road maintenance, it contributes significantly to poor road conditions and high transport costs and increases severity of accidents.

A large segment of Lao road network was not built in accordance with the regional standards. Most of the national road network was designed and built for the standard axle load of 8.1 ton, while ASEAN standards say that the pavements have to be designed for an axle load of 9.1 ton. Only some sections of national roads that have been recently improved were designed for an axle load of 9.1 ton. As for the local road network, a large part of it is unpaved and not in the conditions to carry heavy trucks. Overloading control regulation, which was issued by MPWT about 20 years ago, is not effectively enforced. Due to inefficiencies in control of overloading , the government of Lao PDR (GoL) paused overloading control operations in many provinces. Recently, the GoL decided to pilot three permanent weight stations aiming at improving efficiency and transparency of the overloading control regime and parallel on that the GoL has allowed the private sector to invest and install modern weighting scales at four National Border Check Points (Borten-Luangnamtha Province, Namkanh-Xiengkuang Province, Naphao-Bolikhamxay Province, and Naphao-Khammuane Province) to provide services for weighting all export-import goods activities.

According to the Lao road law, MPWT is responsible for administration of the national road network and setting sector policies, regulations and standards of entire road network. The local road network is managed by provincial road authorities. The provincial authorities, with their limited of the facilities, have difficulties in managing overload control . There have been many efforts to control overloading of vehicles, but those have not been successful. A recent study supported by the Asian Development Bank (ADB) recommended various institutional and regulation updates, equipment replacement for weight stations, axel load surveys and relevant data collection. From the sector perspective, understanding overloading issues is very important to proper management and reduce impact on road maintenance requirement. Transparency and effectiveness management regimes are needed to reform required with modern technologies with clear action plan.

The government intends to engage a consulting firm to carry out the overloading control study and prepare an action plan.

2. Objectives of the Consulting Services

The objectives of the assignment are to:

- a) Review traffic flow on Lao road network comprising national, provincial, district and rural roads and group them in each category including transits, national, local and border crossings;
- b) Assess the tendency of overloading for each group and the reasons for overloading;
- c) Identify the corridors and locations where overloading is prevalent and likely

- d) Assess the impact of damage from overloading trucks to the life cycle of the corridors, which will be used to inform decision makers on a need for overloading enforcement.
- e) Review international experience of managing/controlling overloading;
- f) Review the existing institutional and regulatory framework on overloading control and its implementation, and available infrastructure and propose necessary adjustments to the frameworks and infrastructure to make overloading controls more effective;
- g) Assess and develop mandates, regulations, and mechanism for Ministry of Public Works and Transport (MPWT) and its provincial Department of Public Works and Transport (DPWT) to regulate and enforce overloading control;
- h) Identify the potential locations of weigh stations and prioritize with proposed design standard for weighing system for the overloading control along key corridors of Lao road network; and prepare investment plan for these weight stations.
- i) Propose action plan for Institutional strengthening and capacity building for policy makers and implementation levels;
- j) Make policy recommendation, strategy, action plan and investment plan for policy implementation for overloading control on national, provincial and district road networks.
- k) Draft necessary sub-decree or notice for overloading control to realize policy recommendations. The articles of the draft sub-decree or notice include but not limited to a new entity set-up for overloading control, TOR for the new entity, overloading control measures as well as fines which require over-writing of the existing sub-decree or notice.

3. Scope of Work and Description of Tasks

There are two parts in the scope of work. The first part is data collection where various surveys and review of traffic flows in Lao PDR will be carried out, which aims to identify traffic type and reasons for overloading and current/potential areas that encounter overloading. The second part is the review of international experience on overloading and efficiency in transport and existing regulations related to overloading control and management in Lao PDR, aiming to draw examples that can be applicable in Lao context, update/improve the regulations, and make policy recommendation and action plan. The main tasks to be undertaken are as follows:

3.1 Inception Report (Weeks 1-4)

- a) Collate and review background documents, laws, regulations and literatures related overloading control and efficiency in transport in Lao PDR to understand the context of the assignment and assess the data needs.
- b) Consult with MPWT and prepare the Inception Report and detailed work plan. The Inception Report should set out the Consultant's understanding of the TOR and main deliverables and how they may be achieved, any variations to the TOR noted as being required to meet the objectives, adjustments to the schedule of deliverables (Section 4 below), confirm the process for submission of all deliverables, and identify any matters requiring the Client's attention or decision. The inception report is considered as further development of technical proposals, so this must be agreed with MPWT prior to actual implementation. The report to be submitted to DoR and the World Bank.

3.2 Traffic flow survey and reviews (Weeks 5-20)

- a) Conduct traffic flow surveys, which should as a minimum include the following surveys:
 - i. Classified Traffic Volume Count
Manual traffic counts, classified by vehicle category shall be performed at selected roads (to be conducted by the consultant at 10 locations representing each type of road network (National, provincial and district) and geographical condition. The Consultant shall develop appropriate expansion factors to obtain Annual Average Daily Traffic (AADT) by applying daily and seasonal factors which would be

calculated from past traffic volume data of count stations. Data available at MPWT should also be considered. All results shall be presented in tabular form.

ii. Origin and Destination (O-D) and Commodity Movement Survey

The Consultant shall identify traffic and commodity movement through O-D and commodity movement surveys along selected corridors (to be conducted by the consultant 10 locations). Trip matrices for each category of vehicle and for each commodity giving information on total weight, average weight per truck and sample size shall be prepared for ready reference and to compare such data with information on load derived from axle load studies.

iii. Axle Load Survey

The Consultant shall review the past survey data on axle loads and summarize its findings. Additional axle load surveys will also be conducted at some key volume count location(s) (to be conducted by the consultant at 10 locations in order to capture the axle load spectrum for trucks moving to and from different directions on different type of road networks.

- b) Review and analyze the survey results through quantitative and qualitative analysis to determine the potential impact of overloading vehicles on various parts of the network. Identify sections of the road network that are overloaded and vulnerable to overloading of vehicles.

3.3 Reviews of international experience on overloading management and existing regulation on overloading control and management (Weeks 5-20)

- a) Review literature on overloading issues in Lao PDR, which may include but not limited to:
- ADB-supported "Axle Load Control" Study under Road Sector Governance and Maintenance Project (RSGMP), ADB Loan No. 3368-LAO
 - JICA-supported studies
 - World Bank studies related to trade and logistics
- b) Review international experience on overloading control that can be applicable to Lao PDR's situation.
- c) Review existing institutional framework and regulation that is currently used to manage and control overloading trucks in Lao PDR and cross-border.
- d) Assess the impact of damage from overloading trucks to the life cycle of the corridors, which will be used to inform decision makers on a need for overloading enforcement.
- e) Assess and develop mandates, regulations, and mechanism for Ministry of Public Works and Transport (MPWT) and its provincial Department of Public Works and Transport (DPWT) to regulate and enforce overloading control.
- f) Review the overloading control mechanisms and standards in vogue in the bordering countries of Lao PDR and suggest requirements of harmonization for Laos in the regional context
- g) Integrate international experience and make recommendations in improving the existing regulation to be more effective and transparency management regimes.
- h) Prepare and submit a draft of recommended improvements to MPWT and prepare a presentation on such improvements with MPWT.

3.4 Identification of the potential of a weight control station and its standard design (weeks 21-24)

(a) Determine the potential locations of the weight control stations along the main corridors of the Lao road network as follow :

- Road No. 1B, at Km 109+000, Boun Neua District, Phongsaly Province
- Road No. 17A, at Km 058+000, Sing District, LouangNamtha Province
- Road No. 6, at Km 179+000, Viengxay District, Houaphan Province
- Road No. 13N, at Km 572+000, Xai District, Oudomxay Province
- Road No. 13N, at Km 380+000, XiengNgeun District, LouangPrabang Province
- Road No. 11, at Km 005+000, Sikhottabong District, Vientiane Capital
- Road No. 13S, at Km 464+000, Champhone District, Savannakhet Province
- Road No. 13S, at Km 751+000, Khong District, Champasak Province
- Road No. 15, at Km 195+000, Samouay District, Salavan Province
- Road No. 16, at Km 087+000, Thateng District, Sekong Province

(b) Make recommendation on effective design of weigh control system.

(c) Prepare and submit a draft report including the information on 3.2 a, b, 3.3 and 3.4 and prepare a presentation on the finding and discuss with MPWT.

3.5 Draft and Final Reports (Weeks 21-24)

(a) The Consultant will prepare and submit a draft report setting out the methodologies used and analyzed findings of the traffic flow survey and reviews by the end of Week 20, and in the same Week 20, provide a presentation of the draft findings and analysis to MPWT.

(b) Based on the analysis of traffic flow surveys and on the international experience, the Consultant will make policy recommendations, investment plan and prepare action plans.

(c) The Consultant will conduct public and development partners consultation workshop on the finding and policy recommendation.

(d) Following written feedback on the draft report and presentation, the Consultant will incorporate all changes and submit the Final Report by the end of Week 24.

4. Levels of Input, Timing and Deliverables

The assignment is anticipated to commence on January 2023 and to be carried out over a six-month period with final delivery of all outputs no later than June 2023.

The deliverables of the assignment are:

Deliverables	Submission date after contract signing and no later than:
Inception Report	Week 4
(i) Traffic flow survey and reviews, assess the tendency of overloading for each group and the reason why overload;	Week 10
(i) Reviews of international experience on overloading management (ii) review international experience on using logistic management to help manage the overloading; (iii) Review and revise the exiting regulation on overloading control, load permission and appropriate overloading fines;	Week 16

(iv) Assess and Develop mandates and mechanism for the Land Transport inspector and Roles and responsibility of Heavy Transport Control Unit;	
(v) Study on the feasible/appropriate location of weigh station and prioritize with proposed design standard for weighing system for the overloading control along main corridors of Lao road network;	
(vi) Institutional strengthening and capacity building for policy makers and implementation levels;	
Draft Final Report	Week 20
(i) Make policy recommendations, strategy, action plan and investment plan for overloading control on national, provincial and district road networks.	
(ii) Draft necessary sub-decree or notice for overloading control to realize policy recommendations.	
Final Reports and Dissemination Activities	Week 24

All deliverables must be transmitted to the MPWT in electronic format, and if requested, in hard copy as well. The recipients of the deliverables will Director General, Department of Roads, Ministry of Public Works and Transport.

Team composition:

It is the Consultant's responsibility to provide all required inputs including Key Professionals for the assignment; provide necessary logistic arrangements to render these services efficiently and diligently. It's estimated that 10.0 person months will be required to implement this assignment timely and orderly. However, the Consultants are allowed to propose alternative to the proposed key professionals, but only those indicated below will be considered and their CVs evaluated in the proposal evaluation. The Consultants shall deploy the designed and adequately suitable qualified and experienced junior professional and technical support staff to assist the key professionals to render these services in a time bound manner. CVs of those technical additional staff are not required, however, their inclusion and function will be considered when reviewing strength and/or weaknesses of a proposal.

When proposing the team members, the Consultants should make sure that the proposed staff is available and aware of the intensity of the required work. Any change in key personnel shall be permitted only under exceptional circumstances and if evidenced as good or better of the initially approved.

Table: Key Professional Input

No.	Staff description/Position/ specialty	Estimated total person months
1	Team Leader/Transport Economic	6.0
2	Traffic Engineer	1.0
3	Traffic Survey Engineers	2.0
4	Legal advisor	1.0
	Total Estimated person months for key staff	10.0

The Consultant shall support the key personnel specified above with an appropriate number of non-key experts (e.g. data collectors) and other support staff, as necessary to properly perform the services timely and orderly. Only the CVs of the key personnel will be evaluated.

5. Key Partners

In undertaking this assignment, the Consultant shall work in close collaboration with the Department of Roads of MPWT, selected provincial authorities and other relevant authorities and the World Bank team.

6. Qualification Requirements for the Assignment

6.1 The following requirements shall apply to the firms to qualify for the assignment:

- Be a legal entity acceptable to Department of Roads;
- At least ten years of relevant experience implementing road transport development projects; experience in the region is an advantage;
- At least ten years of experience in providing similar services in developing countries, under road improvement projects;
- Proven record on successful completion of at least two similar assignments;

6.2 Evaluation of Key Staffs' CVs shall be made based on the following qualification requirements:

a) Team Leader:

- At least Post-graduate qualifications in Transport or Economics and a minimum of 10 years relevant professional experience in the design and implementation of large-scale transport sector connectivity programs.
- Demonstrated prior experience in studies on overloading control in the road transport sector and demonstrate experience in having successfully led multi-disciplinary teams to deliver on time and within budget on at least two similar assignments.
- Demonstrated knowledge of the transport sector and issues in the region or in countries with similar context.
- Excellence in written and speaking English.

b) Traffic Survey Engineers

- At least Bachelor's degree in civil engineering or relevant fields
- At least five years of experience in traffic survey.
- Excellence in written and speaking Lao and English.
- Priority will be given to the specialists able to demonstrate experience and knowledge in feasibility study for road improvement projects.
The exact number of surveyors will be agreed with the consultants based on the scope of the assessments.

c) Traffic Engineer

- At least a Master's degree in civil engineering, economics or relevant fields
- At least five years demonstrated experience in designing and implementing traffic survey study.
- Priority will be given to the specialists able to demonstrate experience and knowledge in feasibility study for road improvement projects.
- Excellence in written and speaking English.

d) Legal advisor: An advisor specialized on Law and Legal affairs works

- At least Master's degree in social science or relevant field
- At least five years of international experience in Law.
- Priority will be given to the specialists able to demonstrate experience and knowledge in transport sector.
- Excellence in written and speaking English.

- Experience in the region will be a plus.

7. Responsibilities of the Client

The Client will provide:

- Reports and data from the project and documentation as required to facilitate the assignment; and,
- Facilitation and assistance with setting up meetings with relevant stakeholders.

8. Responsibilities of the Consultant

In carrying out this assignment, the Consultant will be responsible for:

- Reports and data as referred to in Section 4 – Deliverables and other documentation as required to facilitate the assignment; and,
- Professional indemnity, travel and health insurances for all personnel engaged on the assignment.

9. Payment

The contract is lump-sum based. The payments will be made after receipt the Deliverables to the satisfaction of the Client, based on the following payment schedule. The contract cost agreed shall be inclusive of all costs to be borne by the Consultant, including fees, international and domestic travel costs, equipment costs, document production, etc.

Deliverables	Payment schedule
Contract signing	10%
Inception Report	10%
Traffic flow surveys and reviews	30%
Reviews of international experience on overloading management	15%
Draft Final Report	10%
Final Report	25%

10. Reporting and Accountability

The consultancy services are expected to commence in January 2023.

The Consultant will report to Director General of Road Department and work closely with Road Administration Division, Department of Roads.